



Reduce



Reuse



Recycle



Recover



Dispose

# Warwickshire's Municipal Waste Management Strategy *Summary*

*Produced by the Warwickshire Waste Partnership*

Adopted October 2005

# Foreword

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**Warwickshire's Municipal Waste Management Strategy provides a framework for managing waste in Warwickshire for the next 15 years. It has been produced jointly by the Warwickshire authorities. The Warwickshire Waste Partnership has managed the development of the Strategy. We have consulted key stakeholders and the public throughout the development of the Waste Strategy and we will continue to inform and seek opinion throughout its implementation.**

The main objective of the Strategy is to provide a sustainable framework for managing our waste, working our way up the waste hierarchy while reducing our reliance on landfill as our primary means of waste disposal.

In 2003/04, 296,793 tonnes of municipal solid waste were produced in Warwickshire, 269,310 tonnes of this was household waste. The majority, 76% was disposed of to landfill. Less than 3% was used to generate energy from waste and 21% was recycled and composted. This is a significant improvement on previous years, but we must do better.

We have set ourselves challenging recycling and composting targets and will ensure that we maximise recycling before we treat or dispose of any remaining waste.

Increases in waste growth and changing waste policy present significant challenges to the Warwickshire authorities. However, by adopting this Waste Strategy we are taking a step towards implementing sustainable waste management in Warwickshire.



**Councillor Ken Browne**

Chair of the Warwickshire Waste Partnership

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# Acknowledgements

Warwickshire's Municipal Waste Management Strategy has been produced by the Warwickshire Waste Partnership, which consists of elected Members and Officers from the six Warwickshire authorities.

Consultants AEA Technology have contributed significantly to the technical aspects of the Waste Strategy. This work was undertaken through Defra's Waste Implementation Programme (WIP), Local Authority Support Unit (LASU) – Direct Consultancy Support Programme.

## The Warwickshire Authorities

North Warwickshire Borough Council  
Nuneaton and Bedworth Borough Council  
Rugby Borough Council  
Stratford-on-Avon District Council  
Warwick District Council  
Warwickshire County Council



The Waste Strategy was adopted in October 2005 and published in January 2006.

# Executive Summary

**Warwickshire's Municipal Waste Management Strategy provides a framework for managing waste in Warwickshire for the next 15 years.**

We cannot continue to rely on landfill as our main method of disposal and need to develop more sustainable methods of managing our waste. We need to change how we approach waste management, moving away from disposal to increasing levels of recycling, reuse and ultimately resource management.

The Warwickshire authorities have been set challenging targets to increase the amount of material that is recycled and composted. Furthermore, the Landfill Directive states that we must significantly reduce the amount of waste disposed of to landfill. By 2020 we will only be permitted to landfill 52,897 tonnes of biodegradable waste, but it is estimated that we are likely to generate in the region of 280,000 tonnes. Clearly we need to invest in alternative methods of managing our waste. If we fail to meet our landfill diversion targets, we will receive substantial fines from the Government and risk being fined £150 for every tonne of waste that we landfill over our allowances.

To provide direction for the development of the Waste Strategy, the Warwickshire Waste Partnership has identified key strategic objectives, which are summarised as follows:

- **To manage** our waste in order to move up the waste hierarchy and work towards resource management versus waste management.
- **To minimise** the amount of waste generated in Warwickshire.
- **To maximise** the amount of material recycled and composted in Warwickshire and to meet and exceed our statutory recycling targets.
- **To limit** the amount of waste disposed of to landfill and to ensure that we meet our landfill diversion targets.
- **To make** use of existing waste treatment infrastructure in Warwickshire.
- **To contribute** to the generation of energy from a non-fossil source.
- **To work** in partnership with each other and other stakeholders to implement the Waste Strategy.
- **To keep** the public and key stakeholders informed of our plans and provide opportunities to comment on our proposals.

The Waste Strategy was adopted in October 2005 and published in January 2006.

In developing the Waste Strategy we critically assessed seven potential waste management scenarios against environmental, socio-economic and operational criteria. This assessment indicated that the best practicable environmental option for managing waste in Warwickshire should incorporate the following:

- **Reduce** the amount of waste produced in Warwickshire.
- **Work** progressively towards higher recycling levels, exceeding current statutory targets of 30%.
- **Aim** to reach aspirational countywide targets of between 40-45% recycling to be achieved by 2009/10.
- **Limit** the amount of waste disposed of to landfill – making use of existing waste treatment facilities.
- **After** maximising recycling we will treat all remaining residual waste using a thermal treatment system such as Energy from Waste– generating energy from a non-fossil source.

We have set ourselves challenging targets and need to make significant changes to how we currently collect and dispose of our waste in order to achieve them.

This Waste Strategy details how the Warwickshire authorities aim to meet the targets and work towards more sustainable methods of managing waste.

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## Why do we need a Waste Strategy?

*Waste presents one of the major environmental challenges facing the country today. Improving how we manage our waste is critical to our economic and environmental future.*

It is vital that we have a Waste Strategy to provide a framework for sustainable waste management in Warwickshire. The Waste Strategy will set out how we intend to manage municipal waste over the next fifteen years. It focuses on how we can reduce our reliance on landfill, increase recycling and composting and most importantly, reduce the amount of waste that we produce in the first place.

### What does the Waste Strategy cover?

The Strategy covers the period 2005 until 2015. It will be reviewed and updated every five years and at critical review points. It details how Warwickshire will handle and treat municipal waste, which includes:

- Waste collected from households (domestic waste collection)
- Kerbside collected recyclables
- Kerbside collected garden waste
- Street sweepings and litter
- Trade waste collected as part of the domestic waste collection service
- Recycling bring banks
- Bulky household items
- Hazardous and clinical household waste
- Waste from household waste recycling centres
- Fly-tipped waste
- Waste from markets and educational establishments

Nationally and in Warwickshire we have started to take steps to ensure that we reduce the amount of waste we produce. Managing the waste we do generate by the most sustainable means.

Waste production in Warwickshire is on the increase. In 2004/05 levels of waste increased by 7% compared to the previous year. This is not sustainable and we need to work actively to curb waste growth and develop alternative methods of waste treatment and disposal. We are rapidly running out of landfill space and cannot continue to rely on disposal as our main means of dealing with waste.

### What it does not cover

This Strategy focuses on municipal waste. It does not consider the collection, treatment or the provision of treatment plants or landfill capacity, for other types of waste such as commercial, agricultural and industrial waste.

It does not consider the location of any waste treatment facilities. This will be covered in the Waste Local Plan and the Waste Development Documents, which are currently being developed.

## How has the Waste Strategy been produced?

The Warwickshire Waste Partnership has developed the Waste Strategy. The Warwickshire Waste Partnership consists of Officers and elected Members representing the six Warwickshire authorities.

The Partnership was responsible for overseeing the development of the Strategy and making key decisions regarding the direction of the Strategy and ultimately our preferred options for managing waste in Warwickshire.

The Waste Management Officer's Steering Group was responsible for developing the detailed content of the Strategy. The group consisted of waste management officers from each of the Warwickshire authorities as well as representatives from planning and finance departments. Independent waste consultants were also appointed to provide advice on technical aspects of the Strategy.

### Consultation

In order to successfully implement the Strategy it is essential that we have the support of the public and key stakeholders. Therefore, throughout the development of the Waste Strategy we have consulted stakeholders and the public on our proposals.

The first phase of consultation was carried out in 1999/2000 where proposed changes to waste collection were discussed. It was after this first consultation that the Warwickshire authorities began to implement changes to waste collection and introduced the kerbside collection schemes that we are now familiar with.

The first consultation concentrated primarily on options to increase recycling and only briefly discussed waste treatment and disposal options. The second

consultation ran throughout January and February 2005 and focused on options for the treatment and disposal of waste in Warwickshire.

### Sustainability appraisal

The draft waste strategy and final waste strategy have undergone an independent sustainability appraisal. The assessment was carried out by *Forum for the Future*, who assessed the strategy against eight different sustainability criteria.

