Bournemouth Borough Council Municipal Waste Management Strategy 2011-2026

Headline Strategy

Bournemouth Borough Council

recycle for Bournemouth

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FOREWORD

I am very pleased to present the Bournemouth Borough Council Municipal Waste Strategy for consultation. This document outlines how we propose to face the challenges of reducing the amount of waste we generate, how we expect to reuse and recycle the waste we do create and then extract as much benefit as possible from the residual waste left before we finally resort to landfill.

We have already introduced a number of initiatives to address the economic, environmental and social drivers we face on how we manage our waste. These drivers include European laws which require us to reduce the total tonnages sent to landfill. Each Waste Disposal Authority has a maximum target tonnage and fines of £150 per tonne can be imposed for any additional waste we send to landfill. These costs would have to be passed on to you as council tax payers if we were to fail and, in addition, the threat of climate change has focussed attention on greenhouse gas production from waste disposal. Waste management contributes about three per cent of the total greenhouse gas emissions in the UK and this is largely made up of methane emissions from organic waste degrading in landfill. It is important, therefore, that we recognise that we all have a role to play in reducing our impact on climate change by reducing our waste at every opportunity and participating in the reuse and recycling services provided. This will help ensure that we have an environment that is a safe place for people to live, work and play in.

It is in everyone's interests to manage our waste more efficiently and to do this we may require new technologies to treat waste as a resource. Thanks to the fantastic resident participation in our re-use and recycling schemes we achieved exceptional results for our recycling last year, recycling or composting 63.9% of all waste, an increase from 50% in the previous year. Bournemouth now has the 4th best recycling record in the whole country and is the clear leader in the South of England but we are striving to build upon this success. To achieve our ambitions we need to ensure that the strategic direction we are putting forward is sensible, appropriate and workable, that’s why we sought your views on the proposals in this strategy. I would like to thank everybody involved in the development of this strategy, particularly all residents and groups who contributed to the consultation process. Together we have shaped Bournemouth’s strategic direction for the next 15 years.

Cllr Michael Filer
Cabinet Member with the Portfolio for Transport and Technical Services

EXECUTIVE SUMMARY

The Bournemouth Municipal Waste Management Strategy 2011-2026 (MWMS) is a framework which outlines how Bournemouth Borough Council intends to manage the municipal waste (including domestic and some commercial waste) produced within the borough, for the next fifteen years, the overall aim of which will be to promote and implement sustainable waste management.

The Bournemouth MWMS replaces the 2001 adopted Strategy 'A Waste Management Strategy for Bournemouth' (2001 to 2020), in order to take account of Defra's 2005 revised guidance on the format of MWMS's Guidance on Municipal Waste Management Strategies'[1], the Waste Strategy for England 2007[2], EU Waste Framework Directive 2008[3] and the Government Review of Waste Policy in England 2011[4].

The content of the MWMS includes the following key components:

- **Headline Strategy (this document)**, which documents the key aims and objectives, the challenges to waste management, targets, details of current collection systems, methodology for the MWMS development (with consideration of the waste hierarchy), options and appraisals and policy proposals.
- **Baseline Report,** containing information and statistics for a range of key issues pertinent to Bournemouth and the development of the MWMS, in order to demonstrate current waste trends and performance.
- **Key Drivers Report**, which identifies the driving forces (including legislation, obligations and targets etc) behind the requirement for the MWMS.
- **Waste Treatment Technologies Report**, which considers the treatment technologies available to the Council in relation to recycling, biodegradable waste (including food) and residual waste (rubbish).
- **Options Appraisal Intermediate Stage Report,** which details the process of developing the initial long list of collection and treatment options into an intermediate list of collection and treatment options.
- **Options Appraisal Report**, which outlines the methodology behind the development of waste collection, treatment, disposal and reduction options, together with the process by which the Preferred Strategy was reached. This was completed following final stakeholder consultation.
- **Pre and Post Consultation Report**, detailing methodologies and results of pre-draft and post-draft consultation. The results have informed the final Headline Strategy and the suite of Action Plans.
- **The Strategic Environmental Assessment (SEA) Environmental Report,** which details what the likely environmental effects of the Headline Strategy are.
- **A series of action plans** that identify proposals and campaigns relating to different elements of waste management, as identified below. Joint working with Dorset Waste Partnership and the Borough of Poole Council will be encouraged.

    - Waste Prevention Action Plan 2011-2016
    - Recycling and Composting Action Plan 2011-2016

[1] Defra, Guidance on Municipal Waste Management Strategies, July 2005 www.defra.gov.uk
[2] Waste Strategy for England, Defra (2007), HM Stationary Office www.defra.gov.uk
[3] EU Waste Framework Directive 2008/98/EC (2008)
[4] Government Review of Waste Policy in England (2011). HM Stationary Office www.defra.gov.uk

- Commercial Waste and Recycling Action Plan 2011-2026

Background

In 2009/10 the proportion of household waste in England sent for re-use, recycling and composting was 39.7%, Bournemouth currently performs well above this national average with 50%. In addition the Council sends 37.8% or 33,784 tonnes of waste to landfill which is considerably less than the national average of 46.9%.

Although the Council is justly proud of what has been achieved, there is always more that can be done to divert materials away from landfill and manage waste in a more sustainable way.

Since 2006/07 the amount of household waste produced per annum in Bournemouth has fallen by almost 4,000 tonnes in-line with the national waste trend. This has been mainly due to waste reduction and recycling initiatives such as the 'Big Bin, Little Bin' service and the current economic conditions slowing down consumption. With landfill tax alone currently at £56 per tonne rising to £80 per tonne in 2014 the incentive to reduce this further is not only environmental. The downward trend in household waste in Bournemouth has plateaued and is soon expected to rise by 0.5% per annum in-line with the borough's predicted population growth and economic recovery.

Bournemouth Borough Council is amongst the five best performing unitary authorities in the UK for waste management performance meaning that by simply maintaining the current services the Council have already met the English 2020 target to recycle or compost 50% of waste[5]. This strategy however provides a unique opportunity to strive even further by following the waste hierarchy set out in the Waste Strategy for England 2007 and the subsequent amendments made in the EU Waste Framework Directive 2008.

The waste hierarchy

The waste hierarchy is a ranking system for the management of waste. This Bournemouth MWMS has taken into consideration these principles which have guided the decision making process.

1. **Waste prevention** – By far the most sustainable waste management practice is to reduce the amount of waste produced at source preventing any form of treatment. An example of this is the removal of unnecessary packaging from a product.
2. **Re-use** – Using a material for at least a second time for the same or a different purpose. Clothes purchased from a charity shop are a good example of this.
3. **Recycle/compost** – Reprocessing a material so that it can be made into something else. Although an extremely important component of the waste hierarchy, re-use and waste prevention have greater environmental benefits.
4. **Energy recovery** – Waste materials may be used as a fuel source to create energy. This is considered a superior form of waste treatment to 'Disposal' as 'value' is gained from the material, before final disposal of the remaining residual material.

[5] Waste Strategy for England, Defra (2007), HM Stationary Office www.defra.gov.uk

5. **Disposal** – The least sustainable solution as the materials and their benefits are lost.

Waste minimisation

The Council has developed a Waste Prevention Plan in order to further reduce the amount of municipal waste they are required to manage. The reduction of waste can be seen as the most sustainable waste management practice as shown in the waste hierarchy. This Waste Prevention Plan supports the overarching MWMS for Bournemouth 2011-2026.

Collection options

The short-listed collection options consist of four new collection scenarios plus the option to maintain the current collection service with no changes being made. These options are shown below:

- **Option 1:** Add a separate weekly food waste collection service
- **Option 2:** Collect a new food waste service mixed with green waste on a weekly frequency
- **Option 3:** Continue with current collection arrangements
- **Option 4:** Collect refuse fortnightly and introduce separate weekly food collection
- **Option 5:** Collect refuse fortnightly and introduce mixed weekly food and green waste collection

Waste treatment options

Six waste treatment options have been identified as suitable for Bournemouth's waste and recycling collection requirements. These are listed below:

Table I: Short-listed waste treatment technologies

Option	Treatment technology short listed	What material is treated by this technology?
1	Mechanical Biological Treatment (MBT)	Residual waste
2	Anaerobic Digestion (AD)	Green waste and/or food waste
3	In-Vessel Composting (IVC)	Green waste and/or food waste
4	Windrow Composting	Green waste
5	Materials Reclamation Facility (MRF)	Mixed dry recyclables
6	Autoclave	Residual Waste

As the MRF is the only recycling treatment option compatible with the remaining collection options this will not be open to further consultation. In addition MBT is at present the only residual waste treatment option available that is currently operational locally of the technologies short listed. There are variations in MBT processes dealing with the material which is separated via this process. As a result the secondary technologies used to treat waste materials following the MBT process also differ. There

are currently no autoclaving facilities available locally and limited data to model the benefit of utilising this technology.

Performance of waste treatment options

A mass flow model has been run to cover each of these treatment options. In total seven waste treatment scenarios have been modelled, which relate the treatment technology to the collection options that have been short listed. The treatment technologies cannot be viewed in isolation as there will be combinations of treatments required as dictated by the chosen collection option.

Table II: Summary performance of collection options and best performing coupled treatment option

Collection option	Annual collection cost £	Annual treatment cost £	Total cost of service £	Combined recycling and composting rate
1	£3,980,464	£4,748,639	8,729,103	68%
2	£4,215,258	£4,835,255	9,050,513	68.2%
3	£3,127,910	£4,978,216	8,106,126	63%
4	£3,340,808	£4,748,639	8,089,447	68%
5	£3,702,233	£4,835,255	8,537,488	68.2%

Options appraisal

Collection options

The final preferred collection option after combining all of the scores is to maintain the existing service which is option three.

Table III: Final collection options results

Option	Market acceptability (25%)	Public acceptability (25%)	Political acceptability (35%)	Partnership acceptability (15%)	Overall score (out of 100)
1	25	10	18.5	9	62.5
2	25	5	12	9	51
3	25	10	29	15	79
4	25	10	31	9	75
5	25	5	22.2	9	61.2

Treatment options

No change is recommended to the existing treatment technologies used, however once autoclave becomes available locally it is recommended that a study is performed to

compare the performance against the existing MBT technology utilised for residual waste.

The way forward

This strategy sets out the strategic direction for municipal waste management in Bournemouth for the period up to 2026. To fully consider and reflect the rapidly changing environment relating to waste management, work will continue on the set of action plans published in conjunction with this strategy and as such, the strategy may need periodic review and refinement. These action plans have incorporated input from stakeholder consultation.

The action plans

- Waste Prevention Action Plan 2011-2016
- Recycling and Composting Action Plan 2011-2026
- Commercial Waste Action Plan 2011-2026

Ensuring sustainable waste management must be a key objective for the future and Bournemouth Borough Council, informed by whole life-cycle thinking, will continually promote, encourage and enforce the delivery of the waste hierarchy, particularly in the light of the current fiscal constraints. Using this strategy as a route map for the effective management of Bournemouth's municipal waste the Council have emphasised waste prevention, re-use and stopping waste at its source, together with continuing to increase recycling rates when considered the best option. The strategy also recognises the potential and cost effectiveness of generating renewable energy from residual waste and encourage community and commercial participation, **vital in working towards a zero waste economy.**

1. INTRODUCTION

1.1 Purpose of the MWMS

The Bournemouth Municipal Waste Management Strategy 2011-2026 (MWMS) is a framework of how Bournemouth Borough Council intends to manage the municipal waste (including domestic and some commercial waste) produced within the borough, for the next fifteen years, the overall aim of which will be to promote and implement sustainable municipal waste management. The Bournemouth MWMS will replace the 2001 adopted Strategy 'A Waste Management Strategy for Bournemouth' (2001 to 2020), in order to take account of Defra's 2005 revised guidance on the format of MWMS's Guidance on Municipal Waste Management Strategies'[6].

The Council Directive 1999/31/EC on the landfill of waste (The Landfill Directive) sets mandatory targets for the reduction of biodegradable municipal waste sent to landfill. Local authorities are central to meeting these targets. The MWMS sets out how the Council intends to optimise current service provision, and provide the basis for any new operations or infrastructure that is required. The MWMS reflects community and key stakeholder aspirations, and has ensured cost-effective compliance with all statutory obligations.

