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Coventry's Municipal Waste Strategy 2008 - 2020

Coventry City Council

www.coventry.gov.uk/wastestrategy

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Foreword

We have a shared responsibility for protecting our city's environment for future generations. Tackling the causes and effects of Climate Change and promoting sustainability are key priorities for Coventry. It is crucial however, that tackling climate change isn't at the expense of economic prosperity and balancing responsible, environmental management alongside economic growth is one of the city's key challenges.

The production of this strategy completes one of the priority tasks from the city council's Climate Change Strategy.

This Municipal Waste Strategy is one part of this complex balance and sets out a framework for not only meeting our city's obligations under the National Waste Strategy 2007, but also balancing economic prosperity, ethical city governance and responsible environment management – not only for today but for our city's future generations.

Management of the city's wastes is an area not without its challenges. Coventry City Council has already led the way regionally and nationally in reducing the amount of wastes going to landfill, through the effective use of our Energy from Waste plant and through the recent advances in recycling performance. This approach has yielded substantial benefits in terms of environmental impact by avoiding the damaging emissions of methane from landfill sites that would have otherwise occurred and minimising our use of raw materials.

This strategy sets out the Council's approach until 2020 and is a timeline consistent with that of the Waste Strategy for England 2007. This strategy identifies both opportunities and options to ensure that we continue to develop sustainably and that our waste management service continues to effectively serve the city's people, economy and environment for the years ahead.

The first challenge is to reduce the amount of waste we generate per person. By reducing the quantity of waste each person creates, we can minimise the environmental and economic costs of managing that waste.

The second challenge is how we will expand our existing re-use facilities, allowing people to effectively re-use the things that others throw away and avoid, wherever possible, perfectly good and useable items entering the waste stream.

The third challenge is to build upon our existing recycling and composting arrangements, raising the city's ambitions to become amongst the highest recycling cities in the UK. By doing this we will ensure that we meet the recycling targets set out in the national waste strategy and deliver the associated climate change and other environmental benefits of conserving raw materials and energy for the people of Coventry. This strategy is focused on effective *resource management* more than merely *waste management* – seeing waste as a valuable commodity rather than something to just dispose of.

The fourth challenge lies in ensuring that we have sufficient residual waste treatment infrastructure in place to avoid the waste that is left over after recycling from going to landfill, with the associated environmental and economic impacts this entails. Through on-going investment in the city's Energy from Waste Plant (EfW) Coventry continually achieves very high levels of diversion from landfill, and already meets the targets contained within Waste Strategy for England 2007.

This strategy is an exciting next step in the ongoing success story of how Coventry manages its municipal waste in both a sustainable and financially prudent manner.

The successful implementation of this strategy depends upon everyone playing their part and participating in waste minimisation, re-use and recycling schemes. Many Coventrians already do so and are to be applauded, but more work needs to be done to encourage others.

This strategy is both ambitious and challenging and I commend it to the people of Coventry as a framework for improving waste management performance and reducing the city's waste. This will help safeguard the future environmental performance and economic prosperity of our city for generations to come.

Councillor Hazel Noonan

Cabinet Member (City Services)

Executive Summary

This Municipal Waste Management Strategy for Coventry sets out the vision and objectives of the municipal waste management service until 2020. It explains the contribution that improving the management of our wastes can have in helping to tackle climate change and other environmental impacts. By around 2020 when all the actions within this strategy have been implemented we will have reduced carbon emissions by up to 60,000 tonnes of CO_2 equivalent per year, 2.8% of Coventry's total greenhouse gas emissions[1] or ~155kg of CO_2 avoided per person in Coventry each year.

One of the challenges facing Coventry, as a growing and changing City, is limiting waste growth. Municipal waste has been exhibiting a slight (~1%) growth on average per annum in recent years. This strategy promotes closer working with the third sector[2] to seek to reuse items of value often discarded within waste (for example some furniture, electrical goods, bric a brac) where viable. There are also initiatives to avoid junk mail, home composting promotions and support for Real Nappies which together, will help to reduce the household waste arisings per person back to 2000 levels (454kg / person) by 2015. This is a key strategy target.

In 2007/08, the council handled over 180,000 tonnes of municipal waste (this equates to 450 Jumbo Jets in weight), costing in excess of £12 million and with the city's population set to increase this figure is forecast to rise.

Coventry City Council is one of the first local authorities to adopt a comprehensive climate change strategy and the production of a Municipal Waste Management Strategy is one of the priority actions from this strategy. The way in which we manage the city's waste can be a major contributor to reducing carbon emissions and the wider environmental impact of municipal waste management is recycling. Coventry's recycling rate has more than doubled in the last 6 years, with the latest (2007/8) recycling rate at 26.2%. This represents substantial progress however does not go far enough to meet the Council's objective of *maximising the benefits of saving energy and materials*, or to achieving the recycling targets within Waste Strategy for England 2007[3]. After a comprehensive appraisal of recycling options and undertaking a recycling trial, Coventry City Council is seeking to implement a full recycling service across the city collecting cans, glass, plastic bottles, paper and card from every household. The Council will also support a third sector organisation in delivering a textile collection service from each household.

Targets of 40% recycling of household waste by 2012/13 and 50% by 2019/20 have been set within this strategy. These are challenging targets that will only be met with the full participation of the citizens of Coventry.

The Municipal Waste Strategy also seeks to encourage businesses and the Council to improve their waste management performance and the new comprehensive recycling collection system will also be made available to trade waste customers and will be implemented in council premises.

1 Based on the latest (2002/3) data
2 The 'Third Sector' encompasses Not for Profit, Charity, Community Groups or Social Enterprises
3 The National Waste Strategy, Defra

Coventry is one of the leading authorities in England for the following:

- reducing waste from landfill;
- recovering energy from waste, and;
- having one of the lowest waste disposal costs.

The prime reason for each of these substantial achievements was the constrution of the Coventry Energy from Waste (EfW) plant in the 1970s and the on-going investment in this facility. This EfW incinerates the waste left over (after recycling and composting) and generates green electricity from this waste to export to the National Grid.

An options appraisal for residual waste treatment infrastructure has been undertaken to support this strategy.

The Energy from Waste Plant has served Coventry extremely well and it is anticipated that it will continue to do so for the majority of this strategy's lifetime. However, it is timely to begin to consider options for its eventual replacement with a new residual waste treatment facility. Coventry is actively working in partnership with Solihull Metropolitan Borough Council and Warwickshire County Council as part of a sub-regional approach to sustainable waste management. The three waste disposal authorities have already signed a Memorandum of Understanding and are working collaboratively to develop waste management infrastructure across the sub-region.

Vision & Objectives

The vision and objectives of Coventry's Municipal Waste Management Strategy were developed from the Council's corporate objectives and local, regional and national policy and priorities.

Vision

To provide a safe, clean and green environment where people will want to live and invest. To support the citizens of Coventry in generating the minimum amount of waste that is practicable, maximising reuse, recycling and recovery of energy from the remaining waste, to reduce the impact on the environment and encourage more sustainable use of resources for the benefit of society and the planet.

Coventry's Municipal Waste Strategy will complement Coventry's Sustainable Community Strategy and follow the themes and ambitions of Waste Strategy for England 2007, regional strategies and supporting partnering activity in the sub region. Delivery of this strategy will actively contribute to reductions in greenhouse gas emissions to help combat climate change.

The objectives designed to realise this vision are below and are further explored within the targets and policies of this strategy.

Objective 1	Manage wastes arising in Coventry in a sustainable manner to reduce both its quantity and impact on climate change, and to maximise the benefits of saving energy and materials
Objective 2	Seek to consolidate and improve the high performance of landfill diversion, to ensure that the current status of Coventry as one of the leading authorities in the UK, for landfilling only a small proportion of our wastes, is maintained
Objective 3	Develop and support through proactive education, engagement and enforcement, higher levels of waste prevention, reuse, recycling and composting, which is consistent with national standards of good practice for an urban environment
Objective 4	To treat and recover optimum value from residual municipal waste
Objective 5	Ensure that services are accessible by all members of the community and that citizens have the opportunity to participate in, and make a strong contribution to, the sustainable management of our wastes. Ensure that, in all activities, public health is protected and that high standards of environmental performance are a pre-requisite of the delivery of the service
Objective 6	Deliver a service that offers the best value to the taxpayers of Coventry and where practicable work in partnership with other authorities/partners/agencies if advantageous and efficient to do so.
Objective 7	Improve the management of wastes and resources generated by Coventry City Council and exploit the position of the city council as a key stakeholder to engage with industry and commerce about improving the management of their wastes towards achieving more sustainable practices

1. Introduction

1.1 The Purpose of the strategy

This is the first Municipal Waste Management Strategy for Coventry. Its purpose is clear; to set out the best way to manage waste in Coventry, maintaining a high level of service and demonstrating best value to its citizens, with due regard to the environmental and social implications of managing the city's waste. It builds upon the City's Waste Philosophy published in 2003 and links with other developments, including the Local Area Agreement priorities and the climate change strategy as part of Coventry's approach to tackling key environmental, social and economic challenges. The waste strategy is therefore a key element of Coventry's sustainability approach and a key component of delivering the City's Sustainable Communities Strategy.

Waste management practices in Coventry have always reflected current thinking in the management of waste in terms of recognising that the disposal of waste in landfill sites is unsustainable and is a waste of limited natural resources, as well as contributing to global warming[4] and the threats of a changing climate. This strategy clearly sets out the intentions of the city council in further developing and delivering its waste management responsibilities in response to the requirements set out in the National Waste Strategy 2007.

The strategy considers relevant european, national and regional policy and legislation, with the current focus on improved resource management, sustainable energy use and reducing the impact on climate change. It is Coventry's response to Waste Strategy for England 2007, in terms of delivering greater prevention and reuse, utilising waste as a resource wherever possible and recovering the energy potential from residual waste. The strategy clearly sets out the vision for sustainable management of waste in Coventry from now until 2020. In addition, specific objectives actions and targets are identified for the delivery of the waste collection, recycling, treatment and disposal service for the duration of the strategy.

Throughout this strategy, the council is striving towards very high performance standards in the sustainable management of waste, preventing, reusing, recycling and recovering value from waste wherever practicable and demonstrates the city's ambition in this area. The strategy is reflective of community aspirations and is supportive of cost-effective compliance with all existing legal obligations, clearly indicating how Coventry intends to optimise current service provision as well as providing a basis for new systems or infrastructure that will be needed to deliver the requirements prescribed within european and national legislation.

A statutory twelve week period of consultation will commence on the 12th August and will provide all stakeholders with an opportunity to comment on the content of the strategy. This consultation will include public roadshows, briefings at ward fora, a workshop for elected members, publication of the documents on the council website and a summary consultation questionnaire which will be sent to each household in Coventry.

1.2 Scope of the strategy

The Waste Strategy aims to guide the future delivery of the waste collection, recycling, treatment and disposal services in Coventry. The Waste Strategy deals with the strategic vision for managing wastes in a sustainable manner, for the period of 2008 – 2020, which is to ensure consistency with the National Waste Strategy and key legislative dates and

4 Methane emitted from landfill sites has 23 times more Global Warming impact than Carbon Dioxide, WRATE Life Cycle Analysis tool

milestones. There is less clarity surrounding the legislative situation after 2020 and hence why this strategy is set for a 12 year duration, with review dates scheduled for 2013 and 2018.

The focus of the strategy is municipal waste (also known as Municipal Solid Waste, (MSW)). MSW is waste that is collected by or on behalf of the local authority, and therefore is primarily household waste, but includes a proportion of waste from non household sources such as flytipped wastes, and trade waste from commercial premises. Coventry City Council is statutorily responsible for the planning and provision of the collection and disposal service. Municipal waste is collected by Coventry City Council, either in a mixed form or partly separated for recycling or composting and in 2007/8, over a quarter of the city's waste was either recycled or composted. The remaining waste, after recycling and composting, is mostly sent to Coventry's existing Energy from Waste plant, enabling green electricity to be generated. This is discussed in more detail in Section 11.

Government has recently emphasised the potential for providing new services for both municipal and other wastes in some circumstances (e.g. commercial wastes). Section 4 in this strategy considers such 'wider wastes'. These are waste streams for which the city council may not have direct responsibility, but can influence to help improve the management of these unwanted materials for the benefit of the environment and society as a whole.

1.3 Structure of the strategy

The strategy sets out the key principles as part of the consultation exercise. It includes the proposed policies, aims, objectives, and targets for the management of wastes and resources in Coventry from 2008 – 2020, and also an action plan for sustainable delivery.

All public sector strategies that may impact significantly on the environment are required by law[5] to undergo a process known as Strategic Environmental Assessment (SEA). This includes a detailed environmental report, which is a supporting document to this strategy. This environmental report (SEA) is a substantial document of over 240 pages and is available electronically on the council's website.

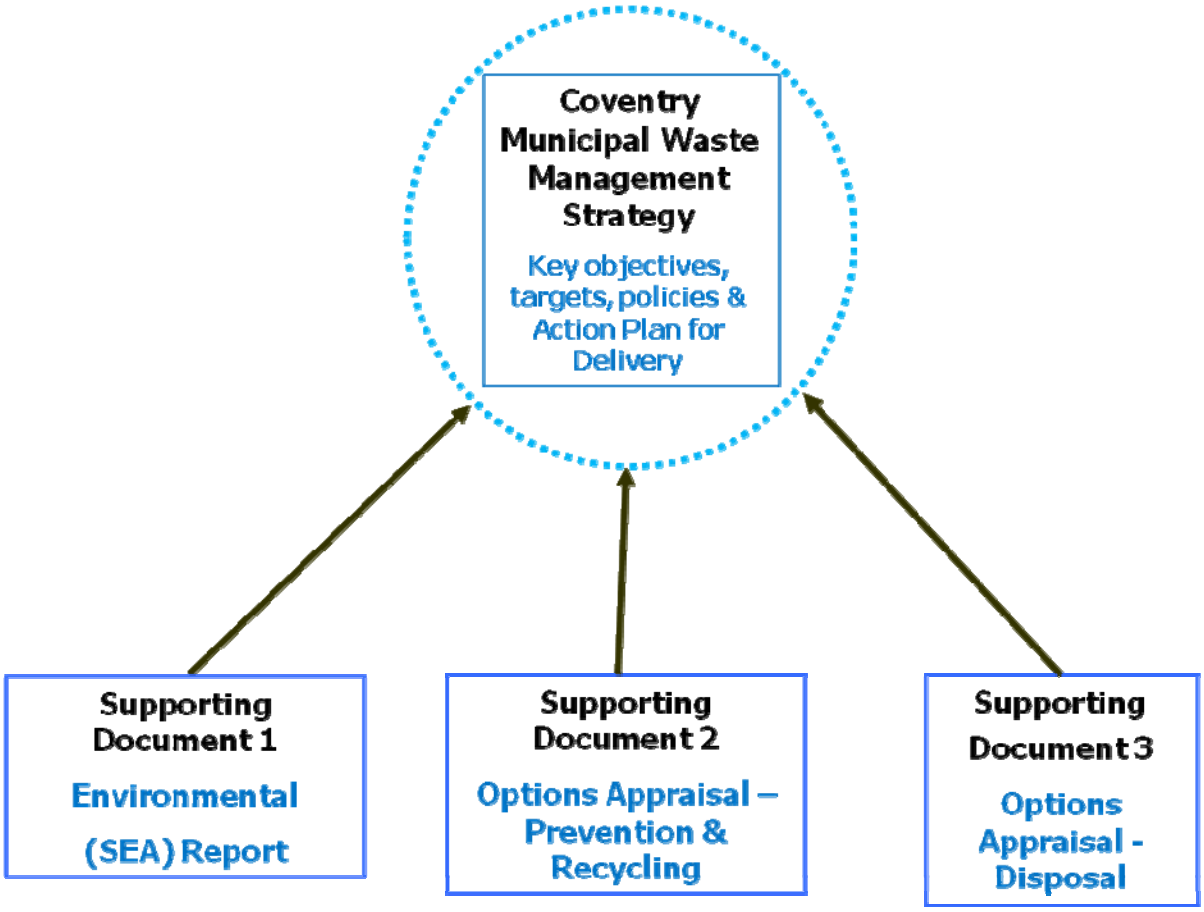
Government guidance for writing Waste Strategies[6] also requires consideration of different options for the delivery of the municipal waste management service, known as an Options Appraisal. Two option appraisals have been undertaken and used to inform this strategy. These are: the Options Appraisal – Prevention and Recycling, prepared by BeEnvironmental Consultancy, and Options Appraisal – Disposal, prepared by ENTEC Consultancy. Both option appraisal documents are available electronically on the council's website.

The findings of both the Strategic Environmental Assessment and the Options Appraisal Reports are incorporated within the actions and targets of this Waste Strategy.

The strategy and its supporting documents are shown in Figure 1.

5 Environmental Assessment of Programmes and Plans Regulations, 2004
6 Municipal Waste Management Strategies – A Practice Guide, 2005

Figure 1: Structure of the strategy



The action plan element of the strategy is the delivery mechanism for implementing the targets and policies described within the strategy. The action plan will be regularly reviewed and updated.

1.4 Sustainability of the strategy

Coventry is committed to delivering sustainable solutions in all of its activities and incorporating sustainable development within its core policies and strategies. This strategy has been developed in line with these principles, taking account of key local, regional and national policy, good practice and legislation in these areas.

