MUNICIPAL WASTE MANAGEMENT STRATEGY FOR TORBAY **2008 - 2025**

Headline Strategy

Adopted February 2008

TORBAY COUNCIL

recycle for Torbay

Municipal Waste Management Strategy for Torbay **2008 – 2025**

Headline Strategy

Adopted February 2008

Prepared by:

Environmental Policy Group

Torbay Council

3rd Floor Roebuck House

Abbey Road

Torquay

TQ2 5TF

February 2008

For further information on this document please contact the Environmental Policy Group on 01803 207751 or e-mail sustainability@torbay.gov.uk

The Municipal Waste Management Strategy for Torbay, including all supplementary reports, can be accessed via the internet at: www.torbay.gov.uk/wastemanagementstrategy

CONTENTS

Page No.

List of figures

List of abbreviations

AD..... Anaerobic Digestion
ATT..... Advanced Thermal Treatment
BMW..... Biodegradable Municipal Waste
BVPI ..... Best Value Performance Indicator
CA/RC ..... Civic Amenity / Recycling Centre
CFCs..... chlorofluorocarbons
CHP ..... Combined Heat and Power
DAWRRC... Devon Authorities Waste Reduction and Recycling Committee
Defra ..... Department of environment, food and rural affairs
DPD ..... Development Plan Document
EfW ..... Energy from Waste
EPA..... Environmental Protection Act
GHG ..... greenhouse gas
HDPE ..... high density polyethylene
HFCs ..... hydro fluorocarbons
IVC..... In-vessel Composting
LARAC..... Local Authority Recycling Advisory Committee
LATS..... Landfill Allowance Trading Scheme
LDF ..... Local Development Framework
LDPE ..... low density polyethylene
MASH ..... Mutual Aid Self Help
MBT ..... Mechanical Biological Treatment
MRF ..... Materials Reclamation Facility
MSW..... Municipal Solid Waste
MWMS..... Municipal Waste Management Strategy
NHS ..... National Health Service
ODPM..... Office of the Deputy Prime Minister (now Department of Communities and Local Government)
ONS..... Office of National Statistics
PET..... polyethylene terephthalate
PP..... polypropylene
PPS..... Planning Policy Statement
PS..... Polystyrene
PVC..... polyvinyl chloride
RDF..... Refuse Derived Fuel
ROC..... Renewables Obligation Certificates
SEA..... Strategic Environmental Assessment
WEEE..... Waste Electrical and Electronic Equipment
WET Act .... Waste and Emissions Trading Act
WRAP..... Waste and Resources Action Programme

FOREWORD

Most of our waste in the UK still ends up in landfill. This requires a large area of land and generates greenhouse gases. The UK has introduced significant changes to the way waste is managed, to view waste as a resource and reduce the impact on climate change.

Despite a growth in waste nationally, the last two years saw an actual decline in Torbay's waste production. This is good news and needs to be continued. By ensuring we focus on minimising the amount of waste produced in the first place, we can help to minimise treatment costs.

Torbay residents are keen recyclers and the Bay has won a Green Apple award for the last four years in a row for community engagement in recycling initiatives. However, we need to do more. Torbay, with a recycling and composting rate of around 26%, is falling behind the rest of the country.

In addition, new national targets were introduced in 2007 to recycle and compost 40% by 2009/10, 45% by 2014/15 and 50% by 2020. We face major challenges to meet these targets.

Harsh penalties have been introduced for local authorities that continue to landfill waste. The majority of waste collected by Torbay Council is still sent to landfill. This amounts to over 50,000 tonnes per year. If we continue this practice then Torbay faces fines totalling £27 million by 2020.

The Municipal Waste Management Strategy paves the way for Torbay to move away from landfill. It follows the waste hierarchy with measures to reduce and re-use our waste, to recycle and compost waste that cannot be reduced or re-used, and to recover energy from waste that is not re-used or recycled.

The strategy introduces the measures and policies Torbay needs for modern and sustainable waste management, and to enable all of us to 'do our bit'. The strategy received a good level of response during consultation and on behalf of Torbay Council I would like to thank everyone who took part.

Cllr Chris Lewis

Cabinet Member for Transport and Planning

Executive summary

The Municipal Waste Management Strategy (MWMS) for Torbay identifies how the Bay will sustainably manage its waste up to 2025. It will be reviewed every five years to ensure it is on target and up to date. Municipal waste for the purposes of the Strategy is all waste collected by Torbay Council from households, parks and gardens, beaches, Civic Amenity Centre / Recycling Centre waste, and some businesses.

The Municipal Waste Management Strategy includes the following documents:

- The Headline Strategy
  What's the problem, what are we going to do?
- The Baseline Report
  Where are we now?
- The Technology Report
  Explanation of possible technologies
- The Legislation Report
  Legislation for change
- The Consultation Report
  How have stakeholders and the community been involved?
- The Appraisal of Municipal Solid Waste Options for Torbay
  Detailed analysis of options
- The Strategic Environmental Assessment (SEA) Environmental Report
  Likely environmental effects of the Strategy
- The Strategic Environmental Assessment (SEA) Statement
  How the findings of the SEA have been taken into account in the final Strategy

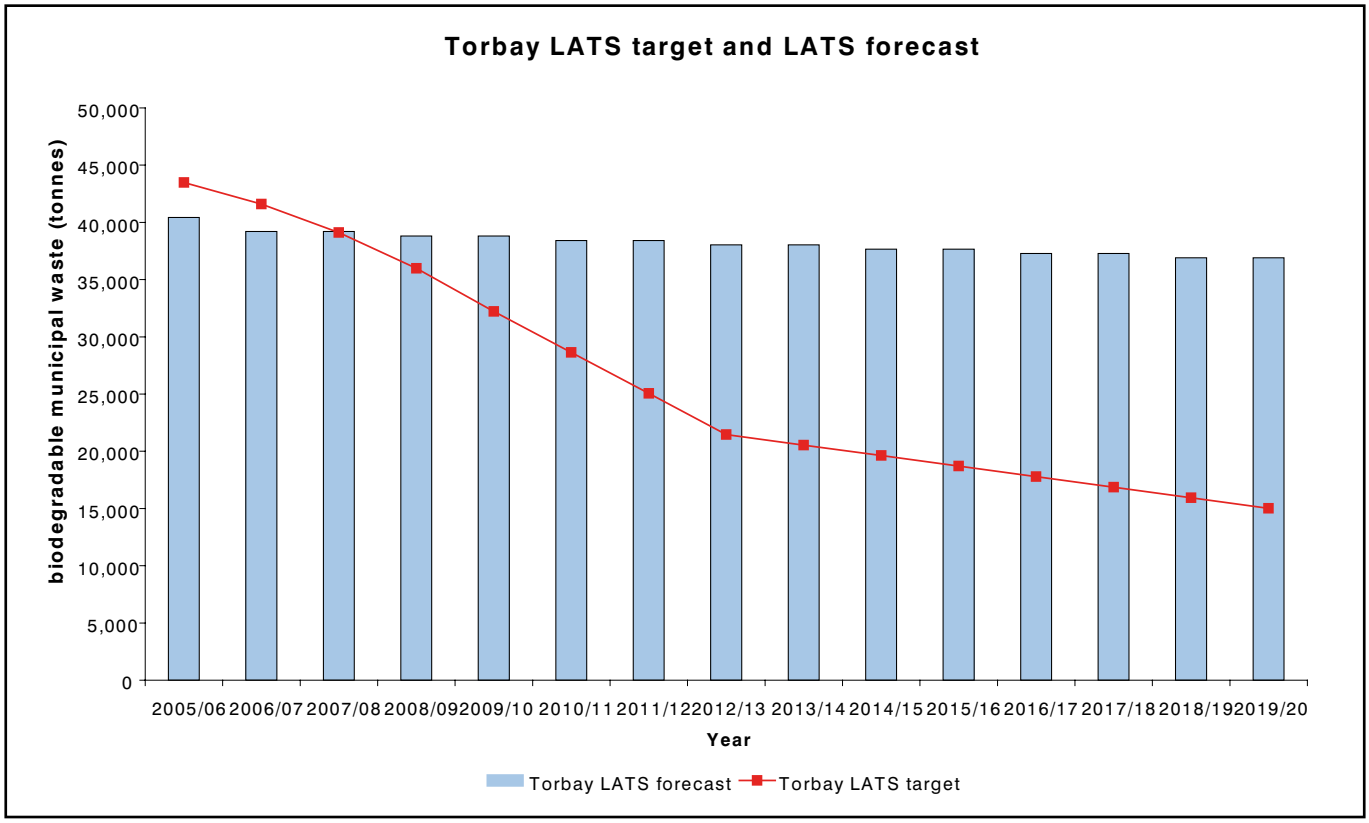
Background

The UK has introduced significant changes to the way municipal waste is managed. The aim is to view waste as a resource and reduce the emissions of greenhouse gases from waste. Greenhouse gas emissions are particularly associated with landfilling the biodegradable part of the waste stream (for example paper, wood and food waste).

Torbay currently sends all of its residual waste (waste not re-used or recycled) to landfill 13 miles away at Heathfield in Teignbridge. Harsh financial penalties have been introduced for local authorities that continue to send biodegradable waste to landfill as this is a major contributor to climate change.

The Landfill Allowance Trading Scheme

For biodegradable waste, fines have been implemented through the Landfill Allowance Trading Scheme (LATS). Under LATS a fine is imposed for every tonne of biodegradable waste sent to landfill in excess of the local authority's allocated allowance. Additionally local authorities can trade allowances, but the long-term availability and cost of these trading certificates is uncertain at this time. Torbay's predicted LATS targets and LATS forecast are presented below. If Torbay does not change the way waste is managed in the Bay, it faces fines of around £27 million. However these fines could be as much as £40 million if waste growth increases.



The waste hierarchy

The waste hierarchy ranks waste management options in order of priority for consideration, namely:

1. reduce waste and re-use items
2. recycle items that cannot be re-used
3. recover value form waste that cannot be recycled
4. final disposal for waste that has no other value

In keeping with the waste hierarchy the MWMS prioritises three main areas of waste management, namely: minimisation, recycling and disposal.

Waste minimisation

The less waste that is produced the lower the cost of waste treatment and the better for the environment. Torbay, therefore, already has a number of schemes in operation to promote waste minimisation, for example Torbay is part of the 'Devon Real Nappies' Group.

The strategy aims to ensure that waste is reduced and re-used in the Bay by providing improved information and facilitation to Bay residents and businesses, and by working with new and existing partnerships. An education campaign to 'reduce Torbay's Waste Line' will help to promote the idea of waste minimisation throughout the Bay.

Recycling options

Torbay has a good historical record of recycling. However since 2005 Torbay has not been meeting its household recycling and composting target and the existing local infrastructure is not sufficient to deliver future targets. Torbay's options are therefore:

1. Continue with the present system
2. Increase the amount of dry recyclable waste collected at the kerbside and provide improved civic amenity / recycling centre facilities
3. Option 2 as above, plus the additional separate collection of food and/or garden waste from the kerbside. A biological facility for in-vessel composting or anaerobic digestion will then be required:

   a. In-vessel composting: the waste is composted within an enclosed vessel to control the natural process. The end compost can be used as a fertiliser.

   b. Anaerobic digestion: similar to composting except the biodegradable parts of the waste are processed without air to produce gas which can be used for energy generation. The end product (digestate) can be used as a fertiliser.

Costs

Recycling option 3 is more expensive than recycling option 2 by approximately £6 million as a new biological facility will be required to treat the waste.

Performance

The following table compares how well each of the recycling options is likely to perform against recycling and composting targets up to 2020. The table demonstrates that Torbay will not approach national targets without option 3.

Predicted combined household recycling and composting performance				
	2006/07	2009/10	2014/15	2019/20
National Target	**30%**	**40%**	**45%**	**50%**
option 1	26%	27%	29%	32%
option 2	26%	32%	39%	41%
option 3	26%	37%	48%	50%

Preferred recycling option

The preferred option is recycling option three as this is the only option that allows Torbay to achieve national recycling targets.

Disposal options

Torbay cannot continue to send all of its residual waste to landfill. Therefore waste that cannot be re-used or recycled will be processed using one or more of the following methods:

1. **A sub-regional energy from waste incineration facility (Sub-regional EfW)** - procured in partnership with neighbouring local authorities. Waste is incinerated to produce energy. This is a mature and strictly regulated technology. A regional facility would have the advantages of economies of scale but would mean continuing to export residual waste out of the Bay

2. **Energy from waste within Torbay (EfW)** - Similar to the sub-regional energy from waste incinerator but on a smaller scale.
3. **Advanced thermal treatment within Torbay (ATT)** - Waste is thermally treated in the absence of air to produce energy.
4. **Mechanical biological treatment within Torbay (MBT)** - Municipal waste is taken to a facility and mechanically sorted and processed into three types:

   a. materials for recycling;

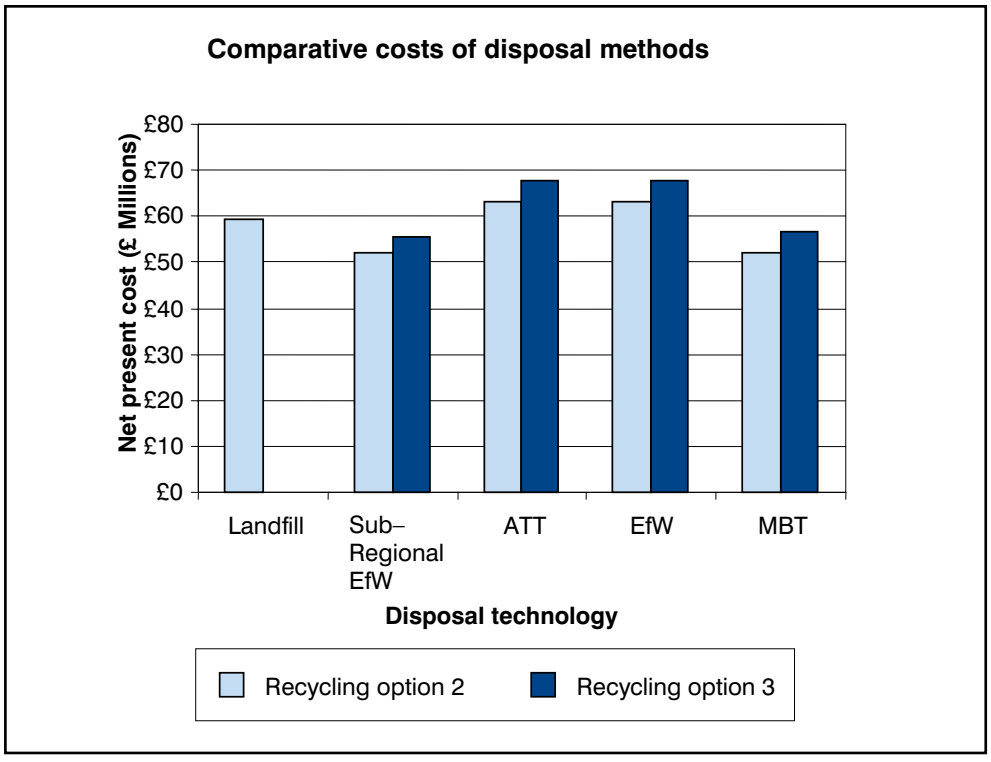
   b. materials for composting or anaerobic digestion;

   c. materials to be sent for incineration or landfill.

