Addendum to 2012 study: Waste Arisings and Waste Management Capacity Model

Durham County Council

June 2018

Anthesis

Disclaimer

Addendum to 2012 study: Waste Arisings and Waste Management Capacity Model

Durham County Council

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Executive summary

0-1 This report has been prepared to support the County Durham Plan. It covers the Local Plan, plan period which runs from 2016 to 2035. The report has been prepared as an addendum to the 2012 study, "Model of Waste Arisings and Waste Management Capacity for the North East of England Waste Planning Authorities, July 2012" known as the Urban Mines Report 2012. This addendum takes the opportunity to make use of new data available, on both arisings and capacities, and on changes in population, economy, waste management practises and infrastructure, from the date of publication of the original report some 6 years ago.

0-2 This addendum uses the most recently published 'government' data, for example Waste Data Interrogator 2016, Hazardous Waste Data Interrogator 2016 and the Environment Agency Active Sites list for 2016.

Overall Conclusion

0-3 The conclusions of this Addendum support the conclusions of the original Urban Mines Report 2012 in that there is no significant need to identify new waste management sites in the Plan area for most reviewed waste types., As waste and its management are not confined by Local Authority boundaries, regional capacity and the wider regional market are important. Surplus capacity available for most waste types at a regional level will exceed arisings even if not all of the planned capacity is developed, although this does depend upon the delivery rate of new facilities and will need monitoring.

0-4 This addendum draws no conclusions for other WPAs covered in the Urban Mines Report 2012, and therefore the original report remains the evidence base for these WPAs.

Update Methodology

0-5 The methodology for delivery of this updated study is outlined in this report. The aim of this review was to update the original study at North East Regional and Durham County Council level (County Durham), using methodologies which mirror, and therefore do not undermine, the Urban Mines Report 2012, and this has been achieved. Producing a capacity gap update at regional level as well as for DCC directly, identifies any regional or strategic changes in waste management provision which may have an impact on DCC local requirements.

Summary of Results

0-6 Baseline arisings per waste type were obtained from a number of sources, including Environment Agency permitted site returns data. A summary of 2016 arisings is given in Table 1:

Table 1: Baseline Arisings by waste type, County Durham (Source: EA, Anthesis)

Waste Type	Quantity (2016) (tonnes x 1,000 per annum)	Data Source
Non-Hazardous Waste	Total: 644.2kt, of which Dry Recyclate: 246.9kt, Organic waste: 62.7kt, and Residual waste: 334.6kt	Waste Data Flow, Regional C&I survey
Inert/Construction, Demolition and Excavation Waste (CDEW)	623.3kt (943.6kt including imports)	Environment Agency Permit Returns

Waste Type	Quantity (2016) (tonnes x 1,000 per annum)	Data Source
Hazardous Waste	43.7kt	Environment Agency Permit Returns
Agricultural Waste	3.0kt (reported by Permit Returns)	Environment Agency Permit Returns
Low Level Radioactive Waste	942 GBq	Environment Agency IPPC Returns
Waste Water	50kt	Northumbrian Water

0-7 The capacity of existing waste management infrastructure to deal with baseline arisings is summarised in Table 2. This is based as much as possible on actual operating capacities rather than permitted capacities.

Table 2: County Durham Capacities per waste facility type, 2016 (Source: Environment Agency)

Facility Type	Available Capacity (tonnes x 1,000 per annum)	Data Source
Mixed Materials Recovery Facility	270.0 ktpa	Environment Agency
Composting	190.0 ktpa	Environment Agency
Non-Hazardous Transfer	1,190.6 ktpa	Environment Agency Includes CA sites
Anaerobic Digestion	72.4 ktpa	Environment Agency
Clinical Waste Transfer	30.0 ktpa	Environment Agency
Hazardous Waste Transfer	30.0 ktpa	Environment Agency
Inert Waste Transfer	98.6 ktpa	Environment Agency
Non-hazardous residual waste treatment/disposal	12.7ktpa	Environment Agency
Total Inert Landfill	11,104,913 cubic metres	Environment Agency
Non- Hazardous Landfill and Non-Hazardous Landfill with SNRHW cell (and other residual waste treatment)		
Vehicle Depollution Facility	145.0 ktpa	Environment Agency

0-8 Appendix II explains the methodologies used to estimate forecast arisings by waste type over the forecast period 2016 – 2035 For LACW this involved growing arisings by household forecasts and for C&I waste

forecasts used economic growth forecasts (data used was in line with those used in the Local Plan). Arisings forecasts are summarised in Table 3 following.

Table 3: Waste arisings forecasts by waste type, County Durham, 2016-2035 (Source: Anthesis)

Waste Type	Quantity (Tonnes x 1,000)				
	2016	2020	2025	2030	2035
Non- Hazardous waste - recyclate	246.9	262.6	265.2	266.4	267.1
Non- Hazardous waste - organic waste	62.7	66.4	66.0	64.0	62.7
Non- Hazardous waste - residual waste	334.6	320..8	326.3	330.7	333.9
Construction and Demolition (Inert)	623.3	623.3	623.3	623.3	623.3
Hazardous waste	43.8	43.7	43.7	43.3	43.0

0-9 Comparing forecast arisings per waste type, to forecasts capacities in County Durham produce capacity surplus figures (as forecast available capacity minus forecast arisings) as summarised in Table 4 following. A negative figure indicates a capacity shortfall.

Table 4: County Durham Capacity Surplus per waste management type, 2016-2035 (Source: Anthesis)

Facility Type	Surplus Capacity (tonnes x 1,000 per annum unless otherwise stated)				
	2016	2020	2025	2030	2035
Mixed Materials Recovery Facility	118.8	118.8	118.8	118.8	118.8
Composting Capacity	162.1	160.4	160.7	161.6	162.2
Non-Hazardous Transfer	817.3	817.3	817.3	817.3	817.3
Anaerobic Digestion	37.5	120.5	120.7	121.8	122.6
Clinical Waste Transfer	28.3	28.3	28.3	28.3	28.3
Hazardous Waste Transfer	-11.2	-11.2	-11.2	-11.2	-11.2
Inert Waste Transfer	78.9	78.9	78.9	78.9	78.9
Non-hazardous residual waste treatment/disposal	-146.0	-98 to -132	-62 to -137	-64 to -142	-67 to -145
Inert Landfill and Non-Hazardous Landfill and Non-Hazardous Landfill with SNRHW cell[1]	11,104.9 (m^3 x1,000)	7,558.1 (m^3 x1,000)	4,242.9 (m^3 x1,000)	1,255.1 (m^3 x1,000)	-3,682.8 (m^3 x1,000)

[1] Calculated landfill capacity based upon EA estimate of available capacity in 2016, declining annually based upon averaged landfill inputs in 2014-2016 (converted to cubic metres using a factor of 1.5 for inert wastes

Facility Type	Surplus Capacity (tonnes x 1,000 per annum unless otherwise stated)				
	2016	2020	2025	2030	2035
Vehicle Depollution Facility	136.0	136.0	136.0	136.0	136.0

Capacity Conclusion by waste type

0-10 Non- Hazardous waste - Dry Waste Recycling – Analysis suggests that non-hazardous waste transfer capacity could generate 373ktpa-1.2Mtpa of recyclate separation capacity at local County Durham level and 2.0-6.1Mtpa at regional level. This is in addition to materials recovery facility (MRF) capacity of 270ktpa within County Durham, 1.8Mtpa regionally. This suggests a considerable surplus capacity at County Durham level compared to the forecast arisings of 247 to 334 ktpa over the forecast period.

0-11 Non-Hazardous Waste - Organic Waste Recycling – Forecast arisings suggest an organic waste recycling demand in County Durham of some 63 – 74ktpa over the forecast period. County Durham has considerable local capacity to deal with demand, consisting of 190ktpa of composting and 72ktpa anaerobic digestion (AD) capacity, suggesting a local capacity surplus. At regional level this surplus is replicated, with arisings of 383ktpa (2016) and 446-593ktpa (2035, depending upon scenario used) compared to an available capacity of 873ktpa in 2016 to 1.1Mtpa in 2035. Splitting these demand figures into waste and therefore technology types suggests that there is sufficient long-term windrow capacity both within County Durham and regionally to handle demand for garden waste and similar materials. For food waste, the location of key AD facilities within County Durham gives a capacity surplus compared to local demand, and new AD and food waste MBT capacity elsewhere in the region gives a potential long-term capacity surplus at regional level too.

0-12 Non-Hazardous Waste Residual Waste - With 127ktpa of MBT and 50ktpa of landfill capacity (assumed on an annual basis) within County Durham across the forecast period this means a shortfall in residual waste disposal capacity across the forecast period of some 79-177ktpa, depending upon the forecasting scenario used and local recycling rates achieved. However, at regional level some 1.9 million tonnes of residual waste is currently generated, forecast to reach 1.6-2.2 million tonnes by 2035 depending upon the recycling rates and landfill diversion achieved. Over this same period, it is forecast that residual waste capacity will increase from 2.4 million tonnes (2016) to peak at 3.0 million tonnes in 2020 and 2021, reducing finally to 2.3 million tonnes by 2035 due to landfill closures. Of this capacity, energy recovery is forecast to increase from 0.85 million tonnes in 2016 to 1.7 million tonnes pa by 2035. This means there is likely to be a regional surplus of capacity throughout the forecasting period, if all the planned facilities are delivered. This amounts to between 0.1-0.7 million tonnes surplus by 2035. However, this is based upon the assumption that new forecast facilities will be delivered, otherwise landfill closures will not be matched by new energy recovery capacity producing a capacity shortfall at regional level.

0-13 Hazardous waste – With estimated arisings of between 43 and 44ktpa, although there is no hazardous landfill in the County Durham[2] area there is considerable capacity in nationally significant sites in the Tees

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and 0.85 for non-hazardous wastes), and assumes closure of Crime Rigg in 2024 and Old Quarrington Quarry in 2026, based upon existing consents. 2016 capacity includes Joint Stocks which is now closed – this capacity is excluded from 2017 onwards. Excluding Joint Stocks 2016 capacity is 9,404,913 m^3.

[2] Save for the Stable Non-Reactive Hazardous Waste (SNRHW) cell at Aycliffe East Quarry Landfill.

Valley sub-region, and at a regional scale there appears to be significant hazardous waste treatment and landfill capacity (1.95 million tpa).

0-14 Inert Wastes – Although there are statutory recovery rate targets for construction and demolition wastes, which makes up the vast majority of inert waste arisings, a large proportion of C&D waste cannot be quantified at local level as it is processed on site for reuse, or is processed through facilities which are exempt to environmental permitting. However, there is data available for permitted facilities. EA figures show that in 2016 there is 11.1 million cubic metres of landfill capacity in County Durham, with on average 576ktpa of inert waste input each year (including imports from other parts of the region). Although individual landfills have capacity to take average inputs (assuming no growth) until up to 2050 before exhaustion, closure of sites due to expired consents reduced this time considerably. Taking into account expiration dates of consents, and rediverting waste from closed landfills to other landfills within County Durham, would exhaust available capacity by 2032. Assuming nationally reported recovery rates apply to County Durham too, any increases in local recovery of C&D waste would extend the life of local landfills considerably. County Durham inert landfill capacity has a key regional role. Around 47% of inert material landfilled in the region is landfilled in County Durham (based upon 3 year averaged inputs). In contrast to County Durham alone, regional landfill capacity is forecast to be exhausted by 2024.

0-15 Agricultural Waste - There is no new data published since the original study in 2012 which could be used to produce accurate arisings data for County Durham. As the majority of such waste is reused on site, its impact on the disposal or recycling of waste in County Durham will be small, and any non-organic waste which is not reused is likely to be included in the commercial and industrial waste arisings estimates.

0-16 Waste Water – No new information has been presented since that published in the Waste and Minerals Technical Paper, 2016. A network of facilities process locally generated sewage sludge with de-watered material exported from County Durham to treatment centres in Newcastle and Middlesbrough.

0-17 Low Level Radioactive Waste - The report “New Waste Management Capacity permitted in the North East since the Urban Mines Baseline” January 2016, updates the position regarding available LLW capacity. This report concludes that “In conclusion, it is considered that existing capacity outside the North East together with the applications granted in 2015 will ensure that there continues to be adequate capacity elsewhere to deal with the arisings of LLRW from the North East region.” Based upon LLW outputs for 2016, this statement is still true.

0-18 There is therefore no significant need to identify new waste management sites in the Plan area for most reviewed waste types, although reductions in inert waste landfill availability will need monitoring, over the plan period and particularly post 2032. Policies should be developed to permit new waste management facilities to come forward where they are viable and there is sufficient demand. Therefore, the conclusions of this Addendum support the conclusions of the original Urban Mines Report 2012 that no additional capacity is needed by allocations for County Durham pre-2031. Post 2031 there appear to be shortfalls in inert landfill capacity, although increased recycling within the construction sector could mitigate this requirement. As waste and its management are not confined by Local Authority boundaries, regional capacity and the wider regional market are important. Surplus capacity available for most waste types at a regional level will exceed arisings even if not all of the planned capacity is developed.

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Abbreviations

Acronym	Definition
ABP	Animal By-Products
AD	Anaerobic Digestion
C&I	Commercial and Industrial Waste
CD&E	Construction, Demolition and Excavation Waste
Defra	Department for Environment, Food and Rural Affairs
EA	Environment Agency
EIA	Environmental Impact Assessment
EWC	European Waste Code
HWDI	Hazardous Waste Data Interrogator
ILW	Intermediate Level Radioactive Waste
IVC	In-Vessel Composting
IWMF	Integrated Waste Management Facility
Ktpa	Thousands of tonnes Per Annum
LACW	Local Authority Collected Waste
LDF	Local Development Framework
LLW	Low Level Radioactive Waste
MBT	Mechanical Biological Treatment
MHT	Mechanical Heat Treatment
MRF	Materials Recycling Facility
MSW	Municipal Solid Waste
SOC	Substance Oriented Classification
Tpa	Tonnes Per Annum
VLLW	Very Low Level Radioactive Waste
WDI	Waste Data Interrogator
WEEE	Waste Electrical and Electronic Equipment
WPA	Waste Planning Authority

Glossary

Term	Definition
Agricultural Waste	Waste from a farm or market garden, consisting of matter such as manure, slurry and crop residues.
Anaerobic Digestion	Organic matter broken down by bacteria in the absence of air, producing a gas (methane) and liquid (digestate). The by-products can be useful, for example biogas can be used in a furnace, gas engine, turbine or gas-powered vehicles, and digestates can be re-used on farms as a fertiliser
Commercial Waste	Controlled waste arising from trade premises.