Forum for the Future commented that:

*"The Waste Strategy has the potential to contribute positively to delivering sustainable development by using the waste hierarchy as a framework and seeking to exceed statutory composting and recycling targets... The Strategy has employed a robust and transparent process to assess several scenarios and reach a best practice environmental option. It clearly demonstrates how weighting has been set in a consultative manner and scores arrived at with good appropriate discussions."*

## The Waste Strategy and Waste Strategy Summary

Two versions of the Waste Strategy have been produced, a *full version* and a *summary version*.

This document is the *summary* of Warwickshire's Waste Strategy. It provides as much information as is necessary to provide an overview of the main aspects of the Strategy.

A considerable amount of research has gone into producing this Strategy, which is included in the *full version*. There are also a series of supporting information documents which provide further information about the development of the Waste Strategy. Details of supporting and related documents are provided in the "Further Information" section at the end of this document.

## Development of Warwickshire's Waste Strategy - Guiding Principles

In developing this Waste Strategy the Warwickshire Waste Partnership applied the following guiding principles.

### Sustainable development

The concept of sustainable development underpins the development of the Waste Strategy and the identification of waste treatment/disposal options. Sustainable development, put simply is:

*'Development which meets the needs of the present without compromising the ability of future generations to meet their own needs.'*

The UK has its own Strategy for Sustainable Development, which identifies five key principles. These are:

- Living within environmental limits
- Ensuring a strong and healthy and just society
- Achieving a sustainable economy
- Promoting good governance
- Using sound science responsibly

We will ensure that decisions taken now lead to the best possible outcome for future generations.

### Best Practicable Environmental Option (BPEO)

All waste treatment and disposal activities will have some impact on the environment. There is currently no method of waste treatment or disposal that does not have some adverse environmental effects. Therefore, a balance needs to be struck between measures to reduce or eliminate adverse environmental impacts and the costs of handling, treatment and disposal. We need to determine the best practicable environmental option (BPEO) for managing waste in Warwickshire.

The BPEO concept was defined in the 12th Report of

the Royal Commission on Environmental Pollution as:

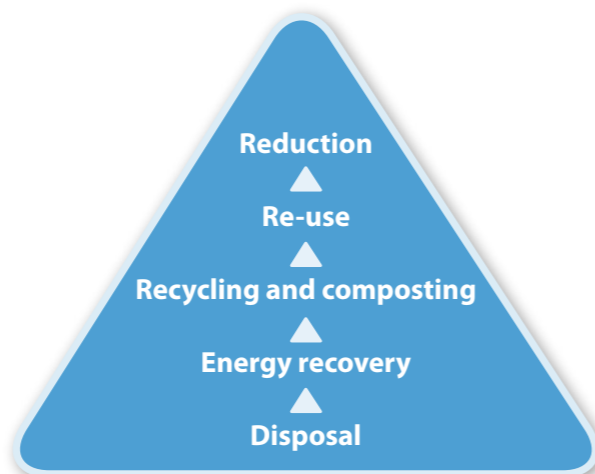
*"the outcome of a systematic and consultative decision-making procedure which emphasises the protection and conservation of the environment across land, air and water. The BPEO procedure establishes, for a given set of objectives, the option that provides the most benefits or the least damage to the environment as a whole, at acceptable cost, in the long term as well as in the short term".*

The BPEO concept incorporates three further principles that need to be taken into account of when making waste management decisions.

- The Waste Hierarchy
- The Proximity Principle
- Regional Self Sufficiency

#### The Waste Hierarchy

The Waste Hierarchy establishes an order of preference for the management of waste. We need to change how we manage our waste to move UP the waste hierarchy. Moving away from disposal (which is at the bottom) to more sustainable methods of waste management.



#### The Proximity Principle

The proximity principle proposes that waste should be treated/disposed of as close to its place of origin as possible. The proximity principle helps to raise awareness in local communities that the waste they produce is a problem, of which they should take ownership.

#### Regional Self Sufficiency

It is the Governments view that waste should be treated or disposed of within the region it is produced, in our case this means within the West Midlands region.

#### Warwickshire's strategic objectives

To provide a focus and direction for Warwickshire's Waste Strategy, the Warwickshire Waste Partnership identified a series of strategic objectives for the long-term management of waste in Warwickshire. The objectives are based upon the guiding principles outlined previously. Our strategic objectives are as follows:

#### Warwickshire's strategic objectives:

- To manage our waste in order to move up the waste hierarchy and develop more sustainable methods of waste management.
- To minimise the amount of waste generated in Warwickshire.
- To maximise the amount of material recycled and composted in Warwickshire.
- To meet and exceed our statutory recycling targets.
- To limit the amount of waste disposed of to landfill.
- To ensure that we meet our landfill diversion targets.
- To make use of existing waste treatment infrastructure in Warwickshire.
- To contribute to the generation of energy from a non-fossil source.
- To work in partnership with each other and other stakeholders to implement the Waste Strategy.
- To keep the public and key stakeholders informed of our plans and provide opportunities to comment on our proposals.

## Other key drivers which have shaped the development of Warwickshire's Waste Strategy

There are increasing amounts of legislation both from the EU and the UK, which have an impact on how we manage waste in Warwickshire. Key drivers are:

- Council Directive 1999/31/EC on the Landfill of Waste (EU Landfill Directive)
- UK Waste Strategy 2000
- Waste Emissions Trading Act 2003
- Household Waste Recycling Act 2003

## Recycling and composting targets –UK Waste Strategy 2000

The Government has set national targets for the recovery of municipal waste and recycling and composting of household waste. These targets were established in the UK Waste Strategy 2000 and are as follows:

### National recycling/composting targets

To recycle or compost at least 25% of household waste by 2005

To recycle or compost at least 30% of household waste by 2010

To recycle or compost at least 33% of household waste by 2015

### National recovery targets

To recover value from 40% of municipal waste by 2005

To recover value from 45% of municipal waste by 2010

To recover value from 67% of municipal waste by 2015

Each of the Warwickshire Authorities was set specific recycling targets for 2003/04 and 2005/06. We are currently awaiting further targets from the Government for future years.

## Household Waste Recycling Act 2003

The aim of the Act is to increase recycling of household waste. The Act states that English waste collection authorities<sup>1</sup> (WCAs) should collect at least two types of recyclable material separately from the remainder of waste. The deadline for implementation is 2010.

The Warwickshire WCAs are already well on their way to meeting or exceeding the requirements of the Act. By the deadline of 2010, it is anticipated that all households in Warwickshire will have at least two recyclable materials collected from kerbside.<sup>2</sup>

## EU Landfill Directive 1999

The EU Landfill Directive is a key piece of policy. It aims to prevent or reduce as far as possible the negative effects of landfilling waste on the environment and human health. The Directive brings about changes in three main areas:

- A progressive and substantial reduction in the amount of biodegradable waste that can go into landfill.
- Waste that goes to landfill will need to be pre-treated.
- The introduction of strict controls for the development and engineering of landfill sites and the recovery of landfill gas.

Landfilling waste, particularly biodegradable waste<sup>3</sup> produces methane, a potent greenhouse gas that contributes significantly to climate change. When biodegradable waste is broken down in the presence of air, carbon dioxide is produced, when it breaks down in the absence of air, (which is what occurs in landfill sites), methane gas is produced. Weight for weight, methane is 21 times more powerful than carbon dioxide as a greenhouse gas.

As currently over 70% of waste in the UK is landfilled, this presents a significant problem for the management and control of methane emissions. It has been estimated that landfill contributes to 25% of total UK methane emissions and 2% of total UK greenhouse gas emissions.

To reduce the impact of landfill and in an attempt to reduce greenhouse gas emissions, we have been set targets to divert biodegradable waste away from landfill.