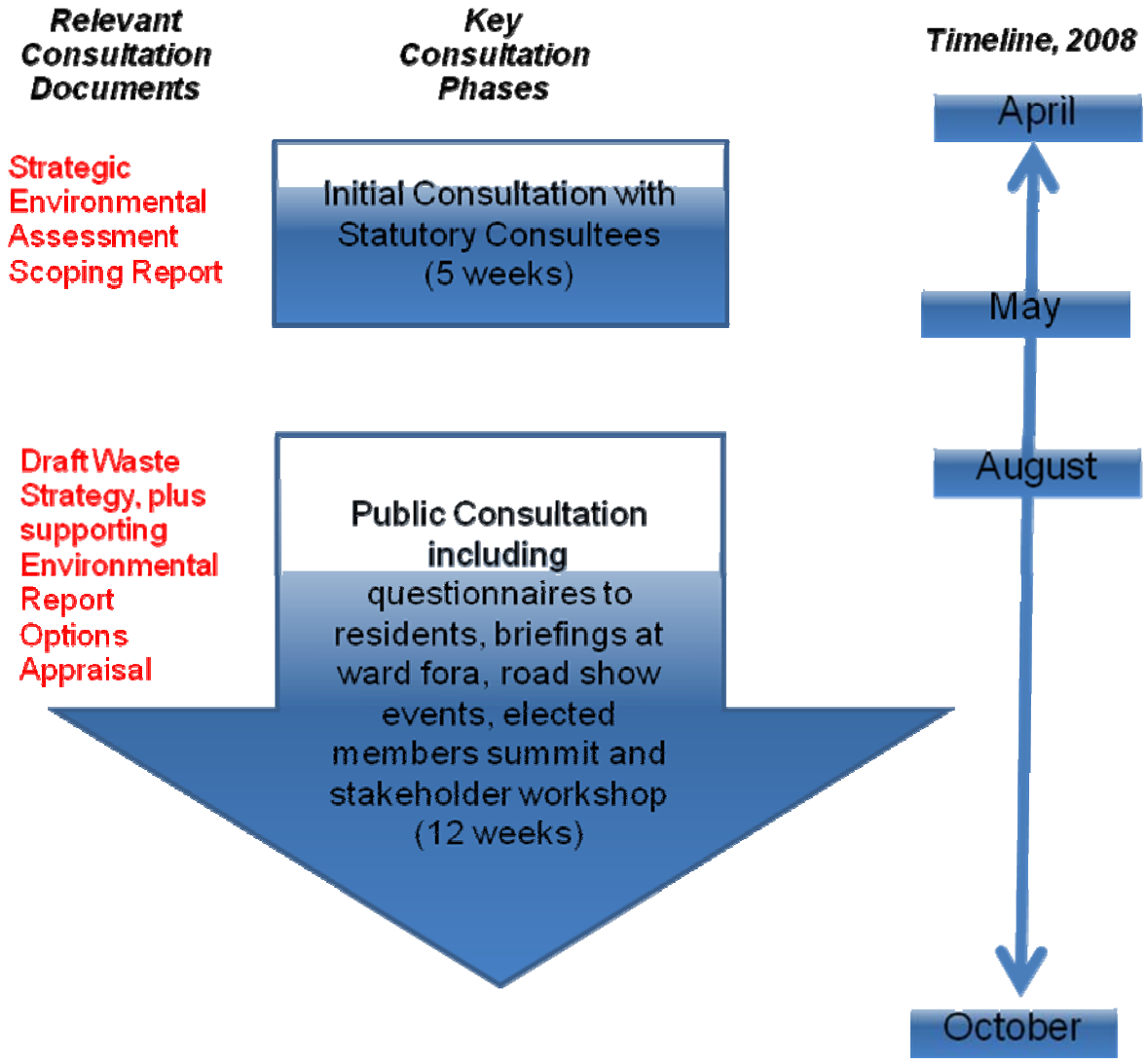
The environmental consequences of the strategy are also reviewed through the Strategic Environmental Assessment (SEA), a review process setting the objectives targets and options within the strategy against sustainability criteria.

1.5 Consultation process

A programme of consultation commenced during the early Waste Strategy / SEA development process, with a scoping report produced by BeEnvironmental Consultancy and issued to the Environment Agency, English Heritage and Natural England in early April 2008. This report included the proposed Vision and Objectives of the Waste Strategy, the SEA criteria (as applied in the Environmental Report), background information on Coventry and relevant local, regional and national plans / programmes which should influence the strategy. The responses received have been incorporated into the SEA and support the vision and objectives of the strategy. The responses also support the SEA criteria and options to be considered further in the waste strategy development process.

In terms of the SEA baseline information, further data on Biodiversity was requested by Natural England to support the Strategic Environmental Assessment process and this has been included.

Figure 2 The Consultation Process



A twelve-week statutory public consultation period will commence on the 12th August 2008 with a questionnaire and summary of this strategy forming the key consultation documents.

This strategy and supporting documents provide further detail on the justification for particular choices and detailed actions proposed in this strategy. Coventry City Council is seeking the views of all stakeholders on the key elements of this strategy, and a questionnaire has been developed to enable respondents to express their views on the issues and actions proposed therein.

The consultation process will also include seeking feedback and comment from Ward fora, and the Coventry Partnership. In addition, the website and media have been extremely useful tools to supply information and education to a wide range of stakeholders. A questionnaire has been developed and will be distributed to each household through Citivision, the council's newsletter.

This approach will ensure the widest response from stakeholders across the city on the key issues set out in the strategy.**Error!**

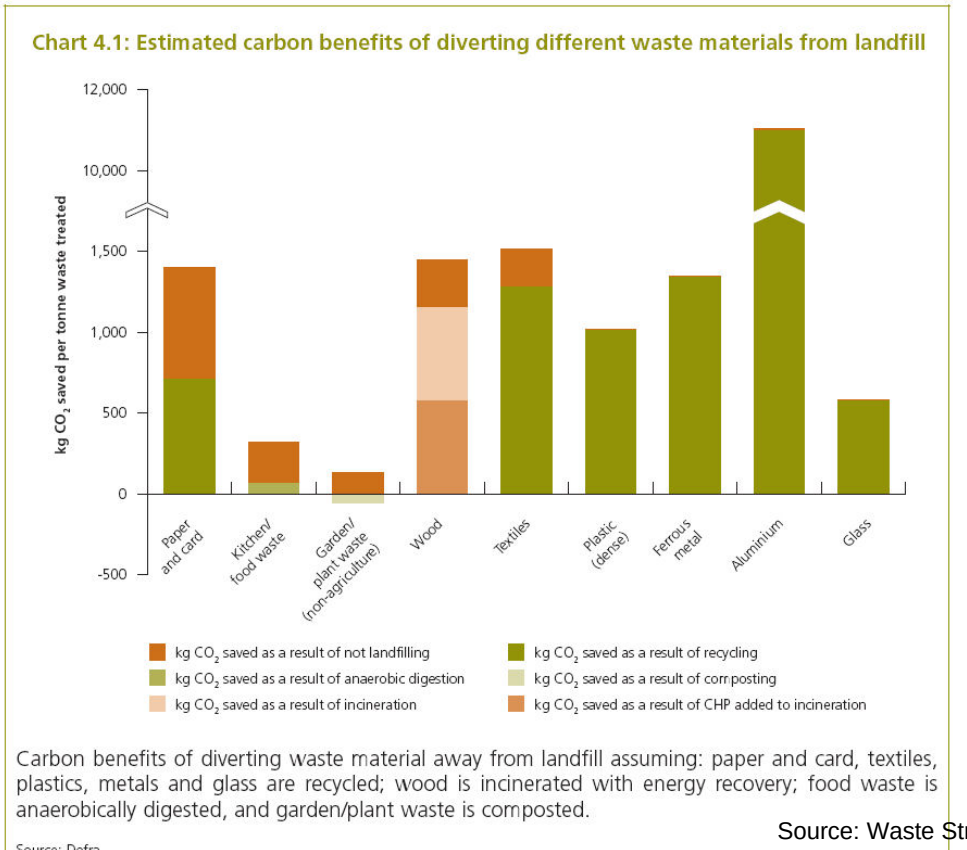
Further Information:
Environmental Report - SEA (available at www.coventry.gov.uk)
Options Appraisal Reports (available at www.coventry.gov.uk)

2. Strategic Context

The need to manage our wastes in a more sustainable manner is a key requirement of Government, set out in 'Waste Strategy for England 2007'. This means recovering more energy and materials from the waste that we have traditionally disposed of (Coventry is a leader in Energy recovery) and increasing the amounts of waste recycled. It means landfilling less, and Coventry is already one of the top performing authorities in the Country in this regard. It means providing services and education initiatives to reduce the amount of waste we generate in the first place, and it means working with retailers and producers of goods to make items more recyclable, use less packaging and become more environmentally benign in terms of their components.

All of these aspects directly impact on the prime environmental challenge we face, that of tackling climate change and reducing greenhouse gas emissions. Waste management has an important role to play in this addressing this challenge for Coventry.

Figure 3 Carbon benefits of improved waste management



Source: Waste Strategy for England 2007

The above bar chart (Figure 3) is taken from the national waste strategy and illustrates the carbon benefits of managing materials within the municipal waste stream more sustainably.

Since the year 2000, Government has placed targets upon local authorities to improve their recycling performance, not only to improve carbon emissions but to also conserve resources and treat our wastes more sustainably. Coventry has responded to that challenge and exceeded its latest target by a notable margin. Recycling however, is only one aspect to reduce carbon emissions, improved treatment of residual waste, re-use and waste prevention are also important components and are explored in this Municipal Waste Management Strategy.

Waste degrading in landfills and releasing landfill gas is the primary source of greenhouse gas emissions from the waste sector in the UK. In 2005, with the introduction of landfill allowances for each local authority, the Government set a framework for reducing the amount of biodegradable waste going into landfill, from each waste disposal authority. Coventry is well placed, by virtue of treating its residual waste through the energy from waste process, to meet all its landfill allowance targets up to 2020. This is consistent with Coventry's Sustainable Communities Strategy, Local Area Agreement and Climate Change Strategy.

2.1 European Legislation

There is a broad and diverse range of European policy and legislation governing and directing all aspects of waste management from treatment and disposal options, to the management of specific waste streams. In addition to the formal Directives which, require implementation into national legislation, the EU continues to produce environmental action plans identifying priority areas, supported by a number of ongoing 'thematic strategies' including one considering prevention and recycling of waste. This approach will help Europe to become a recycling society that seeks to avoid waste, and use it as a valuable resource.

European policy and legislation has a direct impact on national and local waste management and influence the way in which municipal waste management strategies are developed.

A number of the more influential Directives include:

Waste Framework Directive

Overarching guidance on the effective management of wastes is provided by the Waste Framework Directive (75/442/EEC). This requires the UK to develop national strategies, encouraging prevention and reuse of waste and to ensure provision of a suitable infrastructure for recovery and disposal supported by an appropriate regulatory framework to protect the environment and public health. The updated Directive is nearing publication and the this version includes targets on waste prevention, reuse and recycling. It is also agreed that Energy from Waste is to be classified as a "recovery" option if certain criteria are met. This has implications for certain wastes to be processed through the plant to demonstrate they have been put to good use (for example where there is an obligation on a producer of a product to recover some value from the waste of that product).

Landfill Directive

The Directive on the Landfill of Wastes (99/31/EC), commonly termed the 'Landfill Directive' is a major driver for change in municipal waste management in the UK. The Directive requires a significant reduction in the quantity of biodegradable municipal waste (BMW) sent to landfill, and any waste sent to landfill has to be pre-treated. In addition, bans are in place for tyres and waste with certain properties (e.g. flammable, corrosive etc). This means that all local authorities with responsibilities for disposal have specified allowances in terms of diverting BMW from landfill, and alternative technologies have to be made available to treat wastes prior to final disposal in landfill. New infrastructure is required in most local authority areas to

ensure that the targets in the Directive can be met within the timescales[7]. Coventry however, is again well placed as regards this challenge and already exceeds the targets derived from this directive for the entire period of this strategy (to 2020).

Producer Responsibility Directives

European legislation addressing packaging waste has been in place in the UK since 1997 and the main aim is to increase re-use (where possible), recovery and recycling of packaging waste. This legislation is an example of 'Producer Responsibility' and is aimed at ensuring that businesses take responsibility for the products they have placed on the market once those products have reached the end of their life. There are also other Directives covering Waste Electrical Equipment, End of Life Vehicles and Batteries.

2.2 National Legislation & Policy

The waste management agenda is moving at great pace at a national as well as European level. All European Policy/Directives and Regulations are implemented through national legislation; however there are also additional policies and pieces of legislation relating to the management of our wastes that are derived from Government.

2.2.1 Household Waste Recycling Act 2003

The Household Waste Recycling Act makes provision regarding the collection, composting and recycling of household waste. The key impact is the development of the first legislative requirement for local authorities to collect two streams of recyclable materials from the kerbside.

The Act requires Waste Collection Authorities in England to collect at least two recyclable materials from households separate from residual waste by 2010. Councils with particular difficulties in meeting the demands of the legislation may be granted derogation. The provision of 'comparable' recycling facilities, such as nearby bring bank or civic amenity sites, could potentially satisfy the Act's requirements. Further guidance has been provided (Defra, April 2005) on the methods of compliance with this Act. The guidance states that paper and card are considered as one recyclable material, and therefore the current recycling scheme in Coventry does not fulfill the Act's requirement of two separate recyclable materials collected for those properties (~15% of the housing stock) that do not also receive a green (garden) waste collection. This position is noted when it comes to further considering a new recycling collection system for the city.

2.2.2 The Landfill Allowance Trading Scheme Regulations 2004 (LATS)

The single biggest driver for change in the UK from a disposal oriented strategy is the Landfill Directive, as implemented in England through the Landfill Allowance Trading Scheme (LATS) and associated legislation. Each waste disposal authority (including Coventry City Council) is allocated a tonnage of biodegradable municipal waste (BMW) permissible to be deposited into landfill. This tonnage allocation is issued in the form of permits, and reduces each year. There are fines of £150 / tonne of BMW landfilled over the amount permissible under the scheme[8]. This is a significant driver for change and, to provide a context, typical disposal charges in the UK have been in the order of £30 - £55 / tonne of municipal waste. Coventry is well placed to avoid such penalties because the waste left over after recycling and composting has taken

7 Targets for the UK are:

- Reduction in tonnage of BMW to landfill by 25% on 1995 levels by 2009/10
- Reduction in tonnage of BMW to landfill by 50% on 1995 levels by 2012/13
- Reduction in tonnage of BMW to landfill by 65% on 1995 levels by 2019/20

8 Landfill Allowance Trading Scheme Regulations, 2004, amended 2005

place, is currently sent to the Energy from Waste (EfW) plant (as illustrated in section 11). This facility destroys BMW so that there is only ash remaining that needs to be disposed of to landfill. This has meant that the cost of the disposal service in Coventry, whilst already amongst the lowest in the UK is likely to remain low relative to other authorities, where the disposal costs are increasing at a substantial rate in the short to medium term. At the point of replacing of the EfW plant (envisaged 2017 – 2020) there is likely to be a significant increase in disposal costs and Coventry's costs will align with the other disposal authorities at that point. Coventry is seeking to minimise disposal cost increases through working in partnership with Solihull Metropolitan Borough Council and Warwickshire County Council and working sub-regionally around waste disposal.

2.2.3 Waste Strategy for England 2007 - Targets

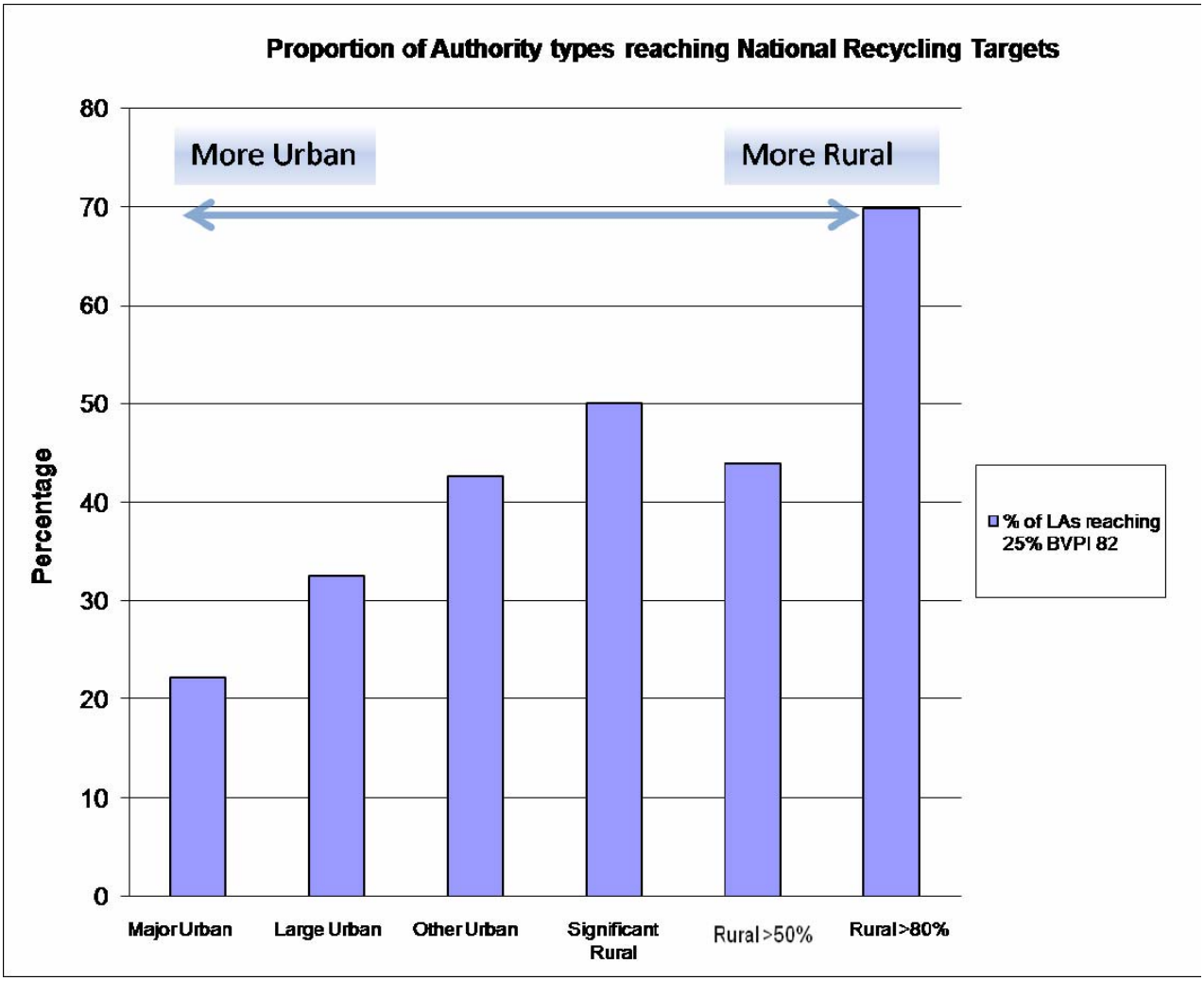
The key national targets for the service in England[9] for recycling and composting, are set out in Waste Strategy for England 2007, and are as follows:

- To recycle or compost at least 40% of household waste by 2010
- To recycle or compost at least 50% of household waste by 2020

Coventry's local targets are set in the Local Area Agreement (section 2.2.4) and also within this strategy. Where targets are adopted at a national level, these have, in the past, been translated to different targets at a local level, which reflect an improvement on current performance that may be below or above the national target. It should also be noted that urban authorities are often lower performing than rural authorities with regards to recycling and composting targets, primarily due to the impact of additional garden waste available in rural authorities[10]. This can be illustrated by considering the last national recycling target set for 2005/6. Figure 4 shows authorities classified by how rural or urban they are, and sets this against achievement of the national recycling target. It can be seen that there is a strong correlation between the urban or city authorities where a lower proportion met the national recycling target. In contrast a higher proportion of the rural authorities met the national recycling target.