1.2 Time period covered by the strategy

The MWMS is intended to cover the period 2011 to 2026, however it will be subject to review at five year intervals. The MWMS may be reviewed additionally if there are trigger events such as:

- Any chosen collection or treatment option cannot be executed
- Any change in Government policy that would have to be adhered to
- Any of the major targets that have been set are not delivered on time
- Any Progress Report or ongoing monitoring identifies that a review is necessary
- Any new or beneficial waste treatment facilities become available

1.3 The contents of the MWMS

The key components underpinning the MWMS include:

- **Headline Strategy (this document)**, which documents the key aims and objectives, the challenges to waste management, targets, details of current collection systems, methodology for the MWMS development (with consideration of the waste hierarchy), options and appraisals and policy proposals.
- **Baseline Report,** containing information and statistics for a range of key issues pertinent to Bournemouth and the development of the MWMS, in order to demonstrate current waste trends and performance.
- **Key Drivers Report**, which identifies the driving forces (including legislation, obligations and targets etc) behind the requirement for the MWMS.

[6] Defra, Guidance on Municipal Waste Management Strategies, July 2005 www.defra.gov.uk

- **Waste Treatment Technologies Report**, which considers the treatment technologies available to the Council in relation to recycling, biodegradable waste (including food) and residual waste (rubbish).
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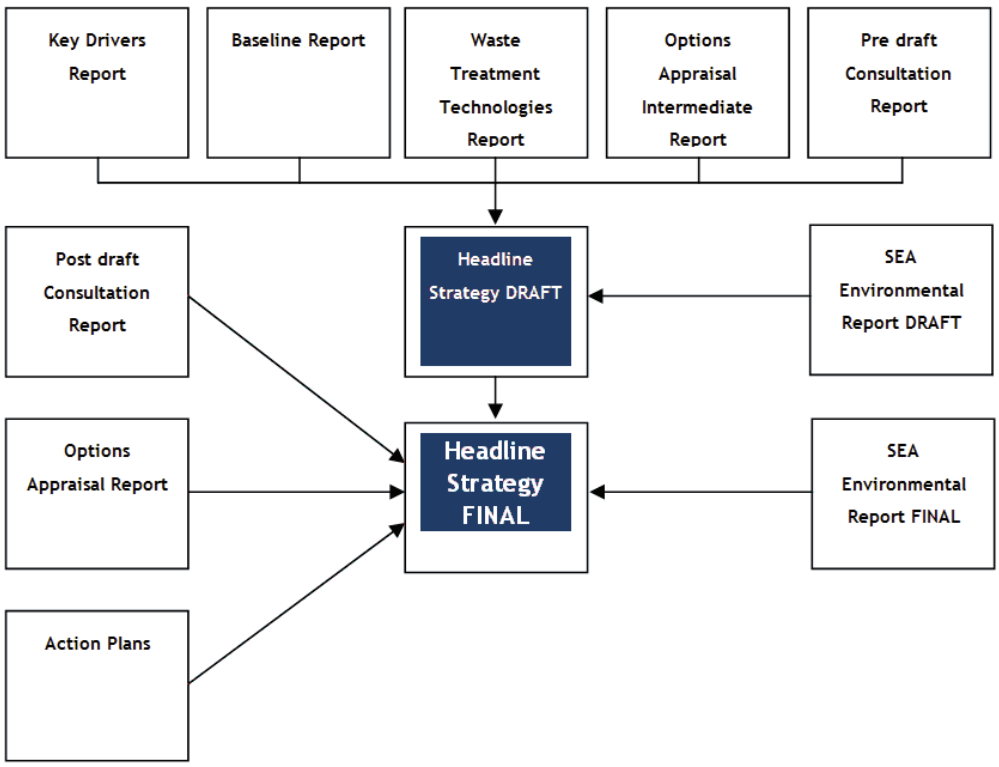
    - Waste Prevention Action Plan 2011-2016
    - Recycling and Composting Action Plan 2011-2016
    - Commercial Waste and Recycling Action Plan 2011-2026

Figure 1: Municipal waste management strategy structure



1.4 What waste types are covered by the MWMS?

The MWMS is for the collection and disposal of municipal solid waste (MSW) only. MSW can be defined as all waste that the Council or agents acting on their behalf are responsible for.

The Council or agents of the Council are responsible for:

- Household refuse
- Household kerbside recycling
- Household green waste
- Millhams Community Recycling Centre (CRC)
- Waste delivered to neighbourhood recycling centres by the public (NRCs)
- Bulky household waste collections
- Commercial waste collections (shops and smaller trading estates where local authorities have waste collection agreements in place)
- Street litter (collected by street sweepers)
- Fly-tipped waste
- Municipal parks and gardens waste
- Council office waste

In 2009/10 the Council was responsible for the collection and disposal of 89,356 tonnes of MSW. Of this 44,578 tonnes (50%) was sent for recycling. composting or re-use.

The largest component of MSW is household waste (90%). This is made up of all waste generated by households that is collected by the Council or deposited at council operated facilities. The Council was responsible for the collection of 80,282 tonnes of household waste in 2009/10. Of this 40,143 tonnes (50%) was sent for recycling, composting or re-use.

1.5 What waste types are not covered by the MWMS?

- Commercial waste not collected by the Council or agents acting on their behalf
- Industrial waste
- Agricultural waste

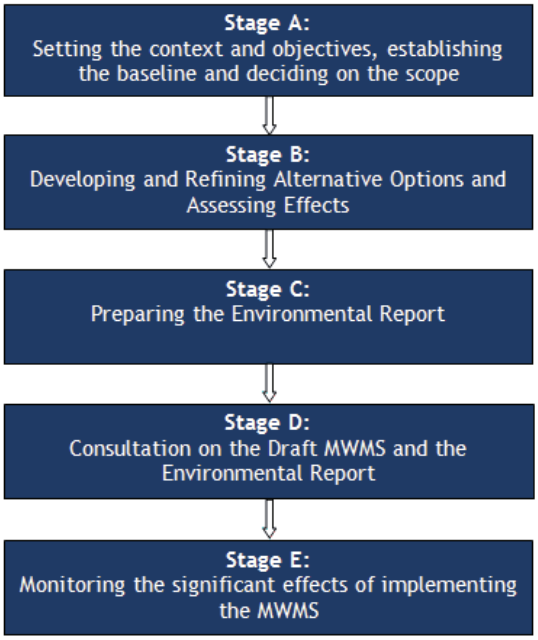
2. STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA)

A Strategic Environmental Assessment (SEA) is a systemic process for evaluating the environmental consequences of plans and programmes, to ensure that environmental issues are integrated and assessed at the earliest opportunity in the decision-making process. The Bournemouth MWMS is subject to a SEA under the SEA Regulations[7], which directly transpose the SEA Directive[8] into UK law.

The aim of the SEA Directive is to *'provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development'*.

The SEA provides an independent environmental assessment which considers the environmental impacts of the MWMS on issues including heritage, landscape, climatic factors, air, water, soil, human health and biodiversity. In the instance that negative effects are identified, recommendations are made to mitigate them, which are then incorporated into the Headline Strategy.

Figure 2: Structure of the SEA process



The SEA of the Bournemouth Borough Council MWMS results in two main reports:

- **Scoping Report** – This report was completed in October 2009
- **Environmental Report** – This report details the likely environmental effects of the MWMS. The report was released with the Draft Headline Strategy for formal consultation. The findings of this have been incorporated into the Final Headline Strategy.

[7] S.I. 2004 No. 1633: The Environmental Assessment of Plans and Programmes Regulations, 2004
[8] Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment, June 2001

3. AIMS & OBJECTIVES OF THE MWMS

Following extensive internal and external stakeholder consultation, the Council has produced seven key aims and objectives for the MWMS. The aims have been listed in Table 1 and the objectives in Table 2.

3.1 Aims of the MWMS

The seven aims of the MWMS strategy shown below in Table 1 also include a brief description of each of the aims in order to provide clarity and avoid misinterpretation.

Table 1: Aims of the MWMS

Number	Aim	Description
1	To ensure sustainable waste management	To produce a sustainable strategy to manage Bournemouth's municipal waste in a way that will balance social, economic and environmental considerations both now and in the future.
2	To promote behavioural change within the Council and amongst residents and visitors alike, with regards to the way in which we/they manage waste	To instil the values of rethink, reduce, re-use, and recycle – with the emphasis on 'rethink' as the starting point of behavioural change regarding waste.
3	To make sure services are fair and accessible to all	To ensure all sectors of the community are best served by the strategy and its inherent services and to ensure no sectors of the community are disadvantaged by any element of the strategy
4	To maximise opportunities to convert waste into a resource	To ensure that waste is no longer seen as valueless and to view waste as a resource which could be re-used, recycled, composted, or have value recovered from it
5	To reduce the impact of waste management activities on the local environment and human health	To ensure services are delivered in a way that protects the quality of Bournemouth's environment and the wider environment and in particular to reduce the effects of waste on climate change
6	To be a leader in environmental best practice	To be innovative in the way that Bournemouth's municipal waste is managed and to be a national leader in the environmental economy
7	To provide community leadership	To set an example to the residents of Bournemouth by ensuring that the Council deals with its own waste in a sustainable and environmentally friendly manner

3.2 Objectives of the MWMS

The seven objectives of the MWMS strategy shown below in Table 2 also include a brief description of each of the objectives in order to provide clarity and avoid misinterpretation.

Table 2: Objectives of the MWMS

Number	Objective	Description
1	To meet all UK and EU targets	To set out how the Council intends to met its statutory targets including National Indicators, National Waste Strategy requirements and EU Landfill Directive targets
2	To reduce the total household waste arisings	To reduce the amount of Kg of waste produced by each household to within the best performing quartile of other UK unitary authorities. These figures are recorded for Government National Indicators
3	To decouple the growth in waste from the growth in the economy	To break the growth in waste usually associated with growth in the economy through working with local businesses, residents and tourists
4	To adhere to the waste hierarchy	To adhere to the waste hierarchy as set out in the National Waste Strategy, that is: • Reduce – reduce the amount of waste produced • Re-use – re-use items where possible • Recycle/compost – To reprocess waste streams where re-use initiatives are not possible • Recover – To recover value from waste streams which cannot be re-used or recycled/composted • Final Disposal – Where no other option is available
5	To follow the proximity principle	To strive to ensure Bournemouth deals with its waste within or as close to the borough boundaries as possible thereby reducing its impact on climate change caused by waste movements. This is in-line with the 2010 Localism Bill
6	To reduce the carbon burden of waste management activities	To reduce the carbon burden of current waste management activities through innovative collection of waste streams, treatment processes, and business, householder and visitor activities
7	To make sure the strategy is financially acceptable to the public	To fulfil the objectives of the strategy whilst adhering to the Councils best value commitments

4. SUSTAINABLE WASTE MANAGEMENT

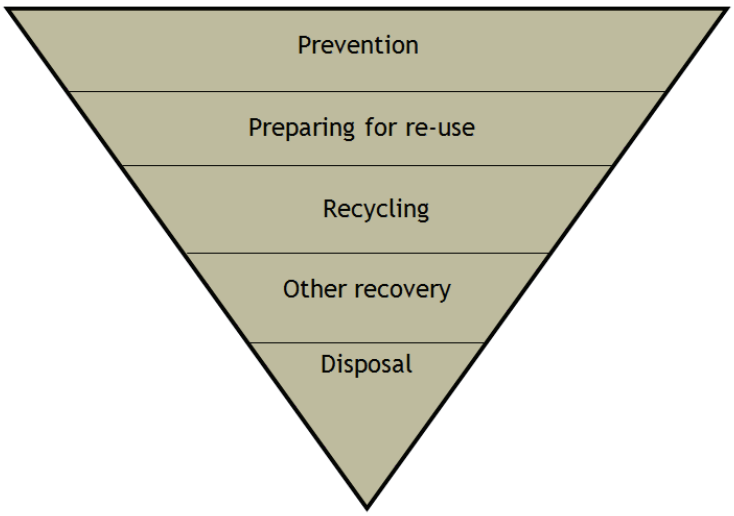
4.1 The waste hierarchy

The Waste Strategy for England 2007[9] sets out key waste management principles on dealing with our waste in a more sustainable way. The UK currently consumes natural resources at an unsustainable rate. This rate is so high, that if all the countries on Earth consumed at this rate humanity would require three planets.

In order to reduce this we need to manage our waste in a more sustainable way, which will help to reduce the impacts of our consumption on climate change. The goal of the Waste Strategy for England is to move towards 'One Planet Living'.

The underlying principles of sustainable waste management are shown in the waste hierarchy in Figure 3. The waste hierarchy shows the most sustainable waste management practise of 'Prevention' at the top and the least sustainable option of 'Disposal' at the bottom. This Bournemouth MWMS has taken into consideration these principles which have guided the decision making process.