## Landfill diversion targets

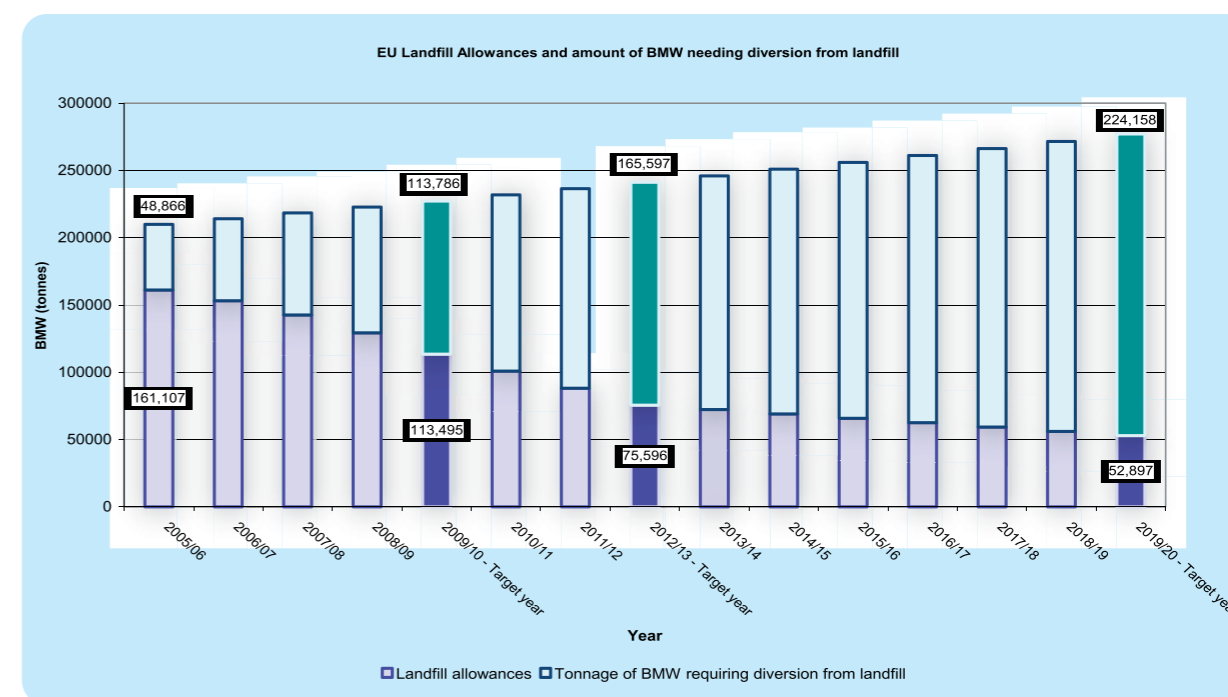
For the Warwickshire authorities, the most challenging aspect of the Landfill Directive is the requirement to reduce the amount of biodegradable municipal waste (BMW) that is disposed of to landfill. Currently, Warwickshire disposes of 76% of its waste to landfill. It has been estimated that 68% of municipal waste is biodegradable; therefore we have to make significant changes to how we manage our waste if we are to meet the targets set by the Directive.

The Landfill Directive sets challenging targets for the UK, with respect to reducing the amount of biodegradable waste sent to landfill, the EU targets are shown in the box below<sup>4</sup>.

- By 2010 to reduce biodegradable municipal waste landfilled to 75% of that produced in 1995;
- By 2013 to reduce biodegradable municipal waste landfilled to 50% of that produced in 1995;
- By 2020 to reduce biodegradable municipal waste landfilled to 35% of that produced in 1995;

## Waste Emissions Trading Act 2003

Through, the Waste Emissions Trading Act 2003, each Waste Disposal Authority in the UK (Warwickshire County Council is the disposal authority) has been given allowances that set out the maximum amount of biodegradable waste that can be landfilled in any one year. The following chart shows Warwickshire's reducing allowances from 2005 until 2020.



The chart clearly shows the significant challenge ahead to reduce the amount of BMW that we send to landfill. By the final EU target year of 2020 we will only be permitted to landfill a maximum of 52,897 tonnes of BMW. This means that we will need to find an alternative treatment routes for almost 225,000 tonnes of biodegradable waste.

<sup>1</sup> The district/borough councils are WCAs the county council is the waste disposal authority (WDA).

<sup>2</sup> Exception to compliance will apply where the cost of separate collection is unreasonably high or where comparable alternative arrangements are available (such as dense spreading of bring facilities serving flats).

<sup>3</sup> Biodegradable waste is waste that will degrade, such as food & garden waste, paper, card, wood etc.

<sup>4</sup>The UK has been given an additional four years to meet the targets as when they were set, the UK had a high reliance on landfill (over 80% of the waste produced was disposed of to landfill).

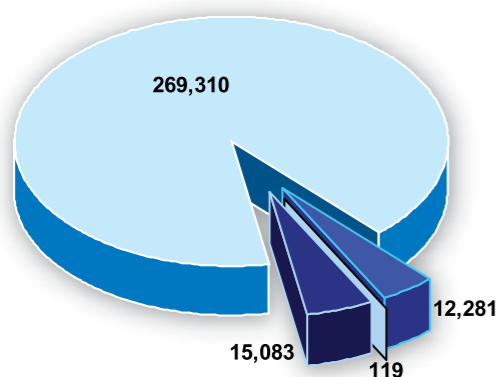
## Waste in Warwickshire

### How much waste do we produce in Warwickshire?

We need to determine the best options for the future treatment and disposal of municipal waste in Warwickshire. In 2003/04, 296,793 tonnes of municipal waste were produced in Warwickshire. The majority of this was household waste, which made up 269,310 tonnes.

The following chart shows the composition and quantity of waste produced in Warwickshire in 2003/04.<sup>5</sup>

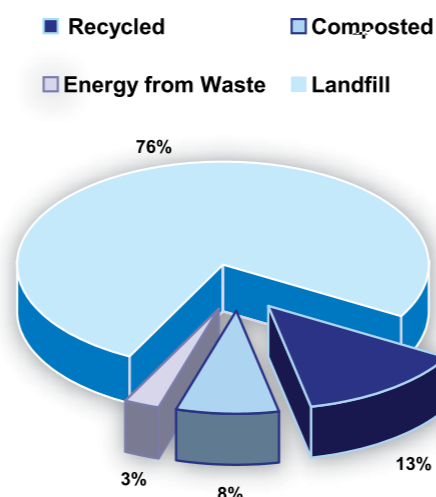
■ Household waste ■ Commercial/trade waste  
■ Asbestos ■ Soil/rubble and inert waste



### What currently happens to waste produced in Warwickshire?

Warwickshire, like the rest of the UK has a historical reliance on landfill as its main means of waste disposal. In the UK we currently landfill over 70% of our waste. The only countries in Europe<sup>6</sup> that landfill more than the UK are Portugal, Ireland and Greece.

The following chart shows the destination of waste produced in Warwickshire during 2003/04. We are steadily increasing the amount of waste that we recycle and compost, however we have a long way to go if we are to significantly reduce the amount of waste that we landfill.



### Recycling and composting – How are we doing?

The past five years have seen major changes to how our waste is collected. Gone are the days when we put out for collection a black-sack or dustbin containing all of our rubbish. Now most households in Warwickshire have either a green bin for the collection of garden waste and a box for recyclable materials such as paper, cans and glass.

Gone are 'tips' or 'dumps', these have been replaced by Household Waste Recycling Centres. We have started a series of improvements to the nine sites in Warwickshire, increasing the types of material it is possible to recycle and generally improving access and overall facilities.

The introduction of these schemes and site improvements have resulted in a rapid increase in the amount of material recycled in Warwickshire.

In 2003/04 we recycled and composted more rubbish than ever before and achieved a recycling rate of **21%**<sup>7</sup>.

So that we can reach our targets the Warwickshire authorities have invested in recycling schemes and initiatives. However we need the continued support and participation of householders to ensure that we are successful.

The following table shows the recycling rates achieved in 2003/04 and the targets that we must meet in 2005/06. We are confident that we will reach and exceed these targets.

	Actual 2003/04	Target 2005/06
North Warwickshire Borough Council	20%	18%
Nuneaton and Bedworth Borough Council	10%	24%
Rugby Borough Council	14%	18%
Stratford-on-Avon District Council	18%	30%
Warwick District Council	25%	27%
Warwickshire County Council	21%	24%

### What happens to materials put out for recycling?

The material separated for recycling and composting ends up at a variety of locations within and just outside Warwickshire. Wherever possible, the Warwickshire authorities will try to find a market or outlet for materials within Warwickshire or in surrounding areas. However, this is not always possible and is one of the factors that restricts the collection of some recyclable materials.

