Local Development Framework for Bradford

Waste Management DPD Baseline Evidence Report

January 2011





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1. INTRODUCTION

Overview

1.1 The future scale of waste arisings and the waste management facilities that need to be planned for and accommodated in Bradford Metropolitan District is critical. This background document forms part of the evidence base underpinning the Waste Management Development Plan Document (DPD) Preferred Approach.

Purpose

- 1.1 This report provides a more detailed explanation of the methodology and data sources used to identify current and forecast future waste arisings for each type of waste in Bradford Metropolitan District.
- 1.2 The analysis of waste arisings reflects the most recently available, robust data at the time of writing. It therefore supersedes information set out previously in the Waste Management DPD Issues and Options Report (2009).
- 1.3 The following sections outline the data source options for each waste stream and the rationale for selecting each data source used to calculate the waste arisings and future projections in the Waste Management DPD Preferred Approach Report.

2. POLICY REVIEW

Introduction

2.1 The policy direction and requirements for waste management is set out at the European, national, regional, and local levels in a number of Directives, Planning Policy Statements, and strategies. This section provides a review of the principal waste management policies and strategies that have been taken into account when developing the Waste Management DPD Preferred Approach.

European Legislation

- 2.2 European Legislation provides the overarching framework concerning how individual waste streams should be managed. It establishes the core principles upon which waste management and planning policy have been founded in the UK.
- 2.3 The European Commission's **Waste Framework Directive** (2008) (Directive 2008/98/EC) lays down measures to protect the environment and human health by preventing or reducing the adverse impacts of the generation and management of waste and by reducing overall impacts and the improving the efficiency of resource usage.
- 2.4 It states that the first objective of any waste policy should be to minimise the negative effects of the generation and management of waste on human health and the environment. It further states that waste policy should also aim at reducing the use of resources, and favour the practical application of the waste hierarchy.
- 2.5 The Directive lays out the Waste Hierarchy (in Article 4) as follows:
 - Prevention;
 - Preparing for re-use;
 - Recycling;
 - Other recovery, e.g. energy recovery; and
 - Disposal.
- 2.6 This waste hierarchy approach has been adopted within the national waste management and planning policy (Planning Policy Statement 10 *Planning for Sustainable Waste*) (PPS 10).

- 2.7 Article 11 of the Directive deals with recycling in particular. This establishes that measures must be taken to promote the re-use of products and preparing for re-use activities, notably by encouraging the establishment and support of re-use and repair networks, the use of economic instruments, procurement criteria, quantitative objectives and / or other measures.
- 2.8 Member States are expected to take measures to promote high quality recycling and set up separate collections of waste where technically, environmentally and economically practicable and appropriate to meet the necessary quality standards for the relevant recycling sectors. By 2015 separate collection is to be established for at least: paper, metal, plastic and glass.
- 2.9 The Directive sets the following targets:
 - By 2020, the preparing for re-use and the recycling of waste materials such as at least paper, metal, plastic and glass from households and possibly from other origins as far as these waste streams are similar to waste from households, shall be increased to a minimum of overall 50 % by weight;
 - By 2020, the preparing for re-use, recycling and other material recovery, including backfilling operations using waste to substitute other materials, of non-hazardous construction and demolition waste shall be increased to a minimum of 70 % by weight.
- 2.10 Article 16 of the Directive sets out the principles for self-sufficiency and proximity. This requires the establishment of an integrated and adequate network of waste disposal installations and of installations for the recovery of mixed municipal waste collected from private households, including where such collections also cover waste from other producers.
- 2.11 A network of waste management facilities will enable waste to be disposed of or recovered in one of the nearest appropriate installations, by means of the most appropriate methods and technologies, in order to ensure a high level of protection for the environment and public health.
- 2.12 Article 28 has regard to the preparation of Waste Management Plans. It establishes that the waste management plans shall set out an analysis of the current waste management situation in the geographical area concerned. It also details the measures to be taken to improve environmentally soundness in preparing for re-use, recycling, recovery and disposal of waste, and an evaluation of how the plan will support the implementation of the objectives and provisions of the Directive.

- 2.13 The Directive indicates that waste management plans shall contain, as appropriate, at least the following:
 - The type, quantity and source of waste generated, the waste likely to be shipped from or to the area, and an evaluation of the development of waste streams in the future;
 - Existing waste collection schemes and major disposal and recovery installations, including any special arrangements for waste oils, hazardous waste or other waste streams;
 - An assessment of the need for new collection schemes, the closure of existing waste installations, additional waste installation infrastructure;
 - Sufficient information on the location criteria for site identification and on the capacity of future disposal or major recovery installations; and
 - General waste management policies, including planned waste management technologies and methods, or policies for waste posing specific management problems.
- 2.14 The Landfill Directive seeks to prevent and reduce the negative effects of landfill for Residual Waste. In England and Wales the ongoing requirements of the Directive are applied under the Environmental Permitting (England and Wales) Regulations 2010. Non-compliance with the Directive carries significant potential financial penalties.
- 2.15 The Directive defines the different categories of waste (municipal waste, hazardous waste, nonhazardous waste and inert waste) and applies to all landfills, defined as waste disposal sites for the deposit of waste onto or into land. Landfills are divided into three classes:
 - Landfills for hazardous waste;
 - Landfills for non-hazardous waste;
 - Landfills for inert waste.
- 2.16 The Directive includes a number of targets:
 - To reduce the volume of bio-degradable municipal waste sent to landfill to 75% of the 1995 level by 2010; 50% by 2013 and 35% of that produced in 1995 by 2020;
 - The banning of disposal of Hazardous and non-hazardous wastes together from 2004 with separate landfills required for each;
 - Landfill of whole tyres banned from 2003 and of shredded tyres from 2006; and
 - Banning the landfill of liquid wastes, specific clinical wastes and some forms of hazardous waste.

- 2.17 The Directive sets up a system of operating permits for landfill sites for which permit applications are required setting out a significant range of information including: the types of landfill activities, waste to be deposited, capacity and the proposed mitigation and methods for preventing pollution. An impact assessment may also be required.
- 2.18 The European Commission's **Waste Electrical and Electronic Equipment Directive (WEEE)** implements the principle of "extended producer responsibility". Under this principle, producers are required to take financial responsibility for the environmental impact of the products that they place on the market, specifically when those products become waste. It seeks to reduce the amount of such waste going to landfill by encouraging separate collection and subsequent treatment, re-use, recovery, recycling and environmentally sound disposal.
- 2.19 The UK Waste Electrical and Electronic Equipment (WEEE) Regulations 2006 (as amended) implements the main provisions of the EC's WEEE Directive. The scope covers a wide range of products intended for household and/or commercial use that are dependent on electrical currents or electromagnetic fields to work properly. The requirements apply to all businesses irrespective of size. There are no exemptions for small and medium sized companies. In addition the Regulations also impact on local authorities, waste management companies and household consumers of electrical and electronic equipment.
- 2.20 The European Commission published proposals for a "recast" of this Directive in December 2008. These are now being considered by both the Environment Council and the Environment Committee of the European Parliament. The European Parliament Environment Committee has proposed a number of amendments to the Commission's proposals, which are subject to a vote in a plenary session of the Parliament.
- 2.21 The **Packaging and Packaging Waste Directive** establishes the measures that Member States are to take to prevent the formation of packaging waste, and to develop packaging reuse systems reducing their impact on the environment. In the UK, this Directive was implemented through the Producer Responsibility Obligations (Packaging Waste) Regulations, 1997. The Directive established targets by 2001, including 50 65% of packaging waste (by weight) is to be recovered or incinerated at waste incineration plans with energy recovery. There are a range of other targets, including that by 2001, between 25 and 45% of the totality of packaging (by weight) is to be recycled), rising to 55 80% by weight of packaging in 2008. The Directive states that by 2008, the following targets for materials contained in packaging waste should have been attained:
 - 60% for glass, paper and board (61.7% achieved by 2008);
 - 50% for metals (54.8% achieved by 2008);

- 22.5% for plastics (24.1% achieved by 2008) and;
- 15% for wood (76.9% achieved by 2008).
- 2.22 The **Hazardous Waste Directive** defines Hazardous Waste and establishes the controls on its movement, tracking and management. Until 15 July 2005, the Hazardous Waste Directive was transposed in England by the Special Waste Regulations 1996 (as amended). From 16 July 2005 the Directive is transposed by the Hazardous waste (England and Wales) Regulations 2005 and the List of Waste (England) Regulations.
- 2.23 While the Special Waste regime was in force in the UK, the European Commission revised its list of Hazardous Waste and incorporated it into the European Waste Catalogue. The revised list includes a number of waste streams not previously considered to be hazardous, including televisions, computer monitors, fluorescent lighting and end-of-life vehicles.
- 2.24 The **End of Life Vehicle Directive** aims at making vehicle dismantling and recycling more environmentally friendly, sets clear quantified targets for reuse, recycling and recovery of vehicles and their components and pushes producers to manufacture new vehicles with a view to their recyclability. The End-of-Life Vehicles Directive (2000/53/EC) came into force on 21 October 2000. The Directive requires that:
 - All ELVs are only treated by authorised dismantlers;
 - Provide free take-back of all ELVs for new vehicles put on the market after 2002; from 2007 provide free take-back for all vehicles including those put on market before 2002;
 - Restrict the use of heavy metals in vehicles from July 2003;
 - Ensure that a minimum of 85% of vehicles are reused or recovered (including energy recovery) and at least 80% must be reused or recycled from 2006, increasing to a 95% reused or recovered (including energy recovery) and 85% reused or recycled by 2015.
- 2.25 In the UK, the ELV Directive is implemented through Regulations issued in 2003 and 2005 and through the Environmental Permitting (EP) Regulations 2007.
- 2.26 The 2003 Regulations deal with information requirements, certificate of destruction requirements, and restricting the use of hazardous substances in new vehicles. The 2005 regulations cover recycling targets and free take-back for ELVs The 2007 Regulations extended the treatment requirements in the UK to all waste motor vehicles (including coaches, buses, motor cycles, goods vehicles, etc).

2.27 The **Directive on the Incineration of Waste** (2000/76/EC) deals with the incineration of hazardous and non-hazardous wastes. It identifies that incineration may cause emissions of substances which pollute the air, water and soil and have harmful effects on human health. In order to limit these risks, the EC Directive imposes strict operating conditions and technical requirements on waste incineration plants and waste co-incineration plants.

National Waste Planning and Management Policy

2.28 There are a number of relevant waste planning and management legislations and policies that affect the handling and processing of waste.