Term	Definition
Construction, Demolition & Excavation Waste	Controlled waste arising from the construction, repair, maintenance and demolition of buildings and structures.
DEFRA – Department for Environment, Food and Rural Affairs	Defra is a UK Government department. Its mission is to enable everyone to live within our environmental means. This is most clearly exemplified by the need to tackle climate change internationally, through domestic action to reduce greenhouse gas emissions, and to secure a healthy and diverse natural environment.
Energy from Waste	The conversion of waste into a useable form of energy, often heat or electricity.
Environment Agency	A government body that aims to prevent or minimise the effects of pollution on the environment and issues permits to monitor and control activities that handle or produce waste. It also provides up-to-date information on waste management matters and deals with other matters such as water issues including flood protection advice.
Exemption	A waste exemption is a waste operation that is exempt from needing an environmental permit. Each exemption has specific limits and conditions operators need to work within.
Hazardous Landfill	Sites where hazardous waste is landfilled. This can be a dedicated site or a single cell within a non-hazardous landfill, which has been specifically designed and designated for depositing hazardous waste.
Hazardous Treatment	Sites where hazardous waste is treated so that it can be landfilled.
Hazardous Waste	Waste that poses substantial or potential threats to public health or the environment (when improperly treated, stored, transported or disposed). This can be due to the quantity, concentration, or characteristics of the waste.
Household Waste	Refuse from household collection rounds, waste from street sweepings, public litter bins, bulky items collected from households and wastes which householders themselves take to household waste recovery centres and "bring sites".
Incineration	The controlled burning of waste. Energy may also be recovered in the form of heat (see Energy from Waste).
Industrial Waste	Waste from a factory or industrial process.
Inert waste	Waste not undergoing significant physical, chemical or biological changes following disposal, as it does not adversely affect other matter that it may come into contact with, and does not endanger surface or groundwater.
Inert Landfill	A landfill site that is licensed to accept inert waste for disposal.
In-Vessel Composting	A system that ensures composting takes place in an enclosed but aerobic (in the presence of oxygen) environment, with accurate temperature control and monitoring. There are many different systems, but they can be broadly categorised into six types: containers, silos, agitated bays, tunnels, rotating drums and enclosed halls.
ILW - Intermediate level radioactive waste	Radioactive wastes exceeding the upper activity boundaries for LLW but which do not need heat to be taken into account in the design of storage or disposal facilities.
Local Authority Collected Waste (LACW)	Household waste and any other waste collected by a waste collection authority such as municipal parks and gardens waste, beach cleansing waste and waste resulting from the clearance of fly-tipped materials.

Term	Definition
Landfill	The permanent disposal of waste into the ground, by the filling of man-made voids or similar features.
Landfill Directive	European Union requirements on landfill to ensure high standards for disposal and to stimulate waste minimisation.
LLW – low level radioactive waste	Lightly contaminated miscellaneous scrap, including metals, soil, building rubble, paper towels, clothing and laboratory equipment.
Materials Recycling Facility (MRF)	A facility for sorting and packing recyclable waste.
Mechanical Biological Treatment (MBT)	The treatment of residual waste using a combination of mechanical separation and biological treatment.
Non- Hazardous Landfill	A landfill which is licensed to accept non-inert (biodegradable) wastes e.g. municipal and commercial and industrial waste and other non-hazardous wastes (including inert) that meet the relevant waste acceptance criteria.
Non- Inert	Waste that is potentially biodegradable or may undergo significant physical, chemical or biological change once landfilled.
Organic Waste	Biodegradable waste from gardening and landscaping activities, as well as food preparation and catering activities. This can be composed of garden or park waste, such as grass or flower cuttings and hedge trimmings, as well as domestic and commercial food waste.
Open Windrow Composting	A managed biological process in which biodegradable waste (such as green waste and kitchen waste) is broken down in an open air environment (aerobic conditions) by naturally occurring micro-organisms to produce a stabilised residue.
Proximity Principle	Requires that waste should be managed as near as possible to its place of production, reducing travel impacts.
Recovery	Value can be recovered from waste by recovering materials through recycling, composting or recovery of energy.
Recycled Aggregates	Aggregates produced from recycled construction waste such as crushed concrete and planings from tarmac roads.
Recyclate	Raw material sent to, and processed in, a waste recycling plant or materials recovery facility (e.g. plastics, metals, glass, paper/card).
Recycling	The reprocessing of waste either into the same product or a different one.
Residual Waste	Waste remaining after materials for re-use, recycling and composting have been removed.
Waste Electrical and Electronic Equipment (WEEE)	Sites for the depollution, disassembly, shredding, recovery or preparation for disposal, and any other operation carried out for the recovery or disposal of Waste Electrical and Electronic Equipment.
Waste Hierarchy	A framework for securing a sustainable approach to waste management. Waste should be minimised wherever possible. If waste cannot be avoided, then it should be re-used; after this it should be prepared for recycling, value recovered by recycling or composting or waste to energy; and finally, disposal.

Term	Definition
Waste Local Plan	A statutory development plan prepared (or saved by the waste planning authority, under transitional arrangements), setting out polices in relation to waste management and related developments.
Waste Minimisation / Reduction	The most desirable way of managing waste, by avoiding the production of waste in the first place.
Waste Planning Authority (WPA)	The local authority responsible for waste development planning and control. They are unitary authorities, including London Boroughs and the City of London, National Park Authorities, and county councils in two-tier areas.
Waste Regulation Authority	The Environment Agency has responsibility for authorising waste management licenses for disposal facilities, and for monitoring sites.
Waste Transfer Station	A site to which waste is delivered for sorting or baling prior to transfer to another place for recycling, treatment or disposal.

Sources: Planning Portal, SEPA, Anthesis

1 Introduction

1.1.1 This report has been prepared to support the emerging County Durham Plan. It covers the Local Plan, plan period which runs from 2016 to 2035. The report has been prepared as an addendum to the 2012 study, "Model of Waste Arisings and Waste Management Capacity for the North East of England Waste Planning Authorities, July 2012" known as the Urban Mines Report 2012. This addendum takes the opportunity to make use of new data available, on both arisings and capacities, and on changes in population, economy, waste management practises and infrastructure, from the date of publication of the original report some 6 years ago.

1.1.2 As a Waste Planning Authority, Durham County Council is required by national policy to enable the sufficient and timely provision of waste management facilities to meet the needs of its communities through its Local Plan. Understanding and quantifying DCC's waste management needs over the Plan period is therefore an essential pre-requisite to formulating local waste planning policy in accordance with national policy and European directives.

1.1.3 This addendum has been developed following the requirements of the 2014 national planning policy for waste (NPPW) and national planning practice guidance (NPPG). These requirements, and where they are addressed in this addendum, by chapter and section number, are summarised in Appendix I.

2 Updated Policy Context

2.1 Policy context background

2.1.1 Waste management in the UK has been significantly driven by European policy in recent years. The waste management policies in the Local Plan will need to comply with EU and Government policy as follows:

- Revised European Waste Framework Directive 2008;
- Planning Act 2008;
- Localism Act 2011;
- National Planning Policy Framework (2012);
- Waste Management Plan for England 2013 (and predecessor documents); and
- National Planning Policy for Waste (2014) with supporting Planning Practice Guidance.

2.1.2 In addition, in March 2017 the European Commission adopted a new Circular Economy Package. The circular economy package set out specific proposals for waste management, which include a common EU target for recycling 60 percent of municipal waste and 75 percent of packaging waste by 2030 (increasing to 65 percent recycling of municipal waste by 2035) and a binding landfill target to reduce landfill to a maximum of 10 percent of all waste by 2030 and a ban on landfilling separately collected waste. This legislation has yet to be adopted in the UK, and as it is not clear whether the targets

enshrined in this legislation will be adopted in the UK post-Brexit, they have not been applied to the modelling associated with this study.

2.1.3 In January 2018, the government published 'A Green Future: Our 25 Year Plan to Improve the Environment'. It includes aspirations to minimise waste and reduce its impacts on the environment. It also commits the government to developing a new national Resources and Waste Strategy, understood to be planned for later in 2018.

2.1.4 The impact of the UK leaving the European Union is yet to be fully understood, but in the medium term it is likely that existing EU policy will remain a key force in UK waste policy and development plans will need to be consistent with it. To this end, many of the articles of the Waste Framework Directive are delivered by planning policy, as stipulated in Planning Practice Guidance, and the waste hierarchy and recycling targets are already enshrined within UK planning policy and waste regulations.

2.1.5 There are also a number of National Policy Statements (NPS) that will need to be taken into account such as the NPS on Hazardous Waste.

2.2 Revised European Waste Framework Directive 2008 and Review of Waste Policy

2.2.1 Article 28 of the Waste Framework Directive 2008 sets out the requirement for each Member State to produce a Waste Management Plan. This Plan must set out an analysis of the current waste management situation and sufficient information on the locational criteria for site identification and on the capacity of future disposal or major recovery installations. These locational criteria are contained in the Local Plans or Waste Plans of Local Authorities in the UK. The waste policies in the County Durham Plan will form part of the UK's Waste Management Plan and will need to contain locational criteria in order to meet the requirements of the Directive.

2.2.2 A recently published Review of Waste Policy and Legislation by the EU has introduced a range of higher targets for recycling and the phasing out of landfilling organic and recyclable materials. It is not clear whether these targets will be adopted by the UK post-Brexit, and therefore they have not been applied to the modelling associated with this study.

2.3 Localism Act 2011

2.3.1 The Localism Act 2011 gave the responsibility for strategic planning back to Local Authorities acting individually. Section 110 of the Localism Act prescribes the "Duty to Co-operate" between Local Authorities in order to ensure that they work together on strategic issues such as waste planning. The duty is "to engage constructively, actively and on an on-going basis" and must "maximise the effectiveness" of all authorities concerned with plan-making.

2.3.2 However, engagement is not an end in itself. The objective is to develop a Local Plan that is deliverable for all parties. In the context of planning for waste management, it is necessary to understand waste flows between Local Authority areas and to ensure that all Local Plans take account of these flows. If a facility in one Waste Planning Authority Area can easily manage imports from another WPA Area, then neither Waste Plan is destabilised by such imports. If, however, a facility that

has historically been used by another WPA Area, does not have capacity to handle continuing imports, or is closing, then alternative provision must be sought.

2.3.3 In practical terms, this means that Durham County Council must liaise with other Waste Planning Authorities to identify the impacts that policies in the County Durham Plan may have on the strategy of those authorities.

2.4 National Planning Policy

2.4.1 National Planning Policy for Waste and the National Planning Practice Guidance require waste planning authorities to plan for seven waste streams. These waste streams are:

- Municipal/household;
- Commercial/industrial;
- Construction, Demolition & Excavation;
- Low Level Radioactive;
- Agricultural;
- Hazardous; and
- Waste water.

2.4.2 In order to plan for these waste streams, Waste Planning Authorities must identify the need for waste management facilities and identify suitable sites and/or areas to meet that need. This addendum sets out the need for waste management facilities for the seven waste streams for both DCC and the North East of England region as a whole.

2.4.3 A full audit of NPPW and NPPG compliance is available as Appendix I.

2.4.4 At the time of writing, the government is consulting on a draft revised NPPF and changes to NPPG. The draft NPPF includes a new requirement to prepare a statement of common ground setting out progress on strategic matters across local authority boundaries.

2.5 Regional Context

2.5.1 The “North East of England Plan - Regional Spatial Strategy to 2021” was published by the Government Office of the North East in July 2008. The Plan set out a broad development strategy for the region for the period up to 2021, and addressed matters such as the scale and distribution of provision for new housing, priorities for the environment such as countryside and biodiversity protection, transport, infrastructure, economic development, agriculture, mineral extraction and waste treatment and disposal.

2.5.2 The revocation of this regional plan was announced by the new Conservative/Liberal Democrat government on 6 July 2010. Although many of the roles of the dissolved Regional Development Agency and Government Office have been taken up by the formation of two sub-regional bodies (The North East Local Enterprise Partnership and the Tees Valley Combined Authority) this has not included the setting of spatial planning policy. This has been left to the Local Planning Authorities including Durham County Council in the development of the County Durham Plan (CDP).

2.5.3 The Duty to Co-operate has taken the place of planning on a regional basis and the development of the joint evidence base for waste described above shows a significant commitment to joint working. In this respect, DCC are part of the North East Minerals and Waste Policy Officers' Group, the Duty to Co-operate group.

2.6 Local context

2.6.1 Durham County Council (DCC) has an extensive evidence base in relation to waste, much of it has been jointly commissioned and developed in a regional context with neighbouring local authorities. This evidence base underpinned the former County Durham Plan (CDP) which was subject to an Examination in Public in late 2014. The evidence base is being refreshed – where required – as part of the preparation of the County Durham Plan. DCC have consulted on an Issues and Options stage CDP in summer 2016. This addendum to the original Urban Mines 2012 study has been prepared to ensure the evidence base covers the same time period as the CDP.

3 Delivery Methodology

3.1.1 The methodology for delivery of this updated study is outlined in Appendix II. The aim of this study was to update the Urban Mines Report 2012 at North East Regional and Durham County Council level (DCC), without updating forecasts for the other North East WPAs, using methodologies which mirror, and therefore do not undermine, the original study. Producing a capacity gap update at regional level as well as for DCC directly, identifies any regional or strategic changes in waste management provision which may have an impact on DCC local requirements. This covers:

- Data and assumptions used to update the waste arisings estimates for key waste types;
- Growth factors used to update the waste arisings forecasts from 2016–2035;
- Data sources used to update the regional capacity assessment;
- Delivery of the updated capacity gap analysis.

4 Updated Baseline Waste Arisings Estimates and Forecasts

4.1 Introduction

4.1.1 To understand demand for waste management infrastructure in County Durham and the North East region, waste arisings forecasts over the planning period 2016-2035 have been updated for key waste types, using the methodologies and data sets explained in Appendix II.

4.2 Local Authority Collected Wastes

4.2.1 Updated baseline LACW arisings are summarised in Table 5. These show slight reductions to those forecast in the 2012 study, reflecting static or reduced collection volumes reported at regional and national level since the 2012 study, attributed by some to the impact of waste minimisation programmes. As with the original 2012 study, County Durham baselines are based upon the council's contract targets of 50% recycling by 2020 and 75% landfill diversion by 2020. These figures also take into account the contract signed in 2013 to send collected residual waste for energy recovery at the Suez facilities at Haverton Hill. For the purposes of this study it is assumed that residual waste continues to be treated within the region after 2021. This is in line with the proximity principle and landfill diversion and has no bearing on future contract decisions.