Comparative costs

Preliminary costs for the options were calculated by RPS Consultants on behalf of Torbay Council, and are demonstrated in the graph below. These costs are compared to the costs of continuing to send waste to landfill.

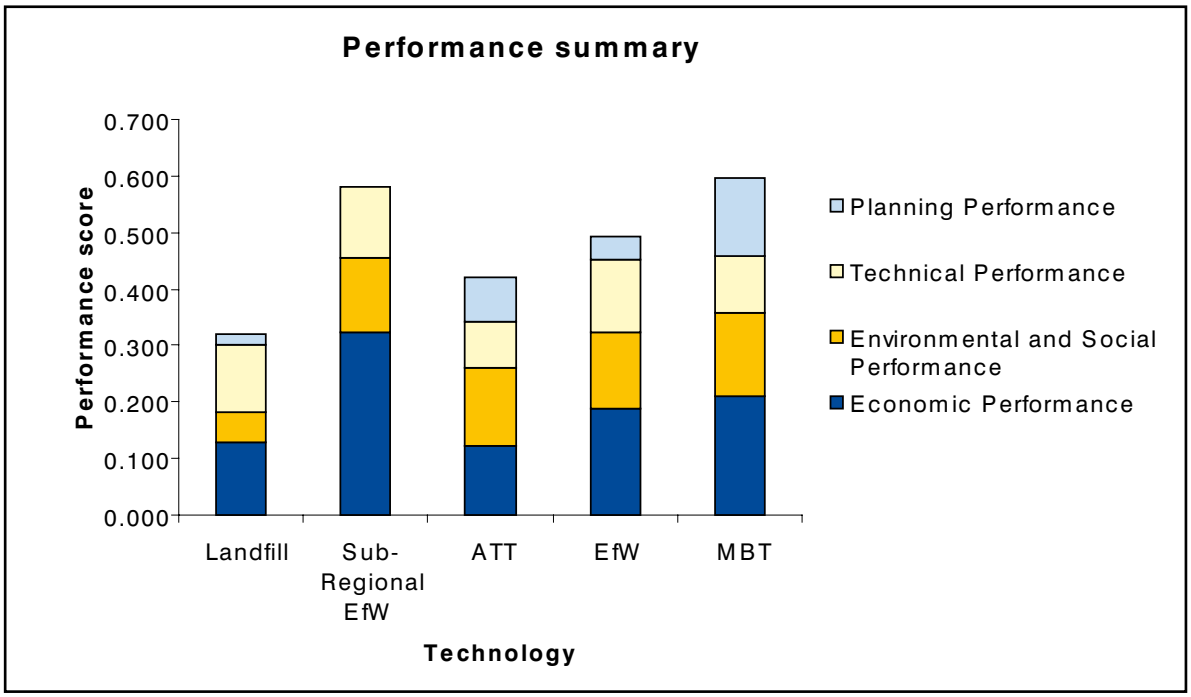
The chart should not be used to look at absolute values but gives a guide as to how different disposal options compare. It indicates that the cheaper options are either: to send Torbay's residual waste to a sub-regional energy from waste facility; or to build a mechanical biological treatment plant within Torbay. It should be noted however that there are various types of MBT which have varying costs. The MBT technology in the graph below is with a 'compost-like' process, where the stabilised residue is sent to landfill.



Note: All of the disposal options are modelled with recycling options 2 and 3 apart from Landfill which is modelled with recycling option 1 to reflect a 'business as usual' approach.

Performance

Torbay Council commissioned RPS Consultants to appraise how each of the disposal options compares against each other. A workshop was held and the performance criteria were identified as: economic performance (including costs and LATS compliance); environmental performance (including greenhouse gas emissions, local emissions and transport impacts); technical performance (including reliability and robustness) and planning criteria (public support and development timescales). The best performing technologies against this set of criteria were MBT or a sub-regional energy from waste facility. Again the MBT technology in the graph below is with a 'compost-like' process, where the stabilised residue is sent to landfill.



Note: The higher the score in the above graph, the better the performance

Preferred disposal option

The preferred option is the sub-regional energy from waste facility (method 1) for residual waste disposal. This will be procured in partnership with Devon County and Plymouth City Councils. This is due to the good performance of this option, the limited availability of sites within Torbay, and the potential benefits of partnership working to share expertise and economies of scale.

The way forward

Torbay cannot continue with its present systems of collection and disposal as these are unsustainable and unaffordable. The Bay must improve its performance against recycling and composting targets and reduce the amount of waste sent to landfill, to minimise the impact on the environment and climate change and to avoid heavy financial penalties. Torbay will employ initiatives to re-use and reduce the amount of waste we produce; introduce a 'step change' in the way we recycle; and by procuring new technology for the treatment of residual waste.

Recycling option 3 includes changes to kerbside collections and the civic amenity / recycling centre, plus the kerbside collection of food and/or garden waste. Option 3 is more expensive than option 2. However, Torbay will not reach its recycling and composting targets without implementing recycling option 3.

For waste disposal the evidence points to a range of technologies being preferable to continuing to send Torbay's residual waste to landfill. A local mechanical biological treatment facility and a sub-regional energy from waste facility both perform well. The preferred option is for a sub-regional energy from waste facility where Torbay can benefit from potential economies of scale.

Long-term costs are still likely to be high, but not as expensive as continuing to send all of Torbay's residual waste to landfill. Time is the limiting factor for the decision making process, and Torbay must act quickly. Due to the planning times involved Torbay Council will pursue a phased approach as detailed below.

A phased approach to waste management

Short term up to 2009/10

- Torbay will enter into partnership with Devon County Council and Plymouth City Council to jointly procure a sub-regional energy from waste facility.
- Torbay will also continue to develop further partnerships with the waste management industry.
- Torbay will produce a Municipal Waste Management Action Plan and begin its implementation.
- Residual waste for landfill continues to be sent to the Heathfield site.
- In the short term Torbay will have to trade LATS certificates to avoid large fines.

Intermediate term 2009/10 to 2012/13

- Planning and implementation continues for the energy from waste facility developed through a local authority partnership.
- Step changes in recycling will be implemented including improved kerbside collection and recycling facilities, and new civic amenity /recycling centre sites;
- Torbay will procure access to a biological facility. This will most likely be in-vessel composting or anaerobic digestion for food waste.
- Residual waste for landfill continues to be sent to Heathfield.
- Some LATS trading may still be required.

Long term 2012/13 onwards

- Torbay's recycling performance continues to increase through improved recycling and the biological facility.
- The new waste disposal facility becomes operational, developed in partnership with Devon County Council and Plymouth City Council. The facility will dispose of waste that cannot be re-used, recycled or recovered in any other way, and divert the maximum amount of waste from landfill. This will have the advantages of economies of scale and achieve long-term targets, but is unlikely to be accommodated within the Bay.
- The majority of waste is diverted from landfill.
- Torbay sells LATS certificates.

1. Introduction

Why produce a Municipal Waste Management Strategy?

1.1 Waste is one of the major environmental challenges facing the UK today. This strategy has been developed to provide a framework for sustainable waste management in Torbay. The strategy sets out how municipal waste will be managed up to 2025.

1.2 As a unitary authority, Torbay is not required to produce a Municipal Waste Management Strategy (MWMS) under the Waste and Emissions Trading (WET) Act 2003 (Section 32). However the Government strongly advises that unitary authorities produce a strategy.

1.3 This Strategy has been produced using guidance issued by Defra on developing Municipal Waste Management Strategies[1]. The MWMS is also subject to a Strategic Environmental Assessment (SEA)[2] to assess the environmental effects of the strategy.

1.4 The Strategy demonstrates the following

- Torbay's current position
- How Torbay should manage its waste in the future
- How Torbay can achieve this
- The infrastructure requirements for waste management facilities

1.5 The strategy also provides a set of aims and objectives and specific policies which are recommended for achieving sustainable waste management.

What period does the strategy cover?

1.6 The Municipal Waste Management Strategy covers the period from 2008 to 2025 and will be reviewed every five years. Additionally certain events will trigger a review as listed below:

- a major target predicted to be achieved is missed
- there is a significant shift in Government policy
- the chosen option cannot be implemented
- the Progress Report or monitoring indicates a review is necessary

Structure of the Municipal Waste Management Strategy

1.7 In line with the guidance produced by Defra[3], the Strategy comprises a number of documents which are summarised below in Figure 1.

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

[2] SEA has now replaced Best Practicable Environmental Option (BPEO) for the analysis of the environmental effects of a waste plan.

[3] A practice guide for the development of Municipal Waste Management Strategies, Defra 2005 www.defra.gov.uk

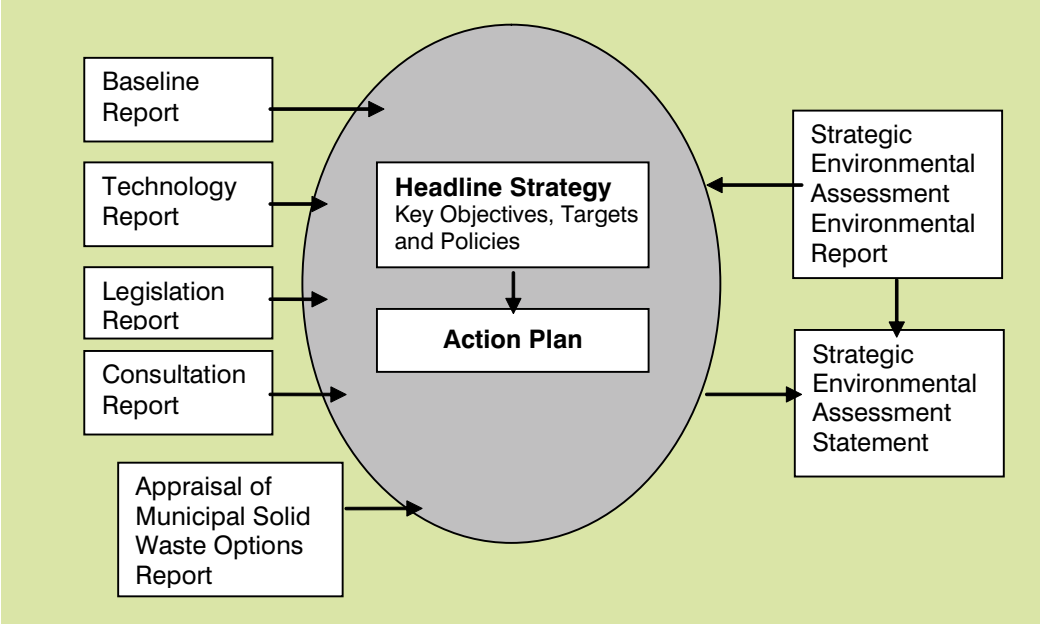


Figure 1: Municipal Waste Management Strategy structure as advised by Defra

1.8 The documents which comprise the Municipal Waste Management Strategy for Torbay are:

- The Headline Strategy (this document)
  What's the problem, what are we going to do?
- The Baseline Report
  Where are we now?
- The Technology Report
  Explanation of possible technologies
- The Legislation Report
  Legislation for change
- The Consultation Report
  How have stakeholders and the community been involved?
- The Appraisal of Municipal Solid Waste Options for Torbay
  Detailed analysis of options
- The Strategic Environmental Assessment (SEA) Environmental Report
  Likely environmental effects of the Strategy
- The Strategic Environmental Assessment (SEA) Statement
  How the findings of the SEA have been taken into account in the finalised Strategy

What does the Municipal Waste Management Strategy cover?

Municipal solid waste

1.9 The Municipal Waste Management Strategy covers the collection and disposal of municipal solid waste (MSW) which includes the following:

- Waste collected from households (domestic waste collection)
- Kerbside collected recyclables
- Some commercial waste collected as part of the domestic waste collection
- Recycling bring banks
- Bulky household items
- Hazardous and clinical household waste
- Waste collected at the civic amenity / recycling centre (CA/RC)
- Fly-tipped waste
- Waste from parks, gardens and beach cleansing

1.10 In 2005/06 Torbay produced 81,799 tonnes of municipal solid waste, 34% of which was recycled.

Household waste

1.11 Household waste is that which arises from dwellings of various types, mainly collected from the kerbside or brought to bring banks or the civic amenity / recycling centre site. Household waste is a large portion of municipal waste and in 2005/06 Torbay produced 63,648 tonnes of household waste, 25.6% of which was recycled.