#### Garden waste

Garden waste<sup>8</sup> once collected is taken to a number of composting facilities where it is made into compost. The compost is either used on-farm to restore landfill sites or is bagged and sold to stores such as B&Q. We currently use five different compost sites, which are situated throughout Warwickshire and just outside the county boundary.

#### Recyclables

Each district and borough council makes its own arrangements for the collection and sale of recyclable materials. They will ensure that the best possible market for the materials is secured. All materials collected are recycled. The only circumstances under which materials

are not recycled are when the materials are heavily contaminated and rejected by the reprocessor. This is where we can all play a part by ensuring that the materials put out for collection are as requested by the council and by not putting undesirable items into our recycling boxes or green wheeled bins.

The materials separated for recycling at the household waste recycling centres are also recycled. The only material that is not recycled is the general waste, which is sent to landfill for disposal. Again, this is where we can all help reduce the quantity of waste landfilled by ensuring that we separate-out recyclable materials.

### What are we doing about our own waste?

The Warwickshire authorities are working to actively reduce the amount of waste that is produced through day-to-day council activities. We have schemes in place for recycling office waste and waste produced by other activities. We are also looking at how we procure goods, adopting a 'whole life costing' approach to procurement to ensure that the most environmentally sustainable products are procured wherever practicable.

### What happens to the rubbish left in my black bag/wheeled bin?

The rubbish that is currently put out for disposal ends up at a number of facilities within Warwickshire and in the neighbouring counties.

The rubbish left in the black bag or wheeled bin is referred to as residual waste. At the moment the majority is sent for disposal to landfill. We currently use three landfill sites that are located within Warwickshire.

We also send waste (3%) to Coventry and Solihull's Energy from Waste facility in Coventry. Here, the waste is combusted under strictly controlled conditions to produce heat and energy. The heat is used at the Peugeot plant at Ryton and the electricity is sold to the National Grid.

<sup>5</sup> 2003/04 data is used as a baseline throughout this report as it was the most up-to-date auditable data at the time of writing.

<sup>6</sup> Excluding the recent accession countries.

<sup>7</sup> This is a collective figure for the whole of Warwickshire, each district and borough council has its own individual recycling and composting targets.

<sup>8</sup> The term in this context relates to typically 'green' biodegradable waste of plant origin such as grass cuttings, hedge trimmings etc.

Typical landfill facility  
– Photograph courtesy of  
Recycle Now Campaign



### How much does managing our waste cost?

In 2003/04 the cost of waste collection and disposal in Warwickshire was £14.1 million. If landfill tax and other disposal service costs are included, this figure increases to £18.4 million. This equates to an approximate cost of £83 per household.

The cost of managing our waste has been disproportionately low for many years due to the low cost of landfill. This is set to change. The cost of managing waste is increasing annually resulting in a need to invest in additional collection and processing infrastructure.

The following table provides a summary of the cost of waste management in 2003/04.

Costs for 2003/04	Total cost of waste collection and disposal	BVPI 86 <sup>9</sup> (£ per household)	BVPI 87 (£ per tonne)
<b>Waste Collection Authorities:</b>			
North Warwickshire Borough Council	£1.2 million	46.11	–
Nuneaton & Bedworth Borough Council	£2.0 million	37.40	–
Rugby Borough Council	£1.7 million	41.13	–
Stratford-on-Avon District Council	£2.7 million	53.68	–
Warwick District Council £1.6 million	£1.6 million	34.95	–
<b>Warwickshire County Council:</b>			
Disposal (landfill and EfW)	£2.6 million		£30.80
Management of HWRC sites	£1.1 million		–
Combined HWRCs + transfer station	£0.8 million		–
Green waste composting	£0.4 million		–

<sup>9</sup> Authorities have been set 'Best Value Performance Indicators' (BVPI) for their services, on which they are required to report annually. BVPIs relating to waste include; amount of waste collected per head, cost of waste collection and disposal.

### Why can't we carry on landfilling our waste?

Historically, there has been an abundance of landfill in the UK and particularly in Warwickshire due to its high number of mineral quarries. This has meant that landfill has been a cheap and convenient way of managing waste. However, by sending waste materials to landfill we are limiting the potential for reuse, recycling and recovery of valuable resources.

We are also running out of landfill space. In a study carried out by the Environment Agency in 2001, it was estimated that we had just over seven years landfill capacity left in Warwickshire<sup>10</sup>. This is clearly a problem as it is becoming increasingly difficult to find locations for new sites, which have to comply with strict environmental operating standards.

#### Landfill tax

As well as being a convenient method of waste disposal, landfill has also been very cheap compared to other forms of waste treatment and disposal. In 1996 the landfill tax regulations were introduced to encourage a shift in disposal away from landfill.

The current rate of tax (2005/06) is £18; the tax will continue to rise by £3 every year until it reaches a medium to long-term rate of £35 per tonne. The payment of tax is in addition to the gate fee paid per tonne to dispose of waste. This is also set to increase as available landfill capacity decreases.

#### Landfill diversion targets

As well as reducing capacity and increasing costs, we have been set challenging targets by the EU and UK to reduce the amount of waste, particularly biodegradable municipal waste that we can dispose of to landfill. The targets have been set in the EU Landfill Directive in an attempt to reduce the emission of greenhouse gases from landfill.

<sup>10</sup> Based on existing sites with planning permission. Updated data obtained from Environment Agency Waste Interrogator Programme 2005

All these contributing factors mean that it is no longer viable to use landfill as our main method of disposal.

### What happens if we 'Do nothing' and carry on landfilling our waste?

If we make no attempt to reduce the amount of waste, particularly biodegradable waste that we send to landfill, we will not meet our recycling or landfill diversion targets.

If we fail to meet our landfill diversion targets and continue to landfill over and above our specified annual allowances we will face substantial fines.

We will be fined by the Government £150 for every tonne of waste that we landfill over our permitted allowances. If Warwickshire exceeds its allowances in one of the three EU target years (2010, 2013, 2020) there is the potential for even greater fines.

The Government has stated that if in a target year an authority exceeds its allowances and as a result is responsible for England missing its overall target, the Government may pass on a proportion of the EU fine onto the breaching authority. It is anticipated that the EU fine will be in the region of £300,000 per day until the breach is rectified. Clearly, this would have very serious financial implications for any authority that exceeds its allowances.

There is a trading system in place, which allows authorities with surplus allowances to sell them to authorities with a deficit. However as the market is new there is uncertainty over how many allowances will be available and also how much they will cost.

It has been estimated that if we 'do nothing' and fail to meet our diversion targets, we could face fines in the region of £15 million a year in an EU target year! This is clearly not an option, which is why the Warwickshire authorities have been working together to develop a robust Waste Strategy.

## If we cannot continue to rely on landfill - What can we do with our waste?

Clearly, for the reasons already discussed, it is no longer viable to rely on landfill as our main means of disposal. We have to change how we manage waste to move up the waste hierarchy. Working towards sustainable methods of waste management, which in turn will help to achieve our landfill diversion targets and contribute to reducing greenhouse gas emissions.

### What are the alternatives to landfill?

There are alternatives to landfill. Some of the technologies are essentially 'tried and tested' and have a long established track record of being used to treat residual waste in the UK. Other technologies have been used extensively in Europe, but only recently introduced in the UK or have been used to treat different types of waste. There are also new and emerging technologies, which are currently unproven in the UK or Europe.

The following table provides a summary of the main alternatives to landfill and their development status in the UK.