9 Waste Strategy for England 2007, Defra (WS2007)
10 High Diversion of Waste – Is it Achievable? Resource Recovery Forum 2004

Figure 4 National recycling target attainment by authority type (05/06 performance)



Source: Defra data, 2007

There is also a national target set for maximum household waste permissible to landfill or energy recovery of 12.2 million tonnes by 2020 and the Government is considering a ban on permitting recyclable and biodegradable waste from being deposited in landfill. The landfill that Coventry uses (Bubbenhall, Warwicksire) has an available life of 7 years (2015). There will be an ongoing requirement for landfill capacity beyond 2015, the precise location of this new capacity will be determined through the Local Development Framework and future procurement decisions.

Various measures have been developed at a national level to promote the "3 Rs", known as "Reduce, Reuse, Recycle". These are the waste management techniques at the top end of the waste hierarchy (Section 7) and so the most preferred, where practicable. National promotional campaigns such as 'Recycle Now' promote key messages and aim to raise awareness of the 3Rs. There are also funded programmes delivering support to local authorities on activities such as improving communications activities to the public, promoting home composting and waste minimisation activities, improving collection systems and help with the marketing of recyclables collected. These activities are predominantly supported by a Government funded organisation known as WRAP (the Waste & Resources Action Programme).

Paper, baled for reprocessing, from the Coventry Recycling Collection

2.2.4 Local Area Agreement 2008-2011

The local performance framework provides local government with a reporting structure for its service delivery and to monitor its objectives. The new performance system, introduced in April 2008, provides increased flexibility for authorities to tackle their key priorities, in consultation and negotiation with Government.

The Performance Indicator (PI) framework is implemented through the Local Area Agreements (LAAs) and includes some core indicators and others which may be included depending on the priorities and targets for individual areas.

Local Area Agreements (LAAs) are part of the Government's agenda for local flexibility, reporting and decision making through local partnership working. The Coventry LAA was developed by the Council with local partners through the Coventry Partnership. LAAs are reviewed on an annual basis and will be renegotiated every three years, the current Agreement was published in June 2008. LAAs also include a reward element for the achievement of a set number of targets (usually around 10-12), which provide a financial incentive for establishing baseline, trajectory, and quantifiable improvement data.

The relevant LAA indicators for this waste strategy are:-

- NI 191 Residual household waste per head
- NI 195 Improved street and environmental cleanliness (levels of graffiti, litter, detritus and fly posting)
- NI 196 Improved street and environmental cleanliness – fly tipping
- NI 186 Per capita CO_2 emissions in the LA area[11]

11 Whilst Government Guidance is to not include waste management operations in the reporting of this indicator, it is relevant in the sense that the objective of this indicator is being supported by this Waste Strategy

The LAA targets that have been negotiated and agreed with GOWM for the period 2008-2011 are set out in the table below.

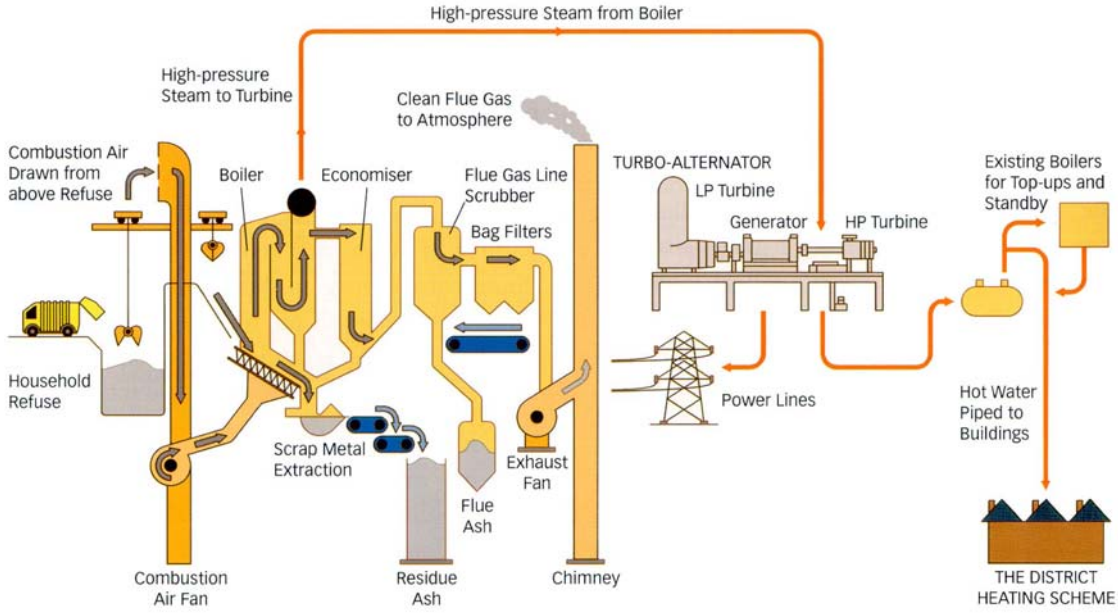
		Baseline year	2008/09	2009/10	2010/11
NI 191	Residual household waste per household *Note: indicator is kilograms of residual waste collected per household (total waste collected minus waste reused, recycled, composted or anaeorobically digested)*	1005 2001/02	800	770	735
	Approximate recycling / composting rate required to meet this performance.	N/A	26%	32%	35%

2.2.5 Energy Policy

There is significant potential to align energy policies and waste policies in England. At present, landfill gas generates the most renewable energy in England and another significant producer of renewable energy is incineration with energy recovery. The Government has recognised the role of waste management through renewable energy incentives for electricity generated from certain waste operations.

A recent emphasis from Government has been the consideration of utilising heat generated by certain recovery process (e.g. EfW or some biological processes) in addition to electricity generation to maximise the efficiency of energy recovery. This is known as combined heat and power (CHP), and requires a market and infrastructure to use the heat generated. Coventry will seek to utilise its existing heat network where opportunities arise.

Figure 5 the process of waste treatment and energy recovery from an Incinerator



Source: ETSU Energy from Waste: A Good Practice Guide

2.2.6 Planning Policy

Planning Policy Statement (PPS) 10 provides a set of strategic decision-making principles that should be adhered to in the preparation of planning strategies for waste management activities. These principles are important for the delivery of the Key Planning Objectives for sustainable waste management. Local planning documents must also take account of Regional planning documents such as the Regional Spatial Strategies.

2.3 Regional Policy / Targets

Examples of key regional strategy documents influencing the Waste Strategy for Coventry are included here.

Regional Spatial Strategy

The relevant planning document covering the West Midlands is the Regional Spatial Strategy (RSS, phase 1) published in January 2008. It includes policies relevant to the waste management service relating to the protection and enhancement of the environment (both the built and natural environments). It includes regional waste management targets as derived from the previous national waste strategy (now superseded by Waste Strategy 2007), and policies to encourage renewable energy, Combined Heat and Power, use of secondary aggregates, managing transport issues and reducing the regions impact on climate change.

Regional Sustainable Development Framework

This document provides the link between the national Sustainable Development Strategy 'Securing the Future' and the West Midlands. As a framework document, it is not a strategy in its own right, but acts to support existing strategy documents. The document supports the evaluation of strategies and plans and was utilized in the formation of the Strategic Environmental Assessment Criteria adopted in the Environmental Report.

West Midlands Economic Strategy

'Connecting to Success' is the regional economic strategy for the West Midlands, published in 2007, and has a prime focus of narrowing the gap (as recorded by the Gross Value Added or GVA measure) between the West Midlands and the national average. Growth is considered in a responsible and sustainable way so that managing the impacts on climate change and development in a manner that reduces waste, improves the management of resources and reduces environmental impacts are taken into account.

2.4 Local Policy / Targets

Some examples of local strategy documents influencing the Waste Strategy for Coventry include the following.

Climate Change Strategy

A Climate Change Strategy for Coventry has been developed and implemented, setting a proposed target of a 67% reduction in carbon dioxide emissions by the year 2050, with 2003 as the baseline year. An interim target of a reduction of 35-40% by the year 2025 is also proposed. Coventry is highlighting this issue as a priority for the City and is looking at ways to introduce measures to combat climate change on a local level by increasing the awareness and understanding of the issues and by moving towards a low carbon economy and implementing a programme to reduce impacts. This Waste Strategy highlights the carbon benefits in improving waste management services as illustrated by sections 8 - 12 in particular, and the savings are illustrated by material in Figure 3. There is nonetheless a need to improve and this strategy explains how the measures proposed will bring about substantial additional carbon savings, estimated to be well over 6500 tonnes of carbon dioxide

equivalents per year, equivalent to reducing carbon emissions by 20kg per person in Coventry or the same as taking over 1800 cars off the road.

Sustainable Community Strategy

The priorities and intended outcomes of Sustainable Communities Strategy for Coventry include the need to make more sustainable use of natural resources and to help people develop greater awareness and understanding of how they can contribute to a better environment.

Further Information:
Climate Change Strategy for Coventry (available at www.coventry.gov.uk)
Draft Regional Spatial Planning Strategy (available at www.go-wn.gov.uk/gown/planning)

3. Raising Awareness & Promoting Sustainability

Improving waste management and conserving resources will help mitigate the effects of climate change. There is a need to encourage all stakeholders in Coventry to move from a position of some awareness regarding waste issues to full participation in sustainable waste management and in particular, engaging with recycling services provided by the city council, so that reducing waste and maximising recycling becomes an integral part of everyday living.

The environmental benefits in a well used recycling scheme far outweigh those of a poorly used scheme, and whilst the council can implement a recycling system, it will only be as effective if residents and trade waste customers effectively participate. The information provided by the council to help encourage residents to participate should be easily accessible, relevant and timely. When people have waste to dispose of, the disposal facility should be made clear and be accessible to avoid the illegal disposal of waste. A corporate and systematic approach is important to identify and deliver effective communications and marketing opportunities, raising awareness and knowledge of waste management and related issues and services.

Effective participation will be enhanced by providing information on the benefits of improving waste management performance. Positive messages about Coventry's achievements in resource and waste management and local benefits should be promoted using appropriate means.

Examples include:-

- Recycling achievements at the Public Waste Recycling & Disposal Facility should be publicised at the site with monthly recycling rates clearly displayed
- Making compost / soil improver derived from garden waste collected in Coventry available to residents (see section 10)
- Local Ward Fora should be engaged to establish whether neighbourhood waste related priorities can be addressed.
- Local re-use opportunities to be promoted (see section 9)
- Use of free newspapers for conveying environmental performance and relevant strategic messages around climate change, resource use and energy generation
  A climate change section of the Coventry City Council website should be established to emphasise the link between climate change and waste management and the benefits of the Coventry Municipal Waste Management Strategy

The council recognises the importance and challenge of successfully engaging with the young people of Coventry as they will be the future recyclers of the City and is committed to delivering a range of education, training and awareness initiatives as part of the overall communications approach to sustainable waste management.

Education initiatives to promote waste and environmental issues including school visits and support of EcoSchools[12]. These aim to promote better understanding of waste prevention and recycling services and bring about positive behaviour change.

The Council will deliver systematic and programmed campaigns and events throughout the year in addition to linking with national initiatives, contributing towards environmental education and facilitating joint working across the city to raise awareness of environmental

12 Ecoschools is an international award programme to help develop more environmentally sustainable schools

issues. The city council will take a high profile lead, engaging with key stakeholders and educating in an informative and fun way, in addition to participating in other awareness raising opportunities such as participation in joint/individual awareness raising campaigns and initiatives e.g.

- Big Recycle,
- World Environment Day,
- Real Nappy week, etc.

4. Wider Wastes

This strategy is focused on municipal waste, however Coventry City Council supports more sustainable management practices across all waste streams. 'Wider wastes' in this instance include: commercial and industrial; hazardous; and construction and demolition waste streams. As the city continues to grow, the council will take a lead role in encouraging business and industry to adopt sustainable waste management practices in the treatment and disposal of construction and other non-municipal waste arisings.

Commercial and Industrial Waste

Government guidance contains requirements for reducing the amount of Commercial and Industrial (C&I) waste produced and to increase recycling in this sector. Coventry currently collects around 28,000 tonnes of commercial waste through its Trade Waste collection service, and recently (2007) introduced a trade waste recycling service allowing trade waste customers to present paper / cardboard for recycling separately from the residual waste, at a reduced cost for the recyclable element.

This approach has been very successful and the council will seek to expand the recyclables collection to include further materials, initially glass bottles and eventually to cans and plastics. Extraction of these materials could result in a long term recycling target of 50% being achieved by 2020, the tonnage implications of this are as shown in figure 6. This activity will involve offering a recycling collection, including paper / card, glass, cans and plastic to all trade waste customers by 2010. Assuming a proactive take-up by trade customers, a similar level of performance could be expected as in the domestic collection, delivering a recycling profile as shown in Figure 10.

Similar education and enforcement issues will require addressing from the introduction of the new trade waste collection as for the domestic collection. It should be noted that waste collected by a local authority from a commercial premises is classified as municipal waste and therefore an improved recycling performance would help in future municipal waste-related targets such as those under the Landfill Directive.

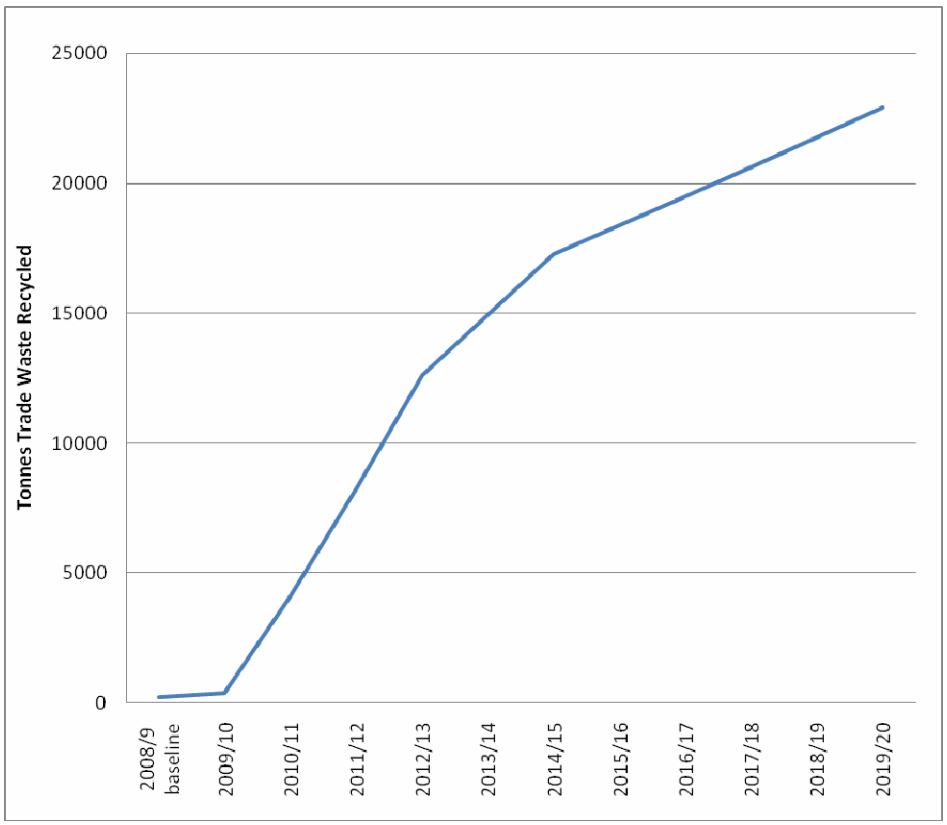
Coventry City Council Trade Waste Collection

Government organisations such as the National Industrial Symbiosis Programme (NISP) have a role in matching one organisation's waste with another organisation's need, for example an industrial waste from one process may be a useful raw material in another. The council will take an active role in engaging with NISP and representative industry bodies to help facilitate improved waste management in this sector.

The council also has a role in ensuring its own activities are well managed and has made commitments through this strategy to audit and manage the waste arising from its offices and premises more sustainably. This will include a detailed audit of waste produced from council offices and the establishment, where appropriate of additional recycling systems and targets to recycle a greater proportion of wastes. It is envisaged that a similar level of recycling performance could be achieved as for trade waste customers, i.e. 40% recycling by 2015, 50% by 2020.

The council will go further however to reduce its environmental impact by seeking to identify and reduce hazardous waste materials used in offices (e.g. consideration of lighting electrical equipment etc). There will also be waste reduction initiatives based on current office practices implemented and staff educated as part of the climate change briefings introduced through the Climate Change Strategy.

Figure 6 Trade waste recycling projections



TARGET 1: Coventry City Council to promote and deliver a comprehensive trade waste recycling service to enable businesses to recycle paper, cardboard, glass, plastic bottles and metal leading to the achievement of a 40% trade waste recycling rate by 2015 & 50% by 2020.

Hazardous Waste

Separate legislation identifies specific waste streams as 'hazardous', irrespective of their origin. Where waste is classified as hazardous it must be managed under strict controls and at appropriate facilities. Examples of hazardous waste includes redundant computer monitors, fridges, asbestos, oil etc.