Baseline data

1.12 During the preparation of this strategy the most complete data set available for waste was for the year 2005/06. Therefore most of the figures in this strategy relate to that year unless indicated otherwise.

What the strategy does not cover

1.13 The strategy focuses on municipal waste; it is not intended as a strategy for other types of waste such as agricultural waste, industrial waste or commercial waste collected by private operators. However other types of waste are referred to in the Baseline Report.

1.14 This strategy does not cover the location of waste treatment facilities. This will be covered through the emerging Torbay Local Development Framework[4](LDF) which is currently in preparation. Until the relevant LDF documents are completed the existing provisions in the Torbay Local Plan and Planning Policy Statement 10[5] are to be referred to as a basis for determining possible sites for waste management facilities.

[4] For more details about the LDF please go to: www.torbay.gov.uk/index/environment-planning/strategicplanning/ldf.htm

[5] Planning Policy Statement 10 Planning for Sustainable Waste Management (PPS 10), ODPM, July 2005

2. Strategic Environmental Assessment (SEA)

2.1 Requirements for Strategic Environmental Assessment are set under European Directive 2001/42/EC on the assessment of effects of certain plans and programmes on the environment (commonly referred to as the 'SEA Directive').

2.2 The purpose of SEA is to evaluate the likely effects of a plan. It is therefore a key tool for ensuring environmental considerations are incorporated into planning and decision making. The SEA process also provides ongoing monitoring of the environmental effects of a plan or strategy.

2.3 The SEA must consider environmental effects on issues such as biodiversity, human health, soil, water, air, climatic factors, landscape and heritage. Where potentially negative effects are identified, the SEA can make recommendations for mitigation. It can also make recommendations for enhancing environmental benefits.

2.4 The SEA of the MWMS has three main outputs:

- Scoping Report – This was prepared in 2005/06 and was made available for consultation in spring 2006.
- Environmental Report - This is a key output of the SEA, presenting information on the likely effects of the MWMS. The Environmental Report is subject to formal public consultation alongside the draft MWMS. The findings of the SEA Report have been taken into account in the adopted MWMS.
- SEA Statement – This document provides information on how the findings of the Environmental Report were taken into account in the adopted MWMS. It also sets out proposals for monitoring.

3. Aims and objectives

The aims of the strategy are:

- **To ensure sustainable waste management**

  To produce a sustainable strategy to manage Torbay's municipal waste that will balance social, economic and environmental considerations

- **To protect public health and amenity**

  To continue the traditional role of waste management in protecting public health and amenity

- **To provide for waste infrastructure requirements**

  To demonstrate the infrastructure requirements for the collection, recycling and processing of waste which will enable Torbay to plan adequately to meet its statutory duties and targets

The objectives of the strategy are:

1. To reduce waste growth

To reduce the growth of waste in Torbay and to work towards zero waste growth through waste minimisation initiatives

2. To increase recycling and composting

To increase recycling and composting in Torbay through improved facilities and kerbside collection, and through public education and publicity

3. To divert waste from landfill

To divert waste away from landfill in both the long and short term

4. To meet statutory targets

To set out how the council intends to meet its statutory performance standards including: targets for recycling and composting, National Waste Strategy requirements and EU landfill directive targets

5. To adhere to the waste hierarchy

To adhere to the waste hierarchy in all matters of policy; that is;

Reduce – reduce the amount of waste produced

Re-use – can items be re-used?

Recycle – recycle and compost when re-use is not possible

Recover – recover value (including energy) from waste that cannot be recycled

Final disposal – where no other option is possible

6. To promote self-sufficiency

For Torbay to become as self-sufficient as possible, whilst recognising the need to work closely with our neighbouring authorities where this would be of mutual economic and environmental benefit

7. To ensure environmental protection

To ensure that services are delivered in a way that protects the environmental quality of Torbay and the wider environment and in particular to reduce the effects of waste on climate change

8. To produce an integrated strategy

To ensure that the Municipal Waste Management Strategy is integrated with relevant strategies and plans, for example the Torbay Community Plan and Local Development Framework

9. To provide best value

Fulfil the council's commitments whilst controlling the cost of waste management and delivering Best Value commitments

10. To promote social inclusion

Ensure that local community groups, local businesses, residents and visitors are engaged with to achieve the above objectives

4. The challenges

Sustainable development and climate change

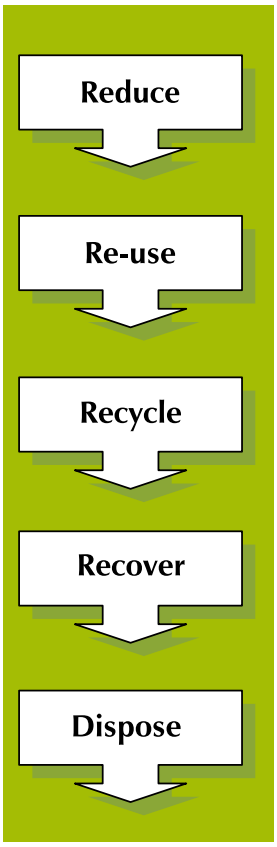
4.1 If the whole world consumed resources at the same rate as the UK, three planets would be required to sustain everyone. The Waste Strategy for England 2007[6] is aimed at making the transition towards 'One Planet living', by reducing the amount of waste produced in the UK. The Waste Strategy for England calls for all of society to share responsibility for waste.

4.2 This reflects concerns about the role sustainable waste management in reducing climate change with its associated changes in weather patterns, rising sea levels and other climatic influences. Sending large quantities of untreated waste to landfill is no longer acceptable. Landfill sites contain biodegradable material which breaks down to produce the greenhouse gases (GHG) carbon dioxide and methane (which is 23 times more potent as a GHG than carbon dioxide). Biodegradable waste is organic material such as food, paper and wood.

The waste hierarchy

4.3 The Waste Hierarchy ranks waste management options in order of priority and indicates an appropriate procedure to follow when considering or planning for all aspects of waste management. Torbay's first consideration should be to reduce waste, to avoid its generation in the first place. Then materials should be re-used, recycled and then value recovered before final disposal is necessary.

Figure 2: The waste hierarchy



Reduce: The most effective environmental solution is to reduce waste generation in the first place. Consideration at a product's design stage can improve efficiency and minimise packaging.

Re-use: Use of a material for the same or a different purpose, e.g. the purchase of 'second hand' items such as furniture

Recycle: involves the use of materials for another product, for example the recycling of wood into wood chips for use as kitchen units

Recover: regaining as much value from the waste as possible through energy recovery, using the waste as a fuel or in a biological process.

Dispose: If none of the previous options offer an appropriate solution, only then should the material be disposed of.

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

Waste growth

4.4 Torbay has experienced a reduction in the actual tonnage of municipal waste generated within the Bay between 2004 and 2005 of approximately 1.2%. However in the long term the growth in municipal solid waste has averaged at around 1% per annum since 2000/01.

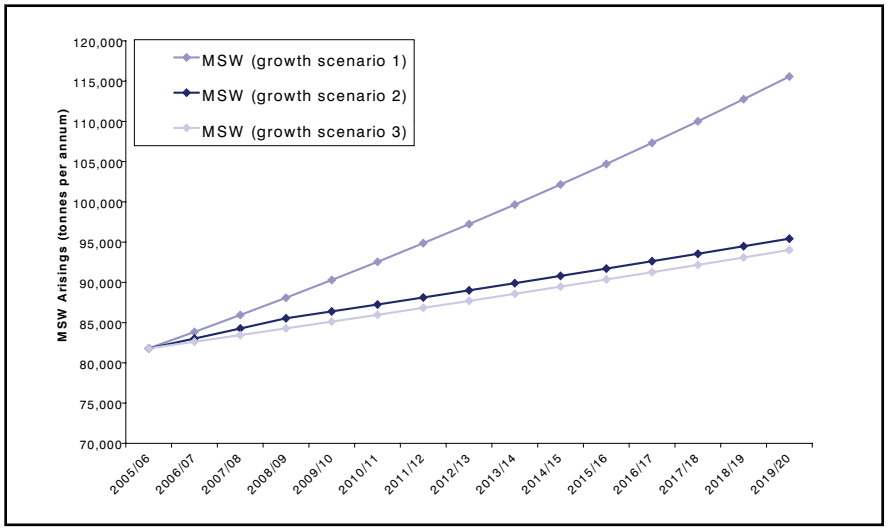
4.5 Population growth in Torbay is predicted to rise by approximately 1% year on year up until at least 2020.

4.6 Figure 3 outlines three scenarios for waste growth in Torbay:

- Growth scenario 1: high growth (2.5%) - the Defra prediction for waste growth of 1.5% per annum is added to the predicted minimum waste growth of 1% from population increase.
- Growth scenario 2: forecasts total waste growth of 1.5%, declining to 1% by 2010.
- Growth scenario 3: low growth - due to population increase, 1% per annum is the potential minimum that municipal waste will grow, even if waste produced per head remains constant.

4.7 The graph demonstrates that by 2020 municipal waste arisings are predicted to rise to between 94,026 (scenario 3) and 115,580 tonnes (scenario 1).

Figure 3: Predicted municipal waste arisings for Torbay



Landfill void space

4.8 All of Torbay's waste that is not recycled or re-used is sent to landfill at Heathfield in Teignbridge. In 2005/06 Torbay sent 66% of its municipal solid waste to landfill. The space at Heathfield landfill site is set to reach capacity in 2016. Torbay will therefore need to find additional space for its waste as there will always be a small fraction that cannot be disposed of by other means.

The landfill tax escalator

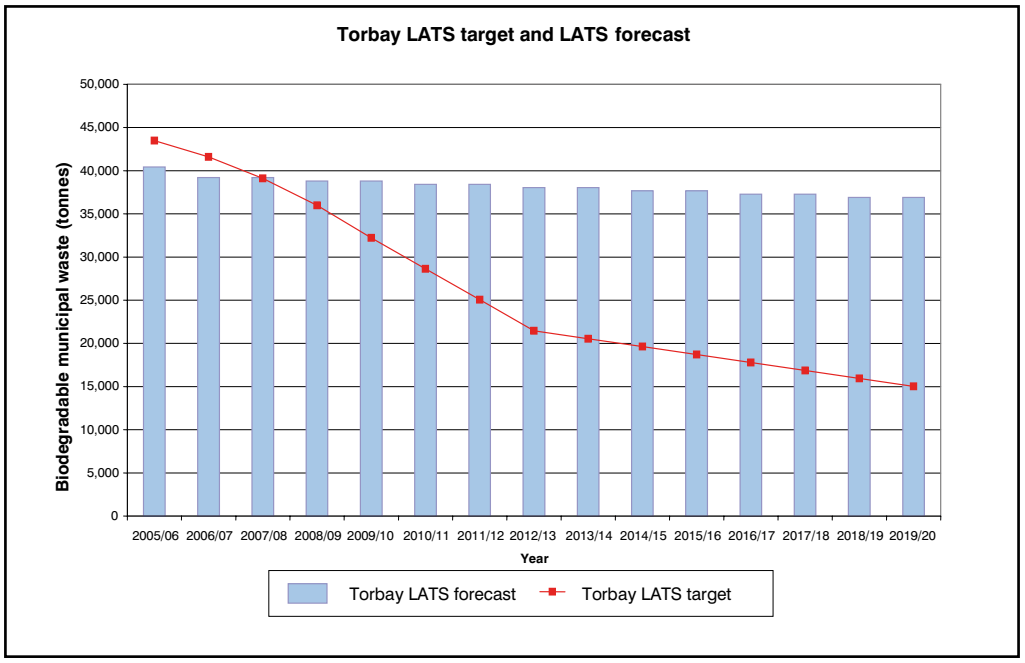
4.9 The Government already has in place a Landfill Tax, currently (2007) £24 per tonne. As announced in the April 2007 Chancellor's budget, this will increase by £8 per tonne each year from 2008/09 until at least 2010/11 when it is set to reach £48 per tonne.

The Landfill Allowance Trading Scheme (LATS)

4.10 One of the most potent drivers for a change in waste disposal is the Landfill Allowance Trading Scheme (LATS). LATS is based on the diversion of biodegradable municipal waste (BMW) away from landfill. Diverting biodegradable waste from landfill will reduce greenhouse gas emissions. The Scheme actually began in 2005 but Torbay has so far been able to meet its LATS targets. However Torbay will begin to incur fines for missing its targets in 2009/10 and these will increase year on year from then onwards unless an alternative to the landfill of biodegradable waste is implemented.

4.11 Figure 4 demonstrates the gap between Torbay's LATS targets and Torbay's BMW predictions. As can be seen the gap becomes wider as time progresses, meaning that Torbay will need new infrastructure to divert the biodegradable fraction.

Figure 4: Predicted biodegradable municipal waste and Torbay's landfill allowance



4.12 The LATS fine is £150 per tonne for every tonne above Torbay's allowance. If Torbay does not change its waste disposal practices then the cumulative LATS fines up to 2020 are predicted to be over £27 million.

4.13 However the existing LATS calculations are based on a low waste growth. If a high waste growth is realised the cumulative fines for 2020, through the LATS system, are predicted to be over £40 million[7].

[7] Refer to Supplementary Report A: Baseline Report

Figure 5: Predicted LATS fines

Year	LATS Fines (low waste growth)	LATS fines (high waste growth)
2005/06		-£599,186
2006/07		-£142,149
2007/08		£293,353
2008/09		£837,546
2009/10	**£987,600**	**£1,392,881**
2010/11	£1,467,450	£2,080,142
2011/12	£2,005,500	£2,769,641
2012/13	**£2,485,950**	**£3,457,119**
2013/14	£2,624,100	£3,751,231
2014/15	£2,704,950	£4,047,533
2015/16	£2,843,100	£4,081,442
2016/17	£2,924,850	£4,372,503
2017/18	£3,062,850	£4,669,842
2018/19	£3,145,050	£4,969,721
2019/20	**£3,283,200**	**£5,272,026**
Total fines	**£27,534,600**	**£41,701,627**

Note: Target years are in bold print

4.14 As discussed in the Legislation Report[8], it is possible to trade landfill allowances with other local authorities to avoid potential fines. However, the cost and availability of these trading certificates (LATS certificates) is unknown at this time. As the LATS targets tighten the availability of trading certificates is likely to diminish and their price likely to increase.