Table 5: Summary of updated baseline forecasts of Local Authority Collected waste arisings in County Durham and North East England region (tonnes), compared to those reported in 2012 (Source: Anthesis)

Year	County Durham	North East England	County Durham (2012 study)	North East England (2012 study)
2011			268,991	1,484,225
2012			270,555	1,494,515
2013			268,204	1,500,990
2014			267,558	1,514,779
2015			266,887	1,524,298
2016	254,175	1,350,052	268,402	1,535,750
2017	255,691	1,358,015	269,917	1,546,645
2018	257,207	1,365,977	271,432	1,557,715
2019	258,723	1,373,940	272,947	1,568,794
2020	260,239	1,381,903	274,462	1,579,419
2021	261,755	1,389,865	275,976	1,591,001
2022	263,271	1,397,828	277,491	1,600,879
2023	264,787	1,405,790	279,006	1,610,784
2024	266,303	1,413,753	280,521	1,620,451
2025	267,819	1,421,716	282,036	1,630,146
2026	269,335	1,429,678	283,551	1,640,030
2027	270,850	1,437,641	285,065	1,649,946
2028	272,366	1,445,604	286,580	1,659,892
2029	273,882	1,453,566	288,095	1,671,648
2030	275,398	1,461,529	289,610	1,683,460
2031	276,914	1,469,492		
2032	278,430	1,477,454		
2033	279,946	1,485,417		
2034	281,462	1,493,379		
2035	282,978	1,501,342		

4.2.2 At County Durham level, updated arisings forecast range from 254ktpa in 2016 increasing to 283ktpa in 2035.

4.3 Commercial & Industrial Waste

4.3.1 In contrast, updated C&I waste arising baseline forecasts are slightly higher than those reported in the 2012 study at both County Durham and regional level. This has been produced by changes in the local economy since the original study, with increases in both the number of industrial businesses and in the number of commercial businesses between 2010 (baseline for the 2012 study) and 2016 (baseline for this study) as reported by ONS.

Table 6: Summary of updated baseline forecasts of Commercial & Industrial waste arisings in County Durham and North East England region (tonnes), compared to those reported in 2012 (Source: Anthesis)

Year	County Durham	North East England	County Durham (2012 study)	North East England (2012 study)
2011			383,670	2,151,709
2012			379,916	2,140,278
2013			378,679	2,112,543
2014			380,435	2,122,960
2015			377,493	2,111,078
2016	390,083	2,329,225	377,536	2,108,873
2017	391,737	2,353,559	373,398	2,093,885
2018	392,655	2,377,894	374,396	2,099,971
2019	393,963	2,402,229	372,236	2,083,291
2020	389,585	2,426,563	363,962	2,040,919
2021	390,153	2,450,898	364,908	2,034,440
2022	392,397	2,475,232	357,331	2,018,271
2023	392,223	2,499,567	355,462	2,009,019
2024	389,292	2,523,901	353,698	1,999,810
2025	389,708	2,548,236	349,216	1,988,997
2026	387,872	2,572,571	349,764	1,983,578
2027	387,541	2,596,905	348,283	1,976,635
2028	386,319	2,621,240	348,600	1,970,651
2029	387,106	2,645,574	349,249	1,966,154
2030	385,718	2,669,909	346,497	1,958,996
2031	385,477	2,694,244		
2032	385,808	2,718,578		
2033	383,677	2,742,913		
2034	384,981	2,767,247		
2035	380,644	2,791,582		

4.3.2 At County Durham level, updated forecast arisings range from 390ktpa in 2016 decreasing to 381ktpa in 2035.

4.3.3 It is noted at regional level that the updated figures describe growth in waste arisings to 2.6 million tonnes by 2030, and 2.8 million tonnes by 2035, whereas those from the 2012 study show an increase to just 2.0 million tonnes by 2030. This is caused by the different economic predictions used in the two studies. The 2012 study used a mixture of regional and sub-regional employment forecasts produced by a number of public bodies. With this updated study, no such regional forecasts were available, so sub-regional employment growth targets have been used.

4.4 Hazardous Waste

4.4.1 Reported hazardous waste arisings in 2016 were significantly larger at regional and local County Durham level, compared to those reported in the 2012 study. Examining the detail attributes this increase to higher treatment volumes in 2016.

Table 7: Summary of updated baseline forecasts of Hazardous waste arisings in County Durham and North East England region (tonnes), compared to those reported in 2012 (Source: Anthesis)

Year	County Durham	North East England	County Durham (2012 study)	North East England (2012 study)
2011			22,267	158,953
2012			22,049	158,307
2013			21,977	155,834
2014			22,079	156,719
2015			21,909	155,742
2016	43,760	527,296	21,911	155,365
2017	43,946	532,804	21,671	154,053
2018	44,049	538,313	21,729	154,492
2019	44,196	543,822	21,603	152,663
2020	43,705	549,331	21,123	149,758
2021	43,768	554,840	20,985	148,718
2022	44,020	560,349	20,852	147,716
2023	44,000	565,858	20,723	146,751
2024	43,672	571,367	20,599	145,822
2025	43,718	576,876	20,480	144,929
2026	43,512	582,385	20,365	144,072
2027	43,475	587,894	20,254	143,248
2028	43,338	593,403	20,147	142,458
2029	43,426	598,912	20,044	141,701
2030	43,271	604,420	19,945	140,977
2031	43,244	609,929		
2032	43,281	615,438		
2033	43,042	620,947		
2034	43,188	626,456		
2035	42,702	631,965		

4.4.2 At County Durham level, updated arisings forecast therefore range from 44ktpa in 2016, decreasing to just under 43ktpa in 2035.

4.5 Other Waste Types

4.5.1 Arisings estimates used for other waste types are presented in the relevant review sections in Chapter 8 of this study.

5 Waste Movements (Imports and Exports)

5.1.1 As well as waste generated within County Durham itself, the need for waste management provision within the local authority area is also impacted by movements of waste, both exports from County Durham to waste management facilities outside of the area, or imports of waste from other areas to County Durham located waste management facilities.

5.1.2 From Environment Agency data, waste movements annually i.e. Exports, and imports of waste, are summarised as Table 8 following for the last reported 5 years:

Table 8: Waste Movements to/from County Durham, 2012-2016 (in tonnes, source: Environment Agency)

Movements	2012	2013	2014	2015	2016
Exports	533,056	514,466	624,965	662,404	886,182
Imports	654,284	630,715	818,740	946,272	748,990

5.1.3 Breaking down waste movements into high level waste types, figures over the last 5 years shows that for hazardous and household, industrial and commercial wastes, exports from County Durham exceeded imports. For inert and C&D wastes, however, the inflow of waste exceeds the outflow, increasing the capacity requirement in Country Durham.

Table 9: Movements per high level waste type, and net inflow, 2012-2016 (in tonnes, source: Environment Agency)

Movements	2012	2013	2014	2015	2016
Hazardous Wastes					
Exports	31,713	34,493	27,127	27,512	22,500
Imports	14,810	7,109	7,359	5,631	6,619
Net Inflow to DCC	-16,903	-27,384	-19,768	-21,881	-15,880
Household, Industrial and Commercial Wastes					
Exports	339,409	346,057	347,105	379,085	464,935
Imports	176,424	196,710	170,034	208,571	256,328
Net Inflow to DCC	-162,985	-149,347	-177,071	-170,514	-208,607
Inert/C&D Wastes					
Exports	161,934	133,916	243,631	255,807	398,748
Imports	463,050	426,896	641,347	732,070	486,042
Net Inflow to DCC	301,116	292,980	397,716	476,263	87,294

5.2 Exports

5.2.1 In 2016 (the year of the latest data available), exports of waste from County Durham consisted of mainly household, commercial and industrial wastes (52% of total) and inert/C&D wastes (45%) with a small volume of hazardous waste (3%). The distribution of County Durham generated waste was similar for 2015 and 2014. Main destinations of this waste are summarised in Table 10 for 2014-2016 show the majority exported to other parts of the North East region:

Table 10: Exports of waste from County Durham to destinations outside of the WPA area (2016, Source Environment Agency)

Destination	2014		2015		2016	
	Tonnes Imported	% of Total	Tonnes Imported	Tonnes Imported	Tonnes Imported	% of Total
Sunderland	139,512	22%	224,718	34%	266,906	30%
Gateshead	129,729	21%	79,830	12%	197,716	22%
Stockton-on-Tees	12,748	2%	37,286	6%	85,647	10%
Redcar and Cleveland	65,988	11%	62,793	9%	60,109	7%
Darlington	50,206	8%	66,062	10%	58,242	7%
North Tyneside	40,328	6%	55,423	8%	56,936	6%
Hartlepool	80,067	13%	46,196	7%	46,835	5%
Newcastle Upon Tyne	17,707	3%	20,770	3%	22,601	3%
Kingston Upon Hull City	2,442	0%	9,703	1%	16,525	2%
Middlesbrough	11,917	2%	9,062	1%	15,242	2%
Northumberland	22,448	4%	16,688	3%	9,826	1%
Other	51,875	8%	34,534	5%	49,598	6%
Total	624,965	100%	663,066	100%	886,182	100%

5.2.2 Table 11 shows the type of waste management facility County Durham waste was sent to. For household and C&I waste, the majority of exported waste was sent to composting capacity (average 130ktpa), recycling facilities (including MRF and metal recycling capacity, average 67ktpa), non-hazardous landfill (average 37ktpa and transfer stations (average 136ktpa). On average, 26ktpa was also sent to other treatment facilities, such as chemical treatment, physical treatment, physical-chemical treatment, vehicle depollution and WEEE treatment facilities. The energy recovery of County Durham residual household waste at the Haverton Hill energy from waste facility located in the Tees valley, is likely reflected in the volumes of waste passing through transfer stations.

Table 11: Exports of waste from County Durham to waste management facilities outside of the WPA area by type (2016, Source Environment Agency)

	Exports		
	2014	2015	2016
Hazardous Waste			
Haz landfill	7,676	3,350	1,577
Non Haz landfill	1,270	2,422	1,265
Recycling	3,964	3,695	2,613
Composting	6,166	5,670	5,577

	Exports		
	2014	2015	2016
Transfer	4,509	3,379	4,796
Other Treatment	10,423	8,997	6,673
Total Hazardous	**34,008**	**27,512**	**22,501**
Household/C&I Waste			
Haz landfill	-	-	-
Non Haz landfill	31,513	31,171	47,922
Recycling	45,728	71,131	84,820
Composting	137,666	117,974	136,359
AD	16	-	-
Transfer	116,678	132,999	159,546
Other Treatment	15,517	26,464	36,288
Total Household/C&I	**347,118**	**379,739**	**464,935**
Inert Waste			
Haz landfill		-	-
Non Haz landfill	105,049	68,162	223,149
Inert Landfill		627	3,683
Recycling	3,019	7,981	10,049
Composting	811	751	498
Land Recovery	216	-	378
Transfer	83,728	116,911	120,886
Other Treatment	51,014	61,383	40,104
Total Inert	**243,838**	**255,815**	**398,747**
Grand Total	**624,965**	**663,066**	**886,182**

5.2.3 For inert wastes, the main destinations were non-hazardous landfill (average 132ktpa) and transfer stations (average 107ktpa). In addition, on average 7ktpa was sent to recycling facilities including MRFs and average 51ktpa to treatment facilities such as chemical and physical treatment.

5.2.4 For hazardous wastes, relatively small volumes were directed to a range of facilities including compositing, recycling, non-hazardous landfill and treatment.

5.3 Imports

5.3.1 For imports into County Durham, the majority was inert/C&D waste (65% of total) with a significant volume of municipal and C&I wastes (34%) and a small volume of residual waste (1%). Local authority areas where these wastes were generated in 2014, 2015 and 2016 are summarised in Table 12. This again shows the majority of waste generated in the North East region, again showing the strong regional nature of the local waste management sector, and the interdependency of North East planning authorities in providing suitable facilities for the management of waste.

Table 12: Imports of waste to County Durham from outside of the WPA area (2016, Source Environment Agency)

Origin	2014		2015		2016	
	Tonnes Imported	% of Total	Tonnes Imported	% of Total	Tonnes Imported	% of Total
Gateshead	116,801	14%	206,463	22%	132,978	18%
Sunderland	125,554	15%	90,572	10%	117,881	16%
North East	78,567	10%	117,623	12%	119,702	16%
Leeds	20,463	2%	25,499	3%	68,797	9%
Darlington UA	93,819	11%	75,388	8%	59,662	8%
Newcastle Upon Tyne	83,889	10%	47,923	5%	52,070	7%
North Tyneside	27,014	3%	21,026	2%	39,865	5%
Stockton-on-Tees	58,989	7%	46,809	5%	37,843	5%
South Tyneside	45,538	6%	24,466	3%	15,699	2%
Northumberland	76,760	9%	182,281	19%	5,974	1%
Hartlepool	18,497	2%	23,337	2%	9,501	1%
Other	72,851	9%	84,885	9%	89,017	12%
Total	818,740	100%	946,272	100%	748,990	100%

5.3.2 Table 13 shows the waste management treatment facility types utilised by imports into County Durham. For household and C&I wastes, the majority of imported waste was managed at recycling (average 66ktpa, including MRF, CA site and metal recycling)), composting (average 80ktpa, composting and biological treatment) and transfer facilities (average 43ktpa).

5.3.3 For inert wastes, the majority of imported waste was directed to inert landfill (average 383ktpa) and transfer (average 74ktpa).

5.3.4 Finally, for hazardous wastes, destinations including recycling (including MRF, average 3.2ktpa) and non-hazardous landfill (average 1.9ktpa)

Table 13: Imports of waste to County Durham from outside of the WPA area by waste management type (2016, Source Environment Agency)

	Imports		
	2014	2015	2016
Hazardous Wastes			
Haz landfill			
Non Haz landfill	1,933	1578	2,166
Inert landfill		12	17
Recycling	3,041	2,982	3,797
Composting			
Transfer	694	672	640
Other Treatment	1,691	387	
Total	7,359	5,631	6,620
Household/C&I Wastes			
Haz landfill			
Non Haz landfill	3,563	3,267	10,299
Recycling	10,609	87,085	100,294
Composting	53,431	75,810	112,213
AD	-	10,845	10,524
Transfer	102,431	13,968	12,206
Other Treatment	-	17,595	10,793
Total	170,034	208,570	256,329
Inert Wastes			
Haz landfill	-	-	-
Non Haz landfill	433	2,082	116,565
Inert landfill	554,187	605,357	226,313
Recycling	12,614	16,921	18,411
Composting			-
Transfer	71,698	73,236	76,527
Other Treatment	2,415	34,475	48,225
Total	641,347	732,070	486,041
Grand Total	818,740	946,272	748,990

6 Updated Waste Management Capacity

6.1 Introduction

6.1.1 Using data from the Environment Agency, the report entitled "New Waste Management Capacity permitted in the North East since the Urban Mines baseline" (formulated by DCC in January 2016 from data supplied by individual WPAs and endorsed by the Environment Agency) and updates from the WPAs concerned, those significant facilities not included in the July 2012 assessment have been added to the original regional and DCC capacity dataset. The summary of key facilities for residual, organic and inert wastes are given in Appendix III of this report. This section of the report produces an overview of local and regional capacity by key waste management facility type.

6.2 Landfill

6.2.1 There has been a reduction in available landfill capacity at a regional level between 2010 and 2016, of some 24% (all landfill) and 37% (non-hazardous landfill) as evidenced by data from the Environment Agency. Summary data for 2016, presented in Table 14 shows a regional landfill capacity of some 32.2 million cubic metres, down from 42.6 million cubic metres in 2010 which reflects the data in the 2012 study, with the most significant change being of non-hazardous landfill in Tees Valley and Tyne and Wear.