Construction and Demolition

With regard to construction and demolition wastes (C&D), a significant proportion is already reused or recycled and policy support through the planning framework is provided to encourage improved management of this waste stream. There is also a requirement for Site Waste Management Plans on new construction projects of a notable size. These are designed to ensure consideration of improved waste management practice, reduce wastage and promote recycling and recovery of waste.

Carbon Savings: By recycling a greater proportion of trade wastes there are notable emissions savings to be made. For example by recycling 90 tonnes of aluminium (the projected performance of the 50% trade waste target), 990 tonnes of C02 emissions will be avoided, each year of the scheme

5. Current Waste Management Infrastructure

Overview of the current waste management service

The infrastructure (buildings and facilities) required for the delivery of the current recycling and composting service comprises of around 200 bring banks (e.g. bottle, paper banks) located across the city[13], the Public Waste Recycling and Disposal Facility (PWRDF) on Bar Road and the council depot where the council's vehicles are based.

The supporting infrastructure for waste management services in Coventry are detailed in the table below also included is the approximate municipal waste tonnage sent to these facilities from Coventry.

Table 1 Key Waste & Recycling Infrastructure

Material	Reprocessor	Location	% MSW	Approximate tonnage received from Coventry
Garden Waste	A Aston Composting	Brinklow, Warwickshire	9.3	15- 16,000 tonnes
Paper & Cardboard	Smurfit Kappa	Birmingham	6.7	12,000 tonnes
Glass bottles	Glass Recycling (UK) or Berrymans	Barnsley and Doncaster	1.3	2200 tonnes
Cans	Coventry Recycling of Waste (CROW)	Alucan, Warrington	0.06	less than 100 tonnes Split between aluminium cans, steel cans, newspapers, textiles
Textiles	European Textile Recycling (ETR)	Cannock Staffordshire	0.23	400 tonnes

13 For the nearest recycling banks to your location, enter your postcode to the following website http://www.recyclenow.com/

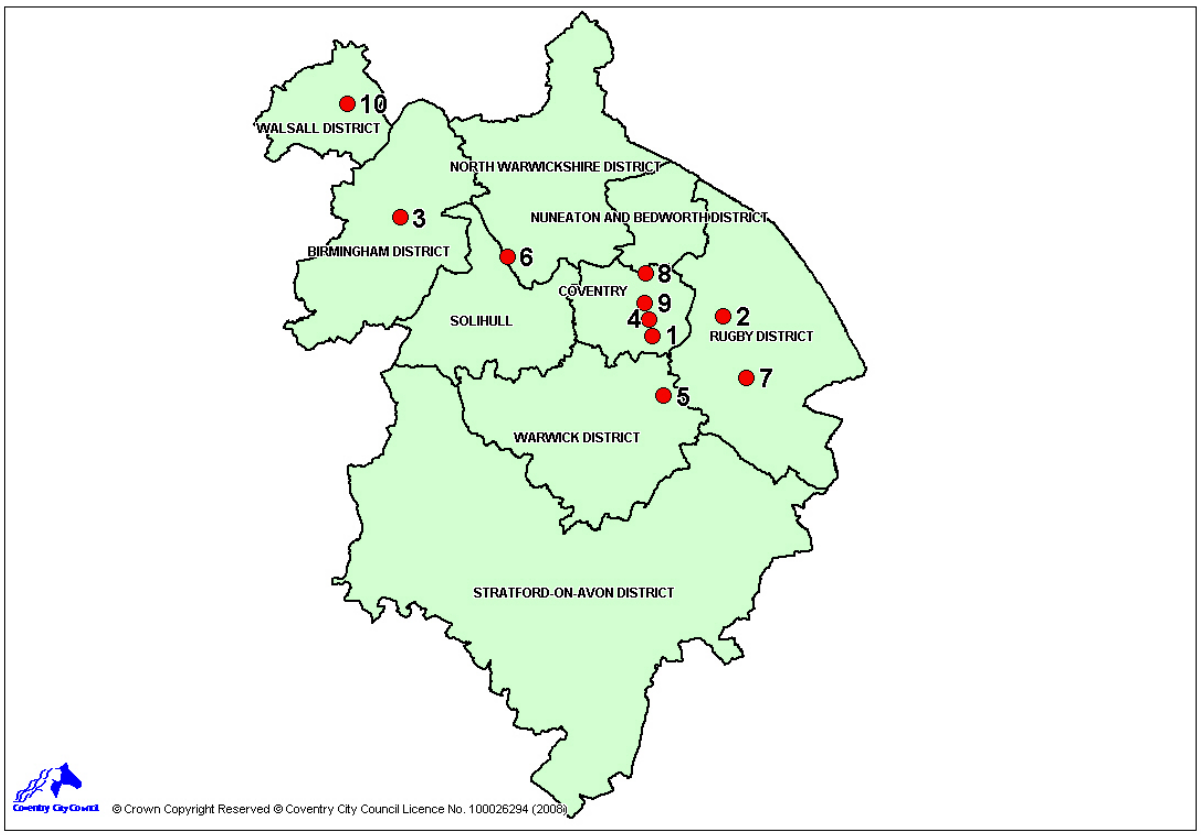
Material	Reprocessor	Location	% MSW	Approximate tonnage received from Coventry
Commingled Recycling. Glass bottles and Jars, Drinks Cans, HDPE Plastic Bottles	Greenstar	Aldridge Walsall – recently opened previously Darwin	0.32	355 tonnes of glass 110 tonnes of plastic bottles, 66 tonnes of ferrous cans, 11 tonnes aluminium cans
Street Sweeping / Reprocessing	Tom White Waste	Coventry	1.51	2,600 tonnes (2450 recycled)
Energy from Waste	Coventry & Solihull Waste Disposal Company	Coventry	64.83	111,521 tonnes
Landfill	Waste Recycling Group (WRG), SITA, Biffa	Bubbenhall, LinghallPackington, Ufton (all in Warwickshire)	12.21	21,000 tonnes

Historically Coventry has benefited from managing the majority of its waste within the City boundary through use of the EfW plant and this is a benefit over the majority of authorities. This strategy seeks to maintain similar proximity principles when considering new waste management infrastructure. The map in Figure 7 shows the location of Coventry's existing waste management infrastructure within the sub-region.

The infrastructure required for the treatment of the residual municipal waste is the Energy from Waste (EfW) facility which is owned and managed by Coventry and Solihull Waste Disposal Company Limited. This facility accepts almost all the residual waste and reduces the waste down to an ash. The ferrous metal content of this ash is already recycled and further options are being explored to recycle the majority of the remaining ash with minimal tonnage therefore going to landfill.

As can be seen in figure 7 the locations of Coventry's waste treatment and disposal infrastructure sit predominately within the West Midlands region with the majority of residual waste being treated within the city's boundary and therefore in relative close proximity to the point of production. The proximity principle remains an important consideration as the council seeks to continue to minimise the environmental impact of transporting municipal waste to the final point of disposal.

Figure 7: Current Waste Management Infrastructure



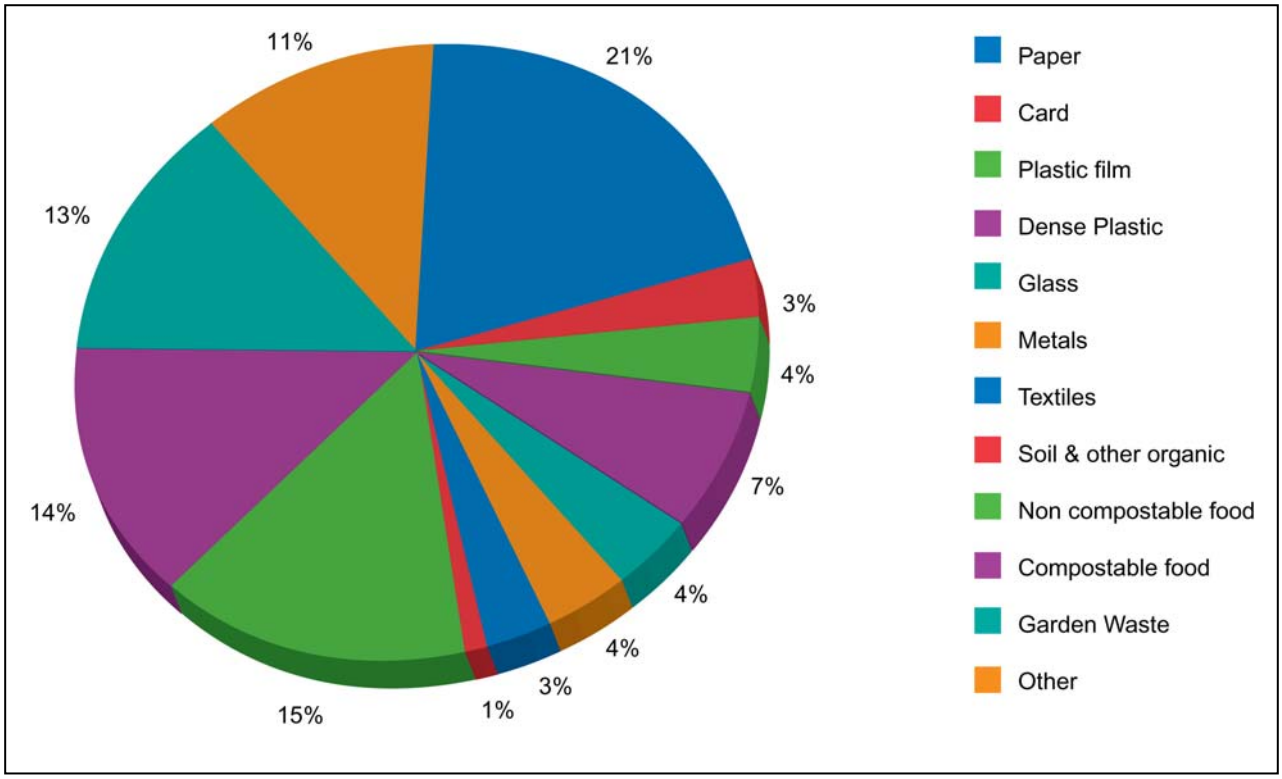
Key to Figure 7 [source Coventry City Council]

1	Energy from Waste plant & Public Waste Recycling Disposal Facility	4	Coventry Recycling of Waste (CROW)	7	Veolia Linghall Landfill Site	10	Greenstar Environmental Recycling – Comingled MRF
2	AA Aston Composting Facility	5	WRG Bubbenhall Landfill Site	8	Tom White Waste Ltd – Street Sweepings		
3	Smurfit Kappa SSK Paper Recycling	6	Sita Packington Landfill Site	9	EMR Coventry - cans		

6. Household Waste Composition

Household waste varies in its composition throughout the year. This is most evident in elements of the household waste stream such as garden derived wastes. It is therefore important to analyse household wastes at different times of the year to get a good estimation of the total composition. Coventry City Council has begun the process of waste analysis and initial findings are contained in figure 8.

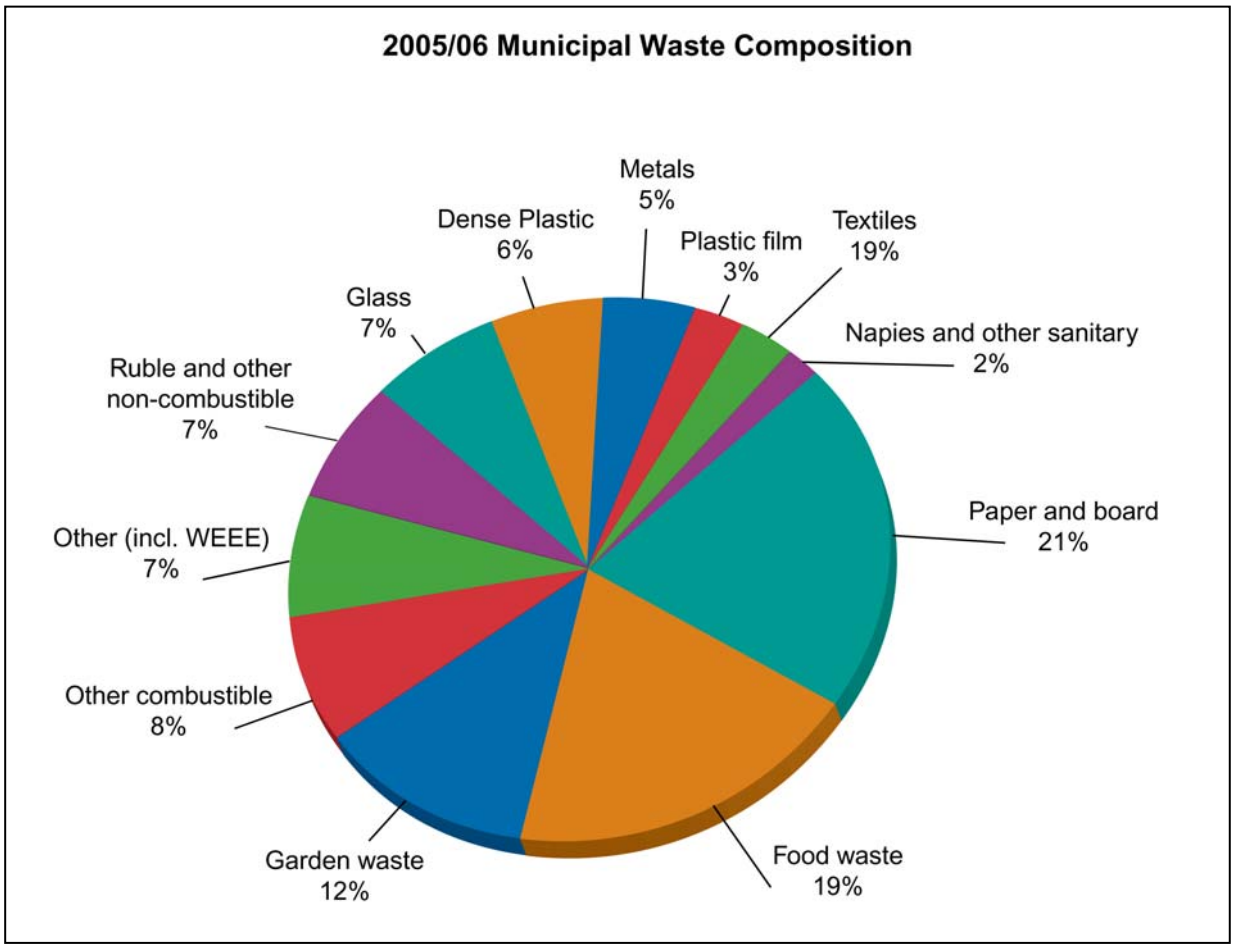
Figure 8: Kerbside collected Household Waste Composition Estimate



Household waste in Coventry is notable for its high levels of food waste relative to a 'typical' waste composition, this is illustrated by comparing with Figure 9, the national municipal waste composition estimate, using 2005/6 data (the latest available). There are also lower levels of garden waste than would be anticipated in other authority types. The low level of glass in this composition profile is likely to be attributable to bottle banks being excluded from the waste composition estimates[14.] Dense plastics and paper & card are also slightly higher than typical for the UK. In broad terms therefore a large proportion of Coventry's household waste is potentially recyclable. Based upon this analysis this strategy sets recycling targets which are typically higher than those for similar large urban environments.

14 MEL Waste Composition Study 2008

Figure 9 National waste composition estimate



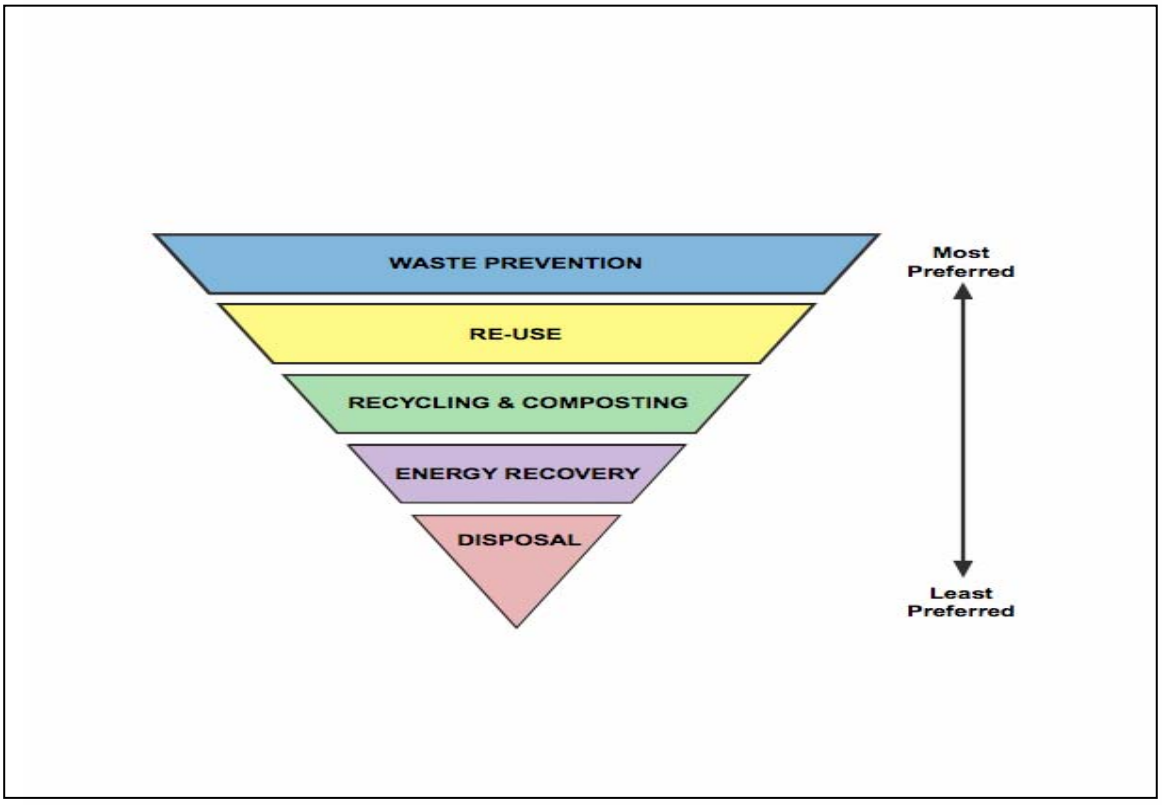
Source: WRAP, 2007

This composition highlights the potential for expanding the recycling collections to collect new materials, as explained in section 11.