National Waste Strategy

- 2.29 The **National Waste Strategy** (2007) establishes the waste strategy for England. It builds upon earlier guidance contained in the Waste Strategy, 2000. The strategy sets out the changes and improvements that are required to meet the various European Commission Directives and to ensure that England has a more sustainable and deliverable approach to waste management. The strategy incorporates the Landfill Directive in England.
- 2.30 The Government's key objectives as stated within the National Waste Strategy are:
 - Decouple waste growth (in all sectors) from economic growth and put more emphasis on waste prevention and re-use;
 - Meet and exceed the Landfill Directive diversion targets for biodegradable municipal waste in 2010, 2013 and 2020;
 - Increase diversion from landfill of non-municipal waste and secure better integration of treatment for municipal and non-municipal waste;
 - Secure the investment in infrastructure needed to divert waste from landfill and for the management of hazardous waste; and
 - Get the most environmental benefit from that investment, through increased recycling of resources and recovery of energy from residual waste using a mix of technologies.
- 2.31 The overall impact of the Waste Strategy is expected to be an annual net reduction in global greenhouse gas emissions from waste management of at least 9.3 million tonnes of carbon dioxide equivalent per year compared to 2006. The additional greenhouse gas emissions reductions result from an increase in diversion of waste from landfill of around 25 million tonnes of waste per annum.

These benefits will be further boosted by significant additional greenhouse gas benefits from the waste prevention measures in the strategy.

- 2.32 A greater focus on waste prevention will be recognised through a new target to reduce the amount of household waste not re-used, recycled or composted from over 22.2 million tonnes in 2000 by 29% to 15.8 million tonnes in 2010 with an aspiration to reduce it to 12.2 million tonnes in 2020, a reduction of 45%. This is equivalent to a fall of 50% per person (from 450 kg per person in 2000 to 225 kg in 2020).
- 2.33 The strategy sets out higher national targets than previously. These include:
 - Increase recycling and composting of Household Waste at least 40% by 2010, 45% by 2015 and 50% by 2020; and
 - Increase the recovery of Municipal Waste 53% by 2010, 67% by 2015 and 75% by 2020.
- 2.34 The principal intentions of the strategy are to:
 - Incentivise efforts to reduce, re-use, recycle waste and recover energy from waste. This
 includes a Landfill Tax escalator so that the standard rate of tax will increase by £8 per year
 from 2008 until at least 2010/2011 to give greater financial incentives to businesses to reduce,
 re-use and recycle waste (from £24 now to £48 in 2010);
 - Reform regulation to drive the reduction of waste and diversion from landfill while reducing costs to compliant businesses and the regulator;
 - Target action on materials, products and sectors with the greatest scope for improving environmental and economic outcomes;
 - Stimulate investment in collection, recycling and recovery infrastructure, and markets for recovered materials that will maximise the value of materials and energy recovered. The introduction of enhanced capital allowances for investment involving the use of secondary recovered fuel (SRF) for combined heat and power facilities will support this; and
 - Improve national, regional and local governance, with a clearer performance and institutional framework to deliver better coordinated action and services on the ground.

Strategy for Hazardous Waste Management

- 2.35 The **Strategy for Hazardous Waste Management** in England (March 2010) underpins the practical application of the revised EC Waste Framework Directive and in particular the requirements that apply to hazardous waste. The strategy is aimed at the environmentally sound management of hazardous waste. It aims to clarify how the requirements of the Waste Framework Directive should be implemented with respect to the management of hazardous waste. The strategy is also intended to facilitate the provision of infrastructure for the management of hazardous waste.
- 2.36 The Regulations prohibit the mixing or co-collection of hazardous waste without a permit, a principle emphasised within this strategy. This applies from the point that the waste is collected from the householder and establishes that the waste must not be put back into the general municipal waste stream.

Planning Policy Statement 10

- 2.37 Planning Policy Statement 10: Planning for Sustainable Waste Management (PPS10) (July 2005) has been developed in the context of the noted European Directives and legislation which promote the need for increasing self-sufficiency including enabling waste to be disposed of in the nearest appropriate installation to promote environmental sustainability.
- 2.38 The importance of positive planning for the delivery of sustainable waste management is recognised and promoted within PPS10. The document sets out the Government's key overarching policies and principles which apply to waste management, applying the principles of sustainable development.
- 2.39 PPS10 requires authorities to prepare and deliver planning strategies that:
 - Deliver sustainable development through driving waste management up the waste hierarchy, addressing waste as a resource and looking to disposal as the last option, but one which must be adequately catered for;
 - Provide a framework in which communities take more responsibility for their own waste, and enable sufficient and timely provision of waste management facilities to meet the needs of their communities;
 - Implement the National Waste Strategy and supporting targets, are consistent with obligations required under European legislation and support and complement other guidance and legal controls such as those set out in the Waste Management Licensing Regulations 1994;

- Secure the recovery or disposal of waste without endangering human health and without harming the environment, and enable waste to be disposed of in one of the nearest appropriate installations;
- Reflect the concerns and interests of communities, the needs of waste collection authorities, waste disposal authorities and business, and encourage competitiveness;
- Protect Green Belts but recognise the particular locational needs of some types of waste management facilities when defining detailed Green Belt boundaries and, in determining planning applications, that these locational needs, together with the wider environmental and economic benefits of sustainable waste management, are material considerations that should be given significant weight in determining whether proposals should be given planning permission;
- Ensure the design and layout of new development supports sustainable waste management.
- 2.40 PPS10 reflects the Government's objective to remove the direct link between economic growth (and household growth) and waste generation, putting greater emphasis on waste prevention and re-use. In order to achieve this, a 'Waste Hierarchy' has been established and defined in PPS10, based on the European Waste Framework Directive. This prioritises waste prevention, but emphasises the need to take all available opportunities for re-use, recycling / composting and energy recovery or those wastes that cannot be eliminated before final disposal is considered.

Figure 1 – The Waste Hierarchy



Source: National Waste Strategy, 2007

2.41 The hierarchy is defined in PPS10 and conforms with the appropriate European Directives as follows:

- Reduction the most effective environmental solution is often to reduce the generation of waste;
- Re-Use products and materials can sometimes be used again for the same or different purpose;
- Recycling and Composting the recovery of resources from waste;
- Energy Recovery the generation of energy from waste;
- Disposal only if none of the above offer an appropriate solution should waste be disposed of.
- 2.42 PPS10 requires that sites and/or areas that may be suitable for new or enhanced waste management facilities must be identified within Development Plan Documents (DPDs) to support the pattern of waste management facilities and waste apportionments.
- 2.43 PPS 10 sets out the principles for the allocation of sites or areas, with a focus on providing opportunities for the management of waste where it arises and the need to consider a broad range of locations including industrial sites, looking for opportunities to co-locate facilities together or with complementary activities. In testing the suitability of sites and areas for waste management facilities, DPDs should apply the following criteria:
 - The extent to which the use of the site for waste management supports the policies in PPS10;
 - The physical and environmental constraints on development including existing and proposed neighbouring land uses;
 - The cumulative effect of previous waste disposal facilities on the well-being of the local community, including any significant adverse impacts on environmental quality, social cohesion and inclusion, or economic potential;
 - The capacity of existing and potential transport infrastructure to support the sustainable movement of waste, and products arising from the resource recovery, seeking when practicable and beneficial to use modes other than road transport.
- 2.44 Waste planning authorities should identify in development plan documents sites and areas suitable for new or enhanced waste management facilities for the waste management needs of their areas. Waste planning authorities should in particular:
 - Allocate sites to support the pattern of waste management facilities set out in the RSS in accordance with the broad locations identified in the RSS; and
 - Allocate sites and areas suitable for new or enhanced waste management facilities to support the apportionment set out in the RSS.

- 2.45 In doing so, PPS 10 requires waste planning authorities to:
 - Be able to demonstrate how capacity equivalent to at least ten years of the annual rates set out in the RSS could be provided;
 - Identify the type or types of waste management facility that would be appropriately located on the allocated site or in the allocated area, taking care to avoid stifling innovation in line with the waste hierarchy; and
 - Avoid unrealistic assumptions on the prospects, for the development of waste management facilities, or of particular sites or areas, having regard in particular to any ownership constraint which cannot be readily freed, other than through the use of compulsory purchase powers.
- 2.46 PPS 10 states that waste land use allocations that are not taken up should be reviewed and updated as Development Plan Documents are reviewed and rolled forward, at least every five years.
- 2.47 A range of other Planning Policy Statements and Planning Policy Guidance is also of relevance to waste development as summarised below.

Planning Policy Statement 1

- 2.48 Planning Policy Statement 1, **Delivering Sustainable Development** (January 2005) provides the principles that underpin the planning system including those covering sustainable development. These principles are reflected through all of other planning policy guidance at national level.
- 2.49 PPS1 states at paragraph 5 that "...these [sustainable development principles] should be pursued in an integrated way through a sustainable, innovative and productive economy that delivers high levels of employment, and a just society that promotes social inclusion, sustainable communities and personal well being, in ways that protect and enhance the physical environment and optimise resource and energy use. Planning should facilitate and promote sustainable and inclusive patterns of urban and rural development by:
 - Making suitable land available for development in line with economic, social and environmental objectives to improve people's quality of life;
 - Contributing to sustainable economic development;
 - Protecting and enhancing the natural and historic environment, the quality and character of the countryside, and existing communities;

- Ensuring high quality development through good and inclusive design, and the efficient use of resources; and,
- Ensuring that development supports existing communities and contributes to the creation of safe, sustainable, liveable and mixed communities with good access to jobs and key services for all members of the community".
- 2.50 PPS1 Supplement, **Planning and Climate Change** (December 2006) identifies how the planning system should contribute to reducing climate changing emissions and take account of the consequences of development on climate change. The PPS Supplement identifies tackling climate change as one of the key priorities of the Government for the planning system.
- 2.51 At paragraph 1.4, the supplement notes that "effective spatial planning is one of the many elements required in a successful response to climate change. Used positively it has a significant contribution to make. Planning and Climate Change sets out how spatial planning, in providing for the new homes, jobs and infrastructure needed by communities, should help shape places with lower carbon emissions and resilient to the climate change now accepted as inevitable. Spatial planning, regionally and locally, provides the framework for integrating new development with other programmes that influence the nature of places and how they function. This means that it has a central part to play in enabling local action and in creating an attractive environment for innovation and investment by the private sector".
- 2.52 Paragraph 7 states that "climate change considerations should be integrated into all spatial planning concerns, including transport, housing, economic growth and regeneration, water supply and waste management, and not considered separately".

Planning Policy Guidance 2

2.53 Green Belt policy is enshrined in PPG2 **Green Belts** (January 1995 and amended in March 2001). The PPG establishes how Green Belts are designated and their land safeguarded. Green Belt landuse objectives are outlined and the presumption against inappropriate development (of all types and scale) is set out. The policy articulates a presumption against inappropriate development in the Green Belt and outlines that such development should not be approved, except in very special circumstances.