[8] Refer to Supplementary Report C: Legislation Report

5. Targets

National targets

5.1 Torbay has a duty to achieve the waste targets outlined in the tables below (Figure 6 and Figure 7). However Torbay has already missed recycling and composting targets for 2005 and, without changing the way waste in managed and disposed of in the Bay, the future targets are unlikely to be met.

Figure 6: Targets from the National Waste Strategy 2000 and 2007

Target [9]	2005	2010	2015	2020
To recycle and compost:	30% of household waste	40% of household waste	45% of household waste	50% of household waste
Recover value from MSW*	40% of MSW	53% of MSW	67% of MSW	75% of MSW

Figure 7: National targets From the Landfill Directive (99/31/EC)

Target [10]	2010	2013	2020
Reduce BMW sent to landfill to:	75% of that landfilled in 1995	50% of that landfilled in 1995	35% of that landfilled in 1995

Key to tables:
**Recover value: recycle compost or produce energy from waste*
MSW: Municipal Solid Waste; BMW: Biodegradable Municipal Waste
= *Targets already missed by Torbay*

Regional waste strategy for the south west 2004-2020

5.2 The Regional Waste Strategy target is to ensure that by 2020 over 45% of waste is recycled and reused and less than 20% of waste produced is sent to landfill.

The Municipal Waste Management Strategy for Devon (Don't let Devon go to waste)

5.3 Additionally Torbay has committed itself to the target of limiting household waste growth to 1% per annum by 2010, through the Municipal Waste Management Strategy for Devon[11]. This is minimum waste growth, once expected household growth in Devon is taken into account.

5.4 Further details on the targets contained within the Devon Strategy can be found in the Legislation Report[12].

[9] 2005 targets are from the Waste strategy 2000; 2010, 2015 and 2020 targets are from the National Waste Strategy for England 2007.

[10] Waste and Emissions Trading (WET) Act 2003

[11] Municipal Waste Management Strategy for Devon March 2005: Don't let Devon go to Waste

[12] Supplementary Report C: Legislation Report

6. Torbay's performance

Best Value Performance Indicators

6.1 The Best Value Performance Indicators (BVPIs) shown in Figure 8 allow comparison between Torbay and national averages as well as with other similar local authorities.

Figure 8: Best value data for Torbay 2005/06

	BV 82a % Percentage household waste recycled	BV 82b % Percentage household waste composted	BV 82c % Percentage household waste used to recover other energy sources	BV 82d % Percentage household waste landfilled	BV 84 kg kilograms household waste collected per head	BV 86 £ Cost of household waste collection per household	BV 87 £ Cost of waste disposal per tonne municipal waste	BV 91 % Percentage of residents served by kerbside recycling
Unitary								
Averages %	16.61	8.21	12.72	62.37	502	45.8	45.9	94.1
Median	16.68	7.50	0	73.27	509.8	43.73	43.86	99.1
Bottom Quartile	14.58	4.58	0	76.80	534.9	52.48	54.76	95.6
Top Quartile	18.59	10.42	0.77	62.68	472	36.74	36.53	100
Torbay	**18.85**	**6.77**	**0**	**74.48**	**480**	**35.94**	**41.4**	**88**
	Top ¼ Unitaries	**Below median Unitaries and England**	**N/A**	**Between median and bottom ¼ Unitaries and England**	**Bottom ¼ England**	**Top ¼ England and Unitaries**	**Better than median Unitaries and England**	**Bottom ¼ Unitaries and England**
England								
Averages %	17.62	8.95	11.94	62.25	438.4	47.71	45.83	94.6
Median	17.14	7.92	0.03	70.07	433.8	45.57	45.68	98.9
Bottom Quartile	14.22	3.54	0	77.41	478.5	52.42	53.51	93.5
Top Quartile	20.87	13.05	6.72	59.41	393.6	39.48	39.39	100

6.2 The most important points demonstrated are that :

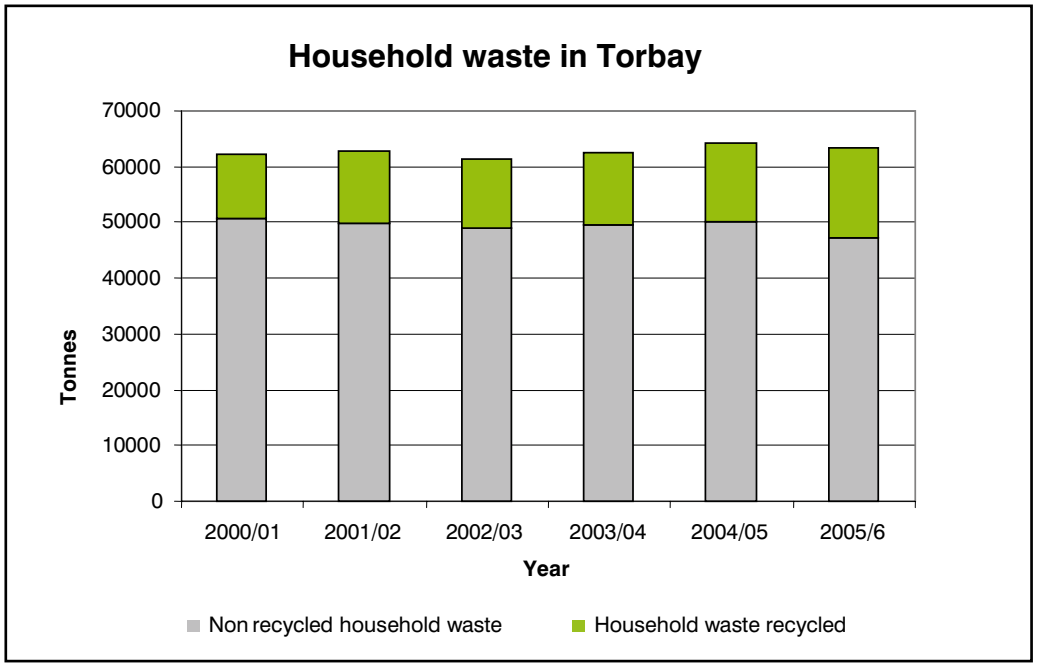
- The cost of waste collection per household is comparatively low (BV87).
- Torbay residents produce a relatively high amount of waste per head (BV84)
- Torbay is among the top performing unitary authorities in terms of dry recycling (BV82a).
- Torbay does not score well in terms of the percentage of residents served by kerbside collection (BV91), which implies that extending the kerbside collection could yield good results. Data so far for 2006/07 has shown a promising improvement in BV91 and this is expected to have a positive impact on recycling.

Household waste recycling and composting

6.3 Torbay's household recycling and composting rate is 25.6% (2005/06), but despite the fact that Torbay has not met its recycling target of 30%, the Bay has historically performed well for a unitary authority. The proportion of Torbay's waste recycled has shown a long term increase (see Figure 9) and the Bay is ranked in the top quarter of all English unitary authorities in terms of household waste recycled (see BVPI 82a).

6.4 National recycling targets of 40% by 2010, 45% by 2015 and 50% by 2020 will not be achieved without significant investment in new recycling infrastructure.

Figure 9: Torbay household waste 2005/06



Waste growth

6.5 Figure 9 also demonstrates that despite the fact that the long-term trend for household waste growth is up, Torbay reduced total household waste by 651 tonnes between 2004/05 and 2005/06 (approximately 1%), even though national forecasts for household waste predicted an increase. Torbay is therefore achieving and exceeding the Targets set for Waste Growth in the Municipal Waste Management Strategy for Devon (Don't let Devon go to waste).

Value recovered from municipal solid waste

6.6 Torbay's MSW recovery rate[13] is derived from the recycling and composting rate for MSW of 34% (2005/06) as no other form of recovery takes place. The target of 40% has so far not been achieved. Future targets for recovery have been set at 53% of municipal waste by 2010, 67% by 2015 and 75% by 2020. Torbay will not achieve these targets without fundamental changes to waste management practices and significant investment in waste infrastructure.

[13] Recovery: to recover value by recycling, composting or energy recovery.

7. Current waste collection arrangements

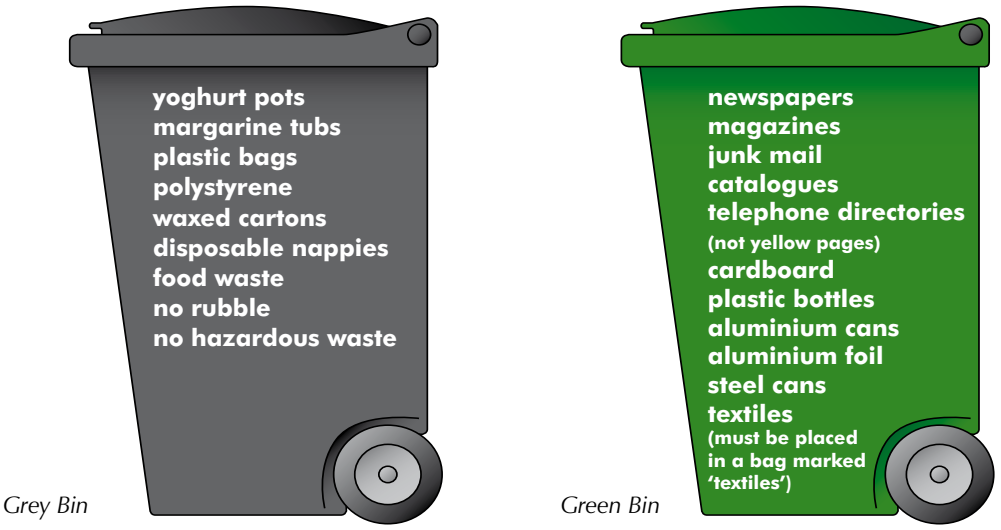
Waste collection

7.1 Refuse collection is currently carried out in-house by Torbay Council through Direct Services and Waste (details of the contracts are given in the Baseline report). Direct Services and Waste currently collect waste from 61,741 properties.

7.2 Torbay operates 3 methods of kerbside recycling:

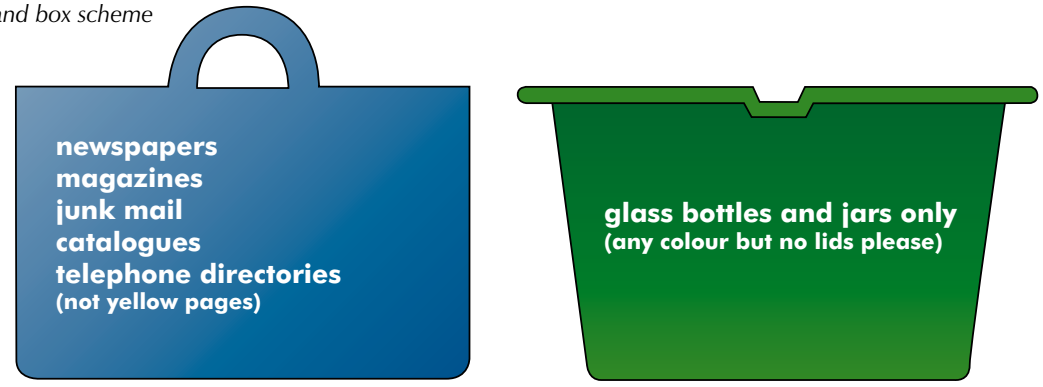
1. The twin bin scheme serves 39,259 households (63.5%). The scheme accepts magazines, newspapers, junk mail, catalogues, telephone directories (not yellow pages), cardboard, plastic bottles, aluminium cans, aluminium foil, steel cans and textiles. The bins are collected on alternate weeks (i.e. a fortnightly cycle).

Figure 10: The twin bin scheme



2. Box and bag schemes are in operation for 19,908 (32%) of households that are not suitable for twin bins due, for example, to steep approaches to properties or terraced houses without front gardens which cause storage and handling problems. The bag and box scheme accepts newspapers, magazines, junk mail, catalogues and telephone directories in the bag; and glass bottles and jars in a plastic box.

Figure 11: The bag and box scheme



3. Additionally 368 properties within flats are served by a paper and cardboard collection.

7.3 Torbay Council operates a bulky waste household collection service for which a fee is charged. The Council also collects small quantities of garden waste as part of this service. More usually garden waste is taken to the civic amenity / recycling centre site by residents.

Existing infrastructure

7.4 The infrastructure to deal with waste collection, disposal and processing prior to disposal includes the following elements:

- Direct Services and Waste collect kerbside waste and recyclable material; and take the collected material to the Transfer Station at Tor Park Road in Yalberton.
- The Transfer Station contains the following:

  A Household waste reception area

  A Commercial waste reception area

  The Civic amenity / recycling centre

  Formerly the site also contained a Materials Reclamation Facility (MRF) for the sorting and separation and of recyclable materials ready for sale and onward transfer. However, the MRF was destroyed in a fire in March 2007. Currently recyclable material is hauled to a MRF owned by Community Waste in Oxfordshire.

The civic amenity / recycling centre (CA/RC), Tor Park Road, Paignton

7.5 This site enables Torbay domestic residents to recycle/dispose of most domestic bulky household and green garden wastes in reasonable quantities.

7.6 Although there is a good general spread of the 'bring banks', the major waste facilities are located at one site. The current location of the CA/RC site means that there are often long traffic queues acting as a deterrent for those wishing to use the facility. At peak times, the facility is very busy and the queuing of traffic can be disruptive to the businesses in the industrial estate area, and cause significant frustration to users of the site.