7. Waste Hierarchy

A guiding principle of both national and European waste management is the concept of a Waste Management Hierarchy. This identifies that the best way to manage waste is not to generate it in the first place (prevention), followed by reusing or recycling/composting and recovering energy from waste where practicable and finally disposal of waste being the least preferable option (Figure 10). This Waste Strategy aims to further develop the priorities higher up the hierarchy and reduce the amount left for disposal. UK waste management has historically been dominated by disposal as a waste management route with landfill as the primary disposal option. However, Coventry is one of a minority of authorities that has largely avoided reliance on landfill by recovering value from residual waste through the Energy- from-Waste plant. This performance has placed Coventry as one of the highest performing waste disposal authority in the Country in this regard[15].

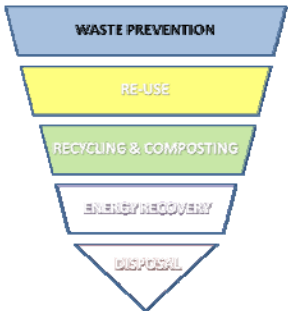
Figure 10: The Waste Hierarchy



This part of the strategy discusses each component of the Waste hierarchy and sets out a Coventry specific approach.

15 Best Value Performance indicator 84d, 2006/7, Defra

8. Waste Prevention

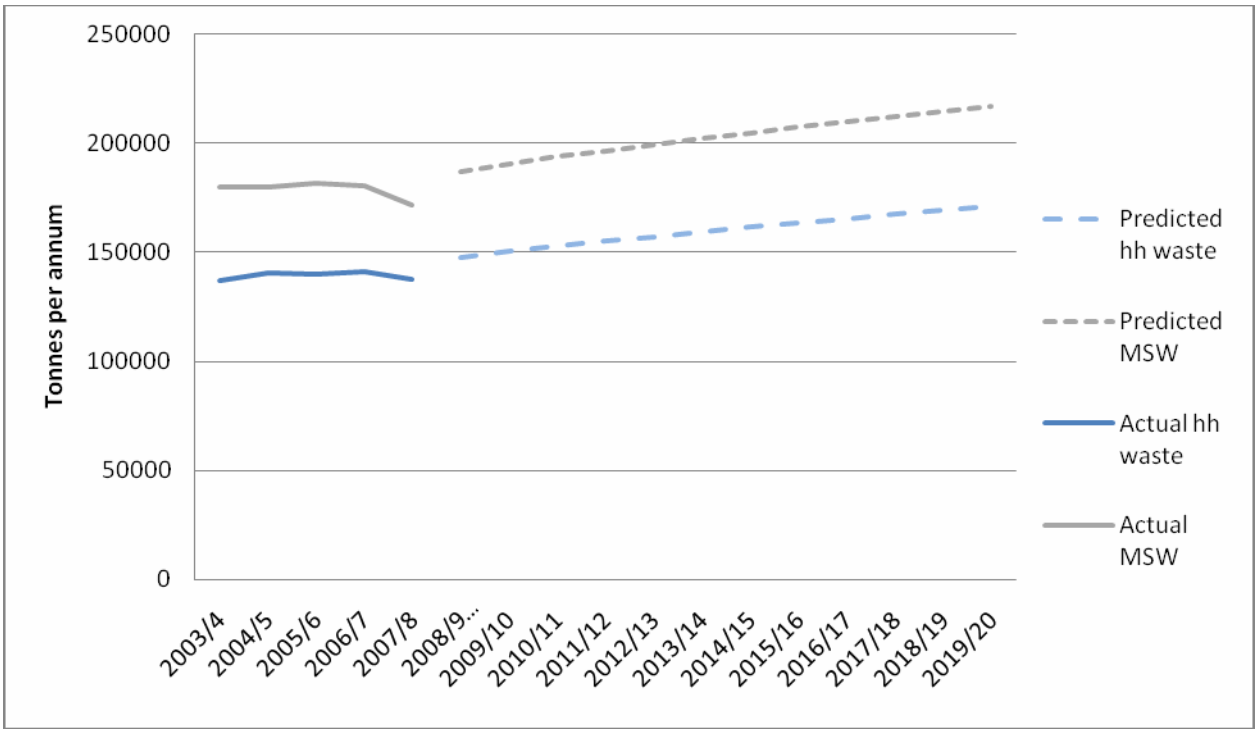


Waste Prevention may be defined as an activity designed to reduce the quantity of waste that would otherwise arise for collection.

Why seek to reduce waste?

In terms of household waste generated in Coventry, the total tonnage produced in 2006/07 was 140,100 tonnes, or around 465 kg per person per year. This represents a small increase (+0.88%) from 2005/6 and the data shows a general increase in household waste since 2003/4 by an average of +1% per year. The estimates from 07/08 data show a fall in arisings as shown by the graph below, however caution should be applied in drawing trends from any one year due to the multitude of factors influencing waste arisings. It is an established fact[16] that individuals living alone generate more waste *per person* than individuals in families, groups or couples living together. More people are choosing to live in single dwellings or in smaller families and so there may be a long term challenge in managing waste arisings around this issue. In addition to this demographic concern, there is also the significant planned increase in housing / population and other developments over the medium to long term. This will clearly impact on the overall waste arisings for Coventry. Figure 11 incorporates the effect of reducing the amount of waste arising per person through effective waste prevention methods employed by the city council, but as can be seen this is outweighed by the population growth in particular. It is inherent therefore that waste prevention is a priority for the City to help manage the burden of increased waste arisings into the future.

Figure 11 Actual & Projected Growth of Household (hh) and Municipal Waste (MSW) in Coventry



16 Select Committee on Environment, Transport and Regional Affairs Sixth Report 1998, and numerous other references

So the first reason to consider in preventing waste is to manage anticipated increases in waste arisings. The second and more fundamental reason is to reduce the environmental impact of generating more wastes than is necessary or sustainable. By avoiding the generation of waste in the first place, for example by signing up to a Junk Mail prevention initiative or by re-using carrier bags, then the environmental impacts of every stage of the product supply chain are avoided. For example, there are avoided emissions and resources used from obtaining the raw materials, refining / processing those materials, then manufacture into products, packaging/ printing, retail and disposal (and the emissions and fuel use associated with transport from each stage). The third reason to try and reduce waste arisings is that it is inconsistent with the principles of sustainability[17] and therefore generating more and more waste per head of population places an unnecessary environmental burden on future generations, and utilises limited natural resources.

Progress to date

Compared to similar types of authorities, Coventry performs just above the average level of household waste per person at 465kg / person, compared to the average for Metropolitan authorities (2006/7 data) being 460kg / person. There are some waste prevention activities already taking place in the City, such as:

Home Composting
Home composting is the most widespread and well established activity promoted and/or supported by local authorities to reduce waste entering the waste stream. It is projected, based on sales to date, that 6,449 WRAP[18] subsidised home composters will be distributed to households across Coventry over the last year. This is in addition to 12,400 home composters already sold as a result of one day sales and local campaigns. Based on an average of 1.2 units[19] per household, it can be assumed that 15,700 households will have purchased home composters. WRAP have stated that they will continue to subsidise home composters in this financial year (2008/9), but to a lesser degree than previously. Coventry City Council has been proactive in helping residents take advantage of the subsidised home composting units for the benefit of the householder and to reduce both waste arisings and carbon emissions.

Real Nappies
Coventry City Council also promotes real nappies and facilitates 'Nappucino' coffee events where free samples, trial packs, demonstrations and advice are provided. This activity takes place in partnership with BabeEase, and is promoted on the Coventry City Council website[20].

This progress will be built upon with enhanced activities and a range of other waste prevention techniques, through this strategy.

What we will do to help reduce household waste arisings

Coventry City Council has reviewed both the waste prevention and Re-use (section 9) options by undertaking an assessment of the benefits and costs of each option. The analysis considered the likely amount of waste avoided, the carbon impacts and the cost of implementing each option.

17 Sustainable Development is meeting the current generations needs without compromising the ability of future generations to meet their needs
18 the Waste & Resources Action Programme, a Government funded body
19 Email correspondence, WRAP
20 http://www.coventry.gov.uk/ccm/navigation/environment/rubbish--waste-and-recycling/household-waste/

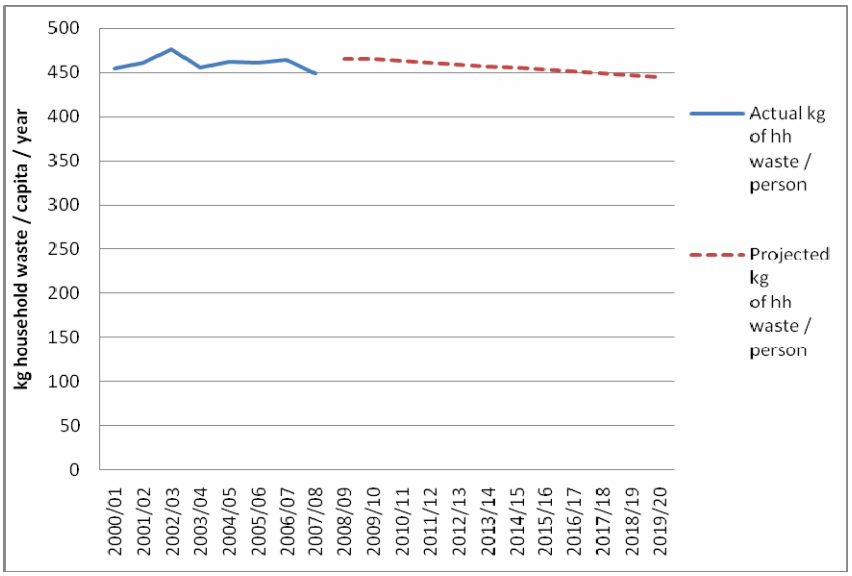
This evaluation has led to the following priority waste prevention actions to manage waste growth and ultimately to reduce the amount of household waste generated per person in Coventry:-

- Promote the Mail Preference Service and other measures to tackle both addressed and unaddressed junk mail using available communications channels, providing sample letters and contacts to facilitate registration on these schemes in order to reduce this element of the waste stream. An appropriate target would be to increase the uptake of the MPS by 10% per year up to 2013, and the benefits will be around 380 tonnes of waste avoided and this is considered to equate to a similar quantity (~380 tonnes) of avoided Carbon Dioxide emissions
- Continue to promote and subscribe to the WRAP home composting initiative for as long as the funding is available, this is projected to avoid around 660 tonnes of waste arising for collection and save around 240 tonnes of CO_2 per year
- Upon closure of the WRAP home composting scheme, evaluate the alternative options for food waste management in the light of the prevailing circumstances. Consider the potential prevention options in addition to separate food waste collections, e.g. subsidised home composters; subsidised food digesters; kitchen grinders
- Promote Real Nappies, and support schemes through information, partnering with Real Nappy organisations and signposting, this could divert 15 – 30 tonnes of nappies from landfill each year and also save carbon dioxide emissions

Setting a Target on Waste Prevention

In view of the efforts placed on waste prevention highlighted by the actions above, coupled with re-use initiatives (section 9) and national measures (e.g. action on single use shopping bags and food purchasing habits), real progress will be made on reducing waste arisings per person. The amount of household waste generated per person has been shown to vary year on year, however this strategy (Figure 12), seeks to demonstrate sustained improvement in this area.

Figure 12 Household waste per person in Coventry over the last 8 years and projected forward based on this strategy targets and continued trend of improvement



NB. The peak in 2002/3 was due to a Council promoted 'Spring Clean' initiative. Actuals data: BVPI 84a, Defra 2007

Coventry City Council will play its part in facilitating the stabilisation of household waste growth per person and through promoting / incentivising the initiatives outlined in this section and, together with education initiatives, seek to reduce it to a level of 454kg / person by 2015. This was the level of waste generated per head in 2000/01. This target will, in combination with the recycling and composting activity, link with the Local Area Agreement target of reducing *residual* household waste per person. Subsequent targets may be set beyond 2015 to bring waste arisings per head down further.

TARGET 2: Coventry City Council to seek to stabilise household waste arisings per head of population by 2010 and reduce household waste arisings per head to 2000 levels (454kg / person / year) by 2015

Waste Prevention Action Plan

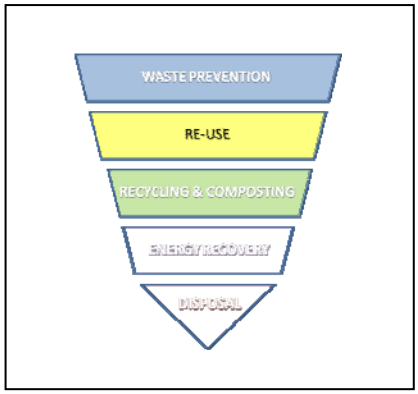
Actions	Timescale	Responsible Department	Indicator
1. Coventry City Council will continue to promote Home Composting through the WRAP subsidized Home Composting bins	Short	Waste Services & Sustainability & Campaigns team	Number of home composting bins provided in Coventry will increase from 15,000 to 20,000.
2. Coventry City Council will use the existing grounds maintenance equipment to run at least ten community garden waste shredding events to help promote home composting.	Short	Waste Services & Sustainability & Campaigns team	Ten community green wastes shredding events delivered
3. Coventry City Council will undertake a communications initiative to promote the Mail Preference Service (MPS) and other measures to tackle junk mail	Short	Waste Services & Sustainability & Campaigns team	Data provided by MPS will show a greater take up of the service in Coventry than previously. MPS promotion will appear on the majority of waste related communications for the next three years.
4. Coventry City Council to undertake a baseline audit	Short	Waste Services &	Completed audit report & action plan

Actions	Timescale	Responsible Department	Indicator
of the activities of the Council, recording / estimating waste arising, material types and the hazardous / non hazardous nature of the wastes. With a view to reducing the amount of wastes produced		Sustainability & Campaigns team	
5. Coventry City Council to introduce a no side waste and 'bin lid closed' policy to all household and commercial bins	Short	Waste Services & Sustainability & Campaigns team	Policy communicated to residents & trade customers
6. Coventry City Council will support at least thirty events each year that promote the prevention of waste and link the sustainable waste management message to the wider Climate Change programme	Short - long	Waste Services & Sustainability & Campaigns team	30 awareness raising and educational events held each year
7. Coventry City Council will evaluate the effectiveness of kitchen grinders for treating food waste and if successful sign post residents to reputable suppliers	Medium	Waste Services & Sustainability & Campaigns team	Reputable supplier advertised and evaluation report produced
8. Coventry City Council to establish a new waste arisings per head of population target to further incentivise waste prevention activity	Medium	Waste Services	New Target established

Carbon Savings: Reducing waste arisings provides substantial emission savings. For example by avoiding junk mail arisings of 380 tonnes (representing 27,800 households taking up the mail preference service and 6950 households opting for removal of free newspapers and unaddressed junk mail), 380 tonnes of CO_2 emissions will be avoided

Further Information:
Options Appraisal - Prevention & Recycling (available at www.coventry.gov.uk)
Environmental Report- SEA (available at www.coventry.gov.uk)

9. Re-use



Background

This section considers the re-use of unwanted goods / items which would otherwise enter the household waste stream. An example might be the refurbishment of a redundant item of furniture into a usable item or matching one person's unwanted product with a new owner therefore avoiding that item from entering the waste stream and enabling perfectly good items to be re-used.

This section summarises the recommendations for re-use considered in the Options Appraisal – Prevention and Recycling and are schemes that will be introduced in Coventry over the lifetime of the strategy.

The majority of re-use occurs through third sector activity (e.g. charities through shops, car boot sales etc). Local authorities can facilitate re-use activity through partnering with the third sector and utilising existing collection routes where large items are discarded.

Coventry already supports a number of local charities in their re-use activities by for example facilitating the collection of tools for re-use. This strategy seeks to further strengthen these arrangements.

The options appraisal considered a number of alternatives to promote re-use and the viability of each will depend on the activities of interest from prospective partners that would deliver the re-use activity.

As part of the implementation of this strategy, the Council will seek to engage a third sector partner in the delivery of the following re-use activities:

- SWAP days – the facilitation and promotion of community based re-use events where members of the public are encouraged to bring unwanted goods along to a free exchange event known as a SWAP day. The event itself would be organized and managed by a third sector partner (still to be identified). The Council could also facilitate free disposal of remaining unwanted goods at the end of the event. The SWAP day could also be used as a venue to promote or provide education on other waste or environmental activities.
- Re-use at the Public Waste recycling and Disposal Facility (PWRDF) – the city council will provide an area for deposit of potentially reusable items at the PWRDF. These items could be sifted by a third sector party for extraction of any items viable for re-use.
- Re-use of wastes collected through the dedicated bulky waste collection service – this option requires access from the third sector partner to bulky wastes and the opportunity to remove items for potential re-use.
- Support of Freecycle- there is a freecycle network in Coventry which provides an on-line community network where unwanted goods can be exchanged for free. The council will promote this activity and enhance the effectiveness of the network in exchanging more goods thereby prolonging product life and avoiding waste.

The city council will seek a long term re-use partner to help develop re-use activity in the city, exploring each approach described above on an individual basis. The availability of

refurbished or directly re-usable goods at low or no cost will provide an important service to the residents of Coventry.

Coventry City Council will continue to support the local Freecycle network to promote and publicise its activity with a view to maximising material exchange via this route.