Planning Policy Statement 9

2.54 PPS9 Biodiversity and Geological Conservation (August 2005) provides the planning policy basis for the protection of biodiversity and geological assets through the planning system. Paragraph 1 sets out the key principles which are in summary:

- Development plan policies and planning decisions should be based upon up-to-date information about the environmental characteristics of their areas.
- Plan policies and planning decisions should aim to maintain, and enhance, restore or add to biodiversity and geological conservation interests. Appropriate weight should be attached to designated sites of international, national and local importance; protected species; and to biodiversity and geological interests within the wider environment.
- Plan policies on the form and location of development should take a strategic approach to the conservation, enhancement and restoration of biodiversity and geology
- Plan policies should promote opportunities for the incorporation of beneficial biodiversity and geological features within the design of development.
- Development proposals where the principal objective is to conserve or enhance biodiversity and geological conservation interests should be permitted.
- The aim of planning decisions should be to prevent harm to biodiversity and geological conservation interests. Where granting planning permission would result in significant harm to those interests, local planning authorities will need to be satisfied that the development cannot reasonably be located on any alternative sites that would result in less or no harm. In the absence of any such alternatives, local planning authorities should ensure that, before planning permission is granted, adequate mitigation measures are put in place.

Planning Policy Statement 12

- 2.55 Planning Policy Statement 12 Local Spatial Planning (PPS 12) (June 2008) sets out the Government's policy on local spatial planning, which plays a central role in the overall task of place shaping and in the delivery of land uses and associated activities.
- 2.56 Paragraph 2.2 is relevant to waste as it establishes that spatial planning underpins the wider corporate strategy of the Council and Local Strategic Partnership in that it:
 - Brings together a very wide range of different services, since most require land to operate, so it can help to support the co-ordination of services;
 - Ensures that strategies can be based on the community's views and obtain community buy-in;
 - Ensures that other strategies can be fully cognisant of and play their part in respect of issues such as flooding, waste management and transport;
 - Can assist in providing the evidence base for, and monitoring of, other strategies; and
 - Is a major means of engaging with the private sector.

2.57 PPS12 is also relevant as it stipulates the approach to saving policies of former Unitary Development Plans and Local Plans and outlines the process and the matters to which the Government will have regard. These include policies for waste management including unimplemented site allocations.

Planning Policy Guidance 13

2.58 Planning Policy Guidance PPG13, **Transport** (January 2011) amends the previous version of PPG13 (March 2001) with respect to parking standards and charges. The PPG establishes the Government's objectives for the integration of transport and land use planning consideration at national and local levels with the intention of promoting more sustainable transport choices for people and freight. Reduction in the overall need to travel; the greater use of public transport systems, including rail; and improved access to development sites and facilities are supported within the policy.

Planning Policy Statement 23

2.59 Planning Policy Statement 23 **Planning and Pollution Control** (November 2004) (PPS23) is intended to complement the pollution control framework under the *Pollution Prevention and Control Act 1999* and the *PPC Regulations 2000*. The PPS is primarily focused on controlling and minimising pollution through the planning system as part of the Government's overall commitment to sustainable development.

Planning Policy Guidance 24

- 2.60 Planning Policy Guidance 24 **Planning and Noise** (September 1994) (PPG24) guides local authorities on the use of their planning powers to minimise the adverse impact of noise. It outlines the considerations to be taken into account in determining planning applications both for noise-sensitive developments and for those activities which generate noise. It:
 - Outlines the considerations to be taken into account in determining planning applications both for noise-sensitive developments and for those activities which will generate noise;
 - Introduces the concept of noise exposure categories for residential development, encourages their use and recommends appropriate levels for exposure to different sources of noise; and
 - Advises on the use of conditions to minimise the impact of noise.

Planning Policy Statement 25

2.61 Flooding matters are dealt with in Planning Policy Statement 25, **Development and Flood Risk** (Revised March 2010 from the previous version published in December 2006) (PPS25). This sets out Government policy on development and flood risk. Its aims are to ensure that flood risk is taken into account at all stages in the planning process to avoid inappropriate development in areas at risk of flooding, and to direct development away from areas of highest risk. Where new development is, exceptionally, necessary in such areas, policy aims to make it safe, without increasing flood risk elsewhere, and, where possible, reducing flood risk overall.

Regional Policy

Regional Spatial Strategy

- 2.62 The Regional Spatial Strategy for Yorkshire and Humber (RSS), adopted in May 2008, contains specific policies relating to waste management. It recognises that whilst significant progress has been made in terms of Municipal Solid Waste (MSW) recycling rates, Yorkshire and Humber remains one of the worst performing regions in terms of recycling and recovery, a situation which it considers to be unacceptable.
- 2.63 In this context, the RSS stresses the importance of adopting strategies across the region to avoid waste production, recover value from waste that is produced, and only dispose of the residual proportion that has no value. The need to accelerate the rate of investment in new waste facilities and initiatives, specifically relating to MSW arisings, is particularly emphasised.
- 2.64 Policy YH7 sets the approach to controlling the location of new development. It establishes the following hierarchy:
 - First priority to the re-use of previously developed land and buildings and the more effective use of existing developed areas within the relevant city or town;
 - Second priority to other suitable infill opportunities within the relevant city or town;
 - Third priority to extensions to the relevant city or town.
- 2.65 The policy also provides that in identifying sites for development, local planning authorities should adopt a transport-orientated approach to ensure that development:
 - Makes the best use of existing transport infrastructure and capacity;

- Takes into account capacity constraints and deliverable improvements, particularly in relation to junctions on the Strategic Road Network;
- Complies with the public transport accessibility criteria set out in Tables 13.8 and 13.9 and maximises accessibility by walking and cycling;
- Maximises the use of rail and water for uses generating large freight movements.
- 2.66 Policy ENV12 establishes the regional waste management objectives. It provides that plans, strategies, investment decisions and programmes should aim to reduce, reuse, recycle and recover as much waste as possible. Local authorities should work with regional partners, including commerce, the Environment Agency, the waste industry, Recycling Action Yorkshire and community groups to ensure the integration of strategies and proposals for sustainable waste management. Local authorities should support the urgent provision of a combination of facilities and other waste management initiatives which best meets environmental, social and economic needs for their areas based on the following principles:
 - Moving the management of all waste streams up the waste hierarchy;
 - Achieving all statutory waste management performance targets during the Plan period; and
 - Managing waste at the nearest appropriate location, where necessary by seeking agreement with neighbouring authorities.
- 2.67 Policy ENV13 is concerned with the provision of waste management and treatment facilities. This policy establishes the approach and issues that local authorities should take into account in securing such provision. The policy states:
- 2.68 Waste planning authorities should individually or jointly ensure that adequate sites and facilities are available to manage municipal, commercial and industrial, construction and demolition, agricultural, and hazardous waste, taking account of the benchmark figures. Specifically, waste planning authorities should take into account:
 - Capacity of treatment and recovery facilities to deal with municipal and commercial and industrial waste will need to double by 2020 in all sub regions to provide the additional capacity identified;
 - The existing range of facilities for dealing with hazardous waste will need to change to provide for more treatment and less landfill;
 - In the short term there is generally adequate landfill capacity, but there may be a need for new capacity to replace existing facilities, particularly in West Yorkshire, before 2020.
- 2.69 Local authorities will also need to take into account:

- The split between the need to provide facilities to manage the final disposal and recovery/recycling of waste;
- The need to meet nationally set targets for recycling and recovery, including those derived from the Landfill Allowance Trading Scheme;
- The contribution made by new and existing waste facilities and the anticipated lifespan of such facilities;
- The provisions of policy E3 (the economy and employment land reviews);
- Annual waste and waste facility monitoring data provided by the Regional Technical Advisory Body;
- Opportunities to provide treatment facilities for multiple waste streams.
- 2.70 Policy ENV13 also expects that local authorities will consider the specific requirements arising from:
 - Significant transfers of waste across the regional boundary;
 - The likelihood of significant irregular arisings of hazardous waste from site regeneration/remediation projects during the plan period.
- 2.71 Authorities must liaise with neighbouring districts, the RTAB, Recycling Action Yorkshire and community stakeholders to consider any requirements arising from:
 - The need to establish an accessible network of civic amenity or other recyclates collection public "bring" sites;
 - The need to make provision for sites for new waste related businesses (either on a grouped "park" or individual basis) to encourage their establishment.
- 2.72 Policy ENV14 sets out strategic location requirements for waste management facilities and emphasises that waste should be managed on the site where it arises, or if not possible, at the nearest appropriate location. The RSS sets out the following priority areas for the identification of sites for waste management facilities:
 - Established and proposed industrial sites which have potential for the location of waste management facilities and the co-location of complementary activities, such as "resource recovery" or "sustainable growth" parks;
 - Previously developed land including mineral extraction and landfill sites during their period of operation for the location of related waste treatment activities in sustainable locations; and

• Redundant farm buildings and their curtilages.

Regional Waste Strategy

- 2.73 The **Regional Waste Strategy** (July 2003) was produced by a steering group assembled by the Yorkshire and Humber Assembly with the aim of addressing the following issues:
 - The amount of waste being produced is rising every year;
 - The growing volume of waste and the way it is currently dealt with and the subsequent environmental and economic costs;
 - Meeting the legislation that will compel change towards more sustainable waste management practices;
 - Meeting government targets set for all local authorities in the region for recovery, recycling and composting;
 - The financial costs of "business as usual".
- 2.74 The Regional Waste Strategy will also help deliver the objectives of the regions employment objectives as waste is seen as valuable resource and could create upto 1,500 new jobs.
- 2.75 The fours objectives of the Regional Waste Strategy are to:
 - Gain community support and involvement in the delivery of the strategy;
 - Reduce waste production and increase re-use, recycling and composting;
 - Manage residual waste in the most sustainable way;
 - Provide technical support and advice.
- 2.76 The Strategy also sets the following targets for local authorities for recycling and composting:
 - 21% by 2005/6;
 - 30% by 2010/11;
 - 33.3% by 2015/16.
- 2.77 These targets will be achieved through increased kerbside collection, increased facilities such as recycling bring sites, civic amenity sites, material reprocessing facilities and composting plants.

- 2.78 The strategy also sets out a number of policies which advise on how these targets and objectives can be met including:
 - Priority given to initiative and facilities which will encourage and promote waste reduction and reuse of materials;
 - DPDs should include policies and proposals to set specific criteria for the location of waste treatment and recycling facilities;
 - DPDs should include policies and proposals to set specific criteria for the location of waste treatment and recycling facilities;
 - Wherever possible, site-specific proposals for new waste management facilities should be included in development plans;
 - DPDs and Waste Local Plans should ensure that each of the sub-regions should have the capacity to meet the need for landfill of residual waste arising;
 - Plans should only promote new/expanded sites for landfill which are necessary to restore despoiled or degraded land, including mineral workings;
 - Local authorities should facilitate sustainable waste management by including policies in their DPDs which require all developers to make appropriate provision within new developments to facilitate effective management of waste including facilities to separate and store different types of waste at source, kerb-side collection and accessible centralised facilities.
- 2.79 The Regional Waste Strategy also outlines a number of sub-regional targets which for West Yorkshire, which equate to increasing the quantity of waste recycled from 270,000 tonnes in 2005/6 to 503,000 tonnes by 2015/16.
- 2.80 Local authorities should also seek to attain the following level of provision:
 - 1 civic amenity site per 15,000 households; and
 - 1 non civic amenity site per 750 households.