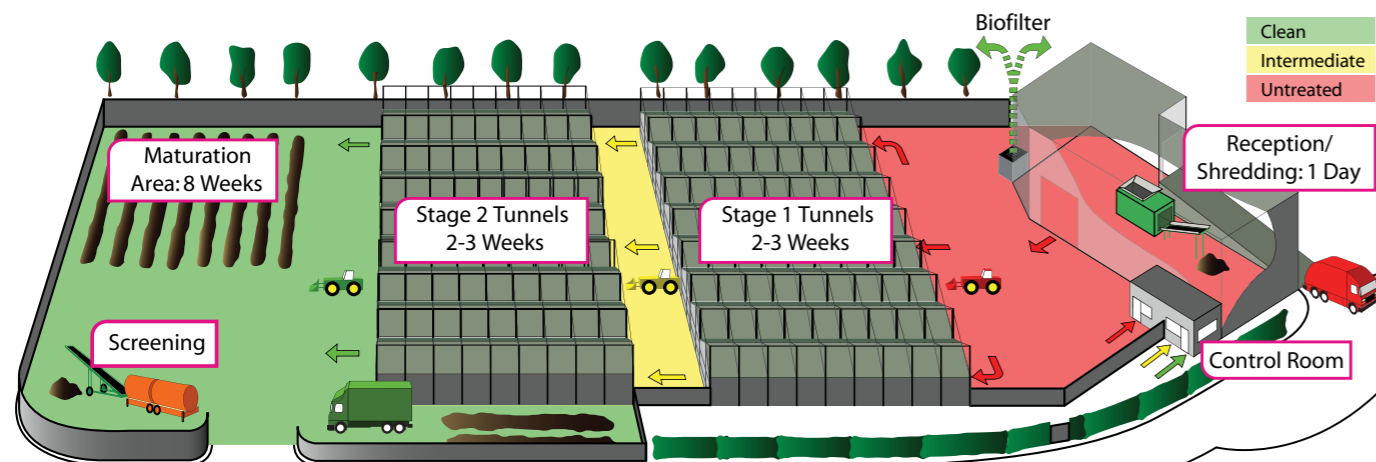
Technology	Facilities operating in the UK
Energy from Waste	5 operating in the Midlands region
In-vessel composting	Yes – full scale
Anaerobic digestion	Yes-mainly for processing sewage sludge
Mechanical Biological Treatment	One operational – several under development
Gasification/pyrolysis	Pilot plant under development. No full-scale commercial plants

When considering the future waste treatment options for Warwickshire there were many critical factors that had to be considered. The main factors were:

*Deliverability*- Likelihood of a facility obtaining planning permission and being developed and operational within the desired timescale.

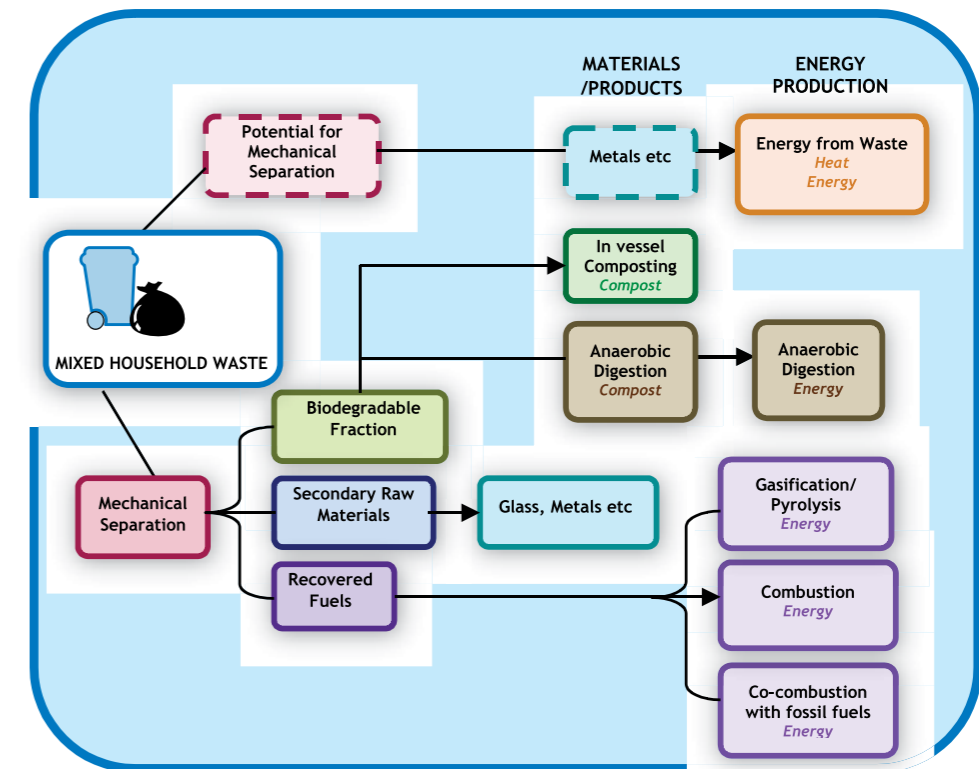
*Reliability* - The technology has a proven track record of operation and will perform as required.

*Bankability* – Banks, investors and insurers are prepared to finance and insure the development of the facility.



Schematic diagram of an In-vessel composting facility. Courtesy of Agrivert

The following figure provides a summary of the alternatives to landfill and the products that can be produced by each treatment method (in italics).



The options seriously considered by the Warwickshire authorities include a mixture of proven, 'new' and emerging waste treatment technologies. A brief description of each technology is provided in the following sections.

### Anaerobic Digestion

Biodegradable material is processed in an enclosed vessel under controlled conditions. The material breaks down in the absence of air and produces a gas, liquid fraction and digestate (compost-like material).

The gas produced can be used to generate electricity, which can then be sold to the national grid at a higher tariff than conventionally generated electricity. Whether markets can be found for the compost-like digestate will depend on the quality of the material produced. It may be necessary to landfill this material if a viable market cannot be found. Rejects from the process will also need to be landfilled.

### In-vessel Composting

Biodegradable material is processed in an enclosed

vessel under controlled conditions. The material breaks down in the presence of air and produces compost.

Depending on the quality of the compost produced, markets may be found in agriculture or amenity horticulture, however quality is critical. If source separated waste is processed the quality of the final product will be better than if mixed waste is processed. It may be necessary to landfill the material if a viable market cannot be found. Rejects from the process will also need to be landfilled.

### Energy from Waste (EFW)

Mixed, non-source separated waste is combusted under strictly controlled conditions, reducing the volume and hazardousness of waste material. This process can produce energy in the form of heat and electricity. Electricity can be sold to the National grid and the heat can be used in district heating schemes. Two types of ash are produced by the process, fly ash and bottom ash. Bottom ash can be used as a replacement for aggregate if a market can be secured, however fly ash

currently needs to be landfilled in a specialist hazardous waste landfill site.

### Gasification/Pyrolysis

Gasification and pyrolysis are referred to as advanced thermal treatment processes, they are separate processes but are often combined to improve combustion efficiency. They are not suitable for processing mixed, black bag waste, which will require sorting or pre-treatment (shredding) before processing. The facilities are typically smaller than conventional thermal treatment facilities such as EfW.

Gasification and pyrolysis combust waste with a limited supply of air (gasification) or in the absence of air (pyrolysis) to produce a variety of products. Both processes produce a gas, which can be used to generate electricity, and sold to the National Grid for an enhanced tariff. In addition to electricity, a carbon-rich material, char and oil (from pyrolysis) are also produced. There is the potential to use these products if a viable market can be found, otherwise they will need to be disposed of. As with EfW, the processes also produce fly ash, which will need to be disposed of at a specialist hazardous waste landfill site.

### Mechanical Biological Treatment (MBT)

MBT is a generic term for a number of processes, which are combined to process waste. It can be used to process mixed, black-bag waste or source separated

waste. MBT processes typically include a series of screens and conveyors to separate different fractions of waste (the same as a materials recycling facility MRF). The biodegradable fraction is then processed using anaerobic digestion or in-vessel composting technologies.

The products produced will be dependant on the configuration of the technologies used but can include; refuse derived fuel (paper, plastics etc), separated recyclables (metal, glass), compost-like material and if AD is used then electricity can be produced, which can be sold to the National grid for an enhanced tariff.

Whether viable markets can be found will be dependant on the quality of the products produced. If no viable markets can be found then the products will have to be landfilled.