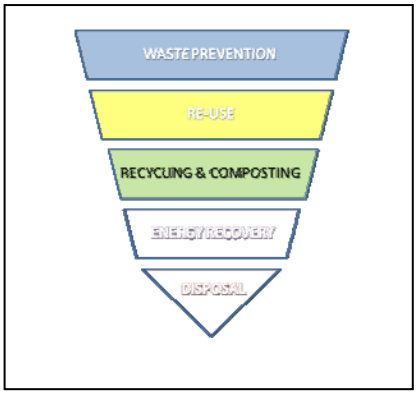
Re-use Action Plan

Actions	Timescale	Responsible Department	Indicator
9. Coventry City Council to actively promote the Coventry Freecycle Group as a route to divert unwanted goods from the waste stream through a community reuse network	Short	Waste Services & Sustainability & Campaigns team	Website link established Number of articles / literature including the Freecycle contact details
10. Coventry City Council to establish partnership with a number of third sector re-use service providers to establish a co-ordinated re-use collection in the City and to further improve the re-use activities of existing Bulky Waste collection Service and the Civic Amenity site	Short	Waste Services & Sustainability & Campaigns team	Partnership and/or Memorandum of Understanding with third sector providers
11. Coventry City Council will promote neighborhood re-use and swap days throughout the City	Short	Waste Services / Service Delivery Partner	A minimum of ten neighborhood re-use and swap days held per year
12. Coventry City Council to undertake a baseline audit of the activities of the Council, recording / estimating waste arising, material types and the hazardous / non hazardous nature of the wastes. With a view to re-using more of the waste produced	Short	Waste Services	Completed audit report & action plan
13. Coventry City Council to be represented on and actively participate in relevant	Short - Long	Waste Services	At least three reports fed back to the relevant

Actions	Timescale	Responsible Department	Indicator
stakeholder groups including wider waste producers, examples must include:- NISP, CBI, Confederation of Small Businesses & Chambers of Commerce			management team each year for action / update
14. Coventry City Council will support at least thirty events each year that promote the re-use of waste and link the sustainable waste management message to the wider Climate Change programme	Short - long	Waste Services	30 awareness raising and educational events held each year

Further Information:
Options Appraisal - Prevention & Recycling (available at www.coventry.gov.uk)
Environmental Report- SEA (available at www.coventry.gov.uk)

10. Recycling & Composting



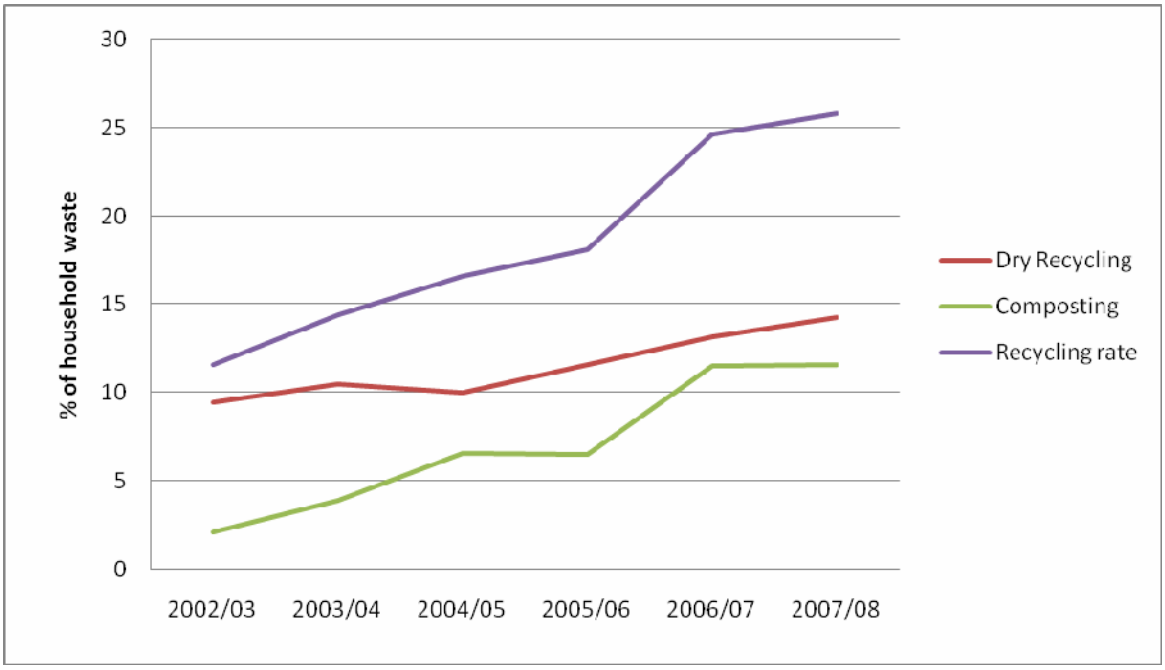
Background

The levels of recycling and composting have increased substantially: from a relatively low base to a level currently well in excess of Coventry's statutory target. The paper and card recycling service has increased to the point that 100% of households in Coventry now receive a fortnightly kerbside collection. 86% of households also have a fortnightly kerbside garden waste collection. In addition 17% (21,000) of households receive a fortnightly kerbside collection of glass bottles, cans and HDPE plastic bottles[21].

Supporting the kerbside infrastructure is a network of approximately 200 bring sites, located around the City for the deposit of glass, cans, paper, books and clothes[22].

Figure 13 illustrates the progress made in recycling and composting in recent years. The statutory recycling target for Coventry for 2007/8 was 20% and just over 26% is the estimated performance for that financial year. The prime reason for the improvement in the performance is the introduction of the garden waste composting collections and increasing the coverage of the paper / card collections.

Figure 13 Household waste recycling and composting rates



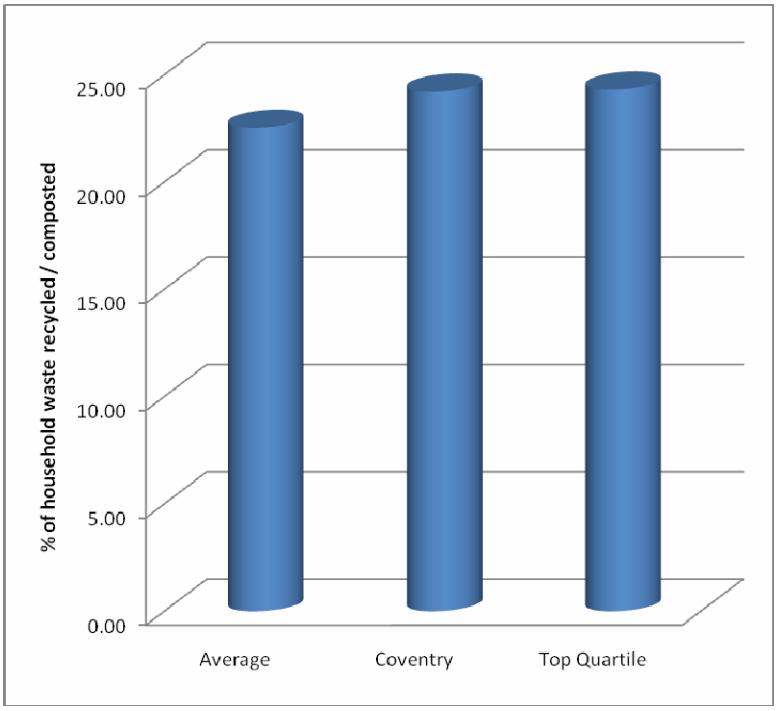
Source: Coventry City Council, 2007/8 data represent unvalidated submissions to WasteDataFlow (Government Stats)

21 The other major plastic type (PET), is not recycled by Coventry City Council due to a lack of markets in the UK and the majority of this material collected in the UK being exported to China for recycling (with the associated environmental impacts of transport). The city council is actively engaged in seeking UK based reprocessors and markets for this material to ensure that the best environmental service is delivered and recycling can be maximised.

22 For the nearest recycling banks to your location, enter your postcode to the following website http://www.recyclenow.com/

This level of performance is notably above average for Metropolitan Authorities and almost top quartile (among the highest performing Mets). Performance relative to other Metropolitan authorities is illustrated in Figure 14.

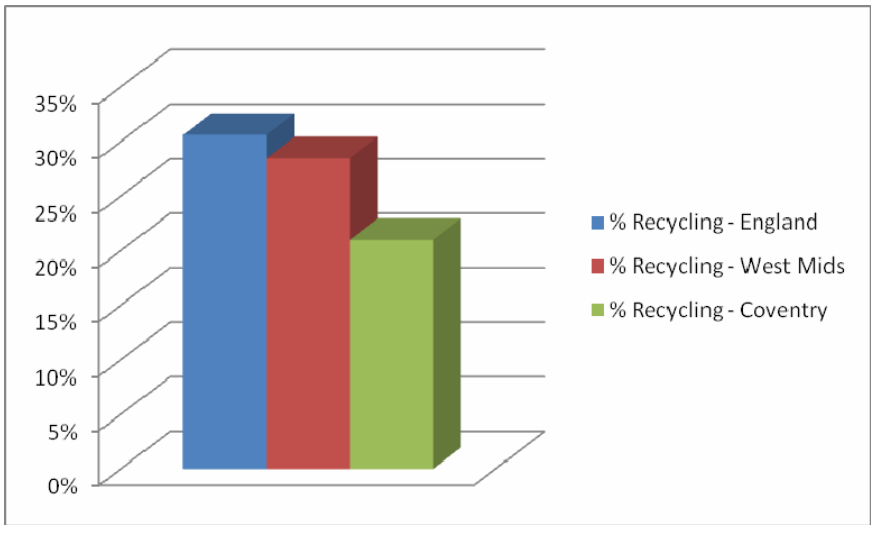
Figure 14 Coventry Recycling Performance set against other Metropolitan authorities (2006/7)



Source: Best Value Performance Indicators, 2007, Defra

The following graph illustrates recycling rates relative to the region and national performance.

Figure 15 Percentage of MSW sent for Recycling (2006/7)



Source: Defra Municipal Waste Management Statistics, 2007

Coventry's municipal waste recycling performance to date, as can be seen in Figure 15 has been below the regional and national average. However, as shown there has been substantial progress in this area and Coventry seeks to be amongst the leading Metropolitan Authorities in recycling performance. In 2006/7 Coventry was very close to the top quartile of Metropolitan authorities with a 24.2% household recycling rate, with the 'high performers' achieving 24.3% and over.

In terms of the different elements of the service, the network of bring sites (e.g. bottle banks) contributed over 5,100 tonnes of recyclables in 2006/07, nearly 15% of the recycled tonnage and the Public Waste Recycling & Disposal Facility (PWRDF) site contributed 2,800 tonnes (8%) of the overall recycling figure of 34,889 tonnes. The recycling performance of the PWRDF site has been low, with a recycling rate of around 24% of the waste entering the site; good practice levels of Civic Amenity (CA) sites recycling is 60%+, although it is noted that urban Civic Amenity sites face a greater challenge in achieving the highest recycling rates. Coventry City Council has recognised this performance issue and with the assistance of WRAP will work with Coventry and Solihull Waste Disposal Company, which manages the PWRDF to improve recycling and composting performance to reach best practice levels.

TARGET 3: Coventry City Council to improve the recycling opportunities and effectiveness of the Public Waste Recycling & Disposal Facility (PWRDF) in order to deliver a 40% household waste recycling rate by 2010, 60% by 2013 and 70% by 2020

Coventry has exceeded the 2007/8 statutory recycling target set for the authority, however the Waste Strategy for England 2007 includes challenging household waste recycling targets:-

- 40% recycling & composting by 2010
- 50% recycling & composting by 2020

These high levels of performance will not be readily achievable in all local authorities, and experience to date[23] has shown that in general Government expects more rural authorities to achieve higher levels of performance, due to the availability of a greater proportion of compostable garden waste, and the more urban authorities typically are required to attain a lower performance than the national targets. This is illustrated by Figure 4 in this strategy. Independent research[24] has also considered the link between achievable recycling performance and the density of housing, concluding that the more densely populated an area, the lower the achievable recycling / composting levels. Coventry City Council have modelled the implementation of different collection systems to consider the maximum recycling and composting levels likely to be reached for the City, using challenging performance assumptions.

Historically Government has considered the difference between urban and rural authorities by setting appropriate local recycling targets as demonstrated by the previous national waste strategy (Waste Strategy 2000). However the new national waste strategy (Waste Strategy for England 2007) is not prescriptive on local recycling targets and the setting of these targets has been left to individual authorities to negotiate through the wider LAA discussions. Coventry's current LAA targets, whilst challenging, accept the difference in performance between urban and rural authorities.

23 Statutory Recycling & Composting targets in 2003/4 & 2005/6
24 Resource Recovery Forum, 2004

Consideration of Different Kerbside Recycling Options

This section considers the recommendations of the Option Appraisal – Prevention and Recycling and the scores for each of the eight scenarios listed below against 3 appraisal criteria[25]: Environmental impact; Cost; and Technical Performance (recycling rate). Each recycling option also has a 'normal' and 'optimised' variation. With the former representing expected initial rates of performance when the scheme is introduced (accompanied by high levels of publicity) and the latter very high levels of performance and efficiency in service delivery with excellent participation from the householders. Therefore eight scenarios are considered plus a 'Business as usual' (scenario 0) option for comparative purposes.

The recycling options considered (after an initial short-listing exercise) were:

Scenario 0	Business as usual (retaining the existing fortnightly paper and card collection placed in the kerbside box, and the current refuse & garden waste collection)
Scenario 1	Full Comingled Dry Recycling System (collection of paper, card, glass, plastic and cans from all households collected together in a single wheeled bin, fortnightly, garden waste & refuse as normal)
Scenario 2	Full Comingled Dry Recycling System, Optimised (as scenario 1, but with high levels of use of the services by the residents / optimised collection)
Scenario 3	Comingled Recycling + separate weekly food waste collection (as scenario 1, but with an additional separate food waste collection from each household every week, using a small bin or crate)
Scenario 4	Comingled Recycling + separate weekly food waste collection, Optimised (as scenario 3, but with high levels of use of the services by the residents / optimised collection)
Scenario 5	Comingled Recycling + food waste comingled with green (garden) waste collection (As scenario 1, but with food waste added to the green waste for the fortnightly collection, in the intervening week, the food waste would be left in the normal refuse bin)
Scenario 6	Comingled Recycling + food waste comingled with green (garden) waste collection, Optimised (as scenario 5, but with high levels of use of the services by the residents / optimised collection)
Scenario 7	Comingled Recycling + food waste comingled with green (garden) waste every week (As scenario 1, but with food waste added to the green waste and collected and collected each week)
Scenario 8	Comingled Recycling + food waste comingled with green (garden) waste every week, Optimised (As scenario 7, but with high levels of use of the services by the residents / optimised collection).

A comingled collection, as stated above, means that different materials are placed into a single container by residents, in this case a wheeled bin and loaded together into a single compartment vehicle. This means that there is a requirement for a sorting facility to separate the materials out for recycling. A sorting facility for recyclables is known as a Materials Recycling Facility (or MRF).

25 A full report including further detail on the Options Appraisal is included at www.coventry.gov.uk

Environmental Impact

Government Guidance suggest the use of the Waste and Resources Assessment Tool for the Environment (WRATE) model for consideration of Environmental / Life Cycle issues in waste management decision making. Determination of environmental impacts is a complex area and the WRATE model quantifies impacts under six sub-criteria.

The six sub-criteria may be explained as follows:-

- Abiotic Resource Depletion – the loss of finite resources (e.g. fossil fuels or other materials such as glass, paper etc)
- Freshwater aquatic ecotoxicology – effect of outputs on fish and other freshwater
- aquatic life
- Acidification – the increase in acidity of watercourses or soils as a result of acid gases emitted to air and brought to ground level by rain or other precipitation
- Eutrophication – enrichment of nutrient levels in water causing algal and other growth, potentially starving lakes / water bodies. Could be caused by Nitrates entering groundwater or water courses
- Global Warming – emission of carbon dioxide, methane and other Greenhouse gases
- Human toxicity – reflects the potential harm to people of chemical outputs released into the environment

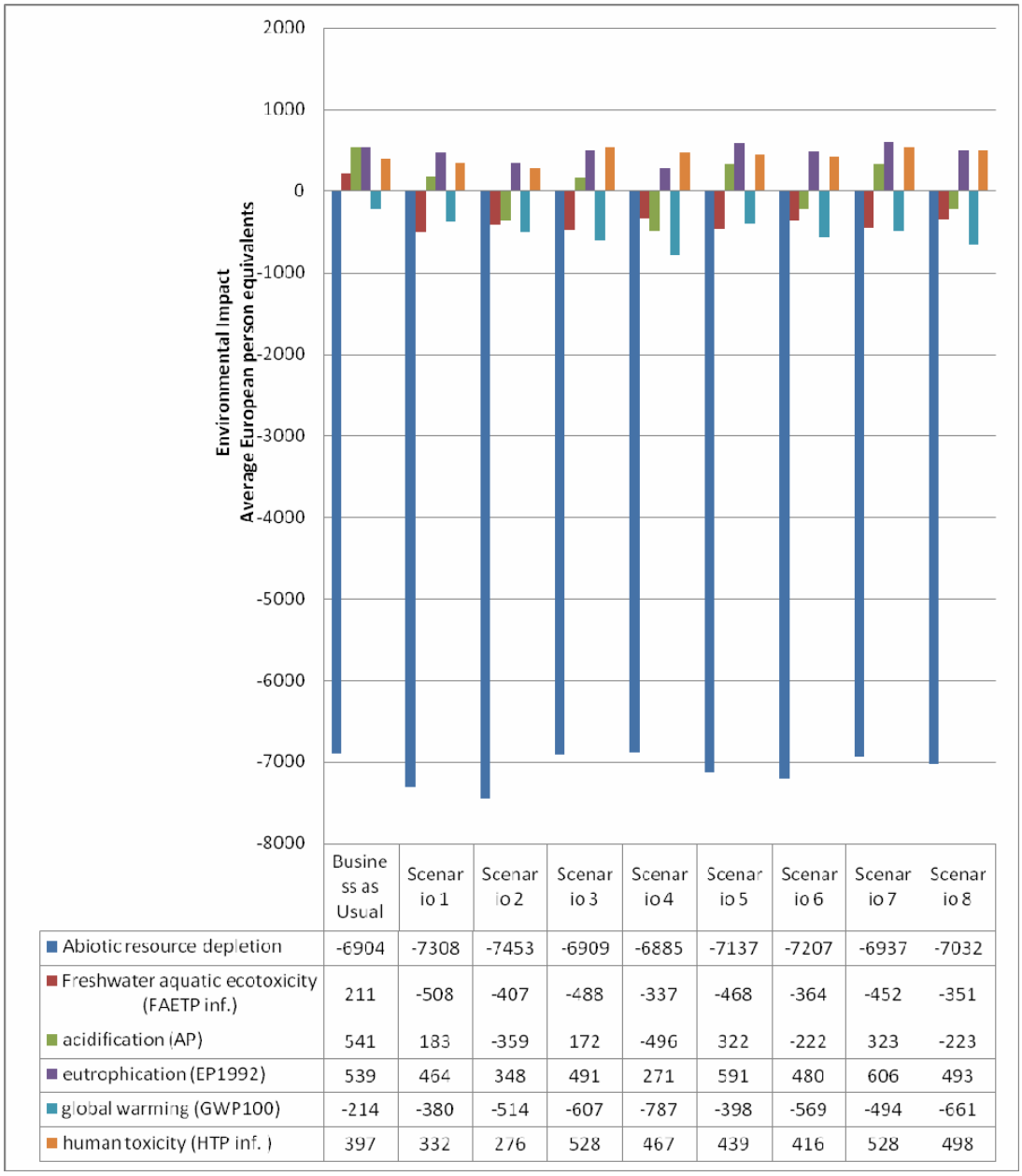
Key factors governing the environmental and public health impacts of a recycling system include:-

- The amount of recycling versus residual treatment (in this case incineration)
- The amount of composting versus residual treatment (in this case EfW)
- The amount of vehicles and number of collection receptacles required
- Vehicle miles and fuel usage
- Energy generated from residual waste treatment (offset against recycling benefits)
- Recycling from residual waste treatment (e.g. metals extracted from incinerator ash)

The findings from the analysis are shown in figure 16, negative scores mean a positive environmental impact, or an environmental 'good'. For example, all the scenarios show a negative Abiotic Resource Depletion score, an environmental 'good', this is because they recycle materials and recover energy through the Energy from Waste plant and therefore save resources.