Local Transport Plan

2.81 West Yorkshire's first Local Transport Plan (LTP) set out a programme of improvements to the region's transport system from 2001-6. The first plan was replaced in 2006 with the second plan (LTP2), which is currently being put into action, addressing issues around Accessibility, Air Quality, Congestion, Safer Roads and Asset Management. Its aim is to create a more integrated transport system that supports economic growth and enhances the quality of life of people of West Yorkshire.

- 2.82 LTP2 indicates that to play its part in conserving natural resources local authorities should where possible, reduce trips and make them more sustainable; and support higher concentrations of development and re-use of land with appropriate infrastructure and services.
- 2.83 The overarching LTP2 objectives are:
 - To develop and maintain an integrated transport system that supports economic growth in a safe and sustainable way and enhances the overall quality of life for the people of West Yorkshire;
 - To improve access to jobs, education and other key services for everyone;
 - To reduce delays to the movement of people and goods;
 - To improve safety for all highway users;
 - To limit transport emissions of air pollutants, greenhouse gases and noise;
 - To improve the condition of the transport infrastructure.
- 2.84 The third iteration of the Local Transport Plan (LTP3) is currently being prepared by the region's Integrated Transport Authority (Metro), working in partnership with the five District Councils of Bradford, Calderdale, Kirklees, Leeds and Wakefield. This Plan covers the period 2011 to 2026 and is known as 'My Journey West Yorkshire'. An initial consultation programme on LTP3 was held between October and December 2010.
- 2.85 LTP3 will aim to improve the quality of life of people in the region by addressing issues which affect everyone – the economy; the environment; ability to access jobs, goods, services, people and places; and health, safety and security.
- 2.86 The plan will focus on all modes of transport including 'active travel' (walking and cycling); roads; freight; air travel and reducing the need to travel at all) to ensure that it supports the region's future needs and aspirations. Three key objectives have been identified that reflect transport's contribution to tackling wider issues based on national, regional and local policy:
 - To make substantial progress towards a low carbon transport system for West Yorkshire;
 - To improve connectivity to support economic activity and growth across West Yorkshire and the Leeds City Region;
 - To enhance the quality of life of people in West Yorkshire's diverse communities and visitors and commuters to the region (including health, safety, equality, air quality, noise and the natural environment.

Local Policy

Adopted Replacement Unitary Development Plan

- 2.87 The Adopted Replacement Unitary Development Plan (October 2005) (RUDP) sets out the Council's Vision and Objectives for Bradford and outlined nine Principal Policies in order to meet those objectives.
- 2.88 Under Government legislation relating to the transition between the old UDP system and the new Local Development Framework system, the RUDP was 'saved' for three years. The Council has received a Direction from the Secretary of State (September 2008) which now saves the majority of policies beyond this three year period. The Direction Letter and Schedule from the Secretary of State indicate that the RUDP policies which are saved still form part of the statutory Development Plan.
- 2.89 Saved policy, UDP9, Management of Pollution, Hazards and Waste, states that the Council will contribute to the management of pollution, Hazards and Waste through relevant control measures risk minimisation and the encouragement of reuse and recycling.
- 2.90 Chapter 16 deals with the Pollution Hazards and Waste and sets out mores specific policy on these themes. Policies P8 to P16 (with the exception of P14 which was not saved) all relate to planning for waste facilities. These include specific policy for proposals for waste facilities and outline the key considerations as follows:
 - The activity is appropriately sited within an employment site;
 - There is evidence that the proposals take proper account of the proximity principle and are sited so as to minimise the need for lengthy haulage of materials and whether the proposal is accessible to concentrations of households;
 - The site would be safely accessible from the primary road network and wherever possible close to alternative modes of transport;
 - The proposal would not give rise to unacceptable adverse impacts on people and the environment in terms of visual amenity, noise, odour, dust, air, ground or water pollution or other nuisance.
- 2.91 Policy P11 stipulates that when siting incinerators the facility should be housed in a suitable building and should include proposals for energy from waste.

- 2.92 Policy P12 sets out the requirements for proposals for waste management facilities to provide the following details:
 - The carrying out of waste handling and processing activities within a building or other appropriate means of enclosure;
 - Satisfactory means of access, vehicle manoeuvring and car parking arrangements; appropriate site screening/landscaping and security arrangements;
 - Mobile and fixed plant and machinery;
 - Appropriate site screening/landscaping and security arrangements;
 - Proposed throughput of waste materials in tonnes per annum;
 - Stockpile locations and dimensions;
 - Site drainage and capacity of infrastructure to sustainably accept discharges from site;
 - The potential of the site to be served using alternative transport modes;
 - Measures to prevent adverse impact upon amenity from noise, odour, dust, vibration and emissions to air/water.

Emerging Local Development Framework Core Strategy

- 2.93 The **Bradford LDF Core Strategy** is currently in the planning preparation stage with the Preferred Approach Report to be published for public consultation in mid-2011. The Plan will include a number of policies that set out the strategic context for the provision of waste management facilities and the approach to identifying future waste management facilities in the District.
- 2.94 The Council is also in the process of preparing the LDF Land Allocations DPD. This Development plan Document will make site specific allocations for various land uses anticipated within the LDF plan period, including new waste management sites, but also housing, employment, retail, leisure and appropriate open and green space sites. The DPD will set out policies for the development of such sites and phasing policies as appropriate. It will also identify safeguarded land to meet long-term development needs and ensure a long-term Green Belt is maintained.

Bradford Municipal Waste Management Strategy

2.95 The **Bradford Municipal Waste Management Strategy** (October 2005) outlines how waste collected by the Council will be managed. It establishes the position of the management of municipal solid waste (MSW) within the District at the time of its preparation including arisings and facilities.

- 2.96 The strategy also outlines the targets set by Government through the National Waste Strategy and policies such as landfill tax and the Landfill Allowance Trading Scheme (LATS) and analyses how these seek to reduce landfill and increase recycling.
- 2.97 The Municipal Waste Management Strategy recognises that there is likelihood of significant growth in MSW arisings. To resolve this, the Council set out some short and long term policies including:
 - Expanding the materials collected and households reached through kerbside recycling;
 - Seeking a short term contract for processing mixed waste to generate a recyclable product;
 - Procuring a contract to deliver a step change in management of MSW but should allow for flexibility, ranging from a single plant, to which the Council delivers waste, through to the contractor operating other waste related services, such as Household Waste Recycling Centres (HWRC), refuse collection, trade waste collections, and residual waste disposal to landfill;
 - Adhering to the proximity principle; the Council will need to make land available upon which to construct new facilities, but this should not prevent consideration of regional facilities outside of the District,

Outline Business Case: PFI Credit Support for Waste Treatment Services

This document effectively updates the Bradford Municipal Waste strategy and set out the new strategic waste management objectives for the District, these are:

- elevate the waste management activities up the waste hierarchy to more sustainable levels;
- achieve self-sufficiency and manage wastes in accordance with the proximity principal;
- contribute to achievement of corporate priorities;
- achieve locally the national waste strategy targets;
- improve public awareness of waste and environmental issues;
- link to other Council strategic documents;
- provide value for money.

- 2.98 The Council is committed to achieving local, national and European targets for the management of municipal waste. This includes Landfill Allowance Trading Scheme (LATS) which seeks to reduce the biodegradable municipal waste to landfill to the following targets:
 - By 2010 to reduce biodegradable Municipal Wastes landfilled to 75% of that in 1995;
 - By 2013 to reduce biodegradable Municipal Wastes landfilled to 50% of that in 1995;
 - By 2020 to reduce biodegradable Municipal Wastes landfilled to 35% of that in 1995.
- 2.99 If these targets are overachieved in the District then the Council has approval from its Executive to engage in landfill allowance trading with other local authorities in these early years of the scheme.
- 2.100 The Outline Business Case also outlines the revised targets for landfill diversion, recycling, composting and energy recovery from municipal wastes set out in the Waste Strategy for England 2007. These targets are set out below:
 - Reduction in the amount of household waste not re-used, recycled or composted relative to 2000 by 29% by 2010, 35% by 2015 and 45% by 2020;
 - Recycling and composting rate of household waste to increase to 40% by 2010, 45% by 2015 and 50% by 2020;
 - Municipal waste recovery to increase to 53% by 2010, 67% by 45% and 75% by 2020.
- 2.101 The Council will also seek to reduce commercial and industrial waste landfilled by 20% of the 2004 levels by 2010 and to reduce greenhouse gases by 10 million tonnes of CO₂ equivalents by 2020.

Sustainable Community Strategy

- 2.102 Bradford District's **Sustainable Community Strategy** (SCS) is a set of goals and actions that represent the priorities of the area. It is also acts as an umbrella document that is a foundation for all local strategies. In Bradford, the SCS is known as the 'Big Plan'. The first Big Plan was launched on 1st April 2008 and continues to 31st March 2011. Work has now started on Big Plan II.
- 2.103 The Big Plan partners are committed to making the way of life in Bradford more sustainable and communities more cohesive and inclusive. These shared outcomes will underpin everything in The Big Plan. The main challenge is to achieve sustainable prosperity for all communities. To achieve this the Big Plan partners focuses on three areas which will lead to change within the District:
 - Regenerating the city and major towns;

- Improved education outcomes;
- Improved skills at all levels.
- 2.104 Efforts are targeted on the following areas to make the District more sustainable and build better, more inclusive communities:
 - Children and Young People;
 - Health and Wellbeing;
 - Improving the Environment;
 - Prosperity and Regeneration;
 - Safer Communities;
 - Stronger Communities.
- 2.105 Under the 'Improving the Environment' priority to achieve "a more sustainable environment which has a positive effect on climate change" the Plan states that partners will deliver new approaches to managing and disposing waste, ensuring reduced use of landfill whilst improving recycling facilities.
- 2.106 Under the same priority, partners will engage business to "encourage developers to adopt environmental management plans in relation to energy use, waste management and water use, and to ensure high-quality design of new housing and commercial developments" Elsewhere in the Big Plan, one of the shared outcomes is identified as minimising waste.

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3. CALCULATING CURRENT AND PROJECTED WASTE ARISINGS

Introduction

- 3.1 In accordance with Bradford's Core Strategy, the Waste Management DPD: Preferred Approach projects future waste arisings over the period to 2026 including a number of scenarios / alternative models. The data sources and methodologies considered, including the rationale for the final figures included in the DPD Preferred Approach are set out in the remainder of this section.
- 3.2 To ensure a robust basis for the approach and specific policies, two alternative methods have been considered in forecasting future waste arisings with Bradford District:
 - The first method uses locally sourced waste data, including that derived from the Environment Agency's Waste Data Interrogator;
 - The second method utilises waste data derived from regional information set out in the Regional Spatial Strategy (RSS) and Regional Technical Advisory Body (RTAB) reports.
- 3.3 The rationale for selecting which method generates the most reliable and up-to-date figures is different between waste streams. In some cases this includes the combination of the two sources above, with other data obtained from the Environment Agency, Bradford Council's own data sourced from the Waste PFI team, and data from the 2007 Yorkshire and Humber Waste Data Statistics Digest.
- 3.4 The various waste streams are considered in turn in the remainder of this section.