7.7 This problem is particularly acute during the summer months and at weekends, causing congestion around the Tor Park Road area, and impacting on the A3022 and the A380.

7.8 The current CA/RC site is also co-located with the transfer station, within an industrial site. This raises concerns over safety for the public as the route is also used for large haulage vehicles. Entrances and exits to the facility are shared between CA/RC users and haulage vehicles. At times the site must be closed for the manoeuvring of large vehicles.

Recycling banks

7.9 The council also operates 63 recycling bring bank sites which collect paper, cans, glass, clothing and books (although not all materials are collected at each site). The locations of the Recycling Bank Sites are shown in Figure 12.

Figure 12: Recycling bank locations in the Bay

Other wastes

Clinical Waste

7.10 Torbay Council provides a confidential clinical waste collection service directly from householders if requested to do so by the local health authority.

7.11 Most clinical waste is sent for incineration at Derriford Hospital in Plymouth. Torbay Council will act with other authorities and agencies to encourage the use of re-useable items where sterilisation can be undertaken effectively, but recognises the limitations in reducing, re-using or recycling clinical waste.

Hazardous wastes

7.12 'Hazardous waste' is waste that is considered to be so dangerous that its management must be subject to special controls. These are set out in the Hazardous Wastes directive (91/689/EC) and incorporated into UK law by the Hazardous Waste Regulations 2005.

7.13 Recent changes have increased the number of materials classified as hazardous through the Lists of Hazardous Waste Regulations 2005. The additional classification now includes: single use cameras with batteries; ash containing dangerous substances; end-of-life vehicles; equipment containing CFCs and HFCs (fridges and freezers); computer monitors; fluorescent lighting; and televisions.

7.14 These materials are currently collected from the public or brought into the Civic amenity / recycling centre. These materials are handled under controlled conditions and can be subject of special arrangements. The costs of collection, treatment and disposal of these types of wastes are likely to increase significantly.

Waste Electrical and Electronic Equipment (WEEE)

7.15 The Waste Electrical and Electronic Equipment Regulations came into force in January 2007 (please refer to Legislation report for more information on WEEE regulations). WEEE consists of those items specified under the WEEE Directive (2002/96/EC). The Directive includes: household appliances; IT and telecommunications equipment; consumer equipment; lighting equipment; electrical and electronic tools (except large stationary items); and toys and leisure and sports equipment

7.16 Residents can bring those items that have been declared as WEEE to the Torbay civic amenity / recycling centre. Torbay will also collect large items for a charge. Torbay then arranges for these items to be collected and processed at an approved authorised treatment facility (AATF). This system was established through the 'distributor take-back scheme'.

7.17 Some companies have not joined the scheme and operate an in-store take back system instead, where old electronic appliances can be brought back when new items are purchased.

Waste Batteries

7.18 Currently Torbay Transfer Station only collects car batteries not household batteries. Under proposed new legislation, from September 2009 facilities must be in place to enable batteries to be collected and re-processed.

7.19 However, it is not the intention of Torbay Council to wait until 2009 to make necessary changes. Facilities will be put in place to allow residents to bring their spent household batteries to the civic amenity / recycling centre as soon as possible.

Household rubble

7.20 Household rubble can be brought to the civic amenity / recycling centre and is delivered to a privately owned waste operator for processing and reuse in the place of aggregates.

Commercial and trade waste

7.21 The priority for Torbay Council is in dealing with domestic waste. However, the waste transfer facility does accept commercial and trade wastes in reasonable quantities, and the Council has responsibility as a waste planning authority to consider the provision of waste facilities for the full range of wastes that arise within Torbay.

7.22 There are increasing requests for facilities for the recycling and re-use of such wastes, and in the interests of global sustainability it is important that all types of waste are taken into account. This is recognised within the Waste Strategy for England 2007 [14].

7.23 When considering the treatment capacity of any new recycling or recovery facilities, Torbay Council will pay particular attention to the needs of local commercial waste such as that from restaurants and hotels. This integrated approach would further reduce Torbay's environmental impact as a community, but is only viable as long as there are no harsh financial penalties associated with such activity, for example by incurring additional LATS costs.

Local businesses

7.24 There is help and advice available for businesses that wish to manage their waste more sustainably. The Groundwork Trust in Torbay provides support specifically for small businesses located within the Bay, through the Envision programme[15]. Businesses can also receive advice from schemes funded through the Business Resource Efficiency and Waste (BREW) Programme. These schemes are listed below in Figure 13.

Figure 13: Advisory schemes for local businesses[16]

Delivery Body	Activities
National Industrial Symbiosis Programme (NISP)	To continue to bring together companies from all business sectors with the aim of improving cross-industry resource efficiency by exchanging materials, energy and water and saving assets, logistics and expertise.
Envirowise	Providing direct support for businesses that need to improve their resource efficiency, through site visits, advice and financial support for resource efficiency clubs.
Waste and Resources Action Programme (WRAP)	Funding for work on market development for recycled materials and waste prevention.

[14] Waste Strategy for England 2007, Defra (May 2007), published by the Stationery Office. www.defra.gov.uk

[15] The Envision Programme www.envisionsouthwest.org.uk

[16] For further information please refer to the BREW website www.defra.gov.uk/environment/waste/brew/index.htm

8. Strategy development

8.1 The Strategy was consulted upon in line with Defra guidance on the Development of Municipal Waste Management Strategies [17]. Consultation was undertaken in three main phases: Part 1 was initial early consultation to help identify the existing understanding of waste issues within the Bay; Part 2 was undertaken during the development of the Strategy to identify suitable options for the strategy; and part 3 was consultation on the draft strategy itself.

8.2 Detailed information concerning the consultation of the MWMS is located in the supplementary Consultation Report [18].

8.3 An essential part of the Strategy development was the Stakeholder Workshop held by Torbay Council in November 2006. The workshop identified the key priorities for the preparation of the strategy.

Conclusions from the workshop:

8.4 Participants identified time pressures as a key issue.

8.5 The need to educate and engage residents of Torbay to encourage local ownership of Torbay's waste issues was expressed.

8.6 The workshop identified that Torbay should work to reduce waste arising in the first place.

8.7 All groups identified the need to optimise collection and recycling services.

8.8 All groups wanted Torbay to be the best, but most participants expressed a preference towards 'tried and tested' technologies for waste disposal.

8.9 This workshop was fundamental in shaping the Waste Strategy and confirmed that there are three major areas for development, namely:

- Minimisation
- Recycling
- Waste disposal

8.10 This is in accordance with the Waste Hierarchy and with Defra guidance[19] and the Strategy is therefore divided into these three key areas for development.

[17] Defra (2005) 'A Practice Guide for the Development of Municipal Waste Management Strategies

[18] Supplementary Report D: Consultation Report

[19] Defra (2005) 'A Practice Guide for the Development of Municipal Waste Management Strategies

9. Waste minimisation

9.1 The alternate weekly collection scheme, which has operated successfully in Torbay for several years, is aimed at reducing waste arisings and increasing recycling. An additional benefit is that the streets where the twin bin scheme is in operation are much cleaner, due to the waste being stored inside wheeled bins rather than black sacks. This storage prevents the bins from splitting open and from being preyed upon by vermin and seagulls.

9.2 Torbay also works within a number of partnerships to minimise waste including:

- The Devon Authorities Waste Reduction and Recycling Committee (DAWRRC) with neighbouring district councils, Devon County Council, Plymouth City Council and the Environment Agency;
- The 'Real nappies' campaign (as part of the Devon Real nappies group);
- The Groundwork Trust (enabling businesses to minimise their waste);
- West Country Worms (promotion of home composting);
- SPARC (the local Scrapstore);
- Local charities. In 2003, Torbay Council won the award of 'Most Supportive Local Authority' in the Annual Association of Charity shops national awards.

9.3 More information on reduce and re-use practices in the Bay can be located in the Baseline Report [20].

[20] Supplementary Report A: Baseline Report

10. Development areas for waste minimisation

Education and publicity

10.1 Increased emphasis will be placed on raising public awareness of the importance of waste minimisation. In addition to the ongoing campaigns such as the 'Real Nappy Campaign' the following are examples of schemes which will be implemented:

10.2 Torbay 'Plastic Bag-Free Zone': Local businesses are encouraged to ask shoppers whether they 'need a bag?' Shoppers are encouraged to 'say no' to the offer of a carrier bag with their purchases. The 'Plastic Bag-Free Zone' campaign will be accompanied by the promotion of re-useable bags.

10.3 The promotion of a 'Schools Waste Minimisation' campaign to include the 'Waste-Free Lunch' where competitions are held throughout Torbay schools to see which pupil has the most waste-free lunch box.

10.4 The 'Reduce Torbay's Waste Line' campaign where residents can pledge to reduce the amount of rubbish they produce. The campaign will provide information to residents, distributed at waste minimisation roadshows and on the Council website, with 'helpful hints' on how to re-use items and reduce waste.

Partnerships

10.5 Torbay will continue with and strengthen its existing partnerships, for example with the Environment Agency, and local self-help groups. Torbay will also seek to develop and strengthen its connections with WRAP (the Waste and Resources Action Programme) to identify and implement initiatives for waste minimisation.

Engaging with local businesses

10.6 Torbay will engage with local businesses to encourage waste reduction in addition to the work already being undertaken by The Envision Programme.

Putting our own house in order

10.7 It is important that Torbay Council combines good business practice with environmental considerations by implementing measures for waste reduction within the Council. Torbay Council will update existing waste audit data for Roebuck House and conduct additional waste surveys for the main corporate council buildings in order to identify economical ways to reduce waste.

Local furniture re-use information

10.8 Torbay residents will be encouraged to help re-use their furniture and unwanted goods in good condition, through local self help groups such as MASH (Mutual Aid Self Help) and Refurnish. The Torbay Council Web pages will provide information to enable residents to contact local re-use groups.

10.9 Torbay Council will also look to provide reusable goods to these self-help groups, through the existing bulky waste collection service and CA/RC site, working with Devon Furniture Forum.

10.10 Consultation has demonstrated a desire by Torbay residents for the CA/RC facilities to include a re-sale area. This will only be possible with considerable improvements to the CA/RC as recommended in paragraph 12.8.

Community composting

10.11 Torbay Council will continue to work with local groups and with Devon Community Composting Network to help establish 'community composting' schemes. Such schemes would need to be appropriately situated and sensitive to their location to avoid detrimental effects to local environmental quality and amenity.

Home composting

10.12 Torbay Council will continue to promote home composting through companies such as West Country Worms and organisations such as WRAP.

Kerbside waste collection

10.13 Torbay will employ two main ways to promote waste minimisation through kerbside waste collection schemes:

10.14 The Council already operates a waste limitation scheme, where each household is permitted to put out limited volume of waste for disposal. Residents are discouraged from putting out 'side waste' (waste in excess of the capacity of their bin) or filling the bin to the point where the lid cannot be closed (also known as a 'top-hat'). This volume control protects the bins from attack by pests, protecting public amenity, as well as helping to minimise waste. The council will seek stronger enforcement of this scheme, targeting those areas with a persistent problem.

10.15 Under the Clean Neighbourhoods and Environment Act (2005) Torbay Council has the statutory powers to issue fixed penalties for those residents who consistently put out refuse for collection on the wrong day or at inappropriate times. These powers will be enforced where a health hazard or public nuisance has been identified.

Fly tipped waste

10.16 The fly-tipped waste removed by Torbay Council involves significant financial costs. To address this Torbay Council will enforce the Clean Neighbourhoods and Environment Act 2005, allowing local authorities and the Environment Agency to recover their costs.

11. Recycling

11.1 Torbay is an award winning authority for recycling and has won national 'Green Apple' awards four years in a row (2004 – 2007). These awards have been presented for Torbay's work with children, the elderly and adults with learning disabilities.

11.2 Torbay Council works within many organisations to promote recycling including:

- Local agencies which help the elderly such as Age Concern, housing associations and lunch clubs.
- Local schools through the 'Eco-Schools' project
- Devon Furniture Forum
- Adults with learning disabilities
- Charitable organisations such as charity shops and scout groups and the local Scrapstore
- Torbay Coast and Countryside Trust
- Devon Authorities Waste Reduction and Recycling Committee;
- Torbay is part of the South West Recycling Forum – the South-west arm of the Local Authority Recycling and Advisory Committee (LARAC). The Environment Agency, the Community Recycling Network and Government Office South West are also members.

11.3 More information on recycling can be located in the Baseline Report [21].

[21] Supplementary Report A: Baseline Report

12. Recycling options

12.1 Three main options have been identified for recycling. These options are:

1. To continue with the present system of a gradual slow increase in recycling
2. To introduce a step change in recycling, including improved kerbside collection and civic amenity / recycling centre facilities
3. As option 2 above with the additional collection of food and/or garden waste from the kerbside.

12.2 The 3 recycling options are outlined overleaf in Figure 14:

Figure 14: Recycling options

	OPTION 1 **Continue gradual slow increase**	OPTION 2 **A step change in recycling**	OPTION 3 **Kerbside collection of green waste**
Main Features	Ongoing public education and participation in existing recycling schemes Increase of kerbside collection through the 'bag and box' scheme Recycling bank locations reviewed	Regeneration of Transfer Station: new MRF facilities; New CA/RC sites to accommodate needs of Torquay, Paignton and Brixham Additional garden waste bring sites Extend range of dry recyclables kerbside collected Collection of paper and card to local businesses Additional resources for waste education Street Bins to become 'mini recycling points'.	This option includes the features as for option 2 In addition food waste / garden waste to be collected from kerbside In-vessel composting or Anaerobic digestion facility required

Recycling options costs

12.3 Recycling option 3 is more expensive than recycling option 2 by approximately £6 million. This sum includes collection costs and the cost of a new biological facility which will be required to treat the waste. Further analysis is needed to determine the type of technology preferred and to confirm costs. Further information on these costs is available in the Appraisal of municipal solid waste options supplementary report.