Table 14: Landfill Capacity in the North East England 2016 (thousands of cubic metres) compared to 2010 (Source: EA)

Landfill Type	North East Sub-Region				Total for North East England	Total for County Durham (2010)	Total for North East England (2010)
	Durham (2016)	Northum-berland (2016)	Tees Valley (2016)	Tyne & Wear (2016)			
Hazardous Merchant	-	-	6,985	-	6,985	0	6,892
Hazardous Restricted	-	-	-	-	-	0	0
Non- Hazardous with SNRHW cell	2,065	1,220	1,000	-	4,285	2,934	6,774
Non- Hazardous	1,700	16	3,562	5,483	10,760	1,926	17,140
Non- Hazardous Restricted	-	-	-	-	-	0	0
Inert	7,340	1,205	-	1,692	10,237	5,891	11,834
Total	**11,105**	**2,440**	**11,548**	**7,174**	**32,267**	**10,751**	**42,640**

Source: Environment Agency (Permitting data) Note: SNRHW is Stable Non-Reactive Hazardous Waste

6.2.2 Inert landfill capacity has also reduced by 13% on a regional basis, but reported figures for County Durham suggest a 25% increase over the period 2010 to 2016. Note that County Durham accounts for 72% of the available inert landfill capacity in the region.

6.2.3 Inputs and their geographic sources, to landfills in County Durham are summarised in the following Table 14. Remaining life of individual landfills has been calculated by converting the average 3 year tonnage input per site (all inputs for all materials) into volume in cubic metres (by diving input tonnage by 1.5 for inert/C&D waste and 0.85 for other wastes) and dividing the reported remaining capacity by the calculated annual input volume.

Table 15: County Durham landfill, with inputs 2014-2016, 2016 reported remaining capacity and forecast life based on reported capacity (Source: EA, Anthesis)

facility	Input Waste Type	Input Waste Origin	Input 2014 (tonnes)	Input 2015 (tonnes)	Input 2016 (tonnes)	Remaining capacity 2016 (M^3)	Calculated remaining life (years)
Bishop Middleham Quarry 2	Inert/C+D	County Durham	53,703	71,160	52,429	3,640,558	15 years
		NE Region	386,103	346,458	193,675		
		Out of Region	9,336	2,636	3,412		
	Total		449,142	420,253	249,516		
Crime Rigg Quarry Landfill	Inert/C+D	County Durham	51,779	42,443	72,775	1,930,000	23 years
		NE Region	89,725	87,015	29,226		
		Out of Region	0	0	0		
	Total		141,505	129,458	102,001		
Joint Stocks Landfill Phase 2	Inert/C+D	County Durham	50	3,905	110,648	1,700,000	32 years (1)
		NE Region	0	1,836	116,498		
		Out of Region	0	0	0		
	Total		50	5,741	227,146		
	Household, industrial and commercial	County Durham	3	3,290	0		
		NE Region	0	0	0		
		Out of Region	0	0	0		
	Total		3	3,290	0		
Aycliffe Quarry Landfill	Inert/C+D	County Durham	385	1,137	110,648	2,064,587	27 years
		NE Region	365	246	116,498		
		Out of Region	68	0	0		
	Total		817	1,383	227,146		
	Household, industrial and commercial	County Durham	44,342	49,719	0		
		NE Region	2,685	2,441	0		
		Out of Region	878	826	0		
	Total		47,905	52,987	0		
	Hazardous	County Durham	1,040	742	669		
		NE Region	1,026	952	1,486		
		Out of Region	907	628	680		
	Total		2,974	2,321	2,835		
	Inert/C+D	County Durham	0	0	0	1,769,768	2050

facility	Input Waste Type	Input Waste Origin	Input 2014 (tonnes)	Input 2015 (tonnes)	Input 2016 (tonnes)	Remaining capacity 2016 (M^3)	Calculated remaining life (years)
Old Quarrington Quarry Landfill		NE Region	1,463	0	0		
		Out of Region	0	0	0		
	Total		1,463	0	0		
Totals	Inert/C+D	County Durham	105,917	118,645	346,500		
		NE Region	477,655	435,555	455,896		
		Out of Region	9,404	2,636	3,412		
	Total		592,976	556,836	805,808		
	Household, industrial and commercial	County Durham	44,345	53,009	0		
		NE Region	2,685	2,441	0	11,104,913	
		Out of Region	878	826	0		
	Total		47,908	56,277	0		
	Hazardous	County Durham	1,040	742	669		
		NE Region	1,026	952	1,486		
		Out of Region	907	628	680		
	Total		2,974	2,321	2,835		

Source: Environment Agency (Permitting and remaining landfill capacity data);

(1) Joint Stocks Landfill is closed; note the significant volume of inert waste input to the site in 2016 is likely to be involved with engineering work before the closure of the site.

6.2.4 Average expected lifetimes per site therefore vary between 15 years and 27 years. Similar details of all inert and non-hazardous landfill in the region, is given in Appendix IV.

6.3 Energy from Waste

6.3.1 Since the original study in 2012, there has been a significant growth in the number of planning applications and the subsequent construction of energy from waste (EfW) capacity in the North East region. This includes:

- The Haverton Hill complex operated by Suez, consists of lines 1, 2 and 3 dedicated to contracts for Tees Valley and Northumberland, and lines 4 and 5 to the Strategic Waste Partnership between South Tyneside, Gateshead and Sunderland councils. Line 6 has been added to the capacity forecast. DCC household residual waste is also recovered at Haverton Hill, using capacity on lines 4 and 5;
- Billingham LLP – gasification energy from waste facility with planning permission on the former ICI Billingham site;
- Niramax Recycling – both proposed EfW and MBT facilities are included in the capacity forecast;
- Derwenthaugh Ecoparc – capacities are included in the evaluation both for the mothballed autoclave facility and for the proposed energy from waste plant;

- Renewable Energy Centre, Sunderland – a gasifier at Hillthorne Farm in Washington is being put forward by developers Rolton Kilbride of capacity 215ktpa;
- Wilton 11 – this significant facility built and operated by Sembcorp and Suez, is dedicated to the recovery of residual waste imported into the region from Merseyside, under contract with the Merseyside Recycling and Waste Authority. Commercial operation started in 2016. As this facility will not be taking waste from the North East region, it has not been included in the capacity gap assessment.

6.3.2 As with the 2012 study, other specialist incineration capacity within North East England has not been included in this analysis (e.g. the wood waste energy recovery facility at Wilton) as the source data is of insufficient detail to isolate arisings for such material streams. Furthermore, insufficient data is available on agricultural sources such as forestry wastes, such specialist facilities rely on significant imports from other parts of the UK.

Table 16: Regional Energy from Waste facility capacity and status (Source: EA, Anthesis)

Site Name	WPA	Capacity	Status
Billingham EFW Plant, Teesside	Tees Valley Unitary Authorities	846,000	Operational
Billingham LLP (13/2892/EIS)	Stockton-on-Tees	150,000	Planned
Derwenthaugh Ecoparc	Gateshead	300,000	Planned
Niramax Recycling Ltd, gasification or pyrolysis	Hartlepool	87,000	Planned
Reliable - Seal Sands	Stockton-On-Tees	96,000	Planned
Renewable Energy Centre	Sunderland	215,000	Planned

6.4 Composting and Anaerobic Digestion

6.4.1 The processing of organic waste in the North East continues to be concentrated mainly in County Durham and Northumberland, with 437ktpa anaerobic digestion capacity (including food waste MBT) in the region, and 632 ktpa windrow composting capacity.

6.5 Exempt Sites

6.5.1 A number of waste management sites in the region and County Durham have exemptions from waste permitting, usually due to the small volumes that they process, or the low environmental risk of the material they process. Exempt sites are particularly prevalent in the processing of construction and demolition wastes, wood wastes or in the operation of small on-farm composting facilities.

6.5.2 Unfortunately, there is little data available nationally and locally on exempt waste sites, both in terms of which sites which have an exemption with the Environment Agency are actually operating, or working capacity that is available at such sites, as the operators of such sites have a low reporting requirement.

6.5.3 Data from the Environment Agency shows that there are over 18,000 issued exemptions in the Environment Agency region of Northumberland, Durham and Tees. These, along with those for County Durham alone, are summarised by type in Table 17 following. Many exemptions in Country Durham reflect the rural nature of parts of the authority area.

Table 17: Number of exempt sites (by permit type) in NE Region and DCC local authority area (Source: Environment Agency, September 2016)

Permit Type	NE Region		Durham CC	
	Number	%	Number	%
Agricultural Waste Only	4,365	24%	1,361	50%
Both agricultural and non-agricultural waste	2,123	12%	871	32%
Non-Agricultural Waste Only	2,316	13%	486	18%
Not on a farm	447	2%		
On a farm	8,953	49%		
Total	18,204	100%	2,718	100%

6.5.4 Appendix VI gives total numbers for the sites of each exemption type registered in County Durham (as of September 2016). Although such sites can add significantly to the capacity available in the area, the lack of throughput or capacity data for individual sites means that this cannot be quantified.

6.6 Key Facilities (for this Study)

6.6.1 Key facilities we selected for modelling in this study on the basis of:

- Significant waste management facilities (i.e. >10ktpa input) (i.e. >1ktpa input) already in operation
- Significant waste management facilities (i.e. >10ktpa input) with planning permission or within the planning process.

6.6.2 For modelling the capacity gap, intermediate facilities such as transfer stations were not included to avoid double counting. Where possible, actual facility capacities from a number of published sources were used, rather than permitted capacities.

6.6.3 The updated list of locally and regionally significant sites is presented in Appendix V. This has been used for the updated capacity gap analysis, which are summarised in the following Table 18:

Table 18: Key waste management facility types – updated forecasts of total capacity NE region (x1,000 tonnes) (Source: Anthesis)

Facility Type	2016	2020	2025	2030	2035
EfW	846	1,694	1,694	1,694	1,694
Landfill (for non-hazardous waste)	1,161	782	156	70	70
Other residual e.g. MBT, autoclave	554	442	77	77	77
Total Residual waste capacity	**1,837**	**2,681**	**2,316**	**2,316**	**2,316**
Composting	632	632	632	632	632
Anaerobic Digestion & Food Waste MBT	242	477	477	477	477
Total organic recycling capacity	**873**	**1,108**	**1,108**	**1,108**	**1,108**
Landfill (for inert waste)	2,292	1,712	463	463	90
Total inert waste landfill capacity	**2,292**	**1,712**	**463**	**463**	**90**

7 Updated Capacity Gap Analysis

7.1.1 By direct comparison of forecast arisings and capacities data, areas of under or surplus capacity were identified, on both a North East regional and local County Durham basis. The results of this modelling and analysis are given in detail in the appendices of this report, for North East England and County Durham.

7.1.2 These comparisons were carried out using the baseline data as supplied and modelled, with a number of developed scenarios which may have an impact on future arisings and future waste management capacity requirements. These scenarios, updated from the original 2012 study, were designed to emulate potential increases in recycling rate or landfill diversion during the forecast period, driven either by legislative targets or market forces, so that their impact on available capacity could be assessed. Scenarios used are explained in methodology section A2.5.

8 Results & Conclusions

8.1 Recycling

8.1.1 It is estimated that some 247ktpa of metallic and non-metallic recyclates (plastics, paper, glass etc.) were produced in County Durham in 2016, forecast to increase to 252ktpa by 2035. If the increased recycling scenarios applied in this study are delivered, this could increase to 334ktpa over the forecasting period, driven by the cost of landfill in particular. Forecast recyclate volumes are given in Table 19:

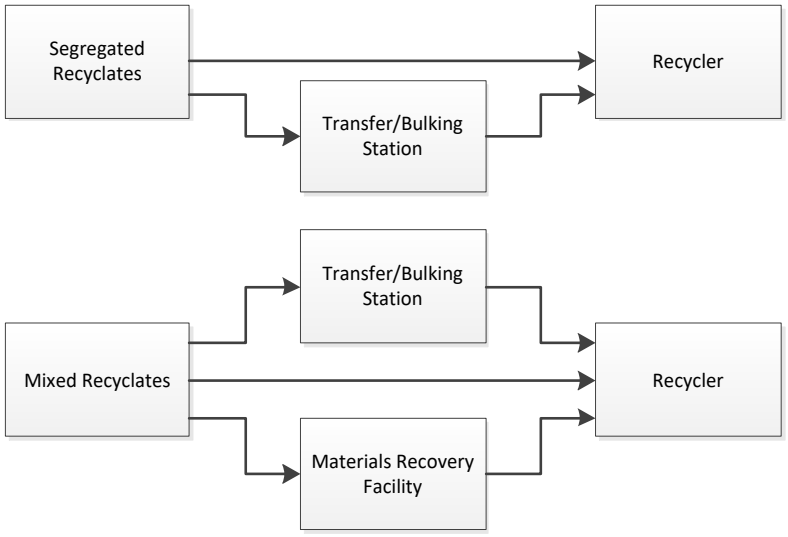
Table 19: Forecasts of recyclate arisings in County Durham, 2016-2035 (in x1,000 tonnes) (Source: Anthesis)

Forecast Scenario	2016	2020	2025	2030	2035
Baseline	247	249	251	252	252
Scenario 1 increase LACW recycling	247	263	265	266	267
Scenario 2 increased C&I recycling	247	290	328	331	334
Scenario 3 increased LACW landfill diversion	247	263	265	266	267
Scenario 4 increased C&I landfill diversion	247	263	265	266	267

8.1.2 As described in the Urban Mines Report 2012, assessing the required capacities for recycling within County Durham and the North East England region is not easy with the current data available. As highlighted by Figure 1 below, taken from the original report, much of the recyclate segregated by both Local Authorities and businesses for recycling, is transported directly to the recycler. The lack of obligation for such facilities to report input data means that the amount of waste which is recycled by this route cannot be accurately determined.

8.1.3 This situation is the same for mixed recyclates. Although WasteDataFlow for municipal waste reporting does contain some data on recyclates collected mixed at the kerbside, the C&I survey data does not have this level of detail. Therefore, the available data is not sufficient at this time to determine a comprehensive required capacity or capacity gap for this type of facility.

Figure 1: Routes of Recycling



8.1.4 It is clear that both transfer stations and material recycling facilities (MRFs) have an important role to play in separating materials for recycling.

8.1.5 From the capacity data supplied, there is significant MRF volume in North East England, with typical facilities operated by waste management companies or skip companies. In the C&I survey data, recorded destinations (fate) were recorded as final destination. Therefore, all materials going to MRFs would be entered as 'recycling' as would material going directly from the waste producer to the waste recycler. This is one reason why the level of detail in the C&I forecasts is not sufficient to accurately predict recycling capacities required to deal with mixed recyclate streams. MRF inputs and capacity at County Durham and regional level are summarised in Table 20 following:

Table 20: Material Recycling Facility capacity at County Durham and Regional level, from individual site data (all waste types0

Area	Input tpa as household, industrial and commercial wastes (2016)	Operational Capacity tpa (2016)
County Durham	151,215	269,999
NE Region	651,413	1,887,796

Source: Environment Agency (WDI 'Active Sites List' 2016)

8.1.6 Table 20 shows that EA active site data identified 270ktpa of MRF capacity in County Durham, with 151ktpa of input in 2016, of which all but 8.6ktpa inert waste was from household, industrial or commercial waste sources. In addition, the report "New Waste Management Capacity permitted in the North East since the Urban Mines Baseline" January 2016, identifies a further 1 million tpa of mixed (i.e. MSW, C&I, inert) MRF capacity at regional level by 2018, including 75,000tpa (Unit 15, Hackworth Industrial Park potential capacity) within County Durham. Consented facilities are summarised in Appendix A5.3.