Municipal Solid Waste

- 3.5 Municipal Solid Waste (MSW) is solid waste generated by households and commercial establishments, collected by the Local Authority.
- 3.6 Municipal Solid Waste arisings include waste originating in both Bradford and Calderdale District as part of the Council's agreement on sharing waste facilities through the Municipal Waste Private Finance Initiative (PFI) programme.

Data Options

- 3.7 Two relevant sources of MSW data are available:
 - MSW waste data drawn from Bradford Council: this information was collated by Bradford Council's Waste PFI Team, utilising primary data from Bradford and Calderdale Councils, projecting forward based on forecast of waste arisings up to 2026.
 - MSW data from the Regional Spatial Strategy "*The Yorkshire and Humber Plan*" (2008), which forecasts the likely future waste arisings for Municipal Solid Waste using five scenarios:
 - 0.5% growth (Waste Strategy 2007);
 - Regional historic growth;
 - Local Authority historic growth;
 - Housing growth (Yorkshire Forward Data); and
 - Historic/authority housing growth.
- 3.8 For the Waste Management DPD Preferred Approach, the average of these RSS scenarios has been calculated in order to accurately assess the level of Municipal Solid Waste arisings for both Bradford and Calderdale.
- 3.9 An alternative source of data on future MSW waste is contained within the Environment Agency's Waste Data Interrogator. This data source defines MSW as solely that managed by Bradford MDC owned and operated waste management sites and therefore excludes waste arisings in Calderdale District. Despite these differences in definition the Waste Data Interrogator also calculates a similar tonnage of future MSW waste arisings to the RSS and PFI Team data sources.

Projection Methodology

- 3.10 Source 1: The Bradford Council PFI team has calculated future MSW arisings data for both Calderdale and Bradford Districts for the period to 2026. The projections show no immediate growth in MSW arisings from 2021 onwards.
- 3.11 Source 2: RSS projects MSW arisings up to 2021. For Bradford's Waste Management DPD Preferred Approach it is necessary to make projections for a further five years to 2026. This has been undertaken by using a standard 0.5% annual growth rate based on national historic trends as outlined in the National Waste Strategy and reflected in the RSS forecasting process.
- 3.12 Table 1 sets out the forecast MSW arisings used in the Waste Management DPD Preferred Approach. There is a strong similarity and alignment between the two forecast scenarios despite

the different data sources and forecast methods used. This provides a level of confidence in the future forecast projections.

| Table 1 Trojected Manicipal Cond Maste Ansings, Bradiora District, by Data Course | | | | | | |
|---|------------------------------|---------|---------|---------|---------|---------|
| MSW | Source | 2008 | 2010 | 2015 | 2021 | 2026 |
| Source 1 | Bradford MDC PFI Team | 355,474 | 342,902 | 329,813 | 345,617 | 345,617 |
| Source 2 | Regional Spatial Strategy | 361,702 | 372,000 | 391,000 | 417,000 | 427,530 |
| Preferred Source | Source 1: Bradford MDC | 355,474 | 342,902 | 329,813 | 345,617 | 345,617 |

| Table 1 – Projected Municipal Solid Waste Arisings, | Bradford District, b | y Data Source |
|---|----------------------|---------------|
|---|----------------------|---------------|

Preferred Data Source

- 3.13 The preferred Municipal Solid Waste projections are those derived from the Council's PFI Team. These forecasts represent the most recent data available and involved a thorough review of Municipal Solid Waste arisings within the two districts and were not reliant on second hand data sources. Additionally as this data is locally sourced it is more reflective of the current waste situation in Bradford and Calderdale than the RSS figures.
- 3.14 This data also forms the basis upon which the PFI waste contracts were procured and its continued use will allow for a more consistent approach to forecasting for Municipal Solid Waste and the incorporation of data from PFI bidders and operators.

Commercial & Industrial Waste

3.15 Commercial and Industrial (C&I) waste represents the largest type of waste arising within Bradford District. C&I waste includes materials created by business and commerce as well as waste from schools, restaurants, offices, retail businesses, manufacturing industries etc.

Data Options

- 3.16 Two data sources for C&I waste have been considered:
 - Source 1: Data taken from the Regional Technical Advisory Body (RTAB). RTAB forms part of the Local Government Yorkshire and Humber (LGYH) and local authority partnership, which covers key infrastructure and services. This data is an extrapolation of C&I waste estimates made for each sector in the region following an extensive survey of businesses, with estimates remaining comparable for sectors in the Yorkshire and Humber region¹. The C&I waste data for

¹ "Study to fill Evidence Gaps for Commercial & Industrial Waste Streams in the North West Region of England" Urban Mines June 2007

the different sectors are linked to company size and to the levels of business activity in Yorkshire and Humber based on number of business units and their projected growth in the region.

 Source 2: Data taken from the Environment Agency's Waste Data Interrogator and projected forward using RSS 2008 data as the basis for projection as the Waste Data Interrogator data did not include any projection The RSS outlined the likely waste arisings for C&I waste based on full time employment (FTE) growth within 30 industrial sectors. Waste arisings per employee per sector are calculated and the growth in C&I waste arisings derived from this. This was thought to be a considerably more robust method to project C&I waste arisings than projecting from historical WDI data which would not reflect the economic aspirations of the District and was prone to fluctuations.

Projection Methodology

- 3.17 The RTAB projections for C&I waste covers the period to 2026. It is not therefore necessary to make any further projections beyond the period for the purposes of the Bradford Waste Management DPD Preferred Approach report.
- 3.18 The Waste Data Interrogator and RSS data source only projects C&I waste arisings in the period to 2021. Using this data source therefore necessitates further projection of C&I arisings to cover the Bradford Core Strategy plan period to 2026. The RSS data established a growth rate of 0.3% per annum for C&I waste from 2016/17 onward. This rate of growth has been carried forward to project C&I waste for Bradford District for the period to 2026 using the RSS data source.
- 3.19 Table 2 outlines the projections using both data sources for Commercial and Industrial Waste.

| Source | | | | | | |
|----------------------------------|---|---------|---------|---------|---------|---------|
| Commercial & Industrial Waste | Source | 2008 | 2010 | 2015 | 2021 | 2026 |
| Source 1 | Regional Technical Advisory Body (RTAB) | 586,020 | 530,597 | 540,283 | 544,368 | 542,156 |
| Source 2 | Regional Spatial Strategy and Waste Data Interrogator | 531,133 | 628,000 | 638,000 | 649,000 | 658,794 |
| Preferred Source | Source 1: Regional Technical Advisory Body | 586,020 | 530,597 | 540,283 | 544,368 | 542,156 |

| Table 2 – Projected Commercial and Industrial Waste Arisings, Bradford District, by Dat | а |
|---|---|
| Source | |

Preferred Data Source

3.20 The preferred data source and forecasts for Commercial and Industrial Waste are taken from the Regional Technical Advisory Body Yorkshire and Humber Commercial and Industrial Waste

Projections 2006 -2026. This data source provides a more realistic account of future waste arisings for Commercial and Industrial Waste than the RSS as it includes consideration of both Bradford District's own employment development projections and the waste arisings from individual employment sectors compared to solely total employment growth within the RSS projections. It is therefore a more detailed and robust data source for projections to 2026 than that provided within the RSS.

Construction, Demolition and Excavation Waste

- 3.21 Construction, Demolition and Excavation Waste (CDEW) is waste produced in the building construction and mining industries. This waste stream is the second largest source of waste arising within Bradford District. A significant proportion of this waste is re-used or recycled in-situ at the sites where it is generated.
- 3.22 CDEW waste managed on-site does not require a waste operator's permit and as such many sites producing CDEW are not required to provide waste data returns to the Environment Agency. As no waste returns were completed for these sites, the Environment Agency's Waste Data Interrogator figures are considered to represent a substantial under-estimate of the actual level of CDEW arising within Bradford District.

Data Options

- 3.23 There are limited options in producing robust statistics for CDEW waste, as summarised in the following bullet points.
 - The Waste Data Interrogator does not include waste reused and recycled on-site therefore under-estimates total waste arisings;
 - The RSS and the Survey of Arisings and Use of Alternatives to Primary Aggregates in England 2005 are based on regional or sub-regional data. These required apportionment of the regional data to identify the level of waste originating particularly in Bradford District.
- 3.24 It has been assumed that the sub-regional arisings have not significantly changed since 2005 therefore the arisings outlined in the Survey of Arisings and Use of Alternatives to Primary Aggregates in England represented the most up-to-date and robust base data on CDEW arisings available given its wide ranging survey and also included waste reused and recycled in-situ.
- 3.25 The Waste Data Interrogator has been used to disaggregate the survey data to a district level. Despite the omission of waste reused and recycled in-situ it has been assumed that the proportion

of waste from Bradford District identified within the West Yorkshire sub-regions would not alter significantly without this.

- 3.26 Two adjustments have however been applied to the Waste Data Interrogator data. Firstly, any inert C&D waste arisings liable to be from domestic or commercial origin such as glass was deducted, this was to ensure only CDEW waste was included. Secondly, arisings with no known origin were redistributed based on the distribution of arisings of known origin, this was to ensure that a more holistic view of waste movements within the district was taken into account and to mitigate against large amounts of waste of no known origin.
- 3.27 It has been assumed that there is a direct relationship between the waste of known origin and waste of unknown origin, i.e. 97% of waste of unknown origin was assumed to come from within Bradford District as 97% of the waste of known origin originated within the District. This was particularly important as the origins of 85% of the CDEW managed in Bradford District in 2008 was not accounted for within waste data returns.
- 3.28 Once unknown waste was redistributed as outlined above the resulting breakdown of sub-regional waste and particularly the proportion assumed to be from Bradford was used to disaggregate the level of sub-regional waste identified in the Survey of Arisings and Use of Alternatives to Primary Aggregates to a District level.

Projection Methodology

3.29 The annual growth rates for CDEW established in the RSS were used to calculate the future CDEW arisings in Bradford to 2021. In order to roll these projections forward to cover the period to 2026, the average annual growth from the RSS forecasts (+0.41% per annum) has been applied to the intervening years.

Preferred Data Source

3.30 As only one robust reliable data source was identified to calculate the level of CDEW waste arisings within the District this has been utilised to make projections of future CDEW arisings in Bradford.

| District | | | | | | | |
|------------------|---------------------------|---------|---------|---------|---------|---------|--|
| CDEW | Source | 2008 | 2010 | 2015 | 2021 | 2026 | |
| Source 1 | Bradford MDC | 489,579 | 492,810 | 503,570 | 520,380 | 531,135 | |
| Preferred Source | Source 1: Bradford MDC | 489,579 | 492,810 | 503,570 | 520,380 | 531,135 | |

Table 3 – Projected Construction, Demolition and Excavation Waste Arisings, Bradford District

Hazardous Waste

3.31 Hazardous waste is defined to pose a threat either to the general public or the wider environment. This includes waste from chemical processing, discarded electrical equipment and healthcare services.