Recycling options performance

12.4 Figure 15 compares how well each of the recycling options is likely to perform against national recycling and composting targets up to 2020. As can be seen from the table, options 1 and 2 are unlikely to meet Torbay's statutory recycling targets.

Figure 15: Predicted recycling and composting performance against National Waste Strategy targets

Predicted combined household recycling and composting performance				
	2006/07	2009/10	2014/15	2019/20
National Target	**30%**	**40%**	**45%**	**50%**
option 1	26%	27%	29%	32%
option 2	26%	32%	39%	41%
option 3	26%	37%	48%	50%

12.5 Figure 15 demonstrates that Torbay will struggle to meet national recycling and composting targets for 2009/10 for all options. However Recycling option 3 is the only option that is likely to achieve national targets from 2014/15 onwards. Further analysis on the performance of recycling option 3 is available in the Appraisal of municipal solid waste options supplementary report.

Preferred recycling option

12.6 Recycling option 3 is the preferred option as no other recycling option will achieve national recycling and composting targets.

Key proposals of option 3

Improved civic amenity / recycling centre (CA/RC) facilities

12.7 The existing CA/RC facilities are inadequate to serve the entire population of Torbay, which is currently approximately 133,000 people, but expected to rise to around 153,000 by 2020.

12.8 The existing CA/RC function will be separated from the Transfer Station activities and additional sites will be located to serve the needs of all three towns, to reduce the need to travel and make it easier for residents to recycle and to improve services.

Regeneration of the Transfer Station

12.9 The Transfer Station will need to be re-generated to accommodate the separation of the CA/RC functions and to make the best available use of space for more efficient bulking and handling.

The Materials Reclamation Facility (MRF)

12.10 The destruction of the MRF in the fire means that Torbay must adopt one or more of the following measures:

- Replace the former facilities with a new MRF;
- Transport the recyclable materials to a MRF with spare capacity. This currently involves transporting the material long distances as at present there is no spare capacity at a modern MRF within the South West.
- Develop a partnership with other waste authorities and possibly the private sector to develop a modern, efficient MRF within the South West.
- Enable residents to sort more of their recyclable materials at the kerbside, for example by increasing the number of containers to facilitate source separation.

12.11 A MRF Action Plan containing an appraisal of options will be developed in 2008 to facilitate the decision making. The appraisal would take into account factors such as cost, recycling efficiency and minimising transport distances. MRF facilities must have sufficient capacity and capability to sort an increased volume and range of recyclable materials.

A consistent method of kerbside collection

12.12 The MWMS public consultation has demonstrated that residents feel there are inequalities in access to current kerbside recycling services. Residents in denser housing areas who are on the 'box and bag' scheme can only recycle paper and glass at the kerbside. Residents in more accessible areas have twin bins and can recycle a wider range of materials. Torbay Council will commit to a more uniform kerbside recycling scheme to address this.

12.13 A more uniform recycling service means extending the doorstep collections of paper, cardboard, textiles, plastic bottles, cans and glass throughout Torbay. In this way even those residents not suitable for the twin bin scheme can recycle the same materials

12.14 Uniform collection of recyclables at the kerbside, (even without extending the range of materials currently collected) would add an approximate extra 2.85% to the household recycling rate, bringing it up to around 28.45%.

Extending the range and quantity of dry recyclables collected at kerbside

12.15 Additionally Torbay would collect a wider range of materials for recycling at the kerbside, such as plastic margarine tubs and yoghurt pots, seeking to maximise the kerbside collection of recyclable materials where suitable markets are available.

12.16 Containers must be of appropriate size and design for their locality to minimise detrimental effects on the quality of the built environment.

Extension of the 'twin bin' scheme

12.17 New housing developments will be designed to accommodate the twin bin recycling system. There will, therefore, be a continued expansion of the number of properties served by the scheme through new residential development within Torbay.

12.18 In addition to potential new residential developments, surveys have indicated that there are approximately a further 1,000 existing properties that could be suitable for inclusion in the twin bin scheme. However these properties are dispersed throughout Torbay in areas currently served by a 'traditional' dustbin/black bag refuse collection service. Some suitable streets are 'isolated' amongst areas that are not suitable. Therefore Torbay Council will restructure its collection rounds to include as many properties on the twin bin scheme as possible.

Additional resources for recycling/waste minimisation education and campaigns

12.19 Changes to recycling practices within Torbay will need public support and information campaigns. Community education will enable residents and visitors to maintain and improve participation and effectiveness. This is particularly important when introducing a food waste collection service.

Commercial waste

12.20 The Council has a duty as a waste planning authority to collect commercial waste when requested to do so and charges for this service. There are increasing requests for recycling to be available to commercial customers and Torbay is looking to provide this service where economically viable.

12.21 The collection of paper and card from local businesses will increase the biodegradable portion of Torbay's waste diverted from landfill, ensuring that such waste is treated more sustainably.

Bring banks

12.22 Torbay's network of Bring Banks will continue to be reviewed to improve efficiency, particularly in the light of proposed changes to kerbside collection practices. In areas where access is particularly difficult, for example in flats, additional recycling banks for materials such as plastic bottles will be used to improve access to facilities, where appropriate locations can be identified.

Provision of green/garden waste 'bring sites'

12.23 Most of the green waste collected at the CA/RC site is brought there by the public, and only a small amount is delivered by the (charged for) collection of garden waste from households operated by the Council. The restricted space of the current civic amenity / recycling centre site and its location in the southern half of Torbay, limits the amount of compostable green/garden waste delivered and separated for subsequent composting.

12.24 Additional garden waste 'bring sites'; particularly during peak season times will help alleviate this problem. They would also help avoid the long seasonal queues associated with bringing garden waste to the CA/RC.

Mini recycling points for Torbay's streets

12.25 Mini recycling points on Torbay's streets will enable residents and visitors to recycle their waste that would normally be thrown away into ordinary street based bins.

12.26 A pilot scheme has been on trial in summer 2007, which takes plastic bottles, cans and paper on four of Torbay's beaches.

Kitchen and garden waste kerbside collections

12.27 Food waste would need to be collected from residents at the kerbside, possibly with garden waste, although the collection method details will depend on the technology employed to process the waste.

12.28 Due to the nature of the waste it is best collected in dedicated vehicles and receptacles. The composting process would require an 'in-vessel composter' or anaerobic digestion facility to process the food waste.

12.29 In-vessel composting (IVC) is a relatively new composting development. The use of a vessel allows much greater control over the process and this helps with the consistency (hence quality) of the compost product.

12.30 Anaerobic digestion (AD) similar to composting but is performed in the absence of air. The main products from this process are a solid residue similar to compost called digestate, biogas (a mixture of methane and carbon dioxide) and a liquid fraction containing water and nutrients. The biogas can be used to generate renewable electricity or energy as combined heat and power (see Supplementary Report B: Technology Report for more details on IVC and AD).

12.31 Initial modelling shows that a kerbside collection of food waste could be expected to yield between 4,000 and 6,000 tonnes. Additionally all kitchen and garden waste is considered to be 100% biodegradable for LATS purposes and therefore the collection of kitchen and garden waste will make a significant contribution towards achieving LATS targets.

12.32 Further analysis is required to identify the most suitable biological treatment for Torbay. Biological facilities require sensitive location. Potential effects on local amenity will be addressed by ensuring a well managed scheme including:

- initial trials of the scheme
- dedicated vehicles and containers
- appropriate collection frequency to include review in the light of predicted summer temperature increases associated with climate change
- extensive public education and advice for responsible participation
- ongoing monitoring of the scheme

Local markets and outlets for recyclable materials

12.33 Torbay will continue to support the development of local and regional markets and outlets for recyclables. This is already undertaken through the Devon wide DAWRRC[22] partnership, but Torbay will also consider this when developing new infrastructure.

[22] Devon Authorities Waste Reduction and Recycling Committee

13. Residual waste treatment

New technologies summary

13.1 Currently Torbay sends its residual waste (waste that cannot be re-used or recycled) to landfill. However, as demonstrated within this Strategy, landfill is no longer a suitable method of waste disposal. In addition to the improved waste minimisation and recycling services, Torbay must, therefore, secure a new disposal facility for its residual municipal waste. A brief summary of technologies is provided below but the Technology Report [23] provides more information.

Incineration with energy from waste

13.2 Incineration can be used to dispose of municipal solid waste, commercial, clinical and certain types of industrial waste. The burning of municipal waste in an incinerator is a mature and strictly regulated technology, and is subject to Integrated Pollution Prevention and Control. During burning the waste is heated quickly to reduce the formation of chemicals such as dioxins. After incineration the emissions need to be cleaned before they can be released.

13.3 It is not acceptable under current legislation to incinerate waste without energy recovery under present legislation. Therefore this process is also referred to as energy from waste (EfW). Energy recovery can take the form of electricity generation or combined heat and power (CHP), for example in a district heating scheme.

Advanced thermal treatment

13.4 Advanced thermal treatment (ATT) is different to incineration in that, rather than combusting the waste, it is subject to heat treatment whilst being deprived of air. Energy recovery can take the form of electricity generation or combined heat and power, for example in a district heating scheme. The technology is usually in two forms: gasification and pyrolysis, which can be used separately or in combination.

13.5 Gasification is the conversion of a solid or liquid feedstock into a gas by partial oxidation under the application of heat. Partial oxidation is achieved by restricting the supply of oxidant, normally air.

13.6 Pyrolysis is thermal degradation of a material in the complete absence of an oxidising agent (e.g. air or oxygen). When applied to waste materials, the action of heat breaks complex molecules into simpler ones. This results in the production of gas, liquid and char.

Mechanical biological treatment

13.7 Mechanical biological treatment (MBT) refers to a variety of processes that treat residual waste using physical and biological processes. Waste is mechanically sorted into three types: materials for recycling; biodegradable materials for composting or anaerobic digestion; and everything else, which can be either sent to landfill or incinerated.

Autoclaving

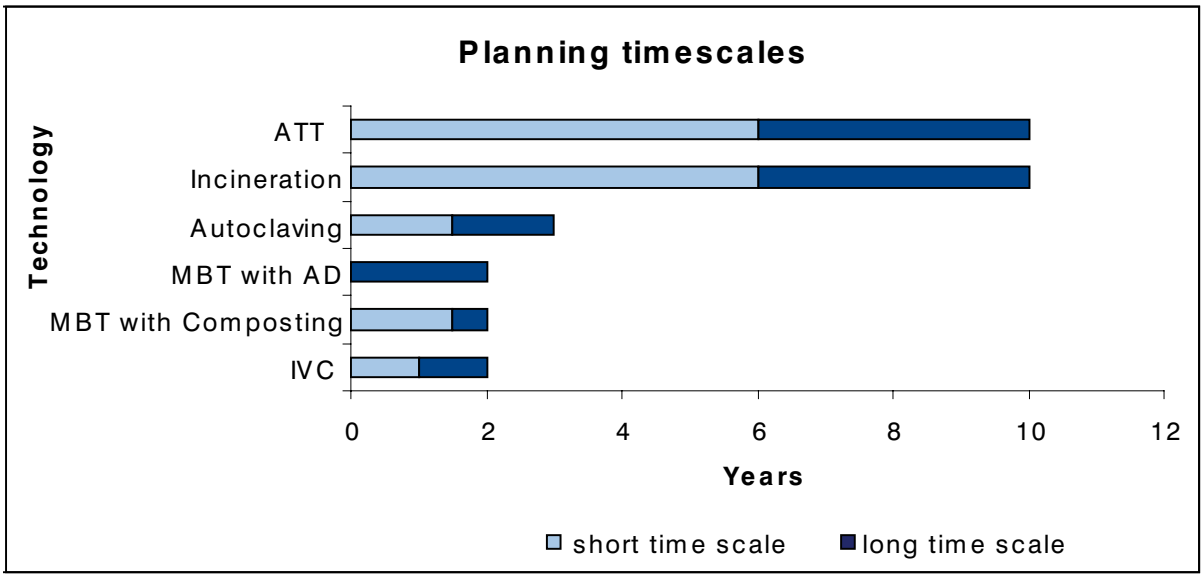
13.8 This process uses wet steam under pressure to clean materials, soften plastics and reduce biodegradable material into fibre. Following the autoclaving process the materials are effectively separated in a Materials Reclamation Facility (MRF) to extract material for recycling and recovery.

[23] Supplementary Report B: Technology Report

Technology timescales

13.9 Each of the technologies has a delay period between procurement and construction. These delays may be due to various factors such as obtaining planning consent or emissions permits. Typical planning time profiles of the technologies described above are presented in Figure 16. It should be noted that the thermal treatment technologies (incineration and ATT) have much longer timescales than the other technologies.

Figure 16: Planning timescales



13.10 Further information is available in Supplementary Report B: Technology Report

Partnership working

13.11 It is not practical, sustainable or cost effective to transport large amounts of waste long distances. However, utilising a nearby facility within a region is an acceptable method of managing waste, in accordance with the principle of regional self-sufficiency, particularly in Torbay's case, where the waste stream cannot economically support a wide range of specialist facilities.

13.12 Torbay will continue to investigate partnership working with other authorities within the sub-region to benefit from potential economies of scale.

Landfill

13.13 As part of an integrated Waste Management Strategy Torbay Council will secure additional landfill capacity for the long term. This additional capacity is necessary for waste that cannot be reused or recycled or treated in any other way.

14. Options appraisal for disposal technologies

Options appraisal

14.1 Torbay Council appointed RPS consultancy to help develop options for the future management of Torbay's Municipal Solid Waste (MSW) and to appraise the preferred options on the basis of their environmental, social and economic sustainability. The analysis is based on waste growth scenario 1 of 2.5% as this is considered to be the 'reasonable worst case' scenario.