### Materials Recovery/Reclamation Facility (MRF)

Source separated or mixed waste (dirty MRF) is separated mechanically and in some instances by hand into different recyclable fractions e.g. glass, paper, plastic, and metals. Depending on the quality of the separated materials it is likely that a viable market would be found for the products.

The following table provides a summary of the processing capability of the waste technologies considered.

Technology	Process mixed 'black-bag' waste	Process source-separated waste	Waste requires pre-treating before processing	Product still classified as biodegradable
Anaerobic Digestion	✗	✓	✓	✓
In-vessel composting	✗	✓	✓	✓
Energy from Waste	✓	✓	✗	✗
Gasification/Pyrolysis	✗	✓	✓	✗
MBT	✓	✓	✗	✓

In some processes (in-vessel composting, anaerobic digestion and MBT) the final product is still classified as biodegradable even though it has been treated and would use up landfill allowances if landfilled.

## What is the Best Practicable Environmental Option (BPEO) for managing waste in Warwickshire?

Taking into account our guiding principles and the treatment technologies available, the Warwickshire authorities, supported by consultants, developed seven scenarios for managing waste. These have been assessed to determine the best practicable environmental option for managing waste in Warwickshire.

To evaluate the BPEO, a systematic method of assessment was carried out, where each waste management scenario was evaluated against 24 specific

criteria. These included environmental, socio-economic and operational criteria.

To relate the results of the BPEO to specific circumstances and issues of significance within Warwickshire, weightings of importance were assigned to each criterion. Waste management officers, finance officers and members of the public at the workshops held in January provided the weightings. Average weightings were approved by the Warwickshire Waste Partnership and applied to the assessments.

The scenarios and their final rankings are shown in the following table. In all of the scenarios it was assumed that we continue to send waste to Coventry and Solihull Waste's Energy from Waste facility in Coventry.

	Summary of Scenario	Rank
<b>Base Case A</b>	40% recycling by 2010, <b>continuing landfill (fortnightly)</b> collection of residual waste), separate collection of kitchen/food waste & in-vessel composting	<b>6</b>
<b>Base Case B</b>	40% recycling by 2010, <b>continuing landfill (weekly)</b> collection of residual waste), separate collection of kitchen/food waste & in vessel composting	<b>7</b>
<b>Scenario 1a</b>	40% recycling by 2010, <b>centralised energy from waste facility</b> , separate collection of kitchen/food waste & in-vessel composting	<b>2</b>
<b>Scenario 1b</b>	40% recycling by 2010, <b>two decentralised energy from waste facilities</b> , separate collection of kitchen/food waste & in-vessel composting	<b>4</b>
<b>Scenario 1c</b>	30% recycling by 2010, <b>centralised energy from waste facility</b> . No separate collection of kitchen/food waste	<b>1</b>
<b>Scenario 2</b>	40% recycling by 2010, <b>centralised gasification/pyrolysis facility</b> , separate collection of kitchen/food waste & in-vessel composting	<b>3</b>
<b>Scenario 3</b>	40% recycling by 2010, <b>centralised Mechanical Biological Treatment facility</b> producing refuse-derived-fuel, separate collection of kitchen/food waste & in-vessel composting	<b>5</b>

Although on initial inspection the results suggest that Scenario 1c is the 'best' option (it achieved the best ranking compared to the other six scenarios), the Warwickshire Waste Partnership has rejected it as the way forward for Warwickshire. It is important to acknowledge that even though Scenario 1c achieved the 'best' result it is not necessarily the best solution for Warwickshire. From a financial point of view the option was the cheapest as it didn't include the additional infrastructure required for the separate collection and processing of kitchen and food waste. However it would only achieve a recycling level of 30%, which is not considered to be stretching, or in accordance with the waste hierarchy.

Base cases A and B are clearly not viable options as they do not include any provision (other than increased recycling) for diverting waste away from landfill, therefore, these options would not enable us to meet our landfill diversion targets.

In scenario 2 residual waste would be processed using gasification and/or pyrolysis, which are, advanced thermal treatment technologies. This option received a mid-ranking as the technology is relatively unproven in this country for the treatment of residual waste. Therefore there would be potential operational risks if this scenario was selected. The technology is also more expensive than conventional thermal treatment technologies, however it may be possible to obtain

higher rates for the electricity generated by these systems.

In scenario 3, residual waste would be processed using a Mechanical Biological Treatment (MBT) processing system. In the scenario modelled it was assumed that a viable market would be found for all of the products produced by the process. In reality it is doubtful that this would be the case. Previous studies on the markets for products from MBT plants have shown that there is very little current or predicted future market capacity for these products.

Scenarios 1a and 1b are similar. They differ as scenario 1b includes two small energy from waste facilities as opposed to one larger facility as modelled in scenario 1a. The de-centralised approach of scenario 1b explains why it scored lower than 1a. There are more risks and costs associated with developing two smaller facilities as opposed to one central facility.

Taking into consideration the detailed results of the BPEO evaluation and our guiding principles, the Warwickshire Waste Partnership has concluded that **scenario 1a is the most favourable**, based on environmental, financial and practical grounds.

**40% recycling by 2010, centralised energy from waste facility, separate collection of kitchen/food waste & in-vessel composting**

The Warwickshire Waste Partnership proposes that the future management of waste in Warwickshire should encompass the following:

**Reduce the amount of waste produced in Warwickshire.**

**Work progressively towards higher recycling levels, exceeding current statutory targets of 30%.**

**Aim to reach aspirational countywide targets of between 40-45% recycling to be achieved by 2009/10. Incorporating the separate collection and processing of kitchen/food waste.**

**Limit the amount of waste disposed of to landfill – making use of existing waste treatment facilities e.g. Coventry & Solihull's EfW facility.**

**After maximising recycling we will treat all remaining residual waste using a thermal treatment system – generating energy from a non-fossil source.**

## What changes will we need to make?

Implementing the proposals within this Waste Strategy will mean significant changes to how we currently manage waste in Warwickshire. We need to focus on reducing the amount of waste we generate, while reusing and recycling as much as possible. It will mean changes to how waste is collected and the types of material collected from the kerbside. We will also need to invest in household waste recycling centre infrastructure, increasing the types of materials that we can accept for recycling. The most significant changes will be the need to invest in new treatment facilities. We will need in-vessel composting facilities to treat kitchen and food waste and an energy from waste facility to treat residual waste that cannot be recycled or composted.

### Reducing waste and increasing reuse

Waste reduction and reuse are at the top of the waste hierarchy and are pivotal to the success of the Waste Strategy. We need to focus on changing attitudes towards waste, encouraging waste reduction and reuse. In simple terms:

*"if we don't produce waste in the first place, we won't have to treat or dispose of it."*

The Warwickshire authorities have been working at a local and regional level to promote waste minimisation, reuse and recycling. Each of the Warwickshire authorities has an educational campaign, which focuses on local issues.

There is also a countywide campaign, WasteWise, which has adopted the national recycling campaign identity of 'Recycle Now'. The key aims of WasteWise are to:

- Promote waste prevention and minimisation
- Encourage recycling
- Increase public awareness of waste issues
- Provide educational information and support on waste and recycling

Current campaigns and initiatives include:

- Real Nappy Campaign
- Reducing waste in Schools
- Home Composting
- Home Wood Chipping
- Reducing Junk Mail
- A-Z of recycling

As waste minimisation and reuse are so important, the Warwickshire authorities will produce a Waste Minimisation Strategy that will set out the long-term plans for waste reduction in Warwickshire. The Waste Minimisation Strategy will complement the Waste Strategy and will enable us to achieve our primary objective - to reduce the amount of waste produced in Warwickshire. To achieve this we will:

- Continue to develop innovative campaigns to encourage waste prevention, minimisation and reuse.
- Continue to develop links with community groups, the voluntary sector and charities to establish partnerships to promote waste prevention and reuse.
- Work with private sector/charitable institutions to provide door-to-door collections of alternative materials, such as shoes, mobile phones toner/printer cartridges etc.
- Develop long-term Waste Minimisation Strategy.