Each of the environmental sub-criteria are measured in different units, in scientific terms, and therefore comparison between the relative importance of the environmental impacts of each can only be realised by 'normalising' the results. What this means is presenting all the impacts against a common measure. WRATE achieves this by describing impacts relative to the annual environmental impacts of the average European person.

Figure 16 Summary of Environmental analysis of the Recycling Scenarios (Normalised)



	Business as Usual	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7	Scenario 8
Abiotic resource depletion	-6904	-7308	-7453	-6909	-6885	-7137	-7207	-6937	-7032
Freshwater aquatic ecotoxicity (FAETP inf.)	211	-508	-407	-488	-337	-468	-364	-452	-351
acidification (AP)	541	183	-359	172	-496	322	-222	323	-223
eutrophication (EP1992)	539	464	348	491	271	591	480	606	493
global warming (GWP100)	-214	-380	-514	-607	-787	-398	-569	-494	-661
human toxicity (HTP inf.)	397	332	276	528	467	439	416	528	498

In order to aid in the comparison of the different environmental sub-criteria, a summary matrix has been included as Table 2. This table provides a ranking (1-9, one being the most preferable, nine the least) of each of the sub-criteria against each scenario. The table provides a total (summed) 'environmental score' for each scenario, and has been coloured to help clearly identify areas of environmental strength and weaknesses (the dark green representing the most environmentally preferable, the dark pink the most detrimental).

Table 2 Environmental Rankings

	Business as Usual	*Scenario 1*	*Scenario 2*	*Scenario 3*	*Scenario 4*	*Scenario 5*	*Scenario 6*	*Scenario 7*	*Scenario 8*
Abiotic resource depletion	8	2	1	7	9	4	3	6	5
Freshwater aquatic ecotoxicity (FAETP inf.)	9	1	5	2	8	3	6	4	7
acidification (AP)	9	6	2	5	1	7	4	8	3
eutrophication (EP1992)	7	3	2	5	1	8	4	9	6
global warming (GWP100)	9	8	5	3	1	7	4	6	2
human toxicity (HTP inf.)	3	2	1	[8]	6	5	4	[8]	7
'Environmental' Score	*44*	*22*	*16*	*[30]*	*26*	*34*	*25*	*41*	*[30]*
Environmental Ranking	**9**	**2**	**1**	**[5]**	**4**	**7**	**3**	**8**	**[5]**

NB. Figures in brackets [] are of equal scores / rankings

The environmental analysis of the different collection options identified that the 'Business as Usual' scenario is the least environmentally preferable. This is consistent with the vision and objectives of this strategy, which seeks to improve the environmental performance of the waste management service. All the alternative options show some environmental improvement over the status quo. The highest scoring options were scenarios 1 and 2, the scenarios where only dry recyclables are collected, the optimised version of this collection being the highest ranking of all the scenarios. One scenario performed almost as poorly in this analysis as the 'Business as Usual', scenario 7, the weekly comingled food and green waste collection fared poorly against five of the six environmental criteria. Key factors behind the finding in preference of the non food waste collection include: the environmental benefit of composting food waste being partly offset by the additional collection infrastructure (receptacles, vehicles, the composting process and more vehicle movements) and also by the additional marginal energy recovery benefit from incinerating the food waste, if left in the residual stream. The environmental aspects of each of the scenarios are explored in greater detail in the Environmental Report -SEA.

Economic Impact

The economic impact was assessed using the Kerbside Analysis Tool (KAT)[26]. Whilst only the alternative scenarios are presented here (nos. 1-8) it should be noted that even the 'Business as usual' scenario will exhibit a ~£80k revenue increased cost due to the additional numbers of households served in 2009/10 (the earliest year a new recycling system could be implemented) versus 2007/8 (the baseline year).

26 The KAT model was developed for the Waste & Resources Action Programme, a Government funded organisation promoting recycling activity

It has been modelled that for each collection system the recycling performance will represent the 'normal' scenario initially and over a period of five years incrementally improve until it reaches the 'optimised' recycling performance levels. Therefore the optimised, or 'high' scenarios (nos. 2, 4, 6 & 8) would be indicative costs once a system was fully established, operationally efficient and well utilised by the public, whilst the 'low' or normal scenarios (nos. 1, 3, 5 and 7) are indicative of initial costs of the service.

The KAT model identifies that all kitchen waste collection options entail an appreciably higher capital and operating cost than the comingled dry recycling collection scenarios (1 and 2). This difference is made more significant by the relatively low disposal costs in Coventry (see section 12). Of the food waste options the separate food waste (weekly) collections score most favourably, marginally outperforming scenarios 5 and 6 (the comingled green and food waste fortnightly collections due to the lower operational costs expected). Scenarios 7 and 8 are notably the most expensive in both capital and operational costs. Operational costs are increased in the comingled food waste scenarios (nos. 5-8) especially because of the need to process both green waste and food waste through the more expensive in-vessel processes[27]. The capital costs are quite high for all food waste collections due to the collection of waste in Rotopress type vehicles appropriate for collection of putrescible wastes, and the need to provide additional receptacles (notably for scenarios 3 & 4).

Technical Performance / Contribution to Coventry's recycling aspirations

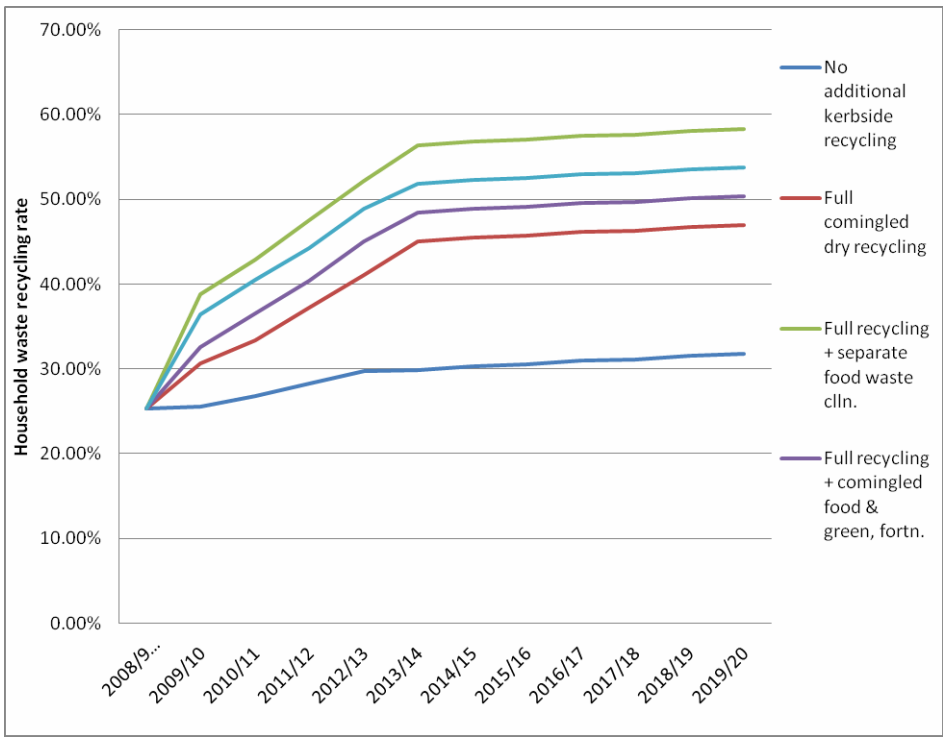
In order to consider the likely impact of the different collection systems on recycling performance both 'normal' levels of performance and 'optimised' levels of performance were considered for each. These were based on the levels of participation, set-out and materials capture, informed by good practice documentation.

It has been assumed that for each collection system the recycling performance will represent the 'normal' scenario initially and over a period of five years incrementally improve until it reaches the 'high' performing scenario levels, as noted previously.

The recycling and composting performance for Coventry is predominantly a factor of the kerbside collection service, however it is also influenced by the performance of the Public Waste Recycling and Disposal Facility (PWRDF). When considering a forward projection of recycling rate it is assumed that the substantial improvements in recycling performance of the PWRDF, as set out in the targets of this strategy, are achieved.

Figure 18 The recycling performance anticipated from each of the collection systems for the period 2008 - 2020

27 Where animal byproducts (such as food wastes) are present, there are stricter process controls for composting operations. Animal Byproducts Regs 2005



Source: BeEnvironmental Waste Flow Model, 2008

The recycling and composting performance curve shown in Figure 18, illustrates the additional benefits of introducing food waste collections in order to deliver high recycling targets. It is possible to meet a 50% recycling rate once food waste is extracted from the Coventry household waste stream. There are however challenging performance assumptions applied in the optimised recycling and PWRDF scenarios indicating that these levels would be reflective of international best practice.

The dedicated food waste collection system (scenario nos. 3 and 4) is considered to be the good practice approach to food waste collection[28], and this is also expected to yield the highest performance.

Comingling food waste with garden waste is expected to yield a lower level of food waste capture than separate collection systems, most notably in the fortnightly comingled collection, which adds only a minor component of food waste to the recycling rate. We will revisit the issue for food waste collections at the 2013 review of this strategy.

Summary of Scenarios Ranking

The following table records the key findings of the Appraisal, the lowest ranking number being the most preferable.

28 WRAP 2008

Table 3 Summary of ranking scores for the detailed options appraisal

	Business as usual	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7	Scenario 8
Environmental Ranking	9	2	1	5	4	7	3	8	5
Economic Ranking	1	2	3	4	6	5	7	8	9
Recycling Rate Ranking	9	8	4	5	1	7	3	6	2
Total Score	*19*	*12*	*8*	*14*	*11*	*19*	*13*	*22*	*16*
Average Score by System	*19*	*10*		*12.5*		*16*		*19*	
Rank by System	**(4)**[29]	**1**		**2**		**3**		**4**	

Recommendations on Kerbside Recycling

The analysis concludes the following:-

- the comingled recycling option (scenarios 1 and 2) represents the appropriate recycling collection system for Coventry City Council to introduce in the first instance. This scores the highest of all the alternative scenarios in both the environmental and economic criteria (table 2). It scores lowest overall however in the technical performance / recycling rate (excluding the Business as Usual option), due to the lower level of tonnage that this collection system generates. Implementing and thoroughly communicating with residents should enable a recycling performance using this system to reach 40%, and when combined with high performance from the PWRDF, reaching as high as the mid 40's % recycling rate. This would represent a very high level of performance for a city of the size and type of Coventry[29], even at an international level.

- Coventry City Council aspires to reach yet higher levels of recycling with an ambition of achieving a 50% recycling rate by 2020. This will not be achieved unless food waste is also collected for composting or digestion. The financial implication of introducing a food waste collection is significant, as illustrated by figure 17. This option will be considered again at the 2013 review of the strategy.

In consideration of the above analysis Coventry City Council are proposing to implement a full comingled dry recycling collection system at the earliest opportunity, and will apply a coordinated effort in engaging with the citizens of Coventry to encourage full participation in the scheme.

29 Both the Business as usual and weekly commingled green and food waste collections score the same ranking, as joint 4th choice

30 Resource Recovery Forum, High Diversion of Municipal Waste – Is it achievable? 2004

Setting a Target for Recycling / Composting

A full recycling collection system, collecting glass, paper, card, cans and plastic bottles from every household in Coventry will be implemented from 2009/10 to help raise performance towards the levels set in the national waste strategy. In combination with an improved performance from the PWRDF (as set out above) and the existing garden waste collection, this system will allow the City to reach an estimated 32% household waste recycling and composting target by 2010, increasing to 40% by 2012/13.

It is the aim of this strategy to achieve 50% recycling of household waste by 2020 and therefore to position Coventry as one of the highest performing recycling authorities. This is a bold vision and will require full participation by the residents of Coventry in order to achieve.

It is recognised that further recycling proposals to include the separate collection of food waste will required in order to achieve a recycling rate of 50% by 2020. This will be considered as part of the strategy review in 2013.

TARGET 4: Coventry City Council to implement a full comingled dry recycling service to every household in the authority and engage in extensive promotion and education initiatives to encourage a full participation in the scheme in order to achieve a 32% household waste recycling rate by 2010, a 40% rate by 2012/13 and a 50% rate by 2019/20

Recycling Action Plan

Actions	Timescale	Responsible Department	Indicator
15. Coventry City Council to secure a contract with a suitable sorting plant (known as a Materials Recycling Facility), to sort the recyclables collected through the new kerbside recycling collection	Short (2008)	Waste Strategy	New contract established
16. Coventry City Council to develop and implement a full comingled dry recycling service, including the collection of glass, cans, card, paper and plastic bottles	Short (2010)	Waste Services	Every household in Coventry is able to recycle glass, cans, paper, card, and plastic bottles from their own house

Actions	Timescale	Responsible Department	Indicator
17. Engage with the third sector to seek opportunities to provide a textile collection service across the city by 2010	Short (2010)	Waste Services	Every household in Coventry has regular collection of textile waste from their property
18. Coventry residents to have the opportunity to purchase soil improver made from garden waste collected in Coventry	Short (2010)	Waste Services	Soil Improver sale events are publicised and held on regular basis (at least ten times a year).
19. Coventry City Council where practicable to utilise green waste compost in the parks and grounds of Coventry	Short (2010)	Waste Services & Grounds Maintenance	Soil improver is used in Coventry's parks and flower displays
20. Coventry City Council to undertake a baseline audit of the activities of the Council, recording / estimating waste arising, material types and the hazardous / non hazardous nature of the wastes. With a view to recycling or composting more of the waste produced	Short	Waste Services	Completed audit report & action plan
21. Coventry City Council will support at least thirty events each year that promote the recycling and composting of waste	Short - Long	Waste Services & Sustainability & Campaigns team	30 awareness raising and educational events held each year.
22. Coventry City Council to explore markets and work with the Waste Disposal Company to increase the proportion of Incinerator Bottom Ash (IBA) recycled	Medium	Waste Services / Contractor	Recycled bottom ash increases from 0% to 80% within 3 years

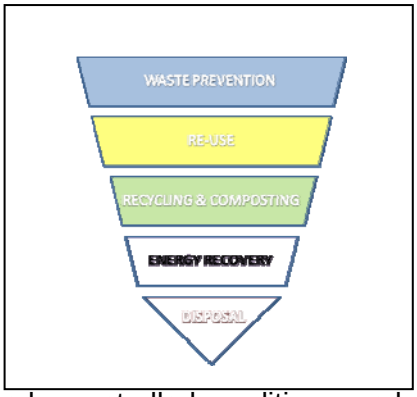
Actions	Timescale	Responsible Department	Indicator
23. Coventry City Council to review food waste management collection options at the first strategy review point in 2013	Medium (2013)	Waste Services	Review complete and subsequent actions taken to Elected Members for Approval
24. Coventry City Council through future investment in infrastructure will meet the Recycling and Composting targets given in this strategy	Short - Long	Waste Services	LAA targets met, 40% recycling / composting achieved by 2013, and 50% recycling and composting achieved by 2020.
25. Coventry City Council will support at least thirty events each year that promote the recycling and composting of waste and link the sustainable waste management message to the wider Climate Change programme	Short - long	Waste Services & Sustainability & Campaigns team	30 awareness raising and educational events held each year

Carbon Savings[1]: By recycling a greater amount of household wastes there are notable emission savings to be made. Delivering the kerbside recycling scheme should avoid of the order of:

2100 tonnes of CO_2 emissions per year by 2010
3800 tonnes of CO_2 emissions per year by 2014 onwards
In addition, if food waste collections are implemented then savings of the order of 7200 tonnes of CO_2 emissions could be avoided per year by 2020

Further Information:
Options Appraisal - Prevention & Recycling (available at www.coventry.gov.uk)
Environmental Report- SEA (available at www.coventry.gov.uk)

11. Energy Recovery – Waste Recovery & Treatment



The predominant residual municipal waste treatment method within Coventry is Energy from Waste (EfW).

Around 92% of residual MSW is sent to the existing EfW plant, with the remainder going direct to landfill.

The EfW plant operates by burning residual municipal waste, under controlled conditions, and utilising the heat from the combustion to generate electricity through a steam turbine. In the past, excess heat from the plant has also been utilised locally.