Figure 3: The waste hierarchy



Source: EU Waste Framework Directive, 2008[10]

4.1.1 The waste hierarchy explained

Waste prevention – By far the most sustainable waste management practice is to reduce the amount of waste produced at source preventing any form of treatment. An example of this is the removal of unnecessary packaging from a product.

[9] Waste Strategy for England, Defra (2007), HM Stationary Office www.defra.gov.uk
[10] EU Waste Framework Directive 2008/98/EC (2008)

Re-use – Using a material for at least a second time for the same or a different purpose. Clothes purchased from a charity shop are a good example of this.

Recycle/compost - Reprocessing a material so that it can be made into something else. Although an extremely important component of the waste hierarchy, re-use and waste prevention have greater environmental benefits.

Energy recovery - Waste materials may be used as a fuel source to create energy. This is considered a superior form of waste treatment to 'Disposal' as 'value' is gained from the material, before final disposal of the remaining residual material.

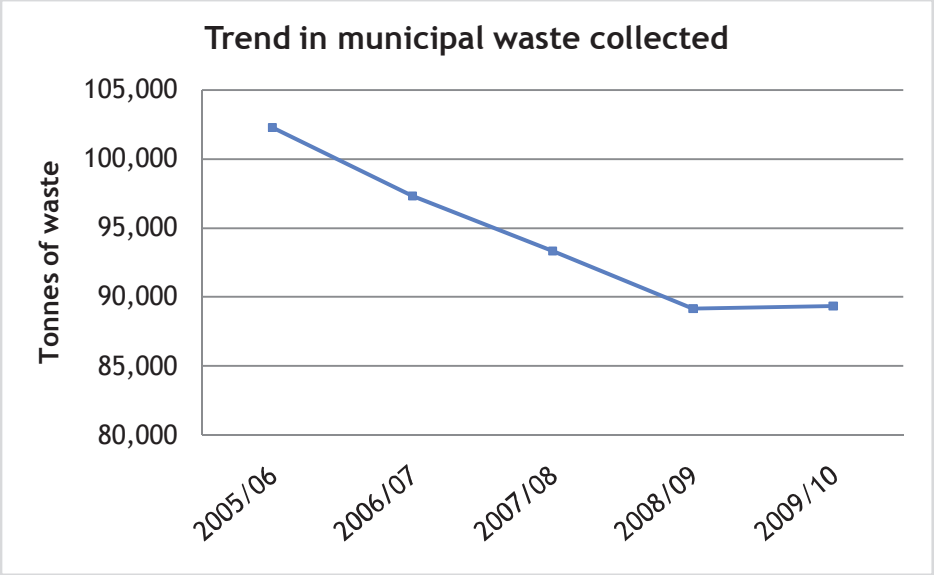
Disposal - The least sustainable solution as the materials and their benefits are lost.

4.2 Waste growth

It is a requirement of Planning Policy Statement 10 (PPS10) that this MWMS predicts possible future Municipal Solid Waste (MSW) growth and take it into consideration.

Bournemouth currently produces 89,356 tonnes of MSW per year (2009/10). Trends in the amount of waste produced by Bournemouth over the last five years can be seen in Figure 4. It is clear from the chart that local household rates have decreased over the last five years. This is in part due to the introduction of the Big Bin/Little Bin Recycling Service and the current economic conditions slowing down the amount we buy. However the reduction in the amount of waste produced is starting to plateau and more needs to be done to continue this trend in reduction in future years.

Figure 4: Historical trends in Bournemouth's municipal waste 2005-2010



The MWMS has selected to use population growth as a major influence in predicting future waste growth. The population of Bournemouth is predicted to rise to 170,600 by 2031 from around 163,200 at current levels. This growth can be seen in Figures 5 and 6.

Figure 5: Predicted growth in municipal waste in relation to predicted population growth until 2031 based on a 0.5% waste growth rate.

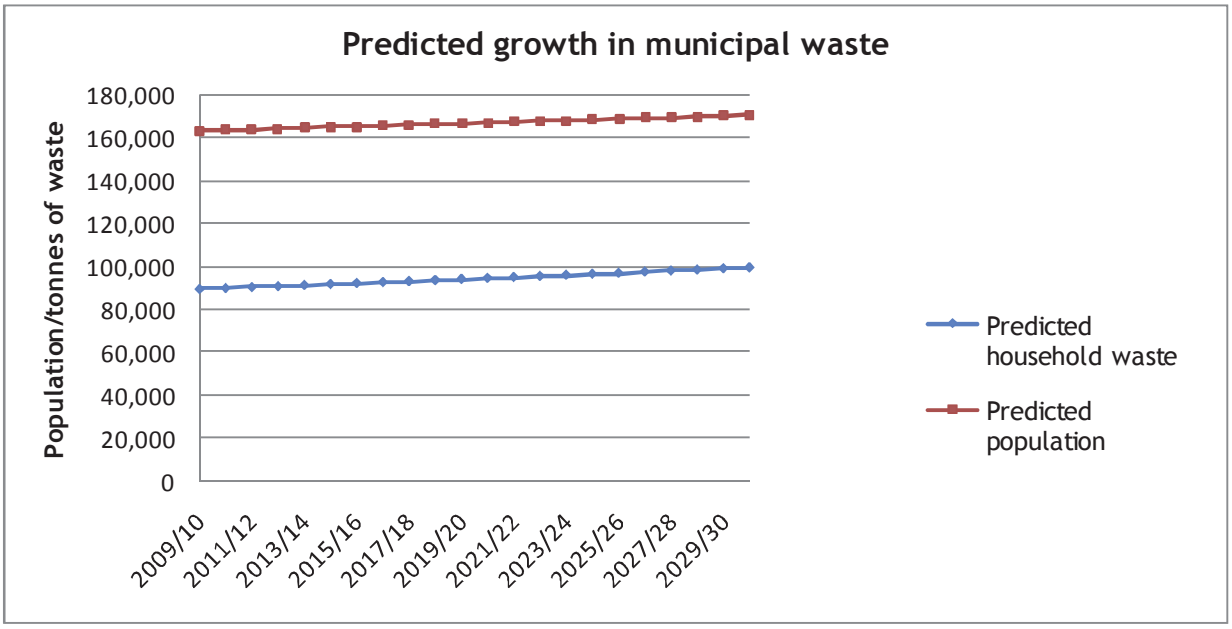
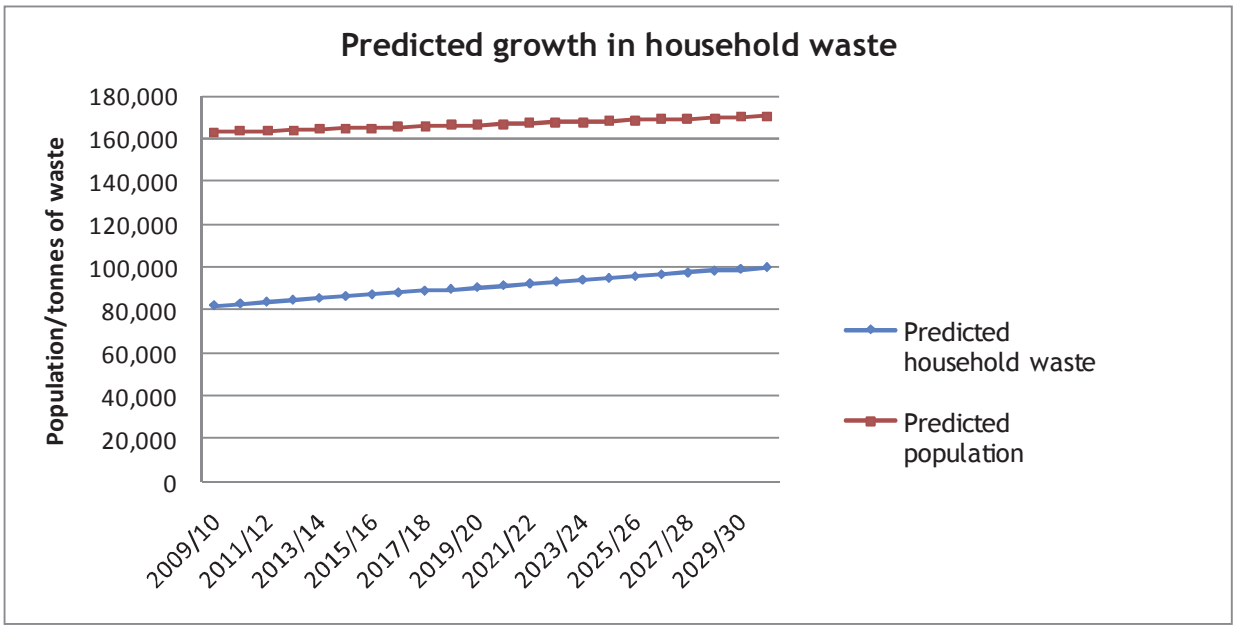


Figure 6: Predicted growth in household waste in relation to predicted population growth until 2031 based on a 0.5% waste growth rate.



5. KEY DRIVERS FOR A NEW MWMS

The key drivers for the production of a new MWMS come in the form of legislation, targets and agreements that have been set at a national, regional and local level. This section lists these in order to outline the position of the Council and what waste management legislation, targets and agreements must be achieved.

5.1 National legislation and targets[11]

5.1.1 Landfill Directive (1999/31/EC)

Member states of the EU are restricted to landfill a maximum of 75% of the total amount by weight of biodegradable municipal waste (BMW) produced in 1995 by 2006, up to 35% in 2016. Countries, such as the UK, that in 1995 land filled more than 80% of BMW have been allowed to postpone the attainment of these targets for four years. Therefore the UK targets are:

- Reduction to **75%** of the 1995 baseline by **2010**
- Reduction to **50%** of the 1995 baseline by **2013**
- Reduction to **35%** of the 1995 baseline by **2020**

The 2011 Waste Review has made no changes to these targets, however they are due to be re-examined in 2013.

These targets form the basis of the Landfill Allowance Trading Scheme (LATS).

5.1.2 Landfill Allowance Trading Scheme (2005)

The Landfill Allowance Trading Scheme (LATS) was introduced on the 1st of April 2005 and imposes significant and innovative changes in waste policy and practice for the diversion of BMW from landfill. It is intended to provide a cost effective way of enabling England to meet its targets for reducing the amount of BMW sent to landfill under Article 5(2) of the EC Landfill Directive.

Under the scheme, tradable allowances convey the right for a waste disposal authority to landfill a certain amount of BMW in a specified scheme year.

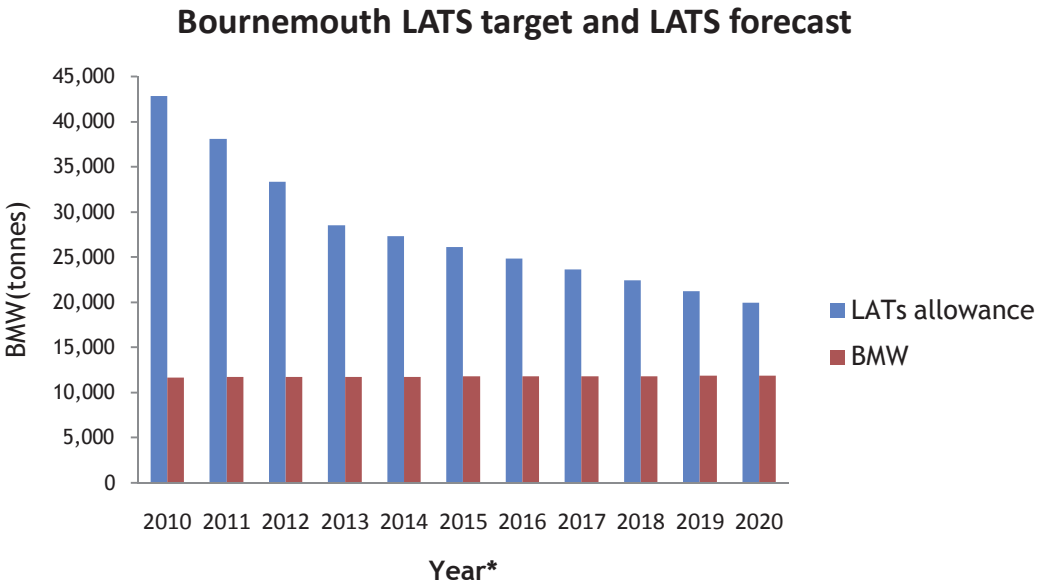
Key aspects of LATS are:

1. Tradable allowances have been allocated to each waste disposal authority at a level that will enable England to meet its targets, and subsequently the UK to meet its targets under the Landfill Directive.
2. A single tradable landfill allowance allows an authority to landfill one tonne of BMW.
3. If an allowance is not needed or the authority expects not to need all of its allowances in one or more scheme years the authority can sell them, or bank (save) them into the following year.