8.1.7 The delineation between facilities described as MRFs and transfer stations is getting increasingly confused, as transfer station operators often separate recyclate materials for recycling from their input streams, rather than just bulking for transport to other facilities.

8.1.8 Based upon the individual site data supplied by the EA, there is considerable transfer station capacity within the region as a whole and County Durham in particular – with some 1.1 million tonnes of operational capacity reported. Of inputs of 373ktpa in 2016 reported for County Durham transfer stations, 171ktpa is reported as waste from municipal, industrial or commercial sources, and 201ktpa of inert waste (balance is hazardous waste). This is summarised in Table 21 following:

Table 21: Non-hazardous Waste Transfer Station capacity at County Durham and Regional level, from individual site data (source EA, 2016)

Area	Input tpa as household, industrial and commercial wastes (2016) (*1)	Operational Capacity tpa (2016) (*2)
County Durham	373,305	1,190,640
NE Region	2,022,905	6,117,323

(*1) total for non-hazardous waste transfer, non-hazardous waste transfer plus treatment, and including Annfield Plain.

(*2) from Environment Agency (Permitting data/WDI 'Active Sites List' 2016); the "New Waste Management Capacity permitted in the North East since the Urban Mines Baseline" January 2016, report provides more recent figures.

8.1.9 To estimate the potential recycling capacity of waste transfer stations (WTS) the following top-level assumptions have been made:

- 10% of material handled by each WTS is from C&I sources
- Recycling rates from this waste of 30% and 70% have been modelled as below:

Results of these calculations are given in Table 22:

Table 22: Potential Recycling Capacities – Non-hazardous Waste Transfer Stations (in tonnes) (Source: Anthesis)

Area	Capacity	As LACW	As C&I	30 % Recycling		70% recycling	
	tpa	tpa	tpa	LACW	C&I	LACW	C&I
County Durham	1,190,640	1,071,576	119,064	321,473	35,719	750,103	83,345
NE Region	6,117,323	5,505,591	611,732	1,651,677	183,520	3,853,913	428,213

8.1.10 Therefore, these facilities could generate an additional 357-833ktpa at local level and 1.8-4.2 million tpa at regional level, of separated recyclate capacity.

8.1.11 This suggests a considerable surplus at County Durham level compared to the forecast arisings as summarised in Table 19.

8.2 Organic Recycling Capacity

8.2.1 Updated forecasting shows that some 63ktpa of segregated organic waste is produced in County Durham at present, increasing to between 58 and 74ktpa tonnes if the recycling rates modelled in this

study are achieved (assuming equal increases in recycling of solid waste recyclates and organic wastes such as garden and food wastes).

Table 23: Forecasts of organic waste arisings in County Durham, 2016-2035 (x1,000 tonnes) (Source: Anthesis)

Forecast Scenario	2016	2020	2025	2030	2035
Baseline	63	62	61	59	58
Scenario 1 increase LACW recycling	63	66	66	64	63
Scenario 2 increased C&I recycling	63	72	79	76	74
Scenario 3 increased LACW landfill diversion	63	66	66	64	63
Scenario 4 increased C&I landfill diversion	63	66	66	64	63

8.2.2 County Durham has considerable local capacity to deal with this demand, consisting of 190ktpa of composting and 72ktpa anaerobic digestion (AD) capacity (increasing to 157ktpa by 2035), suggesting a local capacity surplus. At regional level this surplus is replicated, with arisings of 383ktpa (2016) and 446-593ktpa (2035, depending upon scenario used) compared to an available capacity of 873ktpa in 2016 to 1.1Mtpa in 2035.

8.2.3 Splitting these demand figures into waste and therefore technology types (using the ratios applied in the 2012 study) suggests that there is sufficient long-term windrow capacity both within County Durham and regionally to handle demand for garden waste and similar materials. For food waste, the location of key AD facilities within County Durham gives a capacity surplus compared to local demand, and new AD and food waste MBT capacity elsewhere in the region gives a potential long-term capacity surplus at regional level too.

Table 24: Forecasts of organic waste arisings in County Durham by waste type, 2016 and 2035, compared to available capacity (in x1,000 tonnes) (Source: Anthesis)

Planning Area	Organic waste type	2016	2035	Available Capacity 2016-2035
County Durham	Food waste	35	32-41	72-157
	Garden Waste	28	26-33	190
North East Region	Food waste	211	245-326	242-477
	Garden Waste	172	201-267	631

8.3 Non-Hazardous Residual Waste

8.3.1 Taking estimates of waste management fate for municipal and commercial & industrial sourced waste in County Durham currently some 335ktpa of residual waste is generated locally, of which 153ktpa is

landfilled, and 160ktpa is energy recovered (balance is other treatment). This will potentially change to 256 to 354ktpa by 2035 depending upon the recycling rates and landfill diversion achieved.

Table 25: Forecasts of residual waste arisings in County Durham, 2016-2035 (in x1,000 tonnes) (Source: Anthesis)

Forecast Scenario[3]	2016	2020	2025	2030	2035
Baseline	335	339	345	350	354
Scenario 1 increase LACW recycling	335	321	326	331	334
Scenario 2 increased C&I recycling	335	287	251	253	256
Scenario 3 increased LACW landfill diversion	335	321	326	331	334
Scenario 4 increased C&I landfill diversion	335	321	326	331	334

8.3.2 With 127ktpa of MBT and 62ktpa of landfill capacity within County Durham across the forecast period (Aycliffe Quarry, based on average household, industrial and commercial waste input over the last 3 years), this means a shortfall in residual waste disposal capacity across the forecast period of some 62-165ktpa, depending upon the forecasting scenario used and local recycling rates achieved. Major changes since the 2012 study include the closing of the Joint Stocks waste management site, removing considerable capacity from use, and Durham County Council contracting to energy recover its household residual waste using capacity at Haverton Hill, reducing the demand on local landfill facilities. Results per scenario are summarised in Table 26:

Table 26: Non-Hazardous Residual Waste Capacity Surplus - County Durham (Kt Source: Anthesis)

Factor	Forecast Scenario[3]	2016	2020	2025	2030	2035	Range
Waste Arisings	Baseline Arisings	335	339	345	350	354	335 to 354
Waste Management Capacity	Modelled Capacity	189	189	189	189	189	189 to 189
Capacity Balance (i.e. capacity – arisings) (*)	Baseline	-146	-150	-156	-161	-165	-165 to -146
	Scenario 1 increase LACW recycling	-146	-132	-137	-142	-145	-146 to -132
	Scenario 2 increased C&I recycling	-146	-98	-62	-64	-67	-146 to -62
	Scenario 3 increased LACW landfill diversion	-146	-132	-137	-142	-145	-146 to -132
	Scenario 4 increased C&I landfill diversion	-146	-132	-137	-142	-145	-146 to -132

(*) positive capacity balance = surplus; negative = capacity gap.

[3] Scenarios modelled: Baseline: No change in recycling rate or landfill diversion from 2016, growth factors applied; Scenario 1: Recycling LACW 50% by 2020, no change C&I recycling; Scenario 2: Recycling LACW 50% by 2020, C&I recycling 70% by 2025; Scenario 3: As (1) plus Landfill diversion LACW 90% by 2020, C&I no change; Scenario 4: As (1) plus Landfill diversion LACW 90% by 2020, C&I 75% by 2020;

8.3.3 However, the regional picture is critical here. At regional level some 1.9 million tonnes of residual waste is currently generated, forecast to reach 1.6-2.2 million tonnes by 2035 depending upon the recycling rates and landfill diversion achieved. Over this same period, it is forecast that residual waste capacity will increase from 2.1 million tonnes (2016) to peak at 2.7 million tonnes in 2020 and 2021, reducing finally to 2.4 million tonnes by 2035 due to landfill closures. Of this capacity, energy recovery is forecast to increase from 0.85 million tonnes in 2016 to 1.7 million tonnes per annum by 2035. This means there is likely to be a regional surplus of capacity throughout the forecasting period, if all the planned facilities are delivered. This amounts to between 0.3-0.8 million tonnes surplus by 2035.

8.3.4 With LACW residual waste already transported elsewhere in the region for energy recovery, County Durham already relies upon capacity at a regional level to deal with its waste through a contractual decision and part of the local waste management strategy. This is likely to be ongoing, at least until 2021 when the current LACW contract expires. Reviewing capacity surplus at a regional level shows a surplus peaking at 696ktpa in 2020, reducing to 129ktpa by 2035 due to the exhausting of void at landfill sites in the region. As the results from the scenarios show (Table 27) this surplus could peak at 803ktpa to 1.1Mtpa if scenario 2 recycling rates are achieved. This surplus is certainly sufficient to deal with the capacity shortfall in County Durham.

8.3.5 Note these figures assume that the Wilton 11 facility is dedicated to waste from Merseyside and its capacity is not included in this evaluation. Facilities using biomass as feedstock e.g. Wilton 10, are excluded from this analysis.

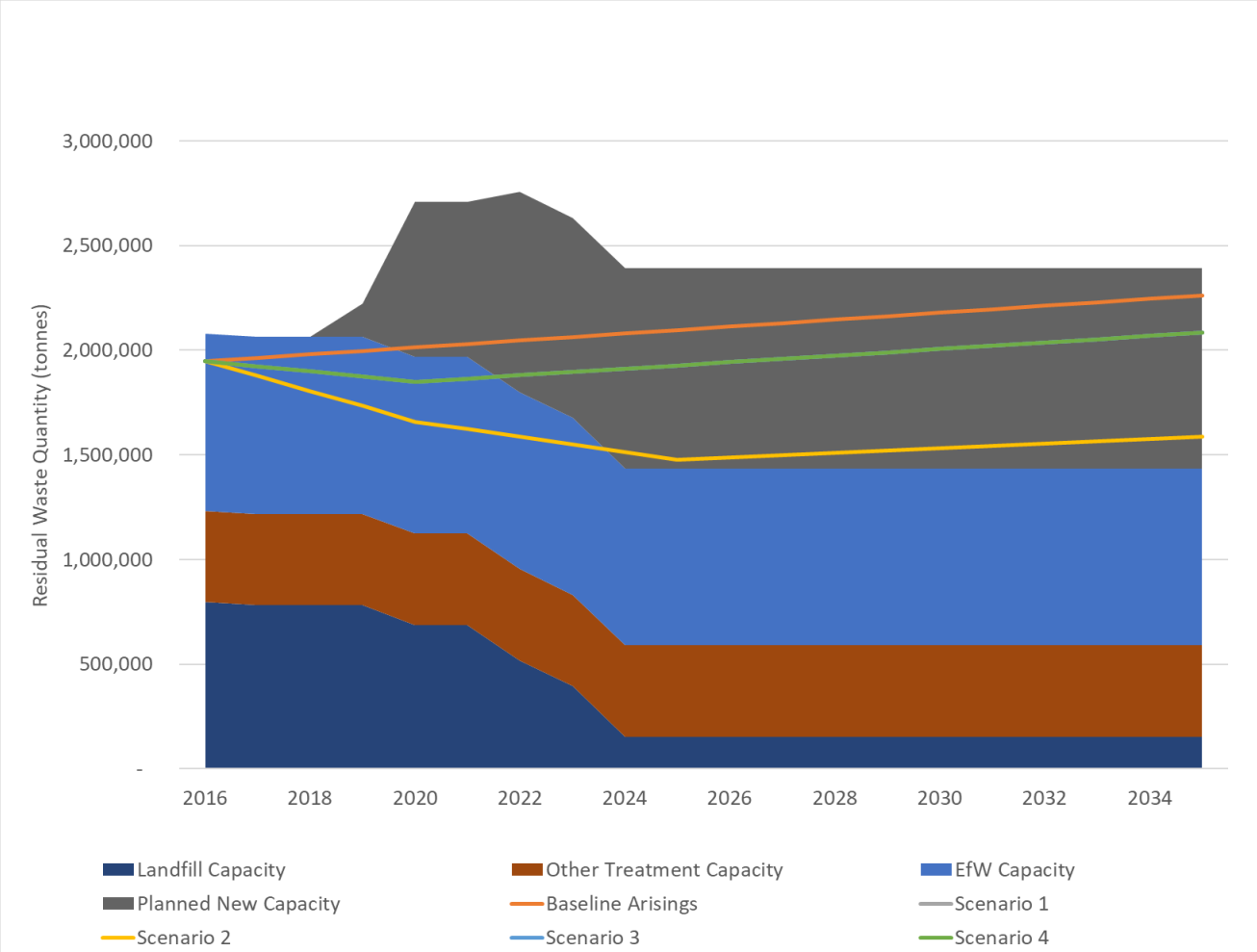
Table 27: Non-Hazardous Residual Waste Capacity Surplus – North East Region (Kt Source: Anthesis)

Factor	Forecast Scenario[1]	2016	2020	2025	2030	2035	Range
Waste Arisings	Baseline Arisings	1,948	2,014	2,097	2,180	2,263	1,948 to 2,263
Waste Management Capacity	Modelled Capacity	2,080	2,710	2,392	2,392	2,392	2,080 to 2,925
Capacity Balance (i.e. capacity – arisings) (*)	Baseline Capacity Surplus	131	696	294	211	129	1,948 to 2,263
	Scenario 1 increase LACW recycling	131	861	464	386	308	2,080 to 2,710
	Scenario 2 increased C&I recycling	131	1,052	916	860	803	129 to 696
	Scenario 3 increased LACW landfill diversion	131	861	464	386	308	131 to 861
	Scenario 4 increased C&I landfill diversion	131	861	464	386	308	131 to 1,052

(*) positive capacity balance = surplus; negative = capacity gap.

8.3.6 However, as shown in Figure 2, surplus capacity post-2020 depends upon the finance, construction and delivery of consented energy recovery and treatment capacity. If this is new capacity is not delivered or only partially delivered, loss of landfill void will result in a shortfall of capacity at regional level too from potentially 2022 onwards. If improvements in recycling rates are delivered in the meantime, this risk will be reduced, but will need monitoring.

Figure 2: Modelled arisings scenarios against capacity, non-hazardous residual waste at regional level, 2016-2035 (in tonnes. Source: Anthesis)



8.4 Hazardous Waste

8.4.1 The North East region has considerable capacity for the treatment and disposal of hazardous wastes and imports such wastes from various parts of the UK. Taking figures from the Environment Agency's Hazardous Waste Interrogator for 2016, County Durham arisings were some 44ktpa. Of this, 33% was construction and demolition waste including asbestos, 12% waste from organic chemical processing and 10% waste from waste water treatment. Applying the growth rates applied to commercial and industrial waste in County Durham, this volume is forecast to reduce slightly to 43ktpa in 2035.