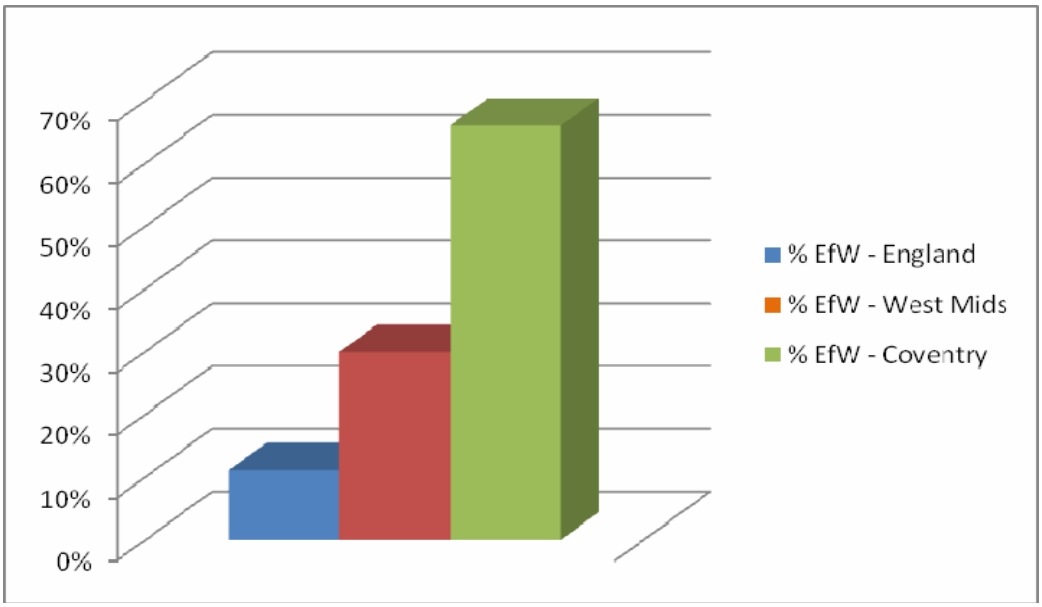
The EfW plant is operated by an 'arms length' local authority waste disposal company and is owned jointly by Coventry and Solihull Councils. The facility is due for replacement in the medium term with an anticipated replacement around 2017 - 2020.

The Options Appraisal – Disposal, which has been produced by ENTEC Consultancy to support this Municipal Waste Strategy explores all available residual waste treatment technologies. The options appraisal concluded that EfW remains the treatment technology of choice.

It is expected therefore that the existing EfW facility will remain operable for most of this strategy's lifetime.

The following bar chart shows the energy recovery performance of Coventry compared with the region and the national performance.

Figure 19 Percentage of MSW sent for Energy Recovery (2006/7)



Source: Defra Municipal Waste Management Statistics, 2007

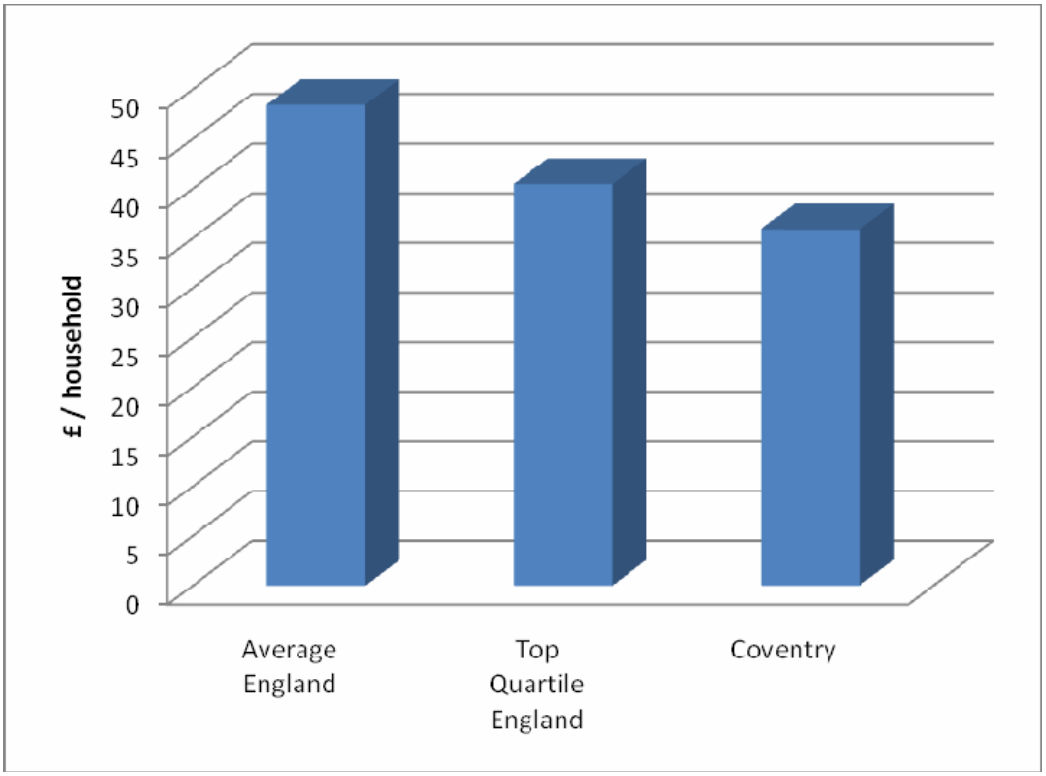
The prime alternative to landfill in the UK continues to be incineration with energy recovery, also known as Energy from Waste (EfW). The Coventry EfW plant processes >90% of residual municipal waste and recovers energy in the form of electricity generation (green electricity) which is exported to the national grid. The plant also recovers metals from the ash for recycling[30].

As a result of the large proportion of its waste being processed by the EfW plant, Coventry is extremely well positioned with regard to its diversion from landfill. This means that the City has no difficulty in meeting the levels of diversion from landfill specified under the LATS regime (see Section 2) whilst the EfW plant remains in operation.

The EfW plant also provides the city council with a cost effective residual waste treatment facility, which represents excellent value for money. The cost for residual waste treatment in Coventry is already amongst the lowest cost for waste treatment and disposal in the Country (see Figure 20).

At a time when many other waste disposal authorities are experiencing sharp rises in disposal costs, the current EfW facility will continue to provide a cost-effective residual waste treatment solution, until such time as it is replaced with a new residual waste treatment facility.

Figure 20 Treatment & Disposal Costs per Household in 2006/7



Source: Defra Best Value Performance Indicators, 2007

31 although this does not count towards the recycling targets, due to the way Government defines the measure

This strategy therefore proposes the continued use of the EfW facility owned and operated by Coventry and Solihull Waste Disposal Company (CSWDC).

Future Residual Waste Treatment Infrastructure

Given the twelve-year duration of this strategy, important long term investment and environmental decisions will have to be made to sustain Coventry's leading performance in the diversion of municipal waste from landfill.

In recognition of this and in preparation for the eventual replacement of the EfW, Coventry has committed to work in partnership sub-regionally and figure 21 outlines the Coventry, Solihull, Warwickshire sub-region. The Waste Disposal Authorities of Coventry, Solihull, and Warwickshire have each signed a memorandum of Understanding to work collaboratively on issues of sustainable waste management including the eventual replacement of the existing EfW plant. This sub-regional partnership is entitled "Project Transform".

As part of Project Transform a high level review of options has been undertaken to establish the preferred residual waste treatment technology. This has been further supplemented by a detailed analysis using the WRATE Life Cycle Assessment Tool to provide more detail on the environmental effects of the various residual waste treatment options.

The following can be concluded in respect of replacement residual waste treatment options:-

- A landfill based residual waste management option in not appropriate for Coventry and has been shown to have the greatest environmental impact of the options considered
- Any future residual waste treatment solution should seek to maximise landfill diversion and the residual waste treatment option selected should also limit landfill to a minor component (<25%) of the wastes going through the process
- The residual waste treatment option selected should recover *both* materials and energy value from the waste, the latter either directly in the form of electricity / heat generation from the facility itself, or indirectly through the preparation of a fuel for which there is a sustainable market
- Where direct energy is recovered, a Combined Heat and Power (CHP) approach will be preferred where technology and markets allow

The recovery of materials, energy and where practicable CHP, is encouraged by Waste Strategy for England 2007. CHP is also incentivised through the renewables obligation (RO), providing a preferential market for electricity supply from renewable sources and there is also a proposed Government incentive for renewable heat[31].

31 UK Renewable Energy Strategy consultation, BERR, June 2008

Figure 21 Map of the Coventry, Solihull and Warwickshire Sub Region

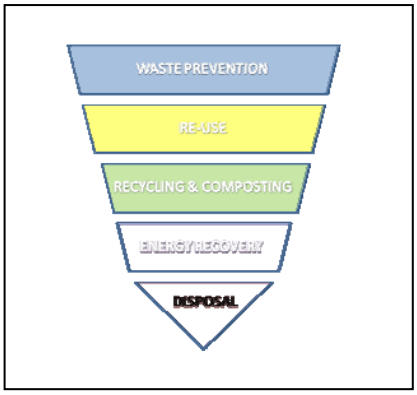
Energy Recovery / Waste Treatment Action Plan

Actions	Timescale	Responsible Department	Indicator
26. Coventry City Council to initiate detailed options appraisal for the eventual replacement of the waste treatment facility	Short	Waste Services / Procurement team	Completed Options Appraisal
27. Good practice in facility design should be incorporated into any residual waste treatment facility	Medium	Procurement team	Robust evaluation criteria agreed as part of procurement appraisal
28. Coventry City Council to partner with other LA's (e.g. Project Transform) to gain economies of scale to ensure continued best value for the residents of Coventry in their disposal costs	Long	Waste Services	Waste treatment costs remain competitive

Carbon Savings: By adopting a high efficiency residual waste treatment process for example a new Combined Heat & Power Energy from Waste plant ~50,000 tonnes of CO_2 could be avoided per year when the new treatment facility comes on stream, compared to an EfW plant without CHP.

Further Information:
Options Appraisal - Disposal (available at www.coventry.gov.uk)
Environmental Report- SEA (available at www.coventry.gov.uk)

12. Disposal

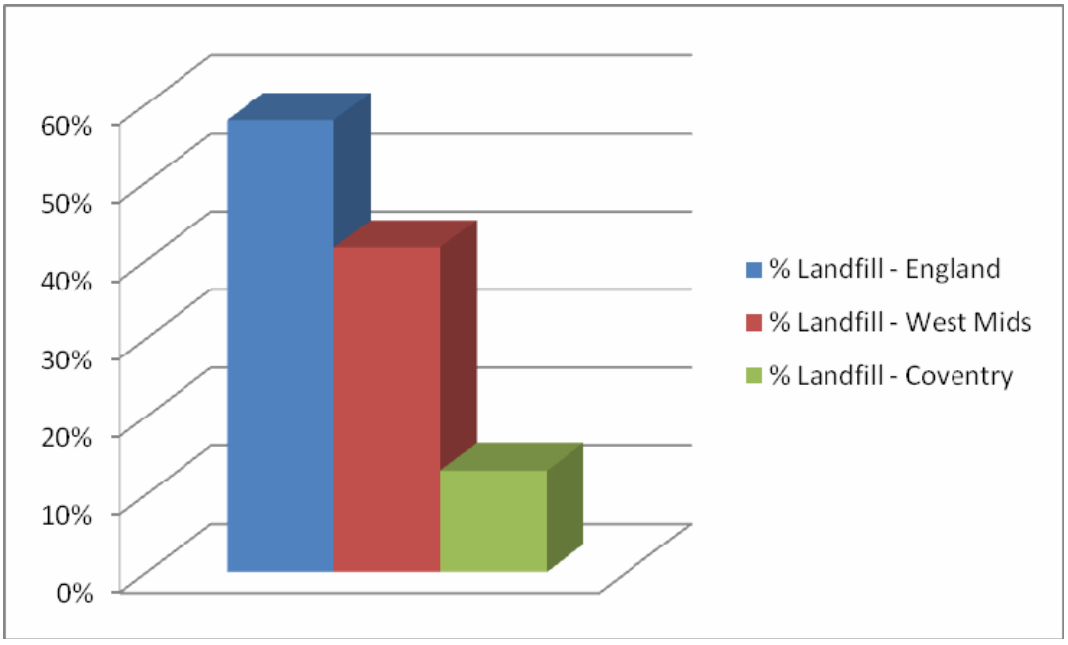


Coventry has a strong track record in diverting waste away from landfill, and therefore avoiding the negative environmental implications of burying waste. Only ~12% of municipal waste (of which ~8% is household) is landfilled by Coventry compared to an average 60% in England (see figure 6). The landfill capacity in Warwickshire used by Coventry is predicted to reach the end of its operational life in 7 years and future landfill void will be considered as part of the Regional Spatial Strategy.

Landfill disposal is the least preferable of all waste treatment options and therefore this strategy will maintain a position of minimising landfill. This strategy includes an action to recycle the ash generated by the Energy from Waste plant in order to reduce the total amount of waste landfilled. A target of 80% recycling of bottom ash has been set for 2011 and options for the further treatment of bottom ash as an aggregate substitute (e.g. for use in Coventry's highways) are being explored on behalf of the council.

The bar chart below illustrates Coventry's position as one of the leading waste disposal authorities in England for diverting municipal waste away from landfill.

Figure 22 Percentage of Municipal Waste sent to Landfill (2006/7)



Source: Defra Municipal Waste Management Statistics, 2007

The targets set throughout this strategy seek to reduce waste arisings, prevent usable goods from entering the waste stream, recover materials and energy from waste that does arise, and to leave the minimum amount of waste for disposal to landfill.

Actions	Timescale	Responsible Department	Indicator
29. Coventry City Council will continue to minimise the amount of Municipal waste that is landfilled	Short - Long	Waste Services	% of municipal waste landfilled will continue to fall over the life of the strategy

13. Monitoring & Review of the Strategy

This municipal waste strategy is supported by a series of short, medium and long term actions designed to to facilitate the delivery of the Vision, Objectives and Targets. The strategy, actions and key targets should be reviewed every five years to ensure that they accurately reflect any changes in national policy and legislation. A full review should therefore be undertaken in 2013 and key dates are shown below.

Strategy Adoption	-	2008
Strategy Review 1	-	2013
Strategy Review 2	-	2018 - 2020

Glossary of Terms and Abbreviations

Best Value – places a duty on local authorities to deliver services (including waste collection and waste disposal management) to clear standards – covering both cost and quality – by the most effective, economic and efficient means available

Bring site – A localised collection point for recyclates, e.g. glass, paper and cans

Combined Heat and Power – a highly fuel efficient technology which produces electricity and heat from a single facility

Commercial waste – waste arising from premises which are used wholly or mainly for trade, business, sport, recreation or entertainment, excluding municipal and industrial waste

Community sector – including charities, campaign organisations and not-for-profit companies

Composting – an aerobic, biological process in which organic wastes, such as garden and kitchen waste are converted into a stable granular material which can be applied to land to improve soil structure and enrich the nutrient content of the soil

DEFRA – Department for the Environment, Food and Rural Affairs

EC Directive – a European Community legal instruction, which is binding on all Member States, but must be implemented through the legislation of national governments within a prescribed timescale

Energy from waste – includes a number of established and emerging technologies, though most energy recovery is through incineration technologies. Many wastes are combustible, with relatively high calorific values – this energy can be recovered through (for instance) incineration with electricity generation

Garden waste – Vegetation and plant matter from household gardens, local authority parks and gardens and commercial landscaped gardens

Home composting – compost can be made at home using a traditional compost heap, a purpose designed container, or a wormery

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

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

Industrial waste – waste from any factory and from any premises occupied by an industry (excluding mines and quarries)

Kerbside collection – any regular collection of recyclables from premises, including collections from commercial or industrial premises as well as from households. Excludes collection services delivered on demand

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 landraising is sometimes carried out, where some or all of the waste is deposited above ground, and the landscape is contoured

Minimisation – see reduction

Municipal waste – this includes household waste and any other wastes collected by a Waste Collection Authority, or its agents, such as municipal parks and gardens waste, beach cleansing waste, commercial or industrial waste, and waste resulting from the clearance of fly-tipped materials

Producer responsibility – is about producers and others involved in the distribution and sale of goods taking greater responsibility for those goods at the end of the product's life

Recycling – involves the reprocessing of wastes, either into the same product or a different one. Many non-hazardous industrial wastes such as paper, glass, cardboard, plastics and scrap metals can be recycled. Hazardous wastes, such as solvents can also be recycled by specialist companies, or by in-house equipment

Reduction – achieving as much waste reduction as possible is a priority action. Reduction can be accomplished within a manufacturing process involving the review of production processes to optimise utilisation of raw (and secondary) materials and recirculation processes. It can be cost effective, both in terms of lower disposal costs, reduced demand for raw materials and energy costs. It can be carried out by householders through actions such as home composting, reusing products and buying goods with reduced packaging

Re-use – can be practised by the commercial sector with the use of products designed to be used a number of times, such as reusable packaging. Householders can purchase products that use refillable containers, or re-use plastic bags. The processes contribute to sustainable development and can save raw materials, energy and transport costs

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

Sustainable waste management – means using material resources efficiently, to cut down on the amount of waste we produce. And where waste is generated, dealing with it in a way that actively contributes to the economic, social and environmental goals of sustainable development

Treatment – involves the chemical or biological processing of certain types of waste for the purposes of rendering them harmless, reducing volumes before landfilling, or recycling certain wastes

Unitary Authority – a local authority which has the responsibilities of both Waste Collection and Waste Disposal Authorities

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 substance or article which requires to be disposed of because it 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 given period of time

Waste Collection Authority – a local authority charged with the collection of waste from each household in its area on a regular basis. Can also collect, if requested, commercial and industrial wastes from the private sector

Waste Disposal Authority – a local authority charged with providing disposal sites to which it directs the Waste Collection Authorities for the disposal of their controlled waste, and with providing civic amenity facilities

Waste Hierarchy – suggests that: the most effective environmental solution may often be to reduce the amount of waste generated – *reduction*; where further reduction is not practicable, products and materials can sometimes be used again, either for the same or a different purpose – *re-use*; failing that, value should be recovered from waste, through *recycling, composting* or *energy recovery from waste;* only if none of the above offer an appropriate solution should waste be *disposed of*

Waste management industry – the businesses (and not-for-profit organisations) involved in the collection, management and disposal of waste

Waste streams – Waste generated from different sources

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