Data Options

- 3.32 Two data sources are available and have been considered as the basis to project future hazardous waste arisings:
 - Source 1: The Environment Agency's Waste Data Interrogator. This data source does not have
 a single classification for hazardous waste. Instead it denotes a number of the forms of waste
 that are considered to fall within the definition of hazardous materials. According to the Waste
 Data Interrogator the largest contributors to hazardous waste are end-of-life vehicles and
 insulation materials including asbestos.
 - Source 2: Data from the RSS which bases its hazardous waste information on the 2007 Yorkshire and Humber Waste Data Statistics Digest produced by Local Government Yorkshire and Humber (LGYH). The Waste Data Statistics Digest uses data produced in conjunction with the Environment Agency.

Projection Methodology

- 3.33 The Waste Data Interrogator projects hazardous waste arisings using the most recent trend information from the last four years, and extrapolates the 2008 figure forward in the period to 2026. This approach shows a reduction in hazardous waste arisings of 2.5% per annum.
- 3.34 The 2007 Yorkshire and Humber Waste Data Statistics Digest is a static report and does not project Hazardous waste arisings beyond its publication date. Future projections for hazardous waste within the RSS show zero growth from the 2007 baseline. The 2007 figure includes a significant growth in hazardous waste from hazardous waste not previously specified and is due to a reclassification of hazardous waste. With that exception of the above growth hazardous waste levels produced within the district have remained fairly static between 1998 and 2007 and it is for that reason that Enviros² recommended that zero growth projections should be used for hazardous waste within the RSS.
- 3.35 Table 4 sets out the two different hazardous waste forecasts using both data sources.

² Waste Arisings Forecasting. A Report by Enviros Consulting Limited for the Government Office for Yorkshire and the Humber, June 2007
| Hazardous Waste | Source | 2008 | 2010 | 2015 | 2021 | 2026 |
|------------------|--|--------|--------|--------|--------|--------|
| Source 1 | EA Waste Data Interrogator | 18,991 | 18,065 | 15,942 | 13,722 | 12,109 |
| Source 2 | Y&H Waste Data Statistics Digest | 21,821 | 21,821 | 21,821 | 21,821 | 21,821 |
| Preferred Source | Source 2: Y&H Waste Data Statistics Digest | 21,821 | 21,821 | 21,821 | 21,821 | 21,821 |

Table 4 – Projected Hazardous Waste Arisings, Bradford District

Preferred Data Source

3.36 The RSS forecasts based on the 2007 Yorkshire and Humber Waste Data Statistics Digest data is considered to represent the most recent and in-depth study into Hazardous waste across the region, including Bradford. This data is the preferred source.

Agricultural Waste

3.37 Agricultural waste is that waste and by-products arising on farms consisting of organic matter such as manure, slurry, silage effluent and crop residues and non-organic materials. It also includes horticultural waste derived from the operation of gardens, and parks, such as grass or flower cuttings and hedge trimmings,.

Data Options

- 3.38 Two potential data sources are available:
 - Source 1: The Environment Agency's Waste Data Interrogator. This source provides a specific waste classification for 'Agriculture and Food Processing Waste'. Similar to CDEW waste, Agricultural waste includes a significant amount of waste arisings which are reused or recycled in-situ where they are generated. On-site re-use or recycling does not require a waste license. Therefore such activities on these agricultural sites do not provide waste returns to the Environment Agency's Waste Data Interrogator and are not captured in the data as a result. Subsequently the Waste Data Interrogator figures under-estimate the actual level of Agricultural waste produced within Bradford District.
 - Source 2: Data for agricultural waste derived from disaggregating the regional agricultural waste arisings set out in the RSS (not available to local authority level) using the 2003 Agricultural Waste Survey carried out by Biffa Ward for DEFRA as the basis.

Projection Methodology

- 3.39 The available Waste Data Interrogator figures for agricultural waste were projected forward from 2021 to 2026 using the Waste Data Interrogator data from the last four years. This equates to reduction of 7.4% per annum.
- 3.40 The RSS sets out agricultural waste arisings until 2021; and were projected forward to 2026. An annual reduction or 6% in agricultural waste arisings was derived for the period 2007-2026. This was based on the average rate of change per year used in the calculation of the RSS figures to 2021.
- 3.41 The RSS calculated that 4,288,000 tonnes of agricultural waste was produced within the Yorkshire and Humber region in 2008. In order to produce a specific figure for Bradford District, the regional figure has been disaggregated using the 2003 Agricultural Waste Survey as the basis. This survey assumed that only 2.5% of the region's agricultural waste arisings originated in Bradford because only 2.5% of the Region's agricultural employees work in the District.

| Agricultural Waste | Source | 2008 | 2010 | 2015 | 2021 | 2026 |
|-----------------------|-------------------------------|---------|--------|--------|--------|--------|
| Source 1 | EA Waste Data Interrogator | 8,492 | 7,277 | 4,948 | 3,114 | 2,117 |
| Source 2 | RSS Based | 105,067 | 93,305 | 69,318 | 48,564 | 35,641 |
| Preferred Source | Source 2: RSS Based | 105,067 | 93,305 | 69,318 | 48,564 | 35,641 |

Table 5 – Projected Agricultural Waste Arisings, Bradford District

Preferred Data Source

- 3.42 The preferred forecasts for agricultural waste arisings are taken from the disaggregated RSS figures. This source represents the most robust evidence base and more fully reflects the levels of in-situ reuse and recycling at unlicensed sites.
- 3.43 As well as not including in-situ reuse and recycling, the Waste Data Interrogator projections have shown significant fluctuations in the levels of agricultural waste arising over the last five years. This has made accurate forecasting of future waste arisings more difficult.
- 3.44 Whilst these projections of agricultural waste are robust and form the preferred evidence base, legislation established in 2006 removed the requirement for local authorities to identify additional agricultural Waste facilities.

Combined Preferred Forecast Waste Arisings

3.45 The combined preferred forecast waste arisings are set out in Table 6. This approach draws on the most reliable and robust data available for each individual waste stream, blending locally specific data relating to MSW and C&I waste, with regional data for other waste streams disaggregated to a District level. The preferred forecast projections illustrate an overall reduction in waste arisings of 81,590 Tonnes across the District between 2008 and 2026.

| Table 6 – Freieneu Waste Stream Forecasts, Brauford District | | | | | | | | | | | |
|--|-----------|-----------|-----------|-----------|-----------|--|--|--|--|--|--|
| Waste Stream | 2008 | 2010 | 2015 | 2021 | 2026 | | | | | | |
| Agricultural Waste ⁺ | 105,067 | 93,305 | 69,318 | 48,564 | 35,641 | | | | | | |
| Commercial and Industrial Waste** | 586,020 | 530,597 | 540,283 | 544,368 | 542,156 | | | | | | |
| CDEW [^] | 489,579 | 492,810 | 503,570 | 520,380 | 531,135 | | | | | | |
| Hazardous Waste [#] | 21,821 | 21,821 | 21,821 | 21,821 | 21,821 | | | | | | |
| MSW – Bradford [^] | 261,097 | 250,404 | 237,324 | 248,410 | 248,410 | | | | | | |
| MSW – Calderdale [^] | 94,377 | 92,498 | 92,489 | 97,207 | 97,207 | | | | | | |
| Grand Total | 1,557,961 | 1,481,436 | 1,464,805 | 1,480,749 | 1,476,371 | | | | | | |

| Table 6 - | Preferred | Waste | Stream | Forecasts | Bradford District |
|-----------|-----------|----------------|--------|-------------|-------------------|
| | FIEIEIIEU | vvas ie | Sueam | I UIECASIS. | Diautoru District |

Source – Environment Agency, ** Regional Technical Advisory Body, [#]Yorkshire and Humber Waste Data Statistics Digest, ^Bradford MDC, & ⁺GVA based on RSS for Yorkshire and Humber 2008,

4. OPERATIONAL WASTE FACILITIES

Introduction

4.1 Data concerning existing operational waste facilities within Bradford District are drawn from two separate sources provided by the Environment Agency. In this section the available datasets are explored and the methods for their use in the Waste Management DPD Preferred Approach are explained.

Waste Data Interrogator

- 4.2 The Environment Agency's Waste Data Interrogator 2008 is a comprehensive database of information about the types and quantities of waste taken for transfer, treatment or disposal to sites permitted by the Environment Agency in England and Wales.
- 4.3 All the information on operational waste facilities in the Waste Data Interrogator 2008 comes from return forms completed by waste site operators. These return forms detail the quantities, origins and type of waste they manage and expel from individual sites. However not all of this information is mandatory; subsequently some operators do not provide a complete record of information.
- 4.4 A number of facilities are exempt from submitting return forms (such as construction sites and agricultural operations) and are not required to complete waste management permits, therefore a significant proportion of waste that is recovered or re-used does not appear in the data.
- 4.5 The data for waste arisings managed in Bradford District is provided directly by the Environment Agency and in for that relating to Rendering by Bradford Council, as these waste facilities are governed by the Animal By-Product regulations and the Council's Environmental Health Department, rather than the Environment Agency. This information was disseminated using the site category information provided.
- 4.6 Table 7 summarises the waste management methods currently used in the District for all types of waste site category, as recorded by the Environment Agency. This data may under-record CDEW and agricultural waste management as these waste streams are noted to be largely handled at source and/or are exempt from requiring a permit as noted previously within this paper. Figures for waste water are also included for completeness but are not specifically planned for within this Waste Management DPD Preferred Approach.

- 4.7 Within the Waste Data Interrogator dataset each site has been assigned a category and level of waste managed in tonnes. From this it has been possible to derive the total tonnage managed for each site category.
- 4.8 The waste data interrogator disaggregates waste managed at individual facilities by each local authority which supplies it waste, therefore some waste sites were included in the list on multiple occasions as they received waste from more than one local authority. In order to gain an understanding of exactly how many individual sites were operating in the District the site name and licences holder information was used to remove duplication where possible.

| Site Category | Sites | Total (Tonnes) | % |
|----------------------------|-------|----------------|--------|
| Landfill | 1 | 4,612 | 0.3% |
| MRS | 21 | 259,892 | 19.3% |
| Storage (Incinerator) | 1 | 30 | >0.01% |
| Waste Transfer | 33 | 657,905 | 48.9% |
| Treatment | 4 | 7,592 | 0.6% |
| Rendering* | 2 | 187,000 | 13.9% |
| Waste Water | 2 | 228,140 | 17.0% |
| Total | 64 | 1,344,171 | 100.0% |
| Total (Excluding Transfer) | 29 | 687,266 | 100.0% |

Table 7- Waste Managed at Operational Sites by Site Category, Bradford District (2008)

Source: Waste Data Interrogator, 2008, Environment Agency 2009, *Bradford MDC, figure approx due to confidentiality – NB: Numbers may not add due to rounding.