Table 28: Forecasts of hazardous waste arisings in County Durham, 2016-2035 (in x1,000 tonnes) (Source: Anthesis)

Forecast Scenario	2016	2020	2025	2030	2035
Baseline	44	44	44	43	43

8.4.2 This compares to a local hazardous waste transfer capacity in County Durham of some 30ktpa according to EA figures (excluding wrongly classified Annfield Plain waste transfer station)[4] plus 30ktpa clinical waste transfer capacity. Note healthcare waste arisings made up on 4% (1.6kt) of total 2016 hazardous waste.

8.4.3 Although there is no hazardous landfill in the WPA area (save for the SNRHW[5] cell at Aycliffe), there is considerable capacity in nationally significant sites in the Tees Valley sub-region, and at a regional scale there appears to be significant hazardous waste treatment and landfill capacity (1.95 million tpa). This compares to a regional hazardous waste arising of 0.53 million tonnes in 2016, increasing to 632ktpa by 2035, coming mainly from organic chemical processing (41%) and waste water treatment (21%).

8.4.4 Although the disposal or treatment of hazardous waste on an overall basis is not easy to predict, as best mode of re-use or disposal will depend upon the chemical and physical nature of the hazardous material involved, there appears to be sufficient regional capacity to deal with regionally generated hazardous waste. However, this may not be of the correct type or in the right place for specific local demand.

Table 29: Hazardous Waste processing/transfer/disposal capacity in County Durham and the NE Region (source EA, 2016)

Facility Type	Annual Capacity – County Durham	Annual Capacity – NE Region
Clinical Waste Transfer	29,998	221,996
Haz Waste Transfer	29,999	2,965,555
Haz Waste Transfer/treatment[6]	0	149,999
Hazardous landfill	0	1,800,000
Total	**59,997**	**5,137,550**

8.5 Inert Wastes

8.5.1 Although not the only source of inert waste, the construction, demolition and excavation sectors produce by far the most inert waste for recovery, treatment or disposal. Quantities of waste arising

[4] Environment Agency (Permitting data/WDI 'Active Sites List' 2016)

[5] Stable Non-Reactive Hazardous Waste cell at Aycliffe Quarry landfill site.

[6] EA site classification – "treatment" option is not specified

from the construction industry are notoriously difficult to measure. Significant quantities of materials are recycled and re-used on the site where they arise and, therefore, do not enter the waste stream. Material that is removed from site is often managed at facilities where the waste management activity is exempt from the environmental permitting system. This means that quantities of waste handled are not reported and the data on this waste stream is therefore very poor. There has been no new data, for instance generated by a construction industry survey, generated locally or nationally, since the original report.

8.5.2 PPG guidance[7] on "How should waste planning authorities forecast future construction and demolition waste arisings?" states that "waste planning authorities should start from the basis that net arisings of construction and demolition waste will remain constant over time as there is likely to be a reduced evidence base on which forward projections can be based for construction and demolition wastes. However, when forecasting construction and demolition waste arisings, the following may be relevant:

- annual existing returns from waste management facilities;
- data from site waste management plans (where available);
- the fact that a sizeable proportion of construction and demolition waste arisings are managed or re-used on-site, or exempt sites, so it is critical that some provision is made for unseen capacity in this way;
- any significant planned regeneration or major infrastructure projects over the timescale of the Plan."

8.5.3 Data on the management of inert wastes through permitted sites is available. Averaged over 2014-2016, Environment Agency returns data reports inert waste generated in County Durham of 623ktpa, with a sizable proportion of this (287ktpa, 46%) going to landfill. At regional level, the total is 4.4Mtpa, with 2.26Mtpa going to landfill. However, as well as County Durham generated waste, there is a net importing of inert waste from other parts of the region, producing an overall input to County Durham waste management facilities of 943ktpa including transfer. These figures are summarised in Table 30 following:

Table 30: Inert waste arisings by fate, 3 years averaged County Durham arisings, import and export, and regional arisings data in tonnes x 1,000 (Source: Environment Agency Returns Data)

Fate	County Durham Generated Waste	County Durham generated waste managed in the WPA	County Durham generated waste exported to facilities outside of the WPA	Waste generated outside of County Durham imported to be managed within the WPA	Balance – total Input to County Durham facilities	NE Region Generated waste
Recycle	15.0	7.9	7.0	16.2	24.1	111.0
Composting	0.7	0.0	0.7	0.0	0.0	8.6
Land Recovery	4.8	4.6	0.2	0.0	4.6	380.9
Transfer	254.8	147.6	107.2	73.6	221.2	1,350.6

[7] PPG Paragraph: 033 Reference ID: 28-033-20161016, Revision date: 16 10 2016

Fate	County Durham Generated Waste	County Durham generated waste managed in the WPA	County Durham generated waste exported to facilities outside of the WPA	Waste generated outside of County Durham imported to be managed within the WPA	Balance – total Input to County Durham facilities	NE Region Generated waste
Inert Landfill	116.2	114.8	1.4	462.0	576.7	1,135.9
Non-Haz Landfill	171.4	39.2	132.1	39.7	78.9	1,115.4
Other treatment	60.5	9.6	50.8	28.4	38.0	257.7
All	623.3	323.8	299.5	619.8	943.6	4,360.1

8.5.4 These figures show that although County Durham generated inert waste processed through permitted facilities accounts for only 14% of that generated in the region, and 13% of that landfilled in available inert and non-hazardous landfill capacity, imports of inert waste from the rest of the region increase the County Durham landfilled figure to 32% of that landfilled in the region as a whole. There is in addition a considerable volume of material that passes through transfer stations (1.4Mtpa at regional level, 221ktpa in County Durham). Because of the low value of the waste being processed in such facilities, and therefore the relatively high cost of transporting this waste large distances, it is assumed that this waste reaches its final destination in other local disposal and treatment facilities and is therefore doubling counting.

8.5.5 However, as reported in section 6.5, there is considerable amount of inert and construction waste processing within County Durham that is undertaken in facilities which are exempt from environmental permitting. This can include reuse or recycling of waste on the construction site itself, for instance material from demolition activities being prepared for reuse as aggregate in the foundations of a new building. Those registering sites for exemptions from environmental permitting, have no obligation to report whether their facility is active, or how much waste their activity processes. As the data on exempt sites in section 6.5 shows, there are 54 exemptions in County Durham classified as T5 “screening and blending of waste” (making aggregates or soil for reuse, maximum throughput per exemption 5,000tpa or 50,000tpa if making road stone) and 251 exemptions with U1 “Use of waste for construction” (maximum throughput per exemption 5,000tpa or 50,000tpa for road construction).

Inert waste Recovery (Reuse and Recycling)

8.5.6 The EU Waste Framework Directive states that a minimum increase to 70% by weight in the recovery of non-hazardous construction and demolition waste is required by 2020. This was transposed into national law by the Waste (England and Wales) Regulations 2011. Methodologies are available at a national level to calculate total arisings and recovery rates, e.g. “Methodology for estimating annual waste generation from the Construction, Demolition and Excavation (CD&E) Sectors in England” by Defra published in 2012, but these rely upon a number of datasets only available as national estimates (e.g. aggregates recycling estimates from the Mineral Products Association), which cannot robustly be applied at a local level. The last estimate of the national C&D inert waste recovery rate, was made in 2014, as confirmed by Defra’s “UK Statistics on Waste” published in February 2018. The 2014 study estimated recovery rates of 91.4% in England and 89.9% in the UK as a whole.

8.5.7 The usual sources of inert/C&D waste data, in this case Environment Agency permitted site returns, only report construction waste recycling when this is carried out at permitted facilities. This can be at the materials recovery facilities (MRF) of skip and aggregate companies for instance. In 2016, such activity was reported at the MRF of Stonegrave Aggregates Ltd at Aycliffe Quarry, which, as shown in Appendix III, has a permit to process up to 160,000tpa of wastes including inert waste.

8.5.8 The majority of inert waste reuse and recycling is managed outside of the environmental permitting system and is not reported. This could amount to a considerable volume of managed inert waste which is unreported – for instance if all sites reported as exempt in 2016 were operational at maximum throughout (for non-road stone related activities) this would equal more than 1.5 million tonnes of inert waste per year for County Durham alone. This would give a recovery rate of approximately 70%.

Inert Landfill

8.5.9 As explained in section 6.2, there remain 4 operating landfills within County Durham handing both inert and non-hazardous waste. These are shown in Table 31 following. Although landfills are classified by the Environment Agency "inert" and "non-hazardous", inert waste is disposed of at both types of facilities, either directly as a disposal operation, or for daily cover and landfill engineering purposes.

Table 31: Inert waste disposal, County Durham (source: EA, 2016, Anthesis)

Site Name	EA landfill Classification	Averaged Inert Waste Input 2014-2016 (tpa)	Remaining capacity 2016 (Cubic metres)	Calculated capacity end date	Planning Consent End Date
Aycliffe Quarry Landfill	Non-Haz	1,294	2,064,587	2044	21/2/2042
Joint Stocks Landfill Phase 2	Non-Haz	77,646	1,700,000	2048	Now closed
Bishop Middleham Quarry 2	Inert	372,970	3,640,558	2031	11/06/2052
Crime Rigg Quarry Landfill	Inert	124,321	1,930,000	2039	31st December 2024
Old Quarrington Quarry Landfill	Inert	594	1,769,768	2050	3rd July 2026
Totals County Durham		576,825	11,104,913		
Totals Region		2,292,035	23,497,122		

8.5.10 These figures show an overall inert waste input to these sites of 577ktpa with a remaining capacity amounting to 11.1 Mm^3, representing 47% of the available capacity in the region.

8.5.11 Sites for the treatment of inert wastes are often based at quarries or landfill sites and for this reason will ultimately be time-limited due to the temporary nature of quarries and landfill sites. There is, therefore, a need to ensure that there are appropriate sites to support the proper management of this type of waste. Taking averaged inert and non-hazardous waste inputs over the last 3 years, and EA reported figures for the remaining capacity per site, the anticipated year when this capacity would be

filled for each individual landfill was calculated as explained in section 6.2. This is reported in Table 31. In the case of Crime Rigg Quarry and Old Quarrington Quarry, this date is considerably later than the date the planning consent for those facilities end. However, this calculation does not take into account the diversion of waste away from closed landfills to those with remaining capacity i.e. assumes constant waste input over the forecast period.

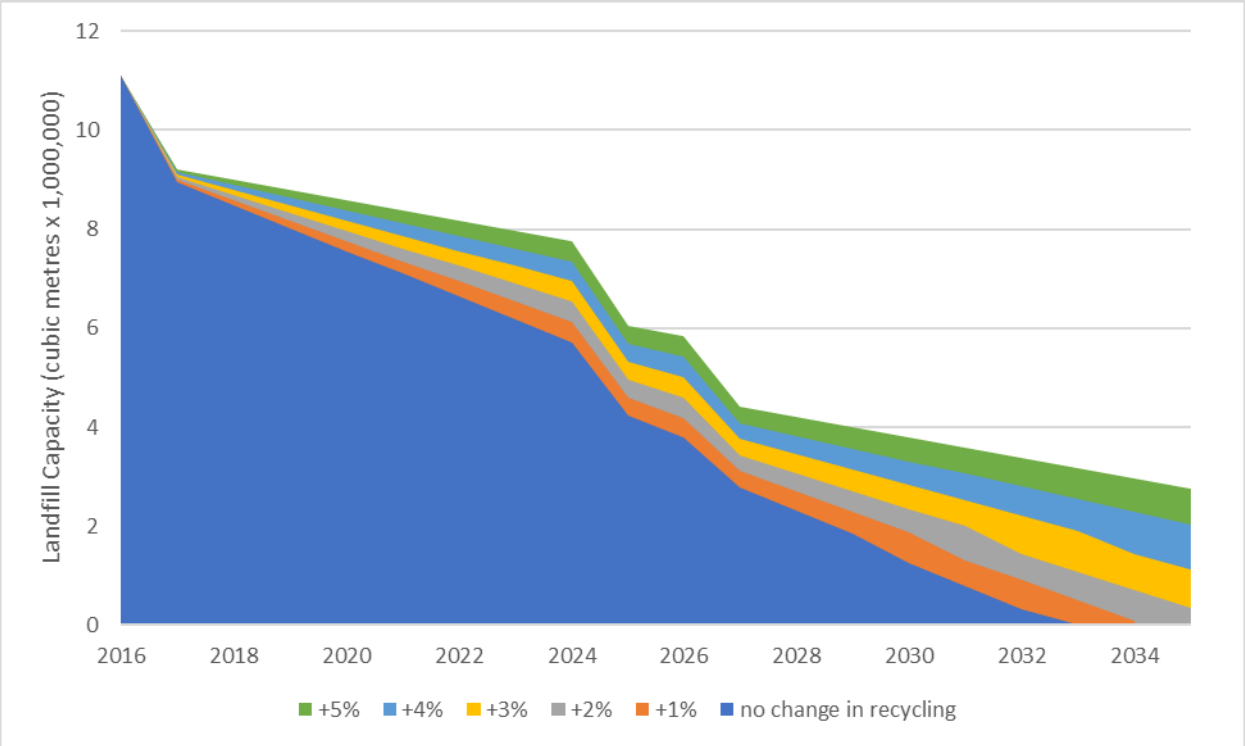
8.5.12 Taking into account landfill closure dates due to consent end dates, and redirecting waste from closed landfill to other capacity within County Durham, produces an overall exhaustion date of County Durham landfill of 2032, with available capacity against time as summarised in Table 32.

Table 32: Forecast remaining capacity County Durham landfills (source: Anthesis)

	2016	2020	2025	2030	2035
Aycliffe Quarry Landfill	2.06	1.60	0.99	0.00	0.00
Joint Stocks Landfill Phase 2	1.70	0.00	0.00	0.00	0.00
Bishop Middleham Quarry 2	3.64	3.18	2.56	1.26	0.00
Crime Rigg Quarry Landfill	1.93	1.47	0.00	0.00	0.00
Old Quarrington Quarry Landfill	1.77	1.31	0.69	0.00	0.00
Total	11.10	7.56	4.24	1.26	0.00

8.5.13 However, there is considerable shift generally in the construction and demolition industries, to a reduced reliance on landfill and to re-use and recycle materials more, using demolition wastes in the construction of new projects. Further moves to extend recovery in this way, will therefore extend the lifetime of this capacity. To model the potential impact of increased recovery on landfill life times, a recycling rate within the County Durham the same as the national figure was assumed, and the impact of increases in this rate measured in terms of the increase in the time for landfill capacity to exhaust. These results are summarised in Figure 3. The modelling shows, for instance, if recovery grew by 2% that would increase the life time of the available landfill capacity in County Durham to beyond 2035.

Figure 3: Remaining landfill capacity with increasing inert waste recycling rate, County Durham (source: Anthesis)



8.5.14 However, when considering available capacity at a regional level (including County Durham), calculating life time of available capacity ignoring closures due to expired consents, shows that overall capacity would disappear after 9 years i.e. by 2024, as shown in Table 33.