[11] Supplementary Report: Key Drivers Report

4. The flexibilities of trading, banking and borrowing enable waste disposal authorities to meet their obligations under the scheme in the most cost effective way.
5. Unlimited banking is allowed between target years but allowances cannot be banked in a target year or the year preceding a target year.
6. Authorities are able to borrow up to 5% of the next year's allowance, although allowances cannot be borrowed in a target year or the year preceding a target year as this may cause England as a whole to breach its target.
7. A fixed penalty of £150/tonne will be incurred if an authority fails to hold sufficient allowances for the amount of BMW it sends to landfill in a scheme year.
8. Authorities can pool their allowances in order to invest in a shared facility, although each authority remains responsible for meeting its own targets.

Figure 7: LATS targets and forecast requirements for the Council



It should be noted however, that the government announced on 14th June 2011 that they will be ending the Landfill Allowance Trading Scheme (LATS) at the end of the 2012/13 scheme year as Landfill Tax is proving to be a more significant driver for change.

The Council are currently in a strong position and will maintain a LATS surplus until 2013. This is illustrated in Figure 7.

5.1.3 Landfill Tax regulations

The Government introduced the Landfill Tax Regulations in 1996 to discourage the disposal of waste to landfill. Subsequent amendments have been made since 1996 amending the rate of tax payable.

Landfill Tax is payable on waste, other than exempt waste, that is disposed at landfill. The Tax is regulated by HM Revenue and Customs.

A lower rate of tax applies to inert or inactive waste, with the higher rate applying to all other taxable waste. The lower rate payable is £2.50 per tonne of waste from 1st April

2010 to 31st March 2012. The higher rate, or standard rate, is £56 per tonne from 1st April 2011 to 31 March 2012 and will increase as follows:

- £64 per tonne on 1st April 2012
- £72 per tonne on 1st April 2013
- £80 per tonne on 1st April 2014

Although Landfill Tax will encourage more sustainable waste management practices, such as recycling, local authorities will have real increases in the cost of waste management for the foreseeable future.

5.1.4 Waste Strategy for England 2007

The aim of the 2007 Waste Strategy is to move towards 'One Planet Living'.

"The Governments key objectives are to:

- decouple waste growth (in all sectors) from economic growth and put more emphasis on waste prevention and re-use;
- meet and exceed the Landfill Directive diversion targets for biodegradable municipal waste in 2010, 2013 and 2020;
- increase diversion from landfill of non-municipal waste and secure better integration of treatment for municipal and non-municipal waste;
- secure the investment in infrastructure needed to divert waste from landfill and for the management of hazardous waste; and
- get the most environmental benefit from that investment, through increased recycling of resources and recovery of energy from residual waste using a mix of technologies".

Targets from the Waste Strategy for England 2007 are:

- To recycle or compost 40% of household waste by 2010
- To recycle or compost 45% of household waste by 2015
- To recycle or compost 50% of household waste by 2020

Targets for reducing BMW going to landfill remain the same as those set by the European Directive and will be delivered through the Landfill Allowance Trading Scheme.

5.2 Regional policies[12]

5.2.1 Dorset, Poole and Bournemouth Waste Local Plan 2006

The Bournemouth, Dorset and Poole Waste Local Plan effective until 2016 provides guidance on where new waste and recycling facilities should be provided with regards to waste management strategies. The findings within this plan are binding on the three council's. More details of this plan can be found in the Key Drivers Report.

[12] Supplementary Report: Key Drivers Report

5.3 Local policies

5.3.1 Medium Term Financial Plan

The Medium Term Financial Plan covering a three years period from 2010/2011 until 2014 proposes the following actions with regards to waste management:

- A waste disposal contract procurement saving through re-profiled waste diversion
- Cessation of the Kings Park green waste bring site
- Review of the neighbourhood recycling centres (bring banks), with proposed closure of 50% of sites
- Introduce commercial waste services at Millhams CRC
- Review of refuse, recycling and green waste collection rounds. Refuse in particular with regards to reduced waste volumes.

6. BOURNEMOUTH'S PERFORMANCE

The performance of waste management services are measured using National Indicators (NI).

National Indicators (NI)

From April 2008 the 'New Performance Framework for Authorities and Local Authority Partnerships: Single Set of National Indicators' (NI) came into force. The three new waste indicators are:

- NI 191 – Residual household waste per household
- NI 192 – Household waste re-used, recycled and composted
- NI 193 – Municipal waste land filled.

Table 3: NI data for Bournemouth 2008/09 and 2009/10 and other unitary authority figures for 2009/10

NI		2008/09	2009/10	2009/10 National figures for unitary authorities			
				Average	Median	Top quartile	Bottom quartile
NI 191	Residual household waste per household (kg)	537.14	469.99	644.25	645.56	1452.86	451.74
NI 192	Household waste re-used, recycled and composted (%)	42.9	50	36.94	36.93	55.48	16.85
NI193	Municipal waste sent to landfill (%)	56.8	37.8	44.92	50.82	77.35	0

Table 3 shows the NI figures for 2008/09 and 2009/10, compared with the national figures for unitary authorities. Bournemouth performs very well when looking at NI 191 with 469.99kg per household of waste collected, compared to an average of 645.22kg.

Bournemouth also re-used, recycled and composted far more than average in 2009/10 with 50% compared to an average of 36.94%. From 2008/09 to 2009/10 Bournemouth has dramatically decreased the amount of waste which it sends to landfill with a much lower percentage than the average of 44.92%.

7. CURRENT MUNICIPAL WASTE COLLECTIONS AND SERVICES

The Council provide a range of services for the collection and treatment of municipal waste.

7.1 Refuse collection

The Council operates an in-house refuse (rubbish) collection from 82,235 properties in Bournemouth. Refuse is collected from the kerbside in a 140 litre bin on a weekly basis. For properties with communal bins a combination of 660 litre and 1,100 litre bins are used.

7.2 Recycling collection

In September 2006 the Council introduced the Big Bin/Little Bin collection scheme. Recycling is collected fortnightly from the kerbside in a 240 litre wheeled bin. Recyclables materials include paper, cardboard, plastic bottles, cans, liquid food and drink cartons and glass. Recyclables are collected co-mingled and sorted at a Materials Reclamation Facility (MRF).

Properties with communal bins are serviced with a combination of 240 litre, 660 litre and 1,100 litre bins.

7.3 Green waste collection

Green (garden) waste is collected seasonally between April and November. In 2008 the scheme serviced 21,500 properties and in 2009 this was extended to 22,400 properties.

Initially residents were offered a choice of 35 x 75 litre biodegradable sacks, to last them the length of the scheme, or a 140 litre wheeled bin. However due to operational reasons collections are now primarily by way of 140 litre wheeled bin.

The green waste service is available to communal domestic buildings, appropriate bin size is determined on a case by case basis and consideration is given to whether or not the grounds are serviced by a paid-for gardener and whether or not their fee includes disposal or not.

A static collection site for green waste is operated at Kings Park on Sundays between 9am and 1pm between April and November.

7.4 Millhams CRC

Millhams CRC is a civic amenity site located in Kinson in the north west of the borough. Millhams CRC enables residents to recycle/dispose most domestic bulky household items, green (garden) waste and electrical household items. It also caters for batteries, engine oil, small amounts of household rubble and paint. It is classed as a Designated Collection Facility (DCF) under the Waste Electronic and Electrical Equipment Regulations (WEEE).

Millhams CRC also has a re-use/re-sale area where residents can buy items for re-use which have been deposited at the site.

7.5 Neighbourhood recycling centres (NRC)

The Council operates 11 NRC sites, formally known as bring bank sites. These sites are currently serviced by Weymouth and Sherbourne Recycling and cater for the paper, cans, plastic bottles, glass, textiles and shoes. A number of charity banks are also located at these sites for the recycling/re-use of books, music and foil.

7.6 On-street recycling

A network of 150 on-street recycling bins is located across the borough. These are either dual recycling and litter bins or stand alone recycling bins, the later of which are sited next to existing litter bins.

These on-street recycling bins were donated by Marks and Spencer in 2008 as part of the redevelopment of their Bournemouth store to become their first eco-store in the Country.

7.7 Bulky household waste collection

The Council operates a chargeable bulky household waste collection service.

7.8 Commercial waste and recycling collection

The Council has offered a commercial refuse service since 1978 and currently has 1,401 accounts. In 2008 a commercial waste recycling collection was made available to businesses within Bournemouth. This enables businesses to recycle the same co-mingled mix as householders or to recycle single stream paper or cardboard, dependent upon the businesses needs.

7.9 Other wastes

7.9.1 Fly-tipped waste

The Environmental Protection Act 1990 gives local authorities and the Environment Agency the responsibility for dealing with fly-tipped or illegally deposited waste.

The fly-tipped waste removed by the Council counts towards the total of municipal waste collected and will influence the targets set under the LATS system as well as incurring significant financial costs. To address this, the Council enforce the Clean Neighbourhoods and Environment Act 2005 which strengthens the Environmental Protection Act 1990, putting provisions on clearing up to the land owner and allowing local authorities and the Environment Agency to recover their costs.

7.9.2 Hazardous waste

The Hazardous Wastes Directive (91/689/EC) defines what waste types are classed as ‘hazardous’ and has been incorporated into UK law by the Hazardous Waste Regulations

2005. Implementation of the revised Waste Framework Directive has brought some changes to the Hazardous Waste Regulations. These changes have been brought in by the Waste (England and Wales) Regulations 2011 and the Waste (Miscellaneous Provisions) (Wales) 2011 Regulations.

These materials are currently collected from the public or brought into Millhams CRC.

7.9.3 Waste Electronic and Electrical Equipment (WEEE)

The Waste Electrical and Electronic Equipment (Amendment) Regulations 2009 ("the Amendment Regulations"), which came into force on 1 January 2010.

Residents can take those electrical items that have been declared as WEEE to Millhams community recycling centre. The Council will also collect large items for a charge.

7.9.4 Batteries

Batteries have been identified by the EU as a priority waste stream needing action to lessen their impact on the environment. As a result, the Batteries Directive came into force on 6 September 2006.

The Council currently accepts all types of batteries at Millhams CRC and also has collection points for household batteries at libraries and council buildings.

8. WASTE CAMPAIGNS & INITIATIVES

The Council currently undertake a range of activities to encourage and support the local community to reduce, re-use, compost and recycle as much as possible.

8.1 Waste reduction

8.1.1 Big Bin/Little Bin

The Council introduced the Big Bin, Little Bin kerbside collection scheme in September 2006.

Each household has a Big Bin for recycling and this is collected fortnightly and a Little Bin is for refuse and this is collected weekly.

8.1.2 Real nappies incentive scheme

The Council runs a real nappies campaign with the aim of making real nappies information easily accessible to both parents and prospective parents.

In 2009 the Council introduced a Real Nappies Incentive Scheme. The scheme enables parents to claim £30 off the price of real nappies with a minimum spend of £45. There are two ways to save on the cost of buying real nappies, either by applying for a £30 voucher which is redeemable at a number of real nappies retailers in Bournemouth or via a cash-back option whereby parents can buy their nappies from any retailer, including the internet, and then complete an application form for the £30 refund.

8.1.3 Smart shopping

Smart Shopping campaigns are run in order to help residents make decisions which will enable them to purchase less waste to begin with.

8.1.4 Excess waste policy

An Excess Waste Policy was introduced in 2004 restricting residents from placing excess waste next to their bin. Bin lids must also be closed otherwise the bin will either not be emptied or the excess waste will be removed, the bin emptied and the excess placed back in the bin, thereby restricting the amount of rubbish which can be placed in the bin the following week.

8.1.5 Love Food Hate Waste Campaign

Love Food Hate Waste is a campaign run in conjunction with Dorset Reduction and Recycling Group and the Waste and Resources Action Programme (WRAP). Approximately a third of food bought is wasted and therefore the aim of this campaign is to encourage residents to waste less food.

8.1.6 Dorset Reduction and Recycling Group (DRRG)

The DRRG is a group made up of recycling officers from the Borough of Poole, Bournemouth Borough Council and Dorset County Council. The aim of the group is to find ways to work in partnership to spread the 'reduction & recycling' message across the conurbation.