14.2 In June 2007, RPS© ran a waste options appraisal workshop for Torbay Council officers who will be instrumental in implementing the MWMS. This was to further refine options identified in the wider Stakeholder workshop in November 2006[24]. The workshop selected eight options to be carried forward for detailed analysis which can be located in the Options Appraisal Report [24].

14.3 However for the purposes of this headline strategy the options are reduced to four. The numerous mechanical biological treatment (MBT) options have been replaced by the best performing MBT option for ease of comparison. This MBT option incorporated technology to produce a compost-like output with residues to be sent to a landfill facility outside the Torbay area.

Figure 17: Summary of short-list of waste treatment options

No.	Option	Description
1	Landfill	Landfill of all residual waste (business as usual).
2	Regional EfW	Send residual waste to an Energy from waste (EfW) facility outside Torbay but within the Devon sub-region.
3	ATT	Develop an advanced thermal treatment (ATT) facility in Torbay.
4	EfW	Develop energy from waste (EfW) facility in Torbay.
5	MBT-IVC-LF	Develop a mechanical biological treatment (MBT) facility incorporating a compost-like process (IVC) in Torbay with residues sent to a landfill (LF) facility outside Torbay.

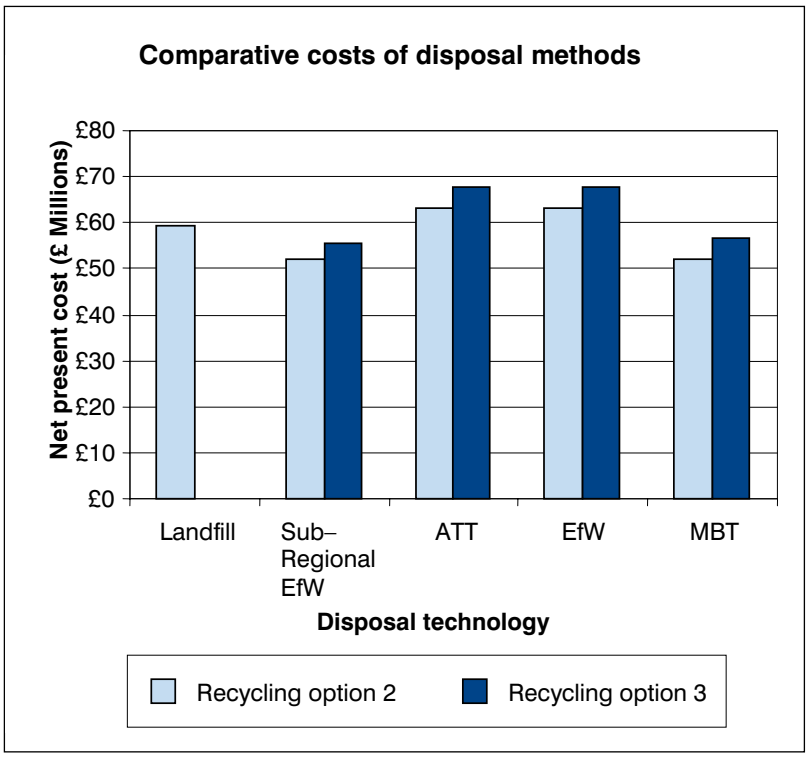
14.4 The technology options were subject to detailed modelling. The main results of the modelling are presented below. The results should be used as a guide for comparison rather than as absolute values.

[24] Refer to Supplementary Report D: Consultation Report

[25] Supplementary Report E: Appraisal of Municipal Solid Waste Options for Torbay

Disposal costs

Figure 18: Summary of estimated Net Present Cost for each option



Note: All of the treatment options were analysed for both recycling options 2 and 3 except scenario 1 which will be with recycling option 1 to reflect the 'business as usual' approach.

14.5 As can be seen, the sub-regional EfW and MBT options have the lowest Net Present Cost. The most expensive options (in Net Present Value terms) are to build EfW or ATT (£63M) within Torbay. This is due to the high capital costs of these technologies and the long planning timescales. The business as usual Landfill option is also relatively costly at £59M.

14.6 The analysis also shows that recycling option 3 is more costly than recycling option 2 by approximately £6 million for all options (this includes LATS costs). This increased cost is primarily associated with the additional capital costs for recycling option 3.

Fulfilment of local criteria

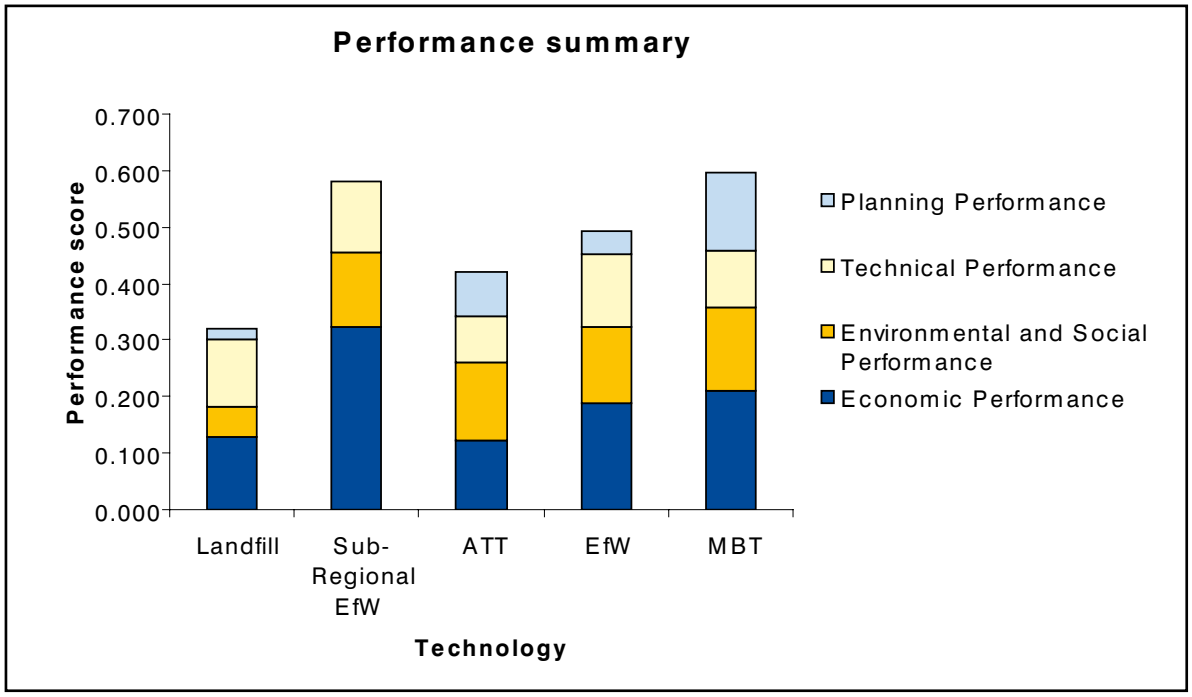
14.7 Torbay Council commissioned RPS Consultants to appraise how each of the disposal options compares against each other. The performance criteria were identified as:

- economic performance (including costs and LATS compliance)
- environmental performance (including greenhouse gas emissions, local emissions and transport impacts) technical performance (including reliability and robustness)
- planning criteria (public support and development timescales)

14.8 The best performing technologies against this set of criteria were MBT or a sub-regional energy from waste facility.

14.9 Figure 19 demonstrates the results of the options appraisal process. In considering the results, it is important to remember that this appraisal process is not intended to provide a definitive answer. Instead it serves as a means for understanding the relative merits of different options and provides a framework for developing the way forward for Torbay.

Figure 19: Summary of Options Appraisal Outputs



Note: the options appraisal criteria was undertaken with recycling option 2 except for landfill which used recycling option 1 as the 'business as usual' case.

Options appraisal summary

14.10 The sub-regional EfW option is the strongest option in terms of net present value. This option scores well in terms of technical and environmental and social criteria. However, it is likely to expose the Council to the highest level of planning risk, particularly as the delivery of the necessary infrastructure will be in the hands of a partner authority.

14.11 The Mechanical Biological Treatment with a compost-like process and the landfilling of residues performed well. It scored highly for all four types of criteria and is associated with moderate capital and operational costs. An MBT facility in Torbay is considered to represent the least planning risk due to:

- the greater levels of public acceptance associated with MBT
- the lack of reliance upon the delivery of infrastructure outside the Bay

14.12 However, the exact level of Torbay's LATS liabilities for this option will depend upon the performance of the specific technologies employed. In addition, this MBT option is reliant upon there being landfill capacity available for residues produced by the process.

14.13 The development of an EfW facility within the Bay is the option that is considered to ensure the highest level of self-sufficiency for Torbay. As an option it performs well in terms of technical, environmental and social criteria. However, there may be a limited number of suppliers willing or able to provide an EfW facility of the relatively small scale required for Torbay. As a result, EfW scores moderately overall in terms of economic criteria. Furthermore, the EfW option scores poorly in terms of planning risk, due to the high risk of public opposition and associated delays, and the longer timescales associated with its development and commissioning.

Preferred disposal option

14.14 Overall, the options appraisal indicates that there is a range of viable options available to Torbay Council for the management of its residual waste that are preferable to landfill. The preferred option is the sub-regional energy from waste facility for residual waste disposal. This will be procured in partnership with Devon County and Plymouth City Councils.

14.15 For further information on the costs and suitability of the waste disposal methods, please refer to Supplementary Report E: Appraisal of Municipal Solid Waste Options for Torbay (prepared by RPS consultants).

15. The way forward

15.1 Torbay cannot continue with its present systems of collection and disposal as these are unsustainable and unaffordable. The Bay must improve its performance against recycling and composting targets and reduce the amount of waste sent to landfill, to minimise the impact on climate change and to avoid heavy financial penalties.

15.2 This will be achieved through initiatives to re-use and reduce the amount of waste we produce; through a 'step change' in the way we recycle; and by employing new technology for residual waste.

15.3 Torbay must make a decision on which recycling option to pursue. Option 3, (the collection of food and garden waste) is a more expensive then option 2 by approximately £6 million. However, Torbay will not reach its recycling and composting targets without pursuing recycling option 3. This strategy therefore recommends recycling option 3.

15.4 In terms of waste disposal, the evidence points to a range of technologies performing better than continuing to send residual waste to landfill. Local mechanical biological treatment and a sub-regional energy from waste facility both perform well when subject to detailed appraisal by RPS Consultants. The preferred option is for a sub-regional energy from waste facility.

15.5 Torbay has a relatively small but problematic residual waste stream. Time is the limiting factor for the decision making process, and Torbay must act quickly. Due to the planning times involved this strategy recommends that Torbay Council pursue a phased approach (refer to Figure 20).

15.6 For the short term LATS certificates will need to be purchased to avoid heavy fines. For the intermediate term the Council will look to procure access to a biological facility, to improve recycling rates as well as avoiding LATS fines.

15.7 In the long–term, Torbay Council, in partnership with neighbouring waste disposal authorities Plymouth City Council and Devon County Council will establish a sub-regional energy from waste facility. This will have the advantages of economies of scale, achieve long-term recovery targets and produce a permanent solution to LATS costs.

15.8 Such a facility is unlikely to be accommodated within the Bay. Therefore serious consideration will need to be given to the implications of transporting Torbay's residual waste across the sub-region, and potential alternatives to road transport.

15.9 Long-term costs are still likely to be high, but not as expensive as continuing to send all of Torbay's residual waste to landfill.

Figure 20: Recommended phased approach

A phased approach to waste management

Short term up to 2009/10

- Torbay will enter into partnership with Devon County Council and Plymouth City Council to jointly procure a sub-regional energy from waste facility.
- Torbay will also continue to develop further partnerships with the waste management industry.
- Torbay will produce a Municipal Waste Management Action Plan and begin its implementation.
- Residual waste for landfill continues to be sent to the Heathfield site.
- In the short term Torbay will have to trade LATS certificates to avoid large fines.

Intermediate term 2009/10 to 2012/13

- Planning and implementation continues for the energy from waste facility developed through a local authority partnership.
- Step changes in recycling will be implemented including improved kerbside collection and recycling facilities, and new civic amenity / recycling centre sites;
- Torbay will procure access to a biological facility. This will most likely be in-vessel composting or anaerobic digestion for food waste.
- Residual waste for landfill continues to be sent to Heathfield.
- Some LATS trading may still be required.

Long term 2012/13 onwards

- Torbay's recycling performance continues to increase through improved recycling and the biological facility.
- The new waste disposal facility becomes operational, developed in partnership with Devon County Council and Plymouth City Council. The facility will dispose of waste that cannot be re-used, recycled or recovered in any other way, and divert the maximum amount of waste from landfill. This will have the advantages of economies of scale and achieve long-term targets, but is unlikely to be accommodated within the Bay.
- The majority of waste is diverted from landfill.
- Torbay sells LATS certificates.

Municipal Waste Management Strategy Action Plan

15.10 A Waste Action Plan will be prepared; setting out how the council will achieve the strategic aims, objectives and policies of the Waste Management Strategy. The Action Plan will be revised, with the strategy, every five years and will be accompanied by a Progress Report every two years, to ensure that Torbay progresses to meeting all appropriate waste targets.