Table 33: Total Landfill inputs, capacity and expected life time, County Durham and NE region (source: EA, 2016, Anthesis)

	2016 capacity (Cubic metres) (*)	Average annual Input -inert wastes	Average annual Input – all wastes	All wastes input as volume (cubic metres)	Years capacity remaining
Region (including County Durham)	21,797,122	2,292,035	2,990,247	2,349,449	9

(*) excludes Joints Stocks landfill

8.5.15 Therefore, without extending consents on current landfills pressure on County Durham landfills is likely to increase, and demand will outstrip available capacity within the forecast period.

8.6 Agricultural Waste

8.6.1 Agricultural waste mainly comprises organic material that is managed on site, plus solid wastes such as packaging wastes, other materials (plastics, metals and cardboard) not used for packaging plus specialist animal by products wastes. The Environment Agency have tried to get some quantitative data on this (published as “Towards sustainable agricultural waste management” (Environment

Agency & Biffaward, 2001)), although this is quite outdated, and the accuracy of the original data is acknowledged as weak in some areas. There has been no other work of this type published since then.

8.6.2 Based upon Defra data for 2016, County Durham accounts for 38% of the agricultural holdings in the North East, and 25% of the total farmed area. Applying the EA data reported in 2001 (collected 1998) and multiplying by the ratio of farmed land in County Durham to the whole of England, suggests potential arisings include approximately 147t of packaging materials (such as plastics, cardboard, and metals), 281tpa of non-packaging materials (such as plastics and cardboard), 320t of machinery and machinery waste, 97t of C&D waste, and 665tpa of hazardous wastes and washings. This totals some 1,500t requiring off farm waste management or water treatment. Other organic wastes (311kt) are likely to be disposed of on farm, with animal by products total 940t needing specialist treatment. Wastes such as plastics and metals will be managed within the usual C&I waste systems.

8.6.3 Environment Agency permitted sites returns data for 2016 does report 3,019 tonnes of waste classified as "agriculture and food processing waste" in 2016, the majority of which goes to biological processing. However, as many farm based processing facilities are exempt from environmental permitting, and therefore do not report throughputs, this figure is likely to be an underestimate of the total amount of agricultural waste produced.

8.6.4 As the majority of such waste is reused on site, its impact on the disposal or recycling of waste in County Durham will be small, and any non-organic waste which is not reused is likely to be included in the commercial and industrial waste arisings estimates. There has been an increase in capacity for the processing of agricultural wastes in recent years, particularly in farm based anaerobic digestion facilities.

8.7 Low Level Radioactive Waste

8.7.1 Since the publication of the original study, Urban Mines (now part of Anthesis) were commissioned to produce a more detailed study into regional low level radioactive waste (LLW) generation. The report generated by this work, 'Production and Disposal of Low Level Radioactive Waste (LLW and VLLW) in the North East of England' (Urban Mines, August 2013) identified producers and management routes for LLW generated by hospitals, businesses, laboratories and universities in the region, and in individual WPA areas. The LLW study reviewed both the definitions of low level radioactive waste (LLW) and very low level radioactive waste (VLLW), and the policies and regulations impacting on the production and management of such wastes. The roles of the Environment Agency and the Nuclear Decommissioning Authority were also reviewed in permitting and regulating the disposal of such wastes, together with the limited information available on this stream.

8.7.2 The report concluded that there are existing management routes to deal with arisings produced by key producers such as universities and hospitals in the North East and that commercial capacity exists outside the region to reduce reliance on the National Low Level Radioactive Waste Repository (LLWR) near Drigg and negate the need for provision of capacity within the North East until at least 2029.

8.7.3 Following the production of the study, Durham County Council carried out a consultation exercise as part of the Duty to Co-operate on Low Level Radioactive Waste capacity with Local Authorities identified in the study. The results of this exercise were summarised in a Briefing Note which was

circulated to all the North East authorities involved in the study. This concluded that there appears to be sufficient capacity in other areas to satisfy requirements in the North East. Further capacity has also been permitted since the Briefing Note was finalised.

8.7.4 The report "New Waste Management Capacity permitted in the North East since the Urban Mines Baseline" January 2016, updates the position regarding available LLW capacity. This report concludes that "In conclusion, it is considered that existing capacity outside the North East together with the applications granted in 2015 will ensure that there continues to be adequate capacity elsewhere to deal with the arisings of LLRW from the North East region. Movements are controlled by the market and commercial decisions of waste managers, over which WPAs have little control." However, DCC will need to maintain a watching brief to ensure this position is maintained in the future for this highly specialist disposal capacity.

8.7.5 In 2016, data from the Environment Agency identified just two organisations in County Durham with permits to produce LLW. Total release for the year was 942 GBq, but this was to waste water, rather than as solid waste.

8.8 Waste Water

8.8.1 The "Waste and Minerals Technical Paper 2016" set out that Information from NWL indicates that 50,000 tonnes of sludge arise from treatment operations and that all of this is sent to Advance Anaerobic Digestion at either Bran Sands or Howdon.

8.8.2 As statutory undertaker Northumbrian Water Ltd (NWL) provides water and waste water services in North East England including County Durham. The company operates a large network of 414 water treatment and waste water treatment plants across the region and 84 in County Durham. These plants are a significant source of waste requiring both treatment and disposal.

8.8.3 The sewage sludge generated at these works is tankered to a network of 6 Sludge Handling Centres, 4 of which are in County Durham; Birtley, Stressholme, Tudhoe Mill and Willington. Here, the liquid sludge is centrifuged to produce a drier sludge cake. This cake is then exported out of County Durham to one of NWL's two Sludge Treatment Centres (STC) at Howdon, in Newcastle, or Bran Sands in Middlesbrough. It is then treated by a process called Thermal Hydrolysis which uses steam at 6 bar pressure and 165^{o}C to kill 99.9999% of any pathogens present and also begins to break down the biological cell walls. The sludge is then pumped to an Anaerobic Digester where methane gas is generated, collected and either cleaned up and sent to the gas grid at Howdon or used to generate the steam to drive the THP at Bran Sands. 100% of the resultant sewage sludge, now known as Enhanced Treated Biosolids, is recycled to agricultural land as a nutrient rich fertilizer under the Sludge (Use in Agriculture) Regulations 1990.

8.8.4 The amount of sludge exported from County Durham to the STCs in the last 3 years is: 2013 28,658 tonnes 2014 33,146 tonnes 2015 28,724 tonnes.

8.8.5 There are 5 main water treatment works in County Durham: Lumley; Mosswood; Honey Hill; Broken Scar; and Wear Valley. The sludge generated by these works is either recycled to agricultural land under a permit as a soil conditioner (92%) or used in a permitted landscaping scheme at the former landfill site at Wear Valley works (8%). The sludge provides a suitable growth media for the local

vegetation to take hold so that the site will eventually match the surrounding area. NWL does not landfill any sludge in accordance with the Waste Hierarchy principles.

8.9 Conclusions

8.9.1 The revised forecasts for LACW and C&I generated waste arisings are lower than in the original report for both waste sources. The differences in the quantities involved are not large being around 5% reduction overall.

8.9.2 Dry Waste Recycling – Analysis suggests that non-hazardous waste transfer capacity could generate 373ktpa-1.2Mtpa of recyclate separation capacity at local County Durham level and 2.0-6.1Mtpa at regional level. This is in addition to materials recovery facility (MRF) capacity of 270ktpa within County Durham, 1.8Mtpa regionally. This suggests a considerable surplus capacity at County Durham level compared to the forecast arisings of 247 to 334 ktpa over the forecast period.

8.9.3 Organic Waste Recycling – Forecast arisings suggest an organic waste recycling demand in County Durham of some 63 – 74ktpa over the forecast period. County Durham has considerable local capacity to deal with demand, consisting of 190ktpa of composting and 72ktpa anaerobic digestion (AD) capacity, suggesting a local capacity surplus. At regional level this surplus is replicated, with arisings of 383ktpa (2016) and 446-593ktpa (2035, depending upon scenario used) compared to an available capacity of 873ktpa in 2016 to 1.1Mtpa in 2035. Splitting these demand figures into waste and therefore technology types suggests that there is sufficient long-term windrow capacity both within County Durham and regionally to handle demand for garden waste and similar materials. For food waste, the location of key AD facilities within County Durham gives a capacity surplus compared to local demand, and new AD and food waste MBT capacity elsewhere in the region gives a potential long-term capacity surplus at regional level too.

8.9.4 Residual Waste - With 127ktpa of MBT and 50ktpa of landfill capacity within County Durham across the forecast period this means a shortfall in residual waste disposal capacity across the forecast period of some 79-177ktpa, depending upon the forecasting scenario used and local recycling rates achieved. However, at regional level some 1.9 million tonnes of residual waste is currently generated, forecast to reach 1.6-2.2 million tonnes by 2035 depending upon the recycling rates and landfill diversion achieved. Over this same period, it is forecast that residual waste capacity will increase from 2.4 million tonnes (2016) to peak at 3.0 million tonnes in 2020 and 2021, reducing finally to 2.3 million tonnes by 2035 due to landfill closures. Of this capacity, energy recovery is forecast to increase from 0.85 million tonnes in 2016 to 1.7 million tonnes pa by 2035. This means there is likely to be a regional surplus of capacity throughout the forecasting period, if all the planned facilities are delivered. This amounts to between 0.1-0.7 million tonnes surplus by 2035. However, this is based upon the assumption that new forecast facilities will be delivered, otherwise landfill closures will not be matched by new energy recovery capacity producing a capacity shortfall at regional level.

8.9.5 Hazardous waste – With estimated arisings of between 43 and 44ktpa, although there is no hazardous landfill in the County Durham[8] area there is considerable capacity in nationally significant sites in the

[8] Save for the Stable Non-Reactive Hazardous Waste (SNRHW) cell at Aycliffe East Quarry Landfill.

Tees Valley sub-region, and at a regional scale there appears to be significant hazardous waste treatment and landfill capacity (1.95 million tpa).

8.9.6 Inert Wastes – Although there are statutory recovery rate targets for construction and demolition wastes, which makes up the vast majority of inert waste arisings, a large proportion of C&D waste cannot be quantified at local level as it is processed on site for reuse, or is processed through facilities which are exempt to environmental permitting. However, there is data available for permitted facilities. EA figures show that in 2016 there is 11.1 million cubic metres of landfill capacity in County Durham, with on average 576ktpa of inert waste input each year (including imports from other parts of the region). Taking into account expiration dates of consents, and rediverting waste from closed landfills to other landfills within County Durham, would exhaust available capacity by 2032. Assuming nationally reported recovery rates apply to County Durham too, any increases in local recovery of C&D waste would extend the life of local landfills considerably. County Durham inert landfill capacity has a key regional role. Around 47% of inert material landfilled in the region is landfilled in County Durham (based upon 3 year averaged inputs). In contrast to County Durham alone, regional landfill capacity is forecast to be exhausted by 2024, putting more pressure upon County Durham landfills

8.9.7 Agricultural Waste - There is no new data published since the original study in 2012 which could be used to produce accurate arisings data for County Durham. As the majority of such waste is reused on site, its impact on the disposal or recycling of waste in County Durham will be small, and any non-organic waste which is not reused is likely to be included in the commercial and industrial waste arisings estimates.

8.9.8 Waste Water – No new information is presented since that published in the Waste and Minerals Technical Paper, 2016. A network of facilities process locally generated sewage sludge with de-watered material exported from County Durham to treatment centres in Newcastle and Middlesbrough. Forecasts in sewage sludge growth have not been received, upon which a picture of future demand for processing infrastructure could be based.

8.9.9 Low Level Radioactive Waste - The report “New Waste Management Capacity permitted in the North East since the Urban Mines Baseline” January 2016, updates the position regarding available LLW capacity. This report concludes that “In conclusion, it is considered that existing capacity outside the North East together with the applications granted in 2015 will ensure that there continues to be adequate capacity elsewhere to deal with the arisings of LLRW from the North East region.” Based upon LLW outputs for 2016, this statement is still true.

8.9.10 There is therefore no significant need to identify new waste management sites in the Plan area for most reviewed waste types, although reductions in inert waste landfill availability will need monitoring over the plan period and, particularly post 2032. Policies should be developed to permit new waste management facilities to come forward where they are viable and there is sufficient demand. Therefore, the conclusions of this Addendum support the conclusions of the original Urban Mines Report 2012 that no additional capacity is needed by allocations for County Durham pre- 2031. Post 2031 there appears to be shortfalls in inert landfill capacity, although increased recycling within the construction sector could mitigate this requirement. As waste and its management are not confined by Local Authority boundaries, regional capacity and the wider regional market are important. Surplus capacity available for most waste types at a regional level will exceed arisings even if not all of the planned capacity is developed.

Appendices

I. NPPW and NPPG Compliance Checklist

The following table summarises the relevant requirements of the national planning policy for waste (NPPW) and national planning practice guidance (NPPG), and where these requirements are addressed in this report, by chapter and section number.

Source	Requirement	Addendum Chapter
NPPW para 2	Ensure that the planned provision of new capacity and its spatial distribution is based on robust analysis of best available data and information, and an appraisal of options. Spurious precision should be avoided.	Appendix II for methodology; Chapter 8 for results
NPPW para 2	Work jointly and collaboratively with other planning authorities to collect and share data and information on waste arisings, and take account of: i. waste arisings across neighbouring waste planning authority areas; ii. any waste management requirement identified nationally, including the Government's latest advice on forecasts of waste arisings and the proportion of waste that can be recycled	2.5
NPPW para 3	Identify the tonnages and percentages of municipal, and commercial and industrial, waste requiring different types of management in their area over the period of the plan.	0 and 4.3
NPPW para 3	Consider the need for additional waste management capacity of more than local significance and reflect any requirement for waste management facilities identified nationally.	5, 8
NPPW para 3	Take into account any need for waste management, including for disposal of the residues from treated wastes, arising in more than one waste planning authority area but where only a limited number of facilities would be required.	5, 8
NPPW para 3	Consider the extent to which the capacity of existing operational facilities would satisfy any identified need.	8
NPPG para 014	Presumption in favour of sustainable development: Identifies what Local Plans must include to meet the requirements of the Waste Framework Directive. This specifically mentions assessment of need for closure and need for additional infrastructure.	2, 8

Source	Requirement	Addendum Chapter
NPPG para 022	*How should waste planning authorities identify the need for new waste management facilities?* Information on the available waste management capacity in the relevant area will help inform forward planning in Local Plans of waste infrastructure required to meet need. It will also require an assessment of future requirements for additional waste management infrastructure, with reference to forecasts for future waste arisings. Assessing waste management needs for Local Plan making is likely to involve: • understanding waste arisings from within the planning authority area, including imports and exports • identifying the waste management capacity gaps in total and by particular waste streams • forecasting the waste arisings both at the end of the period that is being planned for and interim dates • assessing the waste management capacity required to deal with forecast arisings at the interim dates and end of the plan period.	6, Appendix III
NPPG para 024	What information should waste planning authorities obtain on existing waste management capacity? Waste planning authorities will need to ensure that they have obtained sufficient details on existing waste management facilities to enable them to plan effectively. This is likely to include: • site location details – name of site and operator, address, postcode, local authority, grid reference etc. • type of facility – what process or processes are occurring on the site and which waste streams they manage • licence/permit details – reference number, tonnage restrictions, waste type restrictions, dates of renewal, etc. and status if not yet licensed and permitted • capacity information – licensed and permitted throughput by waste type • site lifetime or maximum capacity – it is important to record the expected lifetime of facilities and, where appropriate, their total remaining capacity	Appendix III