8.2 Re-use of materials

As well as re-use of material deposited at Millhams CRC and through the bulky household waste collection scheme, as mentioned earlier, the Council works on re-use in the following areas:

8.2.1 Dorset Reclaim

The Council works very closely with the Dorset based charity Dorset Reclaim. The Council promotes Dorset Reclaim in two ways:

- Residents can donate unwanted furniture, electrical or household items which will be collected free of charge.
- Residents on means tested benefits or a low income can obtain furniture at very low costs.

8.2.2 Charity shops

Residents are encouraged to donate unwanted but useable items to charity shops. Campaigns around donating to charity shops are run in the lead up to Christmas and at the end of university terms when students may be having clear-outs before moving out of their accommodation.

8.2.3 Give and take days

The Council organise and promote community centre 'give and take days' at which residents may put out unwanted but usable items for re-use. Local residents then have the chance to browse and take away items they do want. No money changes hands during these events.

8.3 Composting green wastes

8.3.1 Green waste services

As previously mentioned the Council operates an opt-in kerbside green waste collection service with a static bring site at Kings Park on Sundays.

8.3.2 Home composting

The Council works in partnership with Dorset County Council and WRAP to promote home composting.

The home composting initiative is a scheme where WRAP provided subsidised compost bins and accessories to residents across the country.

Compost bins are also available to schools.

8.4 Recycling of waste

8.4.1 Free recycling for schools

In 2008 the Council introduced free recycling for schools to encourage them to recycle as much of their waste as possible and to present a good example to the children who attend those schools.

8.4.2 'Wise Up 2 Waste' education pack

It is anticipated that by teaching children early about social responsibilities regarding waste that behaviours can be cemented early requiring less behaviour change campaigns for future generations.

8.4.3 Green schools

The Council runs the Green Schools Award which all schools within Bournemouth can work towards. It was designed after the introduction of the Eco-Schools Scheme.

9. DEVELOPING A WASTE PREVENTION PLAN

The Council has developed a Waste Prevention Plan in order to further reduce the amount of municipal waste they are required to manage. The reduction of waste can be seen as the most sustainable waste management practice as shown in the waste hierarchy in Figure 3. This Waste Prevention Plan supports the overarching MWMS for Bournemouth 2011-2026.

9.1. Aim

To identify key activities to increase waste awareness and change behaviour to reduce waste arising in Bournemouth.

9.2. Objectives

- To reduce the amount of waste produced per household by 10% from 469.99kg/hh to 423kg/hh by 2016/17.
- To restrict overall municipal waste growth to between 0- 0.5% or less per year from 2011/12 to 2016/17.
- To target activities at materials accounting for over 5% of Bournemouth's residual bin as identified in waste composition analysis 2009.
- To raise awareness of waste prevention initiatives by 10% by 2011/12, 15% by 2016/17 as monitored via Bournemouth's 'Measuring Up' survey.
- To meet campaign objectives set for specific activities by 2016/17.

9.3 Waste composition analysis 2009

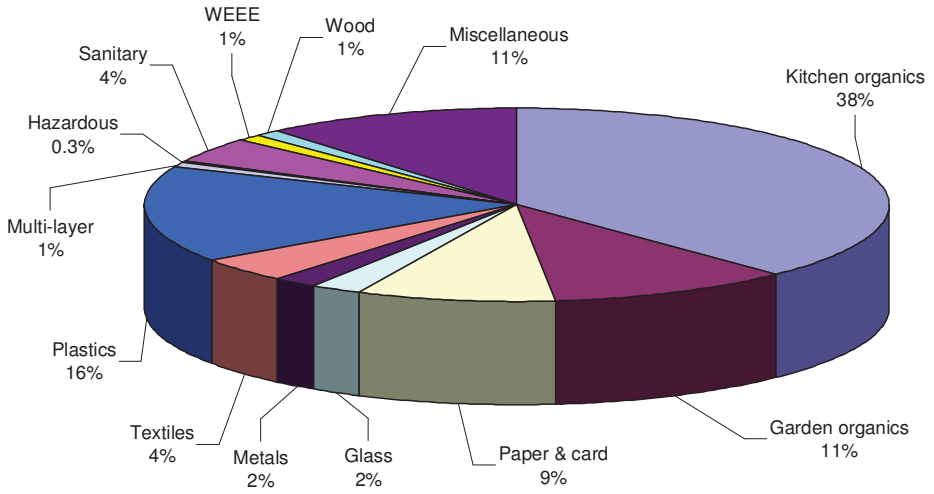
Prior to developing a waste prevention plan it is necessary to understand what materials residents are throwing out in order to target promotional activities to reduce these. In 2009, a composition analysis of the residual waste bin was carried out. The compositional break down can be seen in Figure 8.

The results of the study indicate that:

- Kitchen organics made up the largest category of waste arising, followed by plastics
- Of the kitchen organics 43% was home compostable waste and 57% kitchen other organics (i.e. non home compostable)
- Of the plastics category, plastic bottles accounted for less than 5% of the total arising, with 78% comprising of other dense plastic and plastic film
- Even with recycling proportions excluded, paper and card accounted for 9%
- Whilst providing a kerbside green waste collection scheme to 25,000 properties, on average garden organics still made up 11% of waste in residual bin.

Waste prevention activities will be targeted at material streams making up over 5% of residual waste i.e. kitchen organics, garden organics, paper, card and plastic packaging.

Figure 8 - Estimated compositional breakdown of residual waste arising (kg/hh/wk)



9.4 Waste Prevention Plan

A full copy of the Waste Prevention Plan can be found in Supplementary Report: Waste Prevention Plan 2011-2016[13]. Table 4 overleaf provides an overview of the proposed campaigns, the promotional activities that will be carried out and what objectives the Council are attempting to meet.

9.4.1 Financial implications

According to NWRF Waste Prevention Toolkit[14], implementation of these campaigns may result in a feasible reduction in household waste of between 8.9-14.7% over the five year period. Based on the total amount of municipal waste produced in 2009/10, which is 89,356 tonnes, in 2015/16, a reduction of between 7,910-13,065 tonnes may result in total municipal household waste arising of between 75,810- 80,965 tonnes. Based on landfill costs at £75 per tonne in 2011, a cost saving would be expected of between £593K – 979K over the five years. With staff costs of approximately £258K over five years (two x full-time staff – £25K each per year, one x seasonal staff - £8K overall) and potential £75K budget, the Council has the potential to recover between £260K- 646K from the cost of landfill through waste prevention activities.

[13] Supplementary Report: Waste Prevention Plan 2011-2016
[14] WRAP (2010) Household Waste Prevention Toolkit http://www.wrap.org.uk/applications/waste_prevention_toolkit/

Table 4: Proposed waste prevention plan

Campaign	Proposed promotional activities	Objectives
Love Food Hate Waste Target audience: borough wide, residents that cook/shop	• Road show events at supermarkets with food storage quiz, portion size measures • Leftover recipe competition with catering college students • Recipe cards, leaflets at events • Information on website • Coverage in BH Life, Home News, Press release • WI cookery lessons with leftovers	• Reduce kitchen organic waste in waste stream by 10% by 2015/16 • Raise food waste awareness resulting in behavioural change
Community Re-use Target audience: students, low income communities	• Monthly Give or Take Days with community wardens • Furniture re-use shop at HRC • Tool/Toy sharing • Community re-use networks – freecycle, freegle, Dorset Reclaim, charity shops • Information on website • Coverage in BH Life, Home News, Press release, community newsletter, posters, leaflet drop to local area.	• To encourage re-use • Reduce fly-tipping of bulky items and disposal at HRC • Improve community cohesion • Provide bulky items to low income families • Support local charity shops
Community Composting Target audience: residents with gardens	• Set up Master Compost Programme • Set up drop off points of green waste at allotments and parks which master composters then compost and provide back to local community free of charge • Leaflets at events • Information on website	• Reduce BMW to landfill • Improve community cohesion • Provide a favourable alternative to green waste collection • Use volunteers to maintain composting levels
Smart Shopping - Packaging	• Road show events at supermarkets with examples of good and bad packaging, tips and hints • Leaflet on the purpose of packaging • Information on website • Coverage in BH Life, Home News, Press release, posters	• Encourage selective purchasing • Raise waste awareness resulting in behavioural change
Unwanted Mail Target audience: borough wide	• Info in newsletters, student accommodation /tenant arrival packs • Information on website • Partnerships with other Council departments to prevent unwanted mail • Produce No junk mail door sticker • Road shows to encourage MPS sign up	• To reduce amount of leaflets, magazines, free newspapers in waste stream • Increase number of MPS sign ups by 10%
Product Services Target audience: borough wide, specific activities of interest	• Run workshop to teach waste prevention activities i.e. home composting, leaflet over cookery and repair skills i.e. bike repair, stitch and style events, DIY	• To increase life span of items • To reduce the amount of waste entering the waste stream
Real Nappies Target audience: borough wide, parents, health care professionals	• Incentive Scheme - £30 cash back when £45 is spent purchasing real nappies • Quarterly drop-in sessions • Real Nappy Week • Training sessions with midwives and health advisors • Information on website • Promotion in doctor's surgeries, hospital, community newsletters Council's 'Hand in Hand' newsletter, NCT, NETMUMs	• To reduce amount of disposable nappies entering the household waste stream and being land filled • To receive 200 incentive scheme applications per year
Home Re-use Audience: borough wide	• Produce A-Z directory for re-use on website and leaflet • General and item specific campaigning i.e. plastic bags, batteries, hiring, repairing • Road show events	• To encourage residents to re-use items at home

10. CURRENT WASTE TREATMENT ARRANGEMENTS

There is a variety of treatment technologies currently used to treat the materials collected by the Council. An explanation of the waste treatment technologies can be found in the glossary. In addition the Supplementary Report: Treatment Technologies[15] looks at these in greater depth.

10.1 Household kerbside recycling

Collected kerbside mixed dry recycling is sent straight to a transfer station located in Poole, where it is bulked and added with Borough of Poole kerbside mixed dry recyclables then transported by road to a MRF operated by Viridor Waste Management located in Crayford in Kent.

10.2 Household kerbside green waste

Green waste collected at the kerbside and directly at Millhams CRC site, is taken to the IVC and/or Windrow composting plant run by Eco-Sustainable Solutions at Parley, Christchurch. In addition small quantities are collected via the static bring site located at Kings Park on Sundays in the summer months.

10.3 Residual kerbside waste

Kerbside residual waste is treated by New Earth Solutions (NES) at their Mechanical Biological Treatment (MBT) plant (Canford, Dorset) together with elements of the commercial waste collection, beach waste and street sweeping litter. The residual waste is sorted with recyclable and compostable material removed leaving the remaining residual waste for disposal.

Outputs from the MBT plant for secondary treatment are:

- Nutria 9 compost – used as capping material for Whites pit landfill, Wimborne
- Ferrous metals - taken to Simms Wimborne
- Scrap non-ferrous metals taken to Reliant Recycling located in Poole
- Plastics – taken to commercial recycling (reprocessor) at Wimborne
- Residuals – taken to Transwaste cement kiln, North Foriby, East Yorkshire

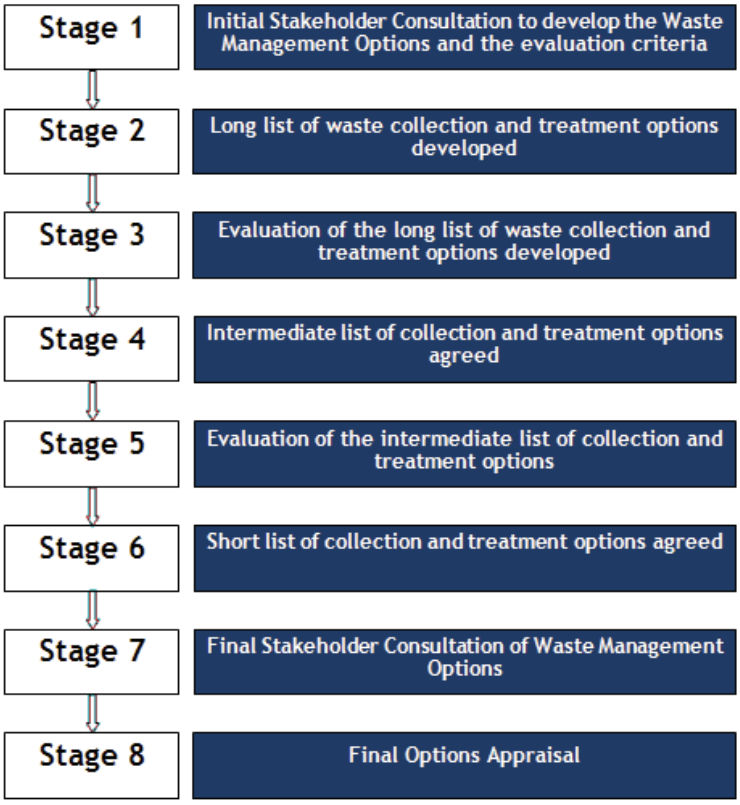
[15] Supplementary Report: Treatment Technologies

11. STRATEGY DEVELOPMENT

The Headline Strategy (MWMS) is the culmination of a process which has involved input from internal and external stakeholders at pre and post draft stages. The feedback from these sessions has guided the development of this final strategy. This section details the process of producing the headline strategy in an eight staged process.