### Resource Management

The challenge for the Warwickshire authorities is to continue to develop schemes and initiatives to contribute to reducing waste in Warwickshire, with the ultimate aim of working towards 'Resource Management' as opposed to waste management.

This approach has been pioneered in New Zealand, Australia and Canada and is a whole-system approach to the flow of resources through society, based on the

principle that waste can be eliminated by the efficient use of resources. It encourages waste diversion through recycling and resource recovery, advocating the elimination of waste at source and at all points down the supply chain. The concept aims to:

- Maximise recycling
- Minimise residual waste
- Reduce consumption
- Ensure that products are made to be reused, repaired, recycled or composted

Considering waste holistically and as a resource is the ultimate, ideal goal, achieving it will be extremely challenging. It is readily acknowledged that local authorities alone cannot achieve the aspirations of integrated resource management. It requires a radical change to how we manage and perceive waste, which is a national challenge. If we are to have an overall impact on the amount of waste we generate it is vital that industry is involved in the process.

### Recycling and composting

We have set ourselves the challenging target to recycle 40-45% of our waste by 2009/10. We have also set ourselves the target to recycle 60% of the material that is taken to household waste recycling centres. To achieve these targets we will need to:

- Increase coverage of kerbside collection of dry recyclables.
- Increase types of dry materials collected at the kerbside.
- Increase coverage of green waste collections.
- Implement separate collections for food and kitchen waste.
- Consider changes to collection frequencies.
- Target 'difficult' recycling areas, e.g. estates and flats.
- Improve household waste recycling centre infrastructure.
- Increase types of materials recycled at household waste recycling centres.
- Continue to provide bring banks for recyclable materials.

Potentially the most significant changes will be to the collection frequency of residual waste and recyclable materials. It may be necessary to collect recyclable materials more often and residual waste less frequently, for example recyclable materials weekly and residual waste every other week.

The Warwickshire authorities actively encourage home composting, as this is the most suitable means of treating some food and garden waste. However it is not suitable for processing all types of food waste. Therefore it is proposed that a separate collection for biodegradable kitchen waste (this would include cooked food and meat) is introduced. The waste would then be processed in an in-vessel composting facility.

### Treatment of residual waste – Use of existing infrastructure

Historically, Warwickshire has a long tradition of sending waste to Coventry and Solihull's Energy from Waste facility. Continued use of the facility provides essential treatment capacity and will contribute to us meeting our early diversion targets until our own treatment facilities are operational.

We will continue to use composting sites already operational within Warwickshire and will investigate the use of any new facilities that become operational as long as they operate in accordance with our guiding principles.

### Treatment of residual waste –What new treatment facilities will be required?

To reach our targets to increase recycling and divert waste away from landfill we will need to invest in new treatment facilities in Warwickshire.

In summary, we will need the following:

Facility	To be operational by
Up to 3 x in-vessel composting facilities	2009/10
1 x Energy from Waste facility	2011/12
1 x Transfer station	2011/12

Although we aim to significantly reduce the amount of waste that we send to landfill, we will still need to send some waste to landfill for disposal. Therefore it is anticipated that some additional landfill capacity will be needed in the longer term.

#### *In-vessel composting facilities*

In order to increase the level of recycling to 40-45%, it will be necessary to collect food/kitchen waste from households for composting. However, while garden waste can be composted at the existing windrow composting facilities within Warwickshire, the requirements of the Animal By-Product Regulations<sup>11</sup> (ABPR), mean that food/kitchen waste (and any garden waste which is mixed with the food waste) needs to be composted in fully enclosed, temperature controlled "in-vessel" composting systems. If Warwickshire is to achieve its enhanced recycling targets, it is estimated that three facilities with a combined processing capacity of 90,000 tonnes per year will be required by 2009/10.

#### *Treatment and disposal facility for residual waste*

To ensure that Warwickshire meets its future landfill allowance targets, a facility capable of treating between 150,000 – 200,000 tonnes of waste a year will need to be constructed by the end of 2012. Taking into account

our guiding principles and the outcome of the BPEO assessment we have concluded that the most suitable treatment for residual waste is to process it in an Energy from Waste facility.

The facility will be for treating residual waste only. We will remove as much recyclable material from the waste stream as possible before the waste is finally processed. It is possible to include an element of pre-sorting to remove uncaptured recyclables before the waste is processed in the EfW facility. This is an option that the Warwickshire authorities will consider during the procurement process.

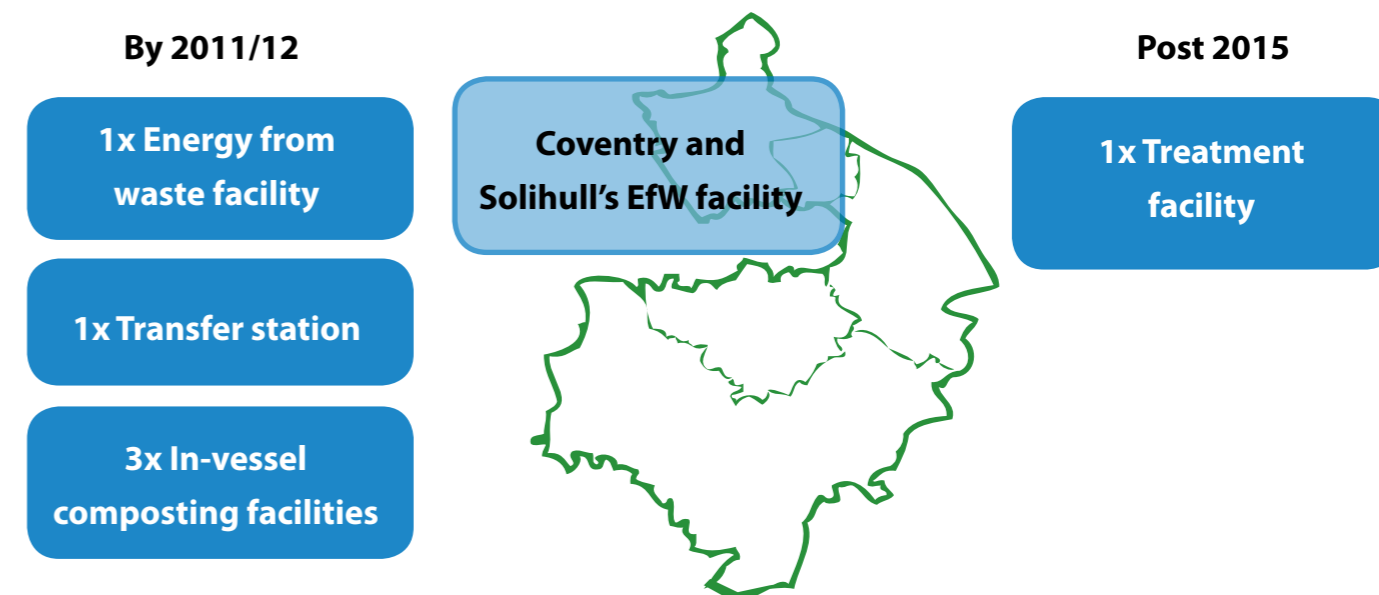
#### *Transfer stations and bulking facilities*

At least one new transfer station for residual waste and up to two smaller bulking facilities for dry recyclables will be required by 2009/10. The facilities will be used for bulking recyclable materials before being transported to reprocessors and may be located at existing transfer stations. Residual waste collected by the district councils will be transported via the transfer stations to treatment facilities, which will reduce the number of vehicle journeys and cost.

#### *Post 2015*

We will have to consider the need to put in place additional treatment facilities post 2015. This will be dependent on the success of waste minimisation and recycling initiatives and the impact on waste generation rates. By 2015 we anticipate that there will be more advanced methods for treating waste that could be developed in Warwickshire.

The following figure provides a summary of the facilities required to meet our targets.



#### *Where will the proposed new facilities be located?*

The development of any waste treatment facility from a household waste recycling centre to an Energy from Waste facility has to follow strict planning and development guidelines.

The development of waste treatment facilities is strictly controlled by regional and local planning guidance.