- 4.9 The categorisation applied to the sites within the dataset reflects the main waste function of each site. In some cases this includes facilities which have been designated within more than one category. For example the Waste Water facilities at Esholt also contain an Incinerator.
- 4.10 This data can be divided out further to reflect more specific site typologies including, for example, Car Breaker Yards and Biological treatment sites. This was assembled through information provided by the Environment Agency Waste Data Interrogator and utilised the "Site Type" information.
- 4.11 The Landfill figure is derived from one site : the Hazelhurst Quarries site which was licensed to Patchett Homes Ltd and managed 4,621 tonnes of inert materials in 2008. However, the site has been non-operational for number of years, importation has ceased and the site has been designated for housing.
- 4.12 There are 21 Metal Recycling Sites (MRS) within Bradford District which manage 259,892 tonnes per annum. Whilst most of these sites (13) are smaller car breakers yards handling end-of-life

vehicles the majority of total waste by tonnage is dealt with at MRS facilities across Bradford (256,866 tonnes).

- 4.13 There are four MRS sites each managing over 10,000 tonnes of waste, the largest of which is the European Metal Recycling site in Laisterdyke. The origin of this waste is unknown however it is largely comprised of metals and discarded electronic equipment some of which is classed as Hazardous waste.
- 4.14 The single Storage (Incinerator) site within the District is the Pets at Rest site in Thornton which operates as a pet crematorium. The site manages around 30 tonnes of waste originating from West and North Yorkshire. The majority of this waste is classified as C&I waste although a minority is within the hazardous waste stream.
- 4.15 There are other incinerators within Bradford operating as part of larger treatment and transfer locations. These incinerators are counted within other categories in Table 7 as they form one component part of a larger mixed activity waste facility.
- 4.16 The largest percentage of waste according to the Waste Data interrogator is managed within the Districts 33 waste transfer sites. The largest proportion of waste dealt with in transfer stations is on sites owned and operated on by Bradford MDC (circa 375,000 tonnes).
- 4.17 The waste managed at Council owned transfer sites predominantly originates from Bradford with a small minority originating from the rest of Yorkshire and Humber region and the remaining 1.2 tonnes of pesticides from Stockport managed at the Chemical Advisory Store.
- 4.18 There are four private transfer station operators which handle over 20,000 tonnes of waste within Bradford. These are Associated Waste Management Ltd (122,529 tonnes), Biffa Waste Services Ltd (76,016 tonnes) Thomas Crompton Developments Ltd (28,221 Tonnes) and Veolia Ex Onyx UK Ltd (24,797 tonnes). These sites handle all waste streams from mainly West Yorkshire.
- 4.19 There are four waste treatment sites within the District which handle hazardous and C&I waste from across the country. The majority of this waste is dealt with at G W Butler owned facilities at the Bow Beck Clinical Waste Treatment Facility or the Bow Beck Medical Waste Processing Facility (6,648 tonnes).
- 4.20 The rendering figure quoted is derived using approximate figures due to confidentiality. There are two rendering facilities within the Bradford District dealing with Category 1 Animal By-Products. The figure has been derived by utilising information on the two rendering plants in 2008, which includes the number of cookers deployed and the number/size of heavy good vehicle movements

to the sites. It is understood that approximately 600t of ABP per day for 312 days per year (6 working days per wk) = $600 \times 312 = 187,200t$, equating to approximately 187,000t of ABP p.a.

4.21 Waste Water sites are defined as those owned and operated by Yorkshire Water. Both Waste Water treatment sites are located at Esholt. One of the sites treats biological matter and the other transfers organic chemical process waste. The latter of the two dealt with 200,150 tonnes of waste in 2007.

Pollution Prevention and Control

- 4.22 The Pollution Prevention and Control (PPC) Register (now incorporated within the Environmental Permitting Programme) is a register of all sites, waste or otherwise, which could potentially pollute the local environment. A number of waste sites are excluded from this the PPC Register including construction and agricultural sites in addition to sites producing less than an agreed amount of pollutants.³
- 4.23 Table 8 provides details of the permitted tonnage for each of the waste facility types across the District based on their operational licence. This data has been provided by the Environment Agency and represents the most current evidence of larger waste installation permitted capacities.
- 4.24 The PPC Register is also a mechanism for permitting waste sites and specifying a permitted tonnage for each site. In most cases this is within a defined range (Landfill and Incinerators had specific capacities assigned) and where this is the case the upper end of the defined range has been used to calculate the figures in Table 8. Some larger sites also have an open ended permitted tonnage of >75,000 tonnes per annum; where this is the case a permitted tonnage of 100,000 tonnes has been assumed.
- 4.25 Some smaller waste sites, although requiring a permit to operate, are not required to go on the PPC Register as they are classed as 'Low Impact Installations'. This includes the storage incinerator/pet crematorium site. Conversely some of larger sites while required to inform the Environment Agency of how much waste is treated are not required to make full waste returns to be included in the Waste Data Interrogator. This was due to the complexity and scale of the waste which they manage.
- 4.26 Furthermore the designation of some sites varies and others are divided into multiple site categories therefore site category capacity varies between the PPC Register and those sites listed in the Waste Data Interrogator. For example the facility at Esholt is listed as a Waste Water treatment facility in the Waste Data Interrogator (Table 7) but is split over three facility types in the

³ For full list of excluded sites please see http://www.legislation.gov.uk/uksi/2010/675/schedule/3/made

PPCR list i.e. an operational incinerator with a permitted tonnage of 18,000 as well as a Transfer and Treatment Waste Operation with a capacity of over 75,000 tonnes each (Table 8).

- 4.27 Furthermore some the sites included on the PPC Register are no longer in operation or have not utilised their operating permit. In order to produce a robust capacity within the district the inactive sites have been discounted from the permitted tonnage set out in Table 8.
- 4.28 Table 8 identified the majority of waste management permitted tonnage within Bradford District is in Waste Transfer and MRS facilities. Permitted capacity for treatment facilities which will become increasingly important as the District seeks to reduce waste going to landfill is currently limited. This highlights a potential vulnerability in capacity within Bradford to deliver aspirations to reduce waste transfer and increase treatment of waste within the District over the plan period.

 Table 8- PPC Licensed Capacity of Operational Waste Management Facilities in Bradford (2008)⁴ and Bradford MDC derived figure

| Site Type | Annual Permitted Tonnage |
|----------------------------|--------------------------|
| Incineration | 18,000 |
| Other Waste Operations | 50 |
| MRS | 540,000 |
| Waste Transfer | 1,135,000 |
| Treatment | 190,000* |
| Rendering** | 246,000 |
| Total | 2,129,050 |
| Total (Excluding Transfer) | 994,050 |

Source: Permitted Waste Facilities: April 2010, Environment Agency. **Bradford MDC, figure approx due to confidentiality - Numbers may not add due to rounding.

- 4.29 The only Incinerator licensed through the PPC Register is that situated within the Yorkshire Water site at Esholt. This site is licensed has a permitted capacity of 18,000 tonnes and deals with Sewage Sludge. In the last three years the level of waste incinerated at this site has grown from 10,052 tonnes in 2006 to 13,160 tonnes in 2008.
- 4.30 The incinerator at Pets at Rest is included within the Other Waste Operations category. This is supplemented by Rigby Cold Drawn Products facility which is described as an A10: In-house Storage Facility.
- 4.31 The MRS sites are a sub-section of the waste treatment facilities and are defined as the following facility types defined as A19: Metal Recycling Site (Vehicle Dismantler), A19a : ELV Facility and A20 : Metal Recycling Site (mixed MRS's). There are three MRS sites in the District which are

⁴ The data taken from Environment Agency systems is subject to change due to the nature of regulatory process

permitted to manage over 75,000 tonnes, these are: Bradford Waste Traders Ltd; European Metal Recycling and Crossley Evans Ltd.

- 4.32 As with the Waste Data Interrogator the largest percentage of permitted capacity on the PPC Register is found within Waste Transfer facilities. Three of the four sites with a permitted capacity of over 75,000 tonnes are owned and operated by Bradford MDC. The Council also operates a number of other smaller sites within this category.
- 4.33 The additional transfer site with a permitted capacity of over 75,000 tonnes is again the Yorkshire Water site at Esholt. For this list the site is described as an A11: Household, Commercial & Industrial Waste Transfer Station.
- 4.34 There are seven treatment facilities on the PPC Register, the largest of which is at Esholt and is managed by Yorkshire Water and has a permitted tonnage of over 75,000 tonnes. This category also includes the Bow Beck Medical Waste Processing Facility which has a permitted capacity of between 5,000 and 75,000 tonnes and is described as A16, Physical Treatment facility.
- 4.35 The capacity for the rendering facilities is derived using approximate figures due to confidentiality. It is again derived from utilising information on the plants, including the number of cookers deployed and the number/size of heavy good vehicle movements to the sites. It is understood there is an approximate capacity of 246,000t, based on information from one of the rending plants (with 2 cookers) who have processed approx 500,000t in the last 3 years 500,000/3=166,000 + 80k (rendering plant with 1 cooker) = 246,000t pa . It is probable that approximate 246,000t capacity is currently being fully utilised at the two rendering plants in Bradford, however fluctuations in contracts and competition in the industry could mean that capacity is not always fully utilised.
- 4.36 It is not possible to provide permitted tonnage by waste stream as waste operators tend to manage wastes from multiple streams and the permits only specify permitted tonnage for all waste rather than by waste stream.

5. WASTE MOVEMENTS

- 5.1 This section sets out the relevant data and characteristics of waste movements in and out of Bradford District and how they were calculated
- 5.2 2008 Waste Data Interrogator figures indicate a significant annual transfer of waste into and out of the District. A total of 123,707 tonnes of waste was imported into the district (when measured by waste stream), with a total of 670,013 (when measured by Waste Stream) tonnes exported; a net balance of 546,306 tonnes of waste leaving the district.

Exported Waste

- 5.3 The amounts of waste exported from Bradford District indicate a significant reliance on waste management facilities in locations outside the District. This is also reflected in the fact that there are 34 Waste Transfer stations situated in the District⁵ that are needed to handle the export of waste. This position is changing in the context of planning permissions granted, new planning applications, and the Council's Waste PFI investment programme.
- 5.4 Tables 9 and 10 summarise the export of waste to facilities outside Bradford District, in 2008. They demonstrate a reliance on facilities in surrounding authorities for waste treatment and particularly landfill of residual waste. Analysis of the overall types of waste exported from Bradford shows the significance of C&I and MSW waste with a substantial proportion of both sent to Wakefield at the current time.
- 5.5 Bradford currently imports a significant proportion of C&I waste, and CDEW from 'elsewhere' (i.e. not from named authorities⁶) within the Yorkshire and Humber region. Tables 11 and 12 summarise the levels of waste importation from outside the District.
- 5.6 Tables 9 and 13 illustrate that Bradford is already a regional centre for MRS and Transfer Stations, but is more reliant on neighbouring authorities for Landfill facilities. As waste reduction re-use and recycling increase the reliance on landfill and waste export will reduce over time.