Figure 9 illustrates the process of strategy development, with each stage explained in this section. The process has been developed in-line with Defra guidance on the Development of Municipal Waste Management Strategies[16].

Figure 9: Strategy development



11.1 Stage one[17]

The initial internal and external stakeholder consultation took place between November 2009 and February 2010. These stakeholders are listed in Table 5.

[16] Defra (2005) ' A Practice Guide for the Development of Municipal Waste Management Strategies
[17] Supplementary Report: Pre Draft Consultation Report

Table 5: Stakeholders consulted during initial exercise

Internal stakeholders	External stakeholders
Elected Members including the Portfolio Holder	**Business groups** including Chamber of Commerce, Chamber of Trade and local business representatives
Senior waste management officers including Executive Director, Service Director, Head of Operation (Technical Services), Strategic Waste Manager, Finance Officer, Ask Bournemouth Representative, Strategic Environmental Officer, Environmental and Recycling Officer, Street Scene Manager, Refuse Manager, Refuse Operations Manager, Recycling Operations Manager and Planning Policy Manager	**Residents groups** including area forums and neighbourhood groups
Waste management officers including Refuse and Recycling Operations Manager and collection operatives	**Special interest groups** including Women's Institute, religious and faith groups, Bournemouth disability groups, charities and community groups
Other non-waste council officers	**Environmental groups** including representatives from Bournemouth 2026, Friends of the Earth and BH Transition Towns

Table 6 shows what engagement took place and on which date.

Table 6: Initial stakeholder engagement events

Stakeholder engagement activity	Date
Public focus groups	24/11/2009
Internal stakeholder workshops - council officers 10th November 2009	10/11/2009
Internal stakeholder workshops - elected councillors 10th November 2009	10/11/2009
Internal stakeholder workshops - waste management operatives (collection crews) 11th November 2009	11/11/2009
Contractors and waste industry consultation	25/02/2010

11.1.1 Key drivers recorded by internal and external stakeholders

- **Environmental** - The protection of the environment is an important consideration that all stakeholders have identified as a key driver. Motivations for protecting the environment ranged from the benefiting human health, legal requirements, economic benefits and intrinsic values.
- **Finance** - Delivering cost effective waste management was also a consistent theme for all stakeholders as a driver, keeping Council Tax low and ensuring solutions are selected not on environmental performance alone.

- **Social** - A desire to become a Centre of Excellence, be leading authority in Waste Management which creates a feeling of local pride was a common theme linking all stakeholders.

11.1.2 Key findings recorded by internal and external stakeholders

- Carbon management should be considered as an integral part of the strategy in light of climate change.
- Food waste collections were largely accepted by all stakeholders with no strong objections.
- A move to fortnightly residual collections which also include weekly food waste collections was something that many stakeholders were largely in favour of.
- No technology preference was identified as a result of the consultation. Some discussion about energy production from waste raised by stakeholders but no commonality. No strong objections to any particular technology were recorded.
- Limited feedback on existing dry recycling collection. No strong preference for a particular collection system was recorded.
- Mixed messages with regard to customer satisfaction and flats recycling.
- Some mixed messages from stakeholders on the Millhams CRC in relation to service satisfaction, possibly linked to access restrictions.
- There was strong support for the green waste collection service across all stakeholder groups, there is some discussion surround enhancing the service, i.e. expansion of the service, long collection periods, and review of service delivery costs.
- Waste reduction was considered important by all stakeholders; however no specific methods were mentioned. The use of policy and enforcement was discussed by officers and members.
- Waste communications was considered important by all stakeholders, especially targeting hard to reach groups students, immigrants and schools.

The feedback recorded during these sessions formed the foundations for the development of the MWMS. The next stage 'long list of collection and treatment options' used this feedback to progress to the next stage.

11.2 Stage two

Council officers drew up a long list of potential collection options. 72 variations were developed for consideration grouping type (refuse, recycling and organics) with collection frequencies; these can be seen in their entirety in Supplementary Report: Options Appraisal Intermediate Stage Report[18]. The options contained the following waste stream collection systems.

- Weekly refuse
- Fortnightly refuse
- Monthly refuse
- Co-mingled recycling fortnightly
- 2-Stream co-mingled recycling fortnightly
- Kerbside sort weekly
- Kerbside sort fortnightly

[18] Supplementary Report: Options Appraisal Intermediate Stage Report

- Food waste separately weekly
- Food and green waste together weekly
- Green waste fortnightly
- Green waste weekly

In addition a long list of technology options was drawn up, which can be found below in Table 7 and Supplementary Report: Options Appraisal Intermediate Stage Report.

Table 7: Long list of treatment technology options

Biological treatments	Residual waste treatment technologies	Thermal treatment	Advanced thermal treatment
Windrow composting	Mechanical biological treatment	Energy from waste	Gasification
In-Vessel composting	Mechanical heat treatment		Pyrolysis
Anaerobic digestion			

It was concluded by officers that collections was an area which the Council had a direct control of, being customer facing and relatively easy to change in comparison to technologies which are further removed from the management of the Council.

It was therefore agreed that collections would be considered prior to technologies. Once an intermediate list of collection options had been drawn up, the intermediate list of technologies would then be used as criteria for short-listing collection options by reviewing the compatibility of the collection system to the treatment.

11.3 Stage three

A set of evaluation criteria was compiled to aid evaluation of the different options. This comprised a set of seven waste management objectives that were required to be passed and a further four scoring criteria that were rated on a scale of 0-5. All criteria was selected and verified by the Council as being integral to their strategy and targets.

The long list was reviewed using the following high level criteria;

Table 8: Evaluation scoring criteria

No	Criterion	Score
1	Objective 1: To meet all UK and EU targets	Pass or Fail
2	Objective 2:To reduce the total household waste arisings	Pass or Fail
3	Objective 3: To decouple the growth in waste from the growth in the economy	Pass or Fail
4	Objective 4: To adhere to the waste hierarchy	Pass or Fail
5	Objective 5: To follow the proximity principle	Pass or Fail
6	Objective 6: To reduce the carbon burden of waste management activities	Pass or Fail
7	Objective 7: To make sure the strategy is financially acceptable to the public	Pass or Fail
8	Political acceptability*	0-5
9	Partnership acceptability*	0-5
10	Market acceptability*	0-5
11	Public acceptability*	0-5

** Not assessed until stage eight. Amendments to the weightings and subsequent scoring approach were made during a workshop attended by senior council officers and Elected Members on 14th September 2011.*

11.4 Stage four

Using the high level criteria the collection options were separated into three groups:

- Probable - 17 options
- Possible – 26 options
- Unlikely – 29 options

The list of probable, possible and unlikely collection options were then taken forward and subject to a discussion at a workshop of council officers on the 21st June 2010.

11.5 Stage five

An options appraisal workshop for council officers was held 21st June 2010 to evaluate the intermediate list of collection and treatment options. Attendees approved the process so far, and were asked to consider the following:

- Identify further evaluation criteria
- Review probable, possible and unlikely options collection and technology.
- Agree an intermediate collections and technologies option list.

11.5.1 Session One: Collection options

Session one resulted in delegates identifying the following:

- Additional criteria
- Intermediate list of collection options

Additional evaluation criteria (collections)

Additional evaluation criteria to be applied to the intermediate collection options
A key element that arose from the discussion centred on 'change'.

- The Council has invested money, time and expertise into establishing the present collection system.
- The staff and public understand the service.
- The public use the service,
- The current recycling rates are stated as 50% for 2009/10, which is well above the 2010 target of 40%.
- The service provides three containers; further containers apart from food it was felt would begin to attract negative comments and possible adverse reaction
- It was also agreed that in order to achieve landfill diversion targets and support the achievement of recycling targets, food waste collections should be considered.

It was agreed therefore that in the first instance variations of the present collection service with the addition of food should be considered.

Intermediate collection options

There was considerable debate about the best way to collect recyclables. Many local authorities such as Bournemouth favour a co-mingled type system while others prefer variations of a source-segregated approach. There are numerous technical papers that present the arguments for and against either system. A WRAP Report – *Choosing the right recycling collection system* – is, on the whole, in favour of source-segregated systems but even this report states "there is no simple answer, and certainly no one-size-fits-all solution". This report also goes further to suggest that "ultimately, the choice of collection system remains a matter for local authorities to decide".

WRAP (in its above mentioned report) expresses the opinion that "whilst it is true that considerable success is being achieved by some newer MRFs, even they are unable to deliver the levels of quality achieved by kerbside sort systems". However, UPM Shotton Paper Mill are convinced that its "new facility would allow it to source high quality paper" from co mingled schemes. This seems to directly contradict one of key points used against co-mingled collection services producing inferior quality products.

UPM seem convinced that the way forward is through co-mingled collections and that the paper product obtained will not only be suitable for its process but will also be of a high quality.*(http://news.bbc.co.uk/1/hi/wales/8439998.stm)*
Against this background attendees agreed that some variations of source segregated collection should be considered along with the present co mingled collection options.

It was therefore decided that a range of collection options should be taken forward to the next stage. The combination of options included the following:

- Weekly or fortnightly refuse collection
- Co-mingled or 2 stream co-mingled fortnightly dry recycling collection
- Weekly or fortnightly kerbside sort dry recycling collection
- Weekly food waste, fortnightly green waste or co-mingled weekly food/green waste collection

Weekly green waste options were dropped on the basis of the cost of a weekly green waste service compared to the current fortnightly collection. The majority of options that did not include a food waste component were also not taken through to the next stage, because of the specific BMW targets that have been set by the EU. Few options that did not include green waste were accepted, due to the conviction that political and public acceptability would be against losing this service. Finally, all options where refuse was to be collected weekly and a kerbside sort of recyclables would take place weekly were dropped on the basis of cost.

The options were discussed and a final shortlist of 18 options were selected to take forward to Session Two.

11.5.2 Session Two: Treatment options

Session Two resulted in delegates identifying the following:

- Additional evaluation criteria
- A list ranked list of intermediate treatment options

Additional evaluation criteria (treatment)

Additional evaluation criteria to be applied to the intermediate collection options included:

- Partnership
- Beneficial areas when considering a technology are:
- Partnership with a local facility
- Low gate fees
- Flexibility and modularity to be able to cope with fluctuations in waste airings
- Small scale, community based

Negative areas when considering a technology are:

- Travel miles to destinations outside the borough/county
- Procurement/planning timescales for new facilities
- The treatment options were considered and it was agreed for the following reasons that the following treatment would be ranked as followed.

The following treatment options were discussed and it was agreed that they should be ranked as below.

Table 9: Intermediate waste treatment options

Rank	Probable	Reason
1	Mechanical Biological Treatment (MBT)	Proven technology, local solutions, possible merchant capacity
2	Anaerobic Digestion (AD)	Maturing technology, possible local solutions, merchant capacity
3	In-Vessel Composting (IVC)	Proven technology, local solutions, merchant capacity
4	Windrow Composting	Proven technology, local solutions, merchant capacity
5	Materials Reclamation Facility (MRF)	Proven technology, limited local solutions, merchant capacity [nationally]
Rank	**Possible**	**Reason**
6	Energy from waste (EfW)	Proven technology, limited local solutions, may not reduce carbon burden, possible merchant capacity [nationally]
7	Pyrolysis	Less proven technology at commercial level, no local solutions
8	Gasification	Less proven technology at commercial level, no local solutions
Rank	**Deselected**	**Reason**
9	Landfill	Proven technology, local solutions, however will not meet the ambitions of the Council – will still have a residual role
10	Autoclave*	Less proven technology, no local solutions, feedstock for further treatment

The result of this was that a final list of eight intermediate collection options were short listed.

*On the 8th March 2011 a partnership workshop was held to investigate opportunities for partnership with the Borough of Poole and Dorset County Council. The meeting raised the potential for an Autoclave facility being built in the Poole area of Dorset. This technology had previously been discounted due there being no facility within close proximity of Bournemouth. It was decided that the waste strategy should include Aerothermal/Autoclave as a possible treatment option.