Warwickshire has a Waste Local Plan (WLP) that was adopted in 1999. The current plan has been saved until 2007 and will be replaced by the Waste Development Document (WDD) in due course. As sections of the WDD are produced they will supersede the Waste Local Plan.

The current Waste Local Plan identifies some preferred

locations for the development of waste treatment facilities, however it is not wholly site specific and does allow a degree of flexibility. The policy statements outlined in the WLP provide clear guidance on suitable and acceptable locations for waste facilities within Warwickshire.

The WLP sets a preference for the development of waste management facilities on industrial estates, new or established waste disposal facilities, or land which has been used for a commercial use and where the proposed use would be compatible with adjacent land uses.

Depending on the scale of a proposed facility a detailed environmental impact assessment will need to be carried out. Full public consultation will be carried out on any planning application for a waste treatment facility within Warwickshire.

<sup>11</sup>The Animal By-Products Regulations state that composting is not a permitted disposal route for any material that has possibly been contaminated by meat products. This prevents kitchen material from being composted in open windrows, even if vegetable material only has been targeted for a collection campaign.

## How much will implementing the Waste Strategy cost?

To meet our challenging targets it is essential that we invest in new waste treatment facilities. Landfilling waste has always been a cheap option, particularly in Warwickshire. However this is set to change.

We have modelled our preferred options for managing waste and have estimated how much it will cost to divert waste away from landfill by in-vessel composting and using energy from waste. The costs shown in the following table include the estimated costs of collection, recycling, composting, treatment and disposal. It is also assumed that we will send a minimum of 30,000 tonnes of waste to Coventry and Solihull's Energy from Waste facility.

Revenue cost for total waste collection and disposal (£ million/year)

Proposed options	2010	2015	2020
40% recycling by 2010, centralised energy from waste facility & separate collection of kitchen/food waste. 30,000 tonnes per annum to Coventry and Solihull's EfW plant	£25.8	£29.2	£31.9

The equivalent cost in terms of estimated payments per household in 2015 has been calculated at £117 per year. We have assumed that the number of households in Warwickshire will increase from 220,000 to 249,000 and that by 2015 all new infrastructure will be in place. The cost includes collection, recycling, composting, treatment and disposal. It does not include the costs for waste minimisation initiatives, which are critical to the success of the Strategy.



Energy from waste plant – Isle of Man. Photograph courtesy of Sita UK.

## What are the next steps?

The next key stages for the Warwickshire Authorities are to take steps to implement the Waste Strategy and put in place short and long-term plans to ensure that our targets and objectives are met.

We have drafted a five-year plan, which sets out the main tasks that we need to fulfil to implement the waste strategy.

Task	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010
Land search for possible treatment facility locations					
Start procurement process for treatment facilities					
Potentially increase coverage of green waste collection schemes in North Warwickshire and Warwick Districts					
Potentially increase coverage of kerbside collection scheme for dry recyclables – North Warwickshire Borough Council					
Collection authorities consider the separate collection of biowaste					
Redevelopment of Hunters Lane Household Waste Recycling Centre					
Public education/information campaign					
Development of waste prevention and minimisation strategy					
Planning and development of In-vessel composting facilities					
Redevelopment of Grendon Household Waste Recycling Centre					
Development of new HWRC to serve Nuneaton and Bedworth Area					
Warwick District Council and Stratford on Avon District Council – consideration of joint contract					
Redevelopment of Cherry Orchard Household Waste Recycling Centre					
Redevelopment of Princes Drive Household Waste Recycling Centre					
Critical review point & scheduled review of Waste Strategy					
Participating districts – kerbside collection of biowaste operational					
In- vessel composting facilities operational					
Critical review point – first EU Landfill Tax Directive Target Year – maximum BMW to landfill 113,495					
Development of waste treatment facility					
Achievement of 40-45% recycling and composting rate					

## How will we fulfil our tasks?

The next five years will be particularly challenging for the Warwickshire authorities. If we are to make progress towards meeting our targets and implementing the Waste Strategy, we will need to continue to work together and:

- Share appropriate costs of meeting the aspirations of the Waste Strategy.
- Work towards reaching enhanced, progressive, countywide recycling targets of 40-45%.
- Keep the public and stakeholders 'in the loop' and ensure that they are aware of our proposals and how we aim to implement them.

## Procurement

To drive forward the procurement of waste treatment facilities, a multi-representative project board has been set up to consider the procurement options and manage the tendering process.

The rules for procuring the new treatment facilities mean that the Warwickshire authorities can specify that the successful contractor must meet Warwickshire's landfill allowance targets, and that the treatment plants must not compromise any further action that Warwickshire may take to increase recycling. However, we do not want to stifle innovation, therefore we will seek market opinion on the best technology and processes to fulfil our objectives while adhering to our guiding principles.

## Further sources of information

### Supporting information for Waste Strategy

Warwickshire's Municipal Waste Management Strategy – Full document  
Best Practicable Environmental Option for the management of municipal waste in Warwickshire – AEA Technology  
Markets for products from waste treatment – AEA Technology  
Report on draft Waste Strategy Consultation – Warwickshire County Council  
Reports available from [www.warwickshire.gov.uk/waste](http://www.warwickshire.gov.uk/waste)  
Waste Local Plan and Waste Development Documents [www.warwickshire.gov.uk/planning](http://www.warwickshire.gov.uk/planning)

### Useful contacts

#### North Warwickshire Borough Council

Recycling Officer  
The Council House  
South Street  
Atherstone  
CV9 1BD

Tel: 01827 719433

Email: [environmentalhealth@northwarks.gov.uk](mailto:environmentalhealth@northwarks.gov.uk)

Website: [www.northwarks.gov.uk](http://www.northwarks.gov.uk)

#### Nuneaton and Bedworth Borough Council

Recycling Officer  
St Marys Road Depot  
St Marys Road  
Nuneaton  
CV11 5AR

Tel: 024 7637 6010

Email: [refuse@nuneatonandbedworth.gov.uk](mailto:refuse@nuneatonandbedworth.gov.uk)

Website: [www.nuneatonandbedworth.gov.uk](http://www.nuneatonandbedworth.gov.uk)

#### Rugby Borough Council

Recycling Officer  
Council Depot  
94 Newbold Road  
Rugby  
Warwickshire  
CV21 1DH

Tel: 01788 533328

Website: [www.rugby.gov.uk](http://www.rugby.gov.uk)

#### Stratford on Avon District Council

Streetscene  
Church Street  
Stratford-Upon-Avon  
CV37 6HX

Tel: 01789 260616

Email: [streetscene@stratford-dc.gov.uk](mailto:streetscene@stratford-dc.gov.uk)

Website: [www.stratford.gov.uk](http://www.stratford.gov.uk)

#### Warwick District Council

Recycling Officer  
Riverside House  
Milverton Hill  
Leamington Spa  
CV32 5HZ

Tel: 01926 450000

Website: [www.warwickdc.gov.uk](http://www.warwickdc.gov.uk)

#### Warwickshire County Council

Waste Management  
PO Box 43  
Shire Hall  
Warwick  
CV34 4SX

Tel: 01926 412593

Email: [waste@warwickshire.gov.uk](mailto:waste@warwickshire.gov.uk)

Website: [www.warwickshire.gov.uk/recycling](http://www.warwickshire.gov.uk/recycling)

#### Warwickshire Waste Partnership

[www.warwickshire.gov.uk/waste](http://www.warwickshire.gov.uk/waste)

**Recycle Now Campaign**

[www.recyclenow.com](http://www.recyclenow.com)

**Community Recycling Network**

[www.crn.org.uk](http://www.crn.org.uk)

**Waste and Resources Action Programme (WRAP)**

[www.wrap.org.uk](http://www.wrap.org.uk)

**Composting Association**

[www.compost.org](http://www.compost.org)

**Community Composting Network**

[www.communitycompost.org](http://www.communitycompost.org)

**HDRA – the organic organisation**

[www.hdra.org.uk](http://www.hdra.org.uk)

**Forum for the Future**

[www.forumforthefuture.org.uk](http://www.forumforthefuture.org.uk)

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