⁵ It should be noted that a total of 445,950 tonnes of waste enters transfer stations within Bradford annually, however, total exported waste is identified within Waste Data Interrogator figures as being 393,967 tonnes as recorded at point of destination (i.e., the location that the waste is exported to).

⁶ NB: This does not include Wakefield, which exports less than 1,000 tonnes of waste to Bradford and is therefore captured within 'Elsewhere' in the table.

5.7 By ensuring that the capacity to treat waste is expanded within Bradford District pressure that is currently placed on other areas to which waste is exported will be eased accordingly. The Waste Management Strategy and forward planning exercises being undertaken within each of these areas as part of their LDF's will consider the implications of this in more detail in each instance.

| Destination | Landfill | Recycling (Including MRS) | Storage (Incine- rator) | Waste Transfer | Treatment | Waste Water Treat- ment | Unknown | Total Tonnes |
|------------------|----------|---------------------------------|-------------------------------|-------------------|-----------|----------------------------------|---------|-----------------|
| Wakefield | 368,271 | | | 639 | 1,503 | | 841 | 372,001 |
| Leeds | 68,928 | 6,185 | | 52,029 | 14,723 | | 905 | 142,771 |
| Calderdale | | 125 | | 3,732 | 19,899 | | | 23,756 |
| Kirklees | 4,264 | 9,691 | | 640 | 1,311 | | | 15,905 |
| Doncaster | 10,708 | | | 260 | | | | 10,968 |
| Sheffield | | 2,089 | | 414 | 660 | 4,841 | | 8,004 |
| North East | 1,367 | | | 100 | 16 | | | 1,483 |
| East Midlands | 48 | | | 12 | 1,358 | | | 1,417 |
| Elsewhere | 14,762 | 22,145 | 10 | 920 | 1,997 | | 53,871 | 93,705 |
| Total | 468,348 | 40,983 | 10 | 58,747 | 41,466 | 4,841 | 55,617 | 670,011 |

Table 9- Key Waste Export Destinations from Bradford (2008)

Source: Waste Data Interrogator, 2008, Environment Agency 2009 – figures do not total due to

rounding

Table 10- Types of Waste Exported by Bradford, Tonnes (2008)

| Destination | Agricultural | C&I | CDEW | Hazardous | MŚW | Waste | Total |
|-------------|--------------|---------|--------|-----------|---------|-----------|---------|
| Destination | <u> </u> | | | | | | |
| | Waste | Waste | Waste | Waste | | Water | Tonnes |
| | | | | | | Treatment | |
| Wakefield | 78 | 188,631 | 41 | 34 | 183,217 | - | 372,001 |
| Leeds | 7,603 | 77,744 | 52,019 | 2,726 | 2,679 | - | 142,771 |
| Calderdale | - | 10,318 | 13,430 | 8 | 12998 | - | 36,754 |
| Kirklees | 3 | 9,126 | 2,790 | 2,328 | 1,659 | - | 15,906 |
| Doncaster | - | 10,708 | 260 | - | | - | 10,968 |
| Sheffield | 0 | 1,415 | 872 | 839 | 37 | 4,841 | 8,004 |
| North East | - | 24 | 55 | 1,404 | | - | 1,483 |
| East | - | 100 | - | 1,317 | | - | 1,417 |
| Midlands | | | | | | | |
| Elsewhere | 51 | 1,441 | 293 | 3,468 | 75,455 | - | 80,708 |
| Total | 7,736 | 299,507 | 69,759 | 12,125 | 276,045 | 4,841 | 670,013 |

Source: Waste Data Interrogator, 2008, Environment Agency 2009. – Numbers may not total due to rounding.

5.8 Analysis of the MSW managed by Transfer stations owned and operated by Bradford MDC highlights that 368,772 tonnes of MSW waste enters Waste Transfer Stations within Bradford and is

bulked up and exported from the District. The locations and facility type that the waste exported from Council transfer stations is analysed in Table 11 below⁷.

| Destination District | Incinerator | Landfill | Re- cycling (including MRS) | Re- processing | Transfer Station | Treatment | Unknown | Total |
|-------------------------|-------------|----------|--------------------------------------|-------------------|---------------------|-----------|---------|---------|
| Wakefield | - | 181,628 | 748 | - | - | - | 841 | 183,217 |
| Craven | - | 12,520 | - | - | - | | 45,550 | 58,070 |
| Calderdale | - | 1,280 | 8,037 | 3,681 | - | - | - | 12,998 |
| Flintshire | - | - | 7,357 | - | - | - | 2,922 | 10,279 |
| Barnsley | - | - | 5,081 | - | - | - | 1,718 | 6,799 |
| Leeds | - | - | 1,774 | - | - | - | 905 | 2,679 |
| Kirklees | - | 44 | 1,615 | - | - | - | - | 1,659 |
| Elsewhere | 9 | - | 297 | - | - | 38 | - | 344 |
| Total | 9 | 195,472 | 24,909 | 3,681 | - | 38 | 51,936 | 276,044 |

 Table 11- Key Destination of Waste Exported from Bradford MDC Transfer Stations, Tonnes

 (2008)

Source: Waste Data Interrogator, 2008, Environment Agency 2009. – NB: figures may not total due to rounding

- 5.9 As Table 11 illustrates, after leaving Transfer Stations the majority of the District's MSW goes on to Landfill sites, most notably in Wakefield. In addition to this, 32,245 tonnes of waste is dealt with in other sites located in Bradford with recycled the most common fate.
- 5.10 It was not required to recalculate exported waste on this basis as all waste exported from Bradford had a known destination. A number of Districts received less than 1,000 tonnes of total waste exported from Bradford, for illustration purposes these were grouped together as 'Elsewhere' in Table 11.

⁷ Note that some Waste Transfer Stations had no output data.

Imported Waste

- 5.11 As waste site operators are not required to outline the origin of waste which they manage, the Environment Agency's Waste Data Interrogator includes a substantial level of waste of unknown or vague origin (for example waste categorised as coming from "Other Yorks & Humber").
- 5.12 In order to fully understand the movements of waste into the District it was necessary to estimate the levels of waste from these unknown sources. To achieve this, the waste of unknown origin has been redistributed proportionally to those locations of known waste origin.
- 5.13 The proportion of waste of known origin managed within Bradford District is outlined in Table 12. There are a number of other districts where imported waste accounts for less than 0.1% of the total waste imported to Bradford. These have been grouped together into the "Other" category.

| Table 12-1 Toportion of Waste Managed Within Diadroid of Known Origin | | | | | | | | |
|---|------------------------------|--|--|--|--|--|--|--|
| District of Origin | % of Waste from known Origin | | | | | | | |
| Bradford | 89.9% | | | | | | | |
| Leeds | 8.5% | | | | | | | |
| Sheffield | 0.8% | | | | | | | |
| Calderdale | 0.4% | | | | | | | |
| Kirklees | 0.3% | | | | | | | |
| Other | 0.1% | | | | | | | |

Table 12- Proportion of Waste Managed within Bradford of Known Origin

Source: Waste Data Interrogator, 2008 and GVA 2010

5.14 The total tonnage imported to Bradford District, measured in terms of type of waste facility is around 123,204 tonnes. The 3 tonne disparity between the total tonnages set out in Tables 13 and 14 is a result of rounding of figures and the redistribution of waste of an unknown origin on a slightly different basis.

| Origin | Landfill | MRS | Storage (Incinerator) | Waste Transfer | Treatment | Waste Water | Total Tonnes |
|------------------|----------|--------|--------------------------|-------------------|-----------|----------------|-----------------|
| Leeds | 387 | 32,856 | 6 | 61,344 | 393 | 2,367 | 97,353 |
| Sheffield | 38 | 7,772 | - | 1,377 | 73 | 231 | 9,490 |
| Calderdale | 20 | 3,097 | 2 | 1,752 | 20 | 122 | 5,013 |
| Kirklees | 14 | 2,779 | 7 | 737 | 15 | 89 | 3,640 |
| East Midlands | 8 | 1,392 | - | 41 | 311 | - | 1,753 |
| Elsewhere | 28 | 2,409 | 1 | 881 | 2,609 | 28 | 5,955 |
| Total | 495 | 50,305 | 16 | 66,132 | 3,420 | 2,836 | 123,204 |

Table 13 - Key Origins of Waste Imported by Bradford, Tonnes (2008)

Source: Waste Data Interrogator, 2008, Environment Agency 2009. – NB: figures do not total due to rounding

| Origin | Agricultural Waste | C&I Waste | CDEW Waste | Hazardous Waste | MSW | Waste Water | Total Tonnes |
|---------------------|-----------------------|--------------|---------------|--------------------|-------|----------------|-----------------|
| Leeds | 17 | 86,244 | 6,153 | 2,552 | 19 | 2,367 | 97,353 |
| Sheffield | - | 8,551 | 605 | 103 | - | 231 | 9,490 |
| Calderdale | - | 3,493 | 313 | 47 | 1,038 | 122 | 5,013 |
| Kirklees | - | 3,284 | 233 | 35 | - | 89 | 3,640 |
| East Midlands | - | 1,356 | 34 | 362 | - | - | 1,753 |
| East of England | - | 221 | 11 | 998 | - | - | 1,230 |
| Other North West | - | 673 | 9 | 366 | - | - | 1,049 |
| West Midlands | - | 183 | 10 | 826 | - | - | 1,018 |
| Elsewhere | 0 | 1,811 | 187 | 634 | 0 | 28 | 2,661 |
| Total | 17 | 105,816 | 7,556 | 5,924 | 1,058 | 2,837 | 123,207 |

Table 14 - Types of Waste Imported by Bradford, Tonnes (2008)

Source: Waste Data Interrogator, 2008, Environment Agency 2009 – NB: Numbers do not total due

to rounding.

6. DATA SOURCE REFERENCES

- 6.1 Data considered has been acquired from the following sources:
 - Environment Agency Waste Data Interrogator 2008;
 - Environment Agency Hazardous Waste Data Interrogator 2008;
 - Environment Agency PPC list of licensed waste facilities April 2010;
 - Regional Spatial Strategy for Yorkshire and Humber (RSS) May 2008;
 - Yorkshire and Humber Waste Data Statistics Digest 2009;
 - Regional Technical Advisory Body Yorkshire and Humber Commercial and Industrial Waste Projections 2006 -2026;
 - Study to fill Evidence Gaps for Commercial & Industrial Waste Streams in the North West Region of England" Urban Mines June 2007;
 - Bradford Metropolitan District Council;
 - GVA.

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