11.6 Stage six

The final short list of options for collection and treatment was agreed at a strategy update workshop held on 7th December 2010 which was attended by senior council officers.

Collection options were removed that either did not have a green waste collection or that included kerbside sorted recycling or those with two-stream co-mingled recycling

collections. This left **five short listed waste collection options** for consultation in June and July 2011.

In addition the remaining eight waste treatment options were also short listed to a final **five options**. These five options were those chosen as 'probable' at the end of stage five. This final short listing removed treatment options where there was no local solution available in-line with the 'proximity principle'. A sixth treatment option, namely autoclaving was added to the final short list for waste treatment options following a partnership workshop held 8th March 2011, attended by the Borough of Poole and Dorset County Council. This treatment option had previously been discounted as there were no facilities in the local area. However there are now outline plans to build a plant in Poole. There are currently no operational autoclaving facilities available locally and limited data to model the benefit of utilising this technology. So for the purpose of this report this potential future option has not been modelled or been subject to the options appraisal process.

These short listed waste collection and treatment options have been subjected to independent economic and environmental modelling in order to further understand the performance of each option. This requirement is a process that clearly identifies how each of the options will perform against the Council's aims and objectives. These results are used to assess the final short listed options at stages seven and eight.

The two assessments were:

- WRATE model - Waste and Resources Assessment Tool for the Environment[19]
- Mass flow model[20]

The findings of these reports are available upon request and will be used to appraise the final options. A summary of both reports is available in appendices two and three of the Options Appraisal Report.

11.6.1 Collection options

The collection options short list consisted of four options plus the 'no change' or base line position being the current collection service. For the purpose of the options appraisal the baseline position is listed as option three. The options are shown in Table 10.

- **Option 1:** Add a separate weekly food waste collection service
- **Option 2:** Collect a new food waste service mixed with green waste on a weekly frequency
- **Option 3:** Continue with current collection arrangements
- **Option 4:** Collect refuse fortnightly and introduce separate weekly food waste collection
- **Option 5:** Collect refuse fortnightly and introduce mixed weekly food and green waste collection

[19] WRATE: Assessments for Bournemouth Borough Council
[20] Waste Strategy Options Appraisal: Collection and Technologies Assessment Modelling Assessment

Table 10: Short listed refuse and recycling collection options

	Residual waste weekly	Residual waste fortnightly	Co-mingled recycling fortnightly	Green waste and food mixed weekly	Green waste separately fortnightly	Food waste separately weekly
Option 1	X		X		X	X
Option 2	X		X	X		
Option 3 (Baseline)	X		X		X	
Option 4		X	X		X	X
Option 5		X	X	X		`

11.6.2 Treatment options

Following the short listing process five waste treatment options as detailed in Table 11 were identified as suitable for Bournemouth's waste and recycling collection requirements. As a MRF is the only recycling treatment option compatible with the remaining collection options it was agreed with the Council this would be excluded from further consultation.

In addition MBT is at present the only residual waste treatment option available. There are however variations in MBT processes dealing with the material which is separated via this process. As a result the secondary technologies used to treat waste materials following the MBT process also differ.

Table 11: Short listed waste treatment options subject to options appraisal

Option	Treatment technology
1	Mechanical Biological Treatment (MBT)
2	Anaerobic Digestion (AD)
3	In-Vessel Composting (IVC)
4	Windrow Composting
5	Materials Reclamation Facility (MRF)

11.7 Stage seven

As part of the MWMS development process there is a statutory requirement to undertake public consultation. The Council chose to carry out a six week public consultation, covering the period from 20th June 2011 to 31st July 2011.

During the consultation period, local residents and interested parties could access all consultation documents through the Council website. This included:

- Draft Headline Municipal Waste Management Strategy
- Draft Baseline Report

- Draft Key Drivers Report
- Draft Waste Treatment Technology Report
- Draft Strategic Environmental Assessment Report
- Draft Waste Prevention Plan

The consultation process involved three main methods of consultation:

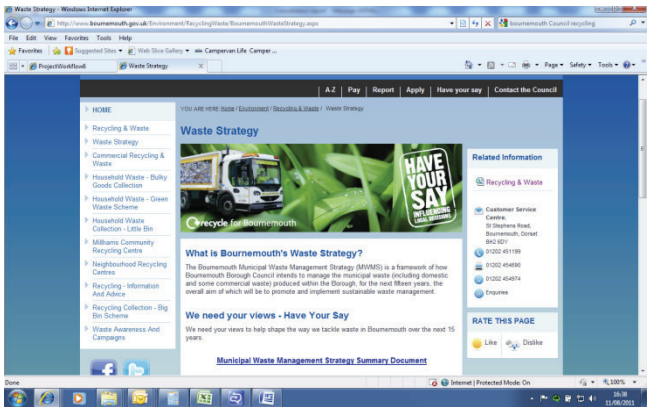
- Web based consultation survey
- A series of six road shows
- Two facilitated focus groups and four discussion groups involving internal and external stakeholders

11.7.1 Web based consultation survey

A consultation survey was designed by Hyder Consulting with support from the Council's waste management and corporate consultation teams.

The survey was published online via the Council consultation portal and was available for the consultation period. Residents were able to complete the survey online or alternatively print the survey out and return to the Council.

Figure 10: Web survey screenshot



11.7.2 Roadshows

During the consultation period, six roadshows were held in high footfall areas around the borough:

- 30th June - Boscombe precinct
- 2nd July - Bournemouth Square
- 15th July - Castlepoint Shopping Centre
- 9th July - Bournemouth Square
- 17th July - Muscliff Park
- 28th July - Meyrick Park

The events included displays, copies of the draft MWMS and other supporting material; and attended by council staff and technical advisors from Hyder Consulting who answered questions and discussed the MWMS with the members of the public.

Visitors to the roadshow were asked to complete a consultation survey. If a resident was too busy to complete the survey at the roadshow, they were directed to the online consultation portal or given a paper based version that could be completed at a more convenient time before being returned to the Council. Completed questionnaires were stored in a secure location in accordance with the Data Protection Act.

11.7.3 Focus and discussion groups

Focus and discussion groups are an excellent way to gather detailed and constructive feedback on the MWMS. It was decided to run three internal and three external focus and discussion groups:

Internal stakeholders

- Senior waste management officers (nine participants) on 22nd June 2011
- Elected Councillors and waste officers (nine participants) on 22nd June 2011
- Waste collection operatives (nine participants) on 22nd June 2011

External stakeholders

- Special interest groups (seven participants) on 12th July 2011
- Local residents (13 participants) on 13th July 2011
- DOTS Disability CIC group (10 participants) on 19th July 2011

11.7.4 Topic guide

The issues from the MWMS were set out in the form of a topic guide suggesting particular lines of enquiry but the respondents were encouraged to talk freely about what they saw as the issues. The interviewer used a variety of open-ended questions to encourage comment and feedback, whilst keeping the discussion broadly in line with the topic guide. Each focus and discussion group lasted approximately two hours.

The topic guide outlined four main exercises:

Session One: Recycling targets

The participants were told that the Council had already met the national waste strategy recycling and composting target of 50% recycling set for 2020 with the current collection and waste treatment provision.

Participants were asked to vote whether they thought Bournemouth should strive to achieve a higher recycling and composting rate by 2020.

Session Two: Waste prevention

Participants were asked to list any waste prevention campaigns operated by the Council or in partnership with the Council that they were aware of.

The participants were then shown a list of waste prevention campaigns that are currently being used by the Council including:

- Real nappy incentive scheme
- Smart shopping
- Give and take days
- Love Food Hate Waste
- Mail preference service
- Home re-use
- Product services

A group discussion was then facilitated to discuss and suggest any further ideas on how the Council could promote and support waste prevention in the community.

Session Three: Collection options

The participants were given an explanation of the five waste collection options which have been short listed by the Council. In addition there was a more detailed explanation of the differences between separate food waste collection bins and mixing food waste with green waste.

The participants were asked to vote for their preferred waste collection option or options. Each participant received five votes.

Session Four: Waste treatment

The participants were given the following list of criteria to consider when choosing the appropriate waste treatment option:

- Minimising transportation to the facility
- Cost
- Noise and air quality
- Visual impact
- Odour
- Carbon impact
- Provide employment opportunities

The participants were asked to vote for the criteria which were most important to them. Each participant was given seven votes.

Session Five: Recycling targets

Participants were asked to vote whether they thought Bournemouth should still strive to achieve a recycling and composting rate higher than 50% by 2020.

11.7.5 Key messages

Drawing on the outcomes from the consultation the following key messages have emerged:

Support for food waste collections

There was support for the introduction of a separate weekly food waste collection. Almost three quarters (73.0%) commented it was likely that they would use a separate weekly food waste collection if their rubbish bin continued to be collected every week.

However there were mixed messages about the preferred collection frequency for the rubbish bin if the Council did introduce a separate weekly food waste collection. 69.4% agreed that their rubbish could be continued to be collected weekly, yet 56.3% also agreed that their rubbish could be collected every other week.

There was a preference for food waste to be collected via a wheeled bin rather than a caddy. Over half of respondents (53.1%) preferred a wheeled bin for the collection of food waste.

Waste collection options

Option 4 was selected as being the most preferred choice by 31.3% of respondents with 22.3% selecting Option 3 as their preference. It is interesting the note that Option 4 is the preferred choice as this would involve a fortnightly collection of non recyclable waste.

There was a preference for a co-mingled collection of garden waste and food waste.

Waste disposal options

There was considerable support for the proximity principal. 77.6% agreed that waste generated in Bournemouth should be dealt within 100 miles of Bournemouth's boundaries.

All respondents were asked how important a number of different criterions were when considering treatment facilities for waste. It was found that the top three criteria were cost, noise and air quality and odour.

Waste strategy objectives

There was considerable support for the MWMS objectives. 77.7% agreed that the seven objectives would help Bournemouth manage its waste in a more sustainable way.

The majority of respondents (90.6%) agreed that Bournemouth should aim to reduce the amount of waste produced. It was found that 51.7% felt that the stated waste prevention target was just right. However 18.1% felt that the target was too high and 16.4% felt that the target was too low.

It was felt that Bournemouth should strive to achieve a higher recycling and composting rate by 2020.

Waste campaigns and initiatives

The most popular initiatives to help encourage respondents to minimise their household waste were a furniture re-use shop at Millhams CRC, Freecycle and other similar websites and home composting.

The most popular information that respondents felt would be most effective in helping them to reduce their household waste was how to reduce unwanted mail, how to minimise waste when buying things and details on high street services where they can hire, repair, trade in and donate goods.

11.8 Stage eight

All of the short listed collection and coupled treatment options were evaluated and scored a pass under criteria one to seven. The final options appraisal process therefore only scored the remaining options against criteria eight to 11. The table below shows the full range of criteria that the collection and coupled treatment options were subject to.

Table 12: Evaluation criteria

No	Criterion	Weighting
1	Objective 1: To meet all UK and EU targets	Pass
2	Objective 2:To reduce the total household waste arisings	Pass
3	Objective 3: To decouple the growth in waste from the growth in the economy	Pass
4	Objective 4: To adhere to the waste hierarchy	Pass
5	Objective 5: To follow the proximity principle	Pass
6	Objective 6: To reduce the carbon burden of waste management activities	Pass
7	Objective 7: To make sure the strategy is financially acceptable to the public	Pass
8	Market acceptability	25%
9	Public acceptability	25%
10	Political acceptability (25% cost, 10% performance)	35%
11	Partnership acceptability	15%

Weightings as detailed in the above Table 12 were applied to criterion 8-11 following discussions with officers at a meeting held on 18th August 2011.

The weightings and subsequent scoring approach developed, enables a consistent comparison of the pros and cons of each of the collection and coupled treatment options. The approach taken by this options appraisal involves assigning weights to the criteria, based on their relative importance, and then scoring each collection and coupled treatment option in terms of how well it performs against those weighted criteria. The weighted scores are then compiled in order to provide comparison.

It should be noted that this part of the evaluation was subject to scrutiny and approval at a workshop attended by senior council officers and Elected Members on 14th September 2011. The evaluation criteria and weightings were agreed at this meeting.

11.8.1 Criterion Eight: Market acceptability

Market acceptability has been assessed based upon the findings of the Market Testing Report[21] carried out in June 2011. This report involved a desktop study of the five waste treatment technologies identified and short listed during the pre-draft consultation exercise prior to the inclusion of autoclave.