- The Waste Action Plan will contain the following:
- Time-bound actions and targets to achieve the MWMS objectives
- A description of monitoring and revision procedures
- Costing of proposed actions

16. Policy proposals

Policy	Description
Waste Policy 1: Promote waste minimisation	Torbay Council will seek to raise public awareness and promote waste minimisation, working with new and existing partnerships where appropriate to reduce waste arisings. Torbay Council will work with and support local groups, promoting waste minimisation schemes where feasible.
Waste Policy 2: Promote home composting	Torbay Council will continue to promote home composting, offering reduced price home compost bins and wormeries to residents and providing educational support.
Waste Policy 3: Kerbside waste collection	Torbay Council will discourage residents from putting out their waste at inappropriate times or in excess of wheeled bin capacity; and from contaminating recyclables. This will be achieved through better information and education for residents and by Torbay Council enforcing its existing powers to protect public amenity where persistent abuse occurs.
Waste Policy 4: Kerbside recyclable collections	Torbay will seek to maximise the range of recyclable materials collected at the kerbside where this is economically feasible, and to provide a more uniform service across the Bay. In particular Torbay will address the inequalities in access to kerbside recycling services. In addition Torbay will continue to ensure that all new developments have adequate storage space and access for the kerbside collection of recyclables.
Waste Policy 5: Reduce fly - tipped wastes	Torbay Council will work with the Environment Agency to reduce the amount of fly-tipped wastes, improve enforcement actions taken against illegal fly-tipping and seek to recover its costs.
Waste Policy 6: Household recycling and composting targets set out in the Waste Strategy 2007	Torbay will endeavour to achieve Waste Strategy 2007 targets of 40% recycling and composting rate for household waste by 2010, 45% by 2015 and 50% by 2020.
Waste Policy 7: Civic Amenity / Recycling Centre facilities	The Council will ensure that there are adequate civic amenity / recycling centre facilities to meet the needs of Torquay, Paignton and Brixham, and that these facilities are easily accessible and user friendly.
Waste Policy 8: The Materials Reclamation Facility	An Action Plan will be developed to identify and procure replacement facilities for Torbay's MRF.

Policy	Description
Waste Policy 9: Bring sites	The Council will continue to operate and promote its network of bring sites throughout the Bay to ensure that they are located for maximum efficiency.
Waste Policy 10: Commercial waste recycling services	Torbay council will work with commercial waste customers to provide recycling services where it is economically viable to do so.
Waste Policy 11: Appropriate location, design and operation of waste management facilities	Torbay Council will show due consideration for the protection of local environmental quality and public amenity in the provision of new waste management facilities, and ensure that waste infrastructure does not adversely affect sites of international nature conservation importance.
Waste Policy 12: Waste treatment	Torbay will not continue to landfill the majority of its residual waste. Torbay Council will continue to ensure that new technologies employed for waste management are cost effective and best meet the needs of the Bay, whilst seeking to minimise the environmental impact of waste management operations. The potential for power generation (for example through combined heat and power) will be explored. This applies to facilities both locally and regionally.
Waste Policy 13: A phased approach to waste management	Torbay Council will pursue a phased approach to waste management. In the short-term Torbay will need to purchase LATS trading certificates. In the intermediate term Torbay will procure access to a biological facility. In the long-term Torbay will enter into partnership with neighbouring authorities to develop a sub-regional energy from waste solution.
Waste Policy 14: Partnership working	Torbay will continue to investigate partnership working with other authorities within the sub-region to benefit from potential economies of scale. Torbay will also continue to explore partnerships with the community and commercial sectors.
Waste Policy 15: Landfill capacity	As part of an integrated Waste Management Strategy, Torbay Council will secure additional landfill capacity for the long term.
Waste Policy 16: Transport of waste	Torbay will seek to minimise the amount of residual waste that requires export to regional facilities through waste reduction, re-use and recycling. Where transport is necessary, for both recyclable material and residual waste, Torbay will undertake an assessment of transport implications and seek to reduce the effects on congestion, air quality, climate change and local amenity. The feasibility of rail will be will be considered as a long term alternative to road transport where appropriate.

17. Glossary

Term	Definition
Aerobic	In the presence of air.
Anaerobic	With air excluded.
Anaerobic digestion	Bacterial decomposition of organic waste in anaerobic conditions to produce biogas, together with a compost-like residue. Material is placed into an enclosed vessel and the process takes place under controlled conditions
Best Value	All services have to show that they meet local needs and give value for money.
Biodegradable Waste	Putrescible waste normally rich in organic material that can be chemically broken down in landfill or landraising sites by naturally occurring micro-organisms to form simpler compounds, giving rise to landfill gas and leachate. The Landfill Directive defines biodegradable waste as 'waste that is capable of undergoing anaerobic or aerobic decomposition, such as food and garden waste, and paper and paperboard'.
Biogas	A mixture of gases, mainly methane and carbon dioxide, produced by the anaerobic digestion of waste. The gas produced may be burnt to produce heat or energy.
Bring Site	A localised collection point for materials for recycling, e.g. glass, paper, cans and textiles. See also Recycling Bank Site.
Bulky Household waste	Large items of household waste such as furniture or fridges, together with garden and DIY waste.
Civic Amenity and Recycling Centre (CARC)	A Civic Amenity Site including facilities for recycling, now generally termed Recycling Centre. Provided by the Waste Authority which is accessible to the general public for the deposition and recycling of household waste which cannot be collected with the normal dustbin waste.
Combined heat and power	A fuel efficient technology which produces electricity and heat from thermal combustion
Commercial waste	Waste from premises used mainly for the purposes of trade or business, or for the purposes of sport and entertainment, Environment Protection Act, 1990, Section 75(7)
Compost	Organic matter decomposed either aerobically or anaerobically which can be used as a fertiliser or soil conditioner.
Construction and demolition waste	Masonry and rubble wastes arising from the construction of buildings or other civil engineering structures.
Department for Environment, Food And Rural Affairs (DEFRA)	A Government department set up in June 2001 which incorporates some of the functions previously carried out by the Department for the Environment, Transport and the Regions and includes the Ministry of Agriculture, Fisheries and Food.
Development Plan Document	Spatial planning documents which form part of the Local Development Framework for a local authority. They can include: a Core Strategy; Site Specific Allocations of land; and Area Action Plans (where needed).

Term	Definition
Devon Authorities	Devon consists of eight waste collection authorities, two unitary authorities and one waste disposal authority. Only the collection and disposal authorities belong to the administrative area of Devon.
Devon Authorities Waste Reduction & Recycling Committee (DAWRRC)	An officer and councillor group set up in 1992 to promote and partially fund recycling projects in Devon. All Devon Local Authorities participate in this committee.
Digestate	The solid material remaining at the end of a controlled biodegradation process.
Dioxins/Furans	Dioxin is the shorthand name given to about 200 chlorinated organic compounds known chemically as polychlorinated dibenzo paradioxins and the closely related furans, family of toxic substances which can accumulate in living organisms. Dioxins are created when substances are burnt at low temperatures, often occurring in incinerator ash and gaseous emissions. Modern incinerators produce smaller amounts, and new technology is expected to reduce amounts even further.
Energy from waste (EfW)	Conversion of waste into a useable form of energy, either by incineration, thermal treatment or by the production of gas.
Environment Agency (EA)	A public organisation with the responsibility for protecting and improving the environment in England and Wales, Its functions include the regulation of industry, the maintenance of flood defences and water resources, and the improvement of wildlife habitats. In 1996, it assumed the roles of the National Rivers Authority, Her Majesty's Inspectorate of Pollution and the Waste Regulation Authorities (the Waste Regulation functions of the Council).
Fly-tipping	The illegal deposit of waste on public or private land.
Gasification	A waste treatment process in which waste is heated to produce a gas that is burned to generate heat energy.
Greenhouse gas	Gases resulting from various processes which, when emitted into the atmosphere, trap heat from the sun causing rises in global temperatures – a process often referred to as the Greenhouse Effect
Green waste	Vegetation and plant matter from household gardens, local authority parks and gardens and commercial landscaped gardens.
Hazardous waste	A waste that, by virtue of its composition, carries the risk of death, injury or impairment of health, to humans or animals, could cause water pollution, or could have an unacceptable environmental impact if improperly handled, treated or disposed of. The term should only be used for wastes containing sufficient hazardous materials to render the whole waste hazardous within the definition given above.
Household waste	Waste arising from domestic property which is used solely for the purposes of living accommodation; a caravan; a residential home; a public hall or place of worship; premises forming part of an educational establishment; premises forming part of a hospital or nursing home; or from the premises of charitable organisations, together with waste collected as litter from roads and other public places. Environmental Protection Act, 1990, Section 75 (5).
Incineration	The controlled burning of waste, to reduce its volume and potential toxicity. Usually combined with power generation in associated energy from waste plant. Ash residues still require final disposal to landfill.

Term	Definition
Inert Waste	Waste that will not react physically, chemically or biologically and does not present a significant pollution risk.
Integrated waste Management facility	For example, a Materials Reclamation Facility, composting centre and landfill site in the same locality which would maximise recovery of value from incoming waste and reduce transport requirements.
Integrated Planning and Pollution Control (IPPC)	An approach to regulation, design and operation of industrial processes that is designed to prevent or, where that is not possible, to reduce pollution from a range of industrial and other installations, including some waste management facilities, by means of best available techniques.
In-vessel (composting)	The controlled biological decomposition and stabilisation of organic material in vessels that are usually enclosed affording an enhanced level of process and emission control
Kerbside Collection (Recycling)	Describes the collection of recyclable materials from the point of origin, i.e. the householder's doorstep as well as from commercial or industrial processes.
Landfill	The deposit of waste in voids in the ground.
Landfill Allowance Trading Scheme (LATS)	A scheme introduced to enable the UK to meet the targets set by the EC Landfill Directive relating to the amount of Biodegradable Municipal Waste (BWM) that can be landfilled. A landfill allowance, maximum amount of BMW to be landfilled, is to be set for each WDA, they will be able to trade, bank or borrow those allowances in order to meet the allowance targets.
Life cycle analysis	An analysis of the input of materials and output of emissions relating to the whole life of a product from its manufacture and distribution through its use, re-use and maintenance, to its recycling and waste management.
Local Development Framework (LDF)	The Local Development Framework will replace the existing adopted Torbay Local Plan and will be the basis of decision making concerning growth and development in the Bay. The LDF will consist of a portfolio of documents in which detailed policies and proposals will be produced to guide day to day planning decisions.
Local Plan	A plan which sets out detailed policies and proposals for development and land use, and guides planning decisions. Prepared by the District Council, Unitary Authority or National Park.
Materials Reclamation Facilities (MRF)	A facility where elements of the waste stream are mechanically or manually separated prior to recycling, and/or bulked, crushed, baled and stored for reprocessing, either on the same site or at a material reprocessing plant.
Mechanical Biological Treatment (MBT)	A process which combines a series of treatment steps to remove as much recyclable, organic and toxic material as possible, thereby producing a reduced volume of relatively inert, stabilised end product which may be landfilled or utilised in an energy recovery process.
Municipal Solid Waste (MSW)	The common name given to the waste generated in a Waste Collection Authority or its agents. This includes waste collected from households, beach cleansing and fly-tipped waste, as well as some commercial and industrial wastes.
PCBs	Substances known as Polychlorinated biphenyls, which have been widely used in cooling fluids, and can produce large amounts of Furans when burned.

Term	Definition
Planning Policy Statement (PPS)	Government policy statements on a variety of planning issues, including waste planning issues, to be taken as material considerations, where relevant, in deciding planning applications.
Proximity Principle	Advocates that all waste should be managed as close as practicable to its source.
Putrescible waste	Waste largely composed of matter that will decompose or rot, giving rise to potential pollution problems.
Pyrolysis	Process in which organic waste is heated in the absence of oxygen to produce a mixture of gaseous and liquid fuels and a solid inert residue.
Recovery	Recovery of materials or energy from waste by methods such as recycling, energy from waste and composting.
Recycling	Collection or recovery of reusable materials from waste, and their subsequent reprocessing to form useable products.
Refuse-derived Fuel (RDF)	The processing of the combustible fractions of mixed waste streams to create a consistent fuel stock for thermal processes, such as heat and power generation. The resulting fuel can either be shredded or pelletised
Renewables obligation	The market in tradable renewable energy certificates for which each supplier of electricity must demonstrate compliance with increasing government targets for renewable electricity generation.
Re-use	The use of waste items such as bottles, packaging or electronic components for their original, or for another, purpose without reprocessing.
Self sufficiency	Dealing with the wastes within the region or country where they arise.
Source separated	Recyclable / compostable waste collected by separate collection.
Sustainable Development	Development, which meets the needs of the present generation without harming the ability of future generations to meet their own needs. Social, environmental and economic needs must be fully integrated if sustainability is to be achieved.
Unitary Authority	Single-tier Authority having the combined responsibilities of District and County Councils, e.g. waste collection and disposal. Torbay and Plymouth are both Unitary Authorities.
Waste	Legally defined in the Waste Framework Directive as any material or article the holder discards or is required to discard.
Waste Collection Authority	Local Authority with responsibility for the collection of household waste. This responsibility is with Torbay Council and Plymouth as Unitary Councils and the District, Borough and City Councils.
Waste Disposal Authority	Local Authority with responsibility for the final disposal of household waste. This responsibility is with Torbay Council and Plymouth as Unitary Councils and Devon County Council for the rest of Devon.
Waste Local Plan	Prepared by the Waste Planning Authority, detailing land-use policies and proposals for waste management facilities.
Waste Minimisation	Reduction of the quantity of waste arising and requiring processing or disposal.
Waste Planning Authority	The Planning Authority responsible for the implementation of the provisions of the Town and Country Planning Act 1990 in respect of waste planning: in this case, Torbay Council.

Term	Definition
Waste Reduction	Reduction at source of the quantity of waste requiring processing or disposal, for example by reducing the use of packaging.
Waste streams	Waste generated from different sources.
Waste transfer station	Site for the transfer of household waste from household rubbish collection vehicles to larger vehicles for onward transport to final disposal sites to reduce haulage costs.
WRAP	Waste and Resources Action Programme.
Zero Waste	Zero Waste entails re-designing products and changing the way waste is handled so that products last longer, materials are recycled, or, in the case of organics, composted. Waste is in the process of being designed away.

TORBAY COUNCIL

recycle
When you have finished with this publication please recycle it

80% recycled
This publication is printed on 80% recycled paper

This document can be made available in other formats. For further information please contact 01803 207751.