In order to meet the Council's aim of processing materials as near to Bournemouth as possible (proximity principle[22]) a maximum 100 mile road radius from Bournemouth was agreed and set. This report identified the location of facilities, their distance from Bournemouth and their ability to deal with the quantities of waste that Bournemouth produces.

The weighting of this criterion is 25% with both the collection and treatment options scored out of a maximum of five points. The results of the treatment option are considered as secondary to that of the collection option result and would only be used to determine the collection and coupled treatment option where there was a tie in the score.

11.8.2 Criterion Nine: Public acceptability

Public acceptability has been assessed based upon the findings of the Post Draft Consultation Report[23]. As part of the MWMS development process there is a statutory requirement to undertake public consultation. The Council carried out a six week public consultation exercise, covering the period from 20th June 2011 to 31st July 2011.

During the consultation period, local residents and interested parties could access all consultation documents through the Council website. This included:

- Draft Headline Municipal Waste Management Strategy
- Draft Baseline Report
- Draft Key Drivers Report
- Draft Waste Treatment Technology Report
- Draft Strategic Environmental Assessment Report
- Draft Waste Prevention Plan

The process involved three main methods of consultation:

1 A web based consultation survey

[21] Supplementary Report: Market Testing
[22] The Proximity Principle highlights a need to treat and/or dispose of wastes in reasonable proximity to their point of generation. The principle works to minimise the environmental impact and cost of waste transport.

[23] Supplementary Report: Post Draft Consultation Report

2 A series of six road shows

3 Two facilitated focus groups and four discussion groups involving both internal and external stakeholders

For the purpose of reflecting public opinion the options appraisal has looked at the rankings that residents gave to the five waste collection options, which together with "coupling" identified the appropriate short list of options.

The weighting of this criterion is 25% with the collection options scored out of a maximum of five.

11.8.3 Criterion Ten: Political acceptability

Political acceptability has been assessed based upon cost/recycling performance and residual treatment. Both of these have been identified through the results of a WRATE[24] (Waste and Resources Assessment Tool for the Environment) and a mass flow modelling exercise. The weighting for this criterion is 35% which is split;

- 25% for the lowest cost of the combined coupled collection and treatment which reflects the importance set by the Council on economic prudence.
- 10% for the best performance of the coupled collection and treatment options in terms of the overall recycling/composting rate and the amount of residual waste sent for energy recovery. To reflect the importance of the waste hierarchy two thirds of the 10% is available for the combined recycling and composting rate and a third for the amount of residual waste sent for energy recovery.

11.8.4 Criterion Eleven: Partnership acceptability

Partnership acceptability has been assessed based upon the potential to partner the collection options to the existing services supplied by the six Dorset Waste Partnership collection authorities and the unitary Borough of Poole. The importance of developing meaningful partnerships with neighbouring authorities and the private sector is a priority. It is hoped that such partnerships will give the Council access to examples of good practice which may improve services still further[25].

The highest score is awarded to;

- an option which offers very good compatibility to the collection service operated by an adjoining councils
- the proximity of the potential partner to Bournemouth

[24] WRATE software compares the environmental impacts of different municipal waste management systems. WRATE uses life cycle assessment to include the resources used, waste transportation and operation of a whole range of waste management processes with their environmental costs and benefits

[25] Technical Services Service Plan 2011/2012

The weighting of this criterion is 15%.This criterion has the lowest weighting to reflect the potential for services to change in the adjoining Councils plus there are organisational factors which may prevent partnership even where there is compatibility between services.

11.8.5 The results

Collection options

The final preferred collection option after combining all of the scores is to maintain the existing service which is option three.

Table 13: Final collection options results

Option	Market acceptability (25%)	Public acceptability (25%)	Political acceptability (35%)	Partnership acceptability (15%)	Overall score (out of 100)
1	25	10	18.5	9	62.5
2	25	5	12	9	51
3	25	10	29	15	79
4	25	10	31	9	75
5	25	5	22.2	9	61.2

Treatment options

No change is recommended to the existing treatment technologies used, however once autoclave becomes available locally it is recommended that a study is performed to compare the performance against the existing MBT technology utilised for residual waste.

12. THE WAY FORWARD

This strategy sets out the strategic direction for municipal waste management in Bournemouth for the period up to 2026. To fully consider and reflect the rapidly changing environment relating to waste management, work **must continue on the set of action plans published in conjunction with this strategy** and as such, the strategy may need periodic review and refinement. Whilst the aims and objectives set out in the preceding chapters should remain valid until the next formal review of the strategy, it will be necessary to keep the respective action plans under continuous review in the light of new developments and changing circumstances.

Action plans

- Waste Reduction and Re-Use Action Plan
- Recycling and Composting and Biodegradable Waste Action Plan
- Commercial Waste Action Plan

An important component of the action plans is a requirement to monitor and report on progress. Some of the monitoring and reporting, such as landfill diversion and recycling performance, is included under the Council's corporate reporting systems for national and/or local indicators. Bournemouth will publish annual action plans and a monitoring report setting out progress on the action plans together with any changes that are needed. The strategy will be reviewed in the event of any significant changes in circumstances or otherwise at intervals of not more than every five years.

The strategy must continue to fully recognise the following:

- The Government is committed to working towards a 'zero waste' economy.
- Ensuring value for money is essential in order to enable central and local government to tackle the fiscal deficit.
- Sustainable waste management, including waste prevention, is a necessity in order to protect the environment in relation to climate change and to preserve natural resources.
- One of the Government's key priorities is to decentralise decision-making powers on matters that affect local communities to local authorities and to communities themselves.
- Resource efficiency and management, including the reduction and more sustainable management of waste, can provide significant savings.
- Energy recovered from biodegradable wastes contributes to the UK's renewable energy targets and wider climate change goals.

Ensuring sustainable waste management must be a key objective for the future and Bournemouth Borough Council, informed by whole life-cycle thinking, will continually promote, encourage and enforce the delivery of the waste hierarchy, particularly in the light of the current fiscal constraints. Using this strategy as a route map for the effective management of Bournemouth's municipal waste the Council will emphasise waste prevention, re-use and stopping waste at its source, together with continuing to increase recycling rates when considered the best option. The strategy will also recognise the potential and cost effectiveness of generating renewable energy from

residual waste and encourage community and commercial participation, **vital in working towards a zero waste economy.**

13. GLOSSARY

Term	Definition
Aerobic	In the presence of oxygen
Anaerobic	In the absence of oxygen
Anaerobic digestion (AD)	The bacterial break-down of organic waste in the absence of oxygen resulting in the production of biogas together with a fibrous compost-like residue and liquid called digestate
Autoclave	A pressurised container used for the pre-disposal and sterilisation of waste utilising high pressure saturated steam at high temperature.
Biodegradable waste	Waste that can be decomposed by living organisms either under aerobic or anaerobic conditions
Bring site	A local waste collection point provided by Councils for recycling a varied range of household waste materials and items
Bulky household waste	Waste from local residents that does not fit into a wheeled bin or refuse sack. This includes large movable items, such as furniture and appliances
Community recycling centre (CRC)	A site provided by the Waste Authority which includes facilities for recycling. These centres are usually accessible to the general public who can deliver household waste and recyclables
Commercial waste	Waste produced by local businesses including shops, offices, retailers, hotels and restaurants
Compost	Decaying organic material rich in nutrients which can be used as a soil conditioner or fertiliser
Department for Environment, Food and Rural Affairs (DEFRA)	Defra is the UK government department responsible for policy and regulations on the environment, food and rural affairs
Energy from waste (EfW)	The conversion of waste into energy in the form of electricity and/or heat by combustion or thermal treatment
Environment Agency (EA)	A UK government agency of Defra whose role is protecting or enhancing the environment and promoting sustainability in England and Wales
Fly-tipping	The illegal dumping of rubbish or bulky items on a site or land that is not licensed to receive it.
Green Waste	Biodegradable vegetation waste from gardens or parks such as grass or flower cuttings and hedge trimmings, as well as garden vegetable waste and Christmas trees.
Hazardous Waste	Waste that can be harmful to human or animal health or to the environment, either immediately or over an extended period of time, if it is not properly handled, treated or disposed of
Household Waste	Every day domestic items and produce consumed and discarded by householders.
Incineration	Waste thermal treatment which involves the combustion of waste under controlled conditions, usually combined with the recovery of energy.

Term	Definition
Inert waste	Waste which is neither chemically nor biologically reactive and will not decompose such as bricks, sand or concrete.
In-vessel composting (IVC)	The biological decomposition of organic material in an enclosed reactor where air is injected under accurate temperature control and monitoring to produce compost and used for the treatment of specific food wastes to achieve compliance with the Animal By-Products Regulations.
Kerbside collection (recycling)	The collection of recyclable materials directly from their point of origin. It is generally a service provided by local authorities to households or occasionally to commercial or industrial premises
Landfill	The oldest form of waste treatment involving the disposal of waste by burial into the ground under controlled conditions.
Materials reclamation facilities (MRF)	A facility where waste is received and mechanically or manually separated in order to prepare recyclable materials, which may undergo further processing, for marketing to end-user manufacturers
Mechanical biological treatment (MBT)	A waste treatment process for mixed household waste and commercial and industrial waste that combines mechanical sorting with biological treatment so as to capture recyclable materials and reduce both waste volume and the environmental impact of waste being sent to landfill.
Municipal solid waste (MSW)	Waste collected by, or on behalf of local authorities which includes predominantly household waste, street waste, parks and garden waste and waste generated day to day by bodies such as schools, hospitals and businesses
Proximity principle	The EU Waste Framework Directive 1975 as amended states that all waste should be managed and or disposed of close to the point at which it is generated
Pyrolysis	A medium temperature thermal process where organic derived material (carbon based) in the waste stream is broken down under the action of heat in the absence of oxygen and which produces a mixture of gas and a solid char residue
Recycling	The collection or recovery of used materials from waste and their subsequent reprocessing into new products to prevent the discarding of potentially useful and valuable items so as to reduce our reliance on the use of raw materials
Refuse-derived fuel (RDF)	A fuel derived by the extraction of the combustible elements from mixed municipal solid waste, after the mechanical removal of other recyclable materials and which comprises of materials such as plastic and biodegradable wastes.
Re-use	The reintroduction of waste material into the life cycle without the need for reprocessing.
Source separated	Recyclable or compostable materials segregated from other wastes at the point of generation and usually associated with the separation of domestic waste by householders into waste bins or sacks designated for specific waste materials

Term	Definition
Sustainable development	Development that "meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland Report 1987) and which takes account of social, environmental and economic factors.
Unitary authority	A type of local authority which is responsible for all local government functions within its area and is a single tier Authority which has the combined responsibilities of District and County Councils including both waste collection and disposal
Waste	Legally defined as "any substance or object which the holder discards or intends or is required to discard" (Environmental Protection Act 1990, Section 75(2))
Waste collection authority	A local authority in the UK which is only responsible for the collection of municipal waste
Waste disposal authority	A local authority which is responsible for the treatment and final disposal of municipal waste after collection. In England these are the District Councils and unitary authorities
Waste minimisation	"Measures and or techniques that reduce the amount of wastes generated during any domestic, commercial and industrial process" (European Environment Agency)
Waste planning authority	The authority that gives guidance on and considers planning applications in regard to all types of development including those relating to waste. County Councils and unitary authorities are responsible for Minerals and Waste Planning.
Waste reduction	Relates to actions taken before waste is produced and generated with the aim of reducing at source the quantity of waste that will result, for example by reducing the use of packaging
Waste Streams	The aggregate flow of waste generated from different sources
Waste transfer station	A storage and handling facility to which waste is taken for onward transfer to end use or treatment sites
Windrow (composting)	Windrow composting is used for processing green waste on a large scale in either an open air environment or within a large covered area where the material is piled into rows (windrows) and turned to allow the breakdown of the organic matter.
WRAP	The Waste and Resources Action Programme was established as a not-for-profit company in 2000, WRAP is backed by government funding from England, Scotland, Wales and Northern Ireland. They work with businesses, local authorities and individuals to help them reap the benefits of reducing waste, to develop sustainable products and to use resources in an efficient way.
Zero waste	A vision that encourages the re-design of resource life cycles so that all products can be re-used where all waste is seen as a resource and where waste is minimised, sorted and recycled with a minimal requirement for treatment.

Term	Definition
Landfill Allowance Trading Scheme (LATS)	A government scheme introduced to help the UK meet the landfill diversion targets agreed under the EU Landfill Directive. Local authorities have reducing tonnage allowances for the amount of biodegradable waste they can send to landfill and these allowances can be traded between authorities. The scheme penalises those authorities that exceed their allowances.

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