Source	Requirement	Addendum Chapter
	• waste sources – origin of wastes managed, broken down by type and location • outputs from facility – recovery of material and energy, production and export of • residues and the destination of these, where appropriate • additional information – potential of site for increasing throughput, adding further capacity, other waste management uses, etc.	
NPPG para 025	How should waste planning authorities assess capacity of sites exempt from environmental permits? Sites that operate under an exemption from the environmental permitting regime are not obliged to report on the amount of waste they handle. Some assessment of maximum capacity may be made through reference to the maximum amounts of waste permitted under the exemption (information on exempt sites is available from the Environment Agency). If a waste planning authority is concerned that exempt sites are having a significant impact on local capacity, it may wish to investigate this further. This may involve detailed surveys or obtaining a sample of surveys and extrapolating results.	6.5
NPPG para 026	How should waste planning authorities assess any closure of existing waste management facilities and the need for additional waste installation infrastructure? Waste planning authorities should consider whether existing waste management facilities are likely to close, or have closed, during the plan period, and the consequent need for new infrastructure, as part of the preparation of Local Plans, using the best available information from a number of sources. This might include: • the Environment Agency, which holds information on waste licences, applications and capacity, and which is required to inspect a number of waste management facilities as part of the permitting regime • waste management companies or site operators/owners who are willing to share their plans for closing facilities or can provide information on a site closure. Annex 2 contains an example of the sort of table that could be used to report on the capacity of waste management facilities.	6, 8

Source	Requirement	Addendum Chapter
	This table could be supported by a written commentary that sets out the existing position having regard to the Local Plan and provides sufficient information about the provision that has been made for dealing with waste, so as to inform on where there is a shortfall in meeting demand.	
NPPG para 028	How should waste planning authorities forecast waste arisings? Waste planning authorities should anticipate and forecast the amount of waste that should be managed at the end of the plan period. They should also forecast waste arising at specific points within the plan period, so as to enable proper consideration of when certain facilities might be needed. However, the right balance needs to be made between obtaining the best evidence to inform what will be necessary to meet waste needs, while avoiding unnecessary and spurious precision.	4
NPPG para 029	How should waste planning authorities forecast future municipal waste arisings? Forecasts of future municipal waste arisings are normally central to the development of Municipal Waste Management Strategies. It will be helpful to examine municipal waste arisings according to source (i.e. household collections, civic amenity site wastes, trade waste etc.). This may allow growth to be attributed to particular factors and to inform future forecasts. A 'growth profile', setting out the assumed rate of change in waste arisings may be a useful starting point for forecasting municipal waste arisings. The growth profile should be based on 2 factors: • household or population growth; and • waste arisings per household or per capita.	0
NPPG 030	How is a growth profile prepared? A growth profile is prepared through a staged process: • calculate arisings per head by dividing annual arisings by population or household data to establish short- and long-term average annual growth rates per household and	0

Source	Requirement	Addendum Chapter
	• factor in a range of different scenarios, e.g. constant rate of growth, progressively lowering growth rates due to waste minimisation initiatives. The final forecast can then be modelled with scenarios based on the long- and short-term rate of growth per household, together with household forecasts.	
NPPG 031	What are the key issues which may influence the forecasts of other wastes? Although it may not be possible to address growth (or decline) of the other waste streams in quite the same way as for municipal waste, there are similar factors that are likely to influence waste arisings. These might include: • the influence of the landfill tax and its escalator • the Aggregates Levy, which may encourage use of construction and demolition wastes • the impact of producer responsibility measures – covering issues such as packaging, end of life vehicles and batteries – and of integrated product policy initiatives.	4.3
NPPG 032	How can waste planning authorities forecast future commercial and industrial waste arisings? Waste planning authorities can prepare growth profiles, similar to municipal waste, to forecast future commercial and industrial waste arisings. In doing so, however, they should: • set out clear assumptions on which they make their forecast, and if necessary forecast on the basis of different assumptions to provide a range of waste to be managed • be clear on rate of growth in arisings being assumed. Waste planning authorities should assume a certain level of growth in waste arisings unless there is clear evidence to demonstrate otherwise.	4.3
NPPG 033	How should waste planning authorities forecast future construction and demolition waste arisings? Waste planning authorities should start from the basis that net arisings of construction and demolition waste will remain constant over time as there is likely to be a reduced evidence	4, 8.5

Source	Requirement	Addendum Chapter
	base on which forward projections can be based for construction and demolition wastes. However, when forecasting construction and demolition waste arisings, the following may be relevant: • annual existing returns from waste management facilities • data from site waste management plans (where available) • the fact that a sizeable proportion of construction and demolition waste arisings are managed or re-used on-site, or exempt sites, so it is critical that some provision is made for unseen capacity in this way • any significant planned regeneration or major infrastructure projects over the timescale of the Plan.	
NPPG 034	How should waste planning authorities forecast future hazardous waste arisings? Since existing data on hazardous waste arisings is likely to be robust, waste planning authorities should plan for future hazardous wastes arisings based on extrapolating time series data. View guidance on hazardous substances.	4.4
NPPG 034	What are the potential sources of information of waste data to inform the preparation of Local Plans? Planned provision of new capacity and its spatial distribution should be based on robust analysis of best available data, including: • the waste planning authority's own data (from existing permissions and regular monitoring) • municipal waste data from the waste disposal authority, in particular the WasteDataFlow system • commercial and industrial waste information, which may be obtained from a number of sources, but in particular the Environment Agency's Waste Data Interrogator (which collates information provided by site operators in the site returns that they are required to submit by the conditions of their environmental permit). Other sources may also be used, including information provided by the waste management industry, bespoke surveys carried out by the waste planning authority, and surveys carried out by central government	Appendix II

Source	Requirement	Addendum Chapter
	• radioactive waste data is provided by the Nuclear Decommissioning Authority for all waste from the nuclear industry; information on radioactive waste produced by large industrial sites (installations) can be obtained from the Environment Agency's Pollution Inventory • construction and demolition waste data may be available from annual site returns from individual facilities to the Environment Agency. Other possible sources could include site waste management plans and bespoke surveys. A qualitative assessment approach may also be appropriate • hazardous waste – data on volumes of hazardous waste arising may be obtained from the Environment Agency through their Hazardous Waste Data Interrogator • other waste streams of local significance– data on other waste streams of regional or local significance may require bespoke collection, or more detailed interrogation of databases held by the Environment Agency, the Department for Environment, Food and Rural Affairs and/or local authorities (including new data streams coming on-line in early 2015 on waste being passed through materials recovery facilities), and water companies.	
NPPG 036	What principles should waste planning authorities adopt when using data to plan for waste management facilities? Given the challenges of obtaining up-to-date and reliable waste data, the following key principles when using waste management data may be helpful: • Make clear assumptions on how data were handled, as well as their impact (including on forecasting) • Provide data to an appropriate level of significance, based on their explicit assumptions. In practice, data quoted to more than 2 or 3 significant figures will not be helpful and spurious accuracy stemming from precise figures should be avoided • Plan for a range of each type of waste rather than a specific single figure.	8, Appendix II

II. Delivery Methodology

A2.1 Introduction

A2.1.1 The methodology for delivery of this updated study is outlined in this section. The aim of this study was to update the Urban Mines Report 2012 at North East Regional and Durham County Council level (DCC), without updating forecasts for the other North East WPAs, using methodologies which mirror, and therefore do not undermine, the original study. Producing a capacity gap update at regional level as well as for DCC directly, identifies any regional or strategic changes in waste management provision which may have an impact on DCC local requirements.

A2.2 Update of Waste Arisings Estimates

A2.2.1 Baseline waste arisings estimates from the Urban Mines Report 2012, at both North East regional and Durham County Council local level, have been reviewed and updated using the following methodologies and data sources:

Local Authority Collected Waste (LACW)

A2.2.2 Data for the amount of waste collected by Local Authority area in 2016 (the baseline year) for total regional arisings and DCC local arisings, were collated from the Defra published dataset "Waste Data Flow", which is recognised within the sector as being accurate and consistent. As in the original study, the data was collated by both waste type and waste management destination covering the following waste process types:

- Recycling
- Composting
- Energy recovery
- Residual waste disposal to landfill and
- Other Treatment

Commercial & Industrial Waste

A2.2.3 For Commercial & Industrial (C&I) Waste, the baseline arisings estimates generated at regional and local WPA level for the original June 2012 study, were based upon the results of the extensive survey "North East of England Commercial and Industrial Waste Survey 2010" delivered for the North East Sustainable Resources Board also by Urban Mines (now part of the Anthesis Group) in partnership with Gardiner & Theobald. Delivered in parallel to the English national C&I waste arisings survey managed by Defra, this survey was based upon data obtained from 1,303 businesses in the North East region selected in a statistically valid manner, between October and December 2010, from a total relevant business population of 26,620.

A2.2.4 This survey therefore represented a robust picture of commercial & industrial waste arisings within the North East region at that time, at a level of precision not available to most other regions in England. There has not been a repeat of this survey since 2010 either at national or regional level, meaning there is no new data available upon which North East regional and County Durham local arisings estimates can be based. Although this dataset is 8 years old, because of its robust nature and

level of precision, the data has been re-used, with adjustments to take account of changes since 2010 in the following areas:

The North East and County Durham economy

A2.2.5 To take into account changes in the local economy since 2010, latest IDBR data (Inter-Departmental Business Register, consisting of business numbers by sector and business size) published by the Office of National Statistics (ONS) was used to re-gross the raw survey data into arisings estimates at regional and DCC WPA level, assuming that the waste quantity and waste types produced by businesses per sector and per business size, have remained constant since 2010. This grossing reflects the methodology used in delivery of the survey itself, and in the July 2012 study, using IDBR data in the same by sector and by size structure used for both the survey and original capacity gap study. The latest data available was for 2016. Comparing 2016 regional data to that used in 2010, it has been noted that there has been a significant increase in the number of commercial businesses (measured as local units, +26% to 76,855) and a slight increase in the number of industrial businesses (by 7% to 5,165).

Waste Management Practises

A2.2.6 The need to adjust estimates to take into account significant changes in C&I waste management practises since the 2010 survey (for instance any significant increases in the recycling of C&I waste or diversion of C&I waste from landfill), cannot be gleaned directly from available data, as no such data since 2010 exists, but can be inferred. Environment Agency (EA) data for permitted waste management facilities in the region was used to provide combined figures for non-hazardous LACW and C&I waste, along with LACW recycling data from Defra's WasteDataFlow dataset. This review showed:

- The volume of LACW and C&I non-recycled waste disposed of in regional non-inert landfills has remained fairly static at 1.99 million tonnes in 2010 to 1.95 million tonnes in 2016, with an increase in waste volume of 350 thousand tonnes sent to energy recovery facilities in the same period i.e. from 296ktpa in 2010 to 646ktpa in 2016. Comparison with WasteDataFlow data showed that the majority of this increased volume to energy recovery was of LACW, suggesting insignificant change in landfill diversion for C&I waste.

- The disposal data also suggests that the diversion from landfill was not produced by a significant increase in overall recycling rates. This is confirmed by data from WasteDataFlow, which shows during the period 2010 to 2016, average NE regional LACW recycling rates increased only slightly from 34% in 2010 to 38% in 2016. This therefore suggests again that C&I recycling rates too did not increase significantly over the period 2010-2016, in fact may have dropped back slightly.

A2.2.7 Therefore, it was concluded that in the period 2010 to 2016 there were no significant changes in C&I waste management practises in the NE region, so there is no need to adjust C&I arisings estimates to reflect this.

A2.2.8 As with LACW, C&I data was collated per key waste management process type i.e.:

- Recycled

- Composting
- Energy Recovery
- Residual Waste to Landfill
- Other Treatment

Hazardous Waste

A2.2.9 As used in the July 2012 study, Environment Agency (EA) published returns data was used to identify hazardous waste arisings at both regional and DCC WPA level, for the latest reporting year (2016).

Inert Waste

A2.2.10 Environment Agency (EA) published returns data was used to identify inert waste arisings at both regional and DCC WPA level, for the latest reporting year (2016).

A2.3 Forecast of Arisings 2016-2035

A2.3.1 Growth factors were applied to the baseline arisings estimates using forecasting data sources equivalent to those applied in the original study, and assumptions used in utilising this growth data were the same as applied in the original study. These are summarised in the following table:

Table 34: Sources of growth data for modelling long term arisings (Source: Anthesis)

Waste Source	Growth figures applied at Regional Level	Growth Figures Applied at DCC level	Assumptions Used
LACW	2016 baseline housing was taken from the Office of National Statistics (ONS) report, 'Total number of households by region and country of the UK 1996 – 2017'. An annual growth rate of 6,732 households was applied each year, so as to align with the Government's 'Indicative assessment of housing need based on proposed formula' report.	Baseline housing stock for Durham was taken from the DCC website. An annual growth rate of 1,368 households was applied each year, so as to align with the Government's 'Indicative assessment of housing need based on proposed formula' report.	Weight of waste produced per household is constant over the waste planning period i.e. 1% increase in housing stock equals 1% increase in waste
C&I	Based upon targeted employment increases: North East Local Enterprise Partnership 100,000 extra jobs by 2024 (published 2016) Tees Valley Combined Authority 25,000 jobs by 2024 (published 2016).	UK Local Market Forecasts Quarterly, Experian, September 2017 – employment forecasts per sector	Weight of waste produced per employee per sector is constant over the waste planning period i.e. 1% increase in employment equals 1% increase in waste

Waste Source	Growth figures applied at Regional Level	Growth Figures Applied at DCC level	Assumptions Used
	Actual baseline employment figure was taken from the Office of National Statistics (ONS) report 'Employment broken down by region for January to December 2016'		
Hazardous	As C&I	As C&I	As C&I
Inert (CD&E)	Arisings assumed to be the same every year. No growth rate applied (as recommended in national planning practice guidance)	Arisings assumed to be the same every year. No growth rate applied. (as recommended in national planning practice guidance)	
Agricultural	Growth not applied	Growth not applied	
Low Level Radioactive Waste	Growth not applied	Growth not applied	
Waste Water	Growth not applied	Growth not applied	

A2.3.2 Using this approach, growth factors overall are also compatible with those used in other parts of the Plan.

A2.4 Update of North East Waste Management Capacity Assessment

A2.4.1 The original July 2012 study collected data on existing and planned permitted waste management facilities, so that estimated capacities by waste management process type, for each of the Plan years could be produced. Key data per facility was collected and collated, such as waste management process type, annual capacity, start date (for facilities not yet commissioned, but expected to be commissioned during the plan period) and end date (for facilities anticipated to close during the plan period), using data from WPAs and the EA.

This covered the following main facility types:

- Landfill
- Incineration and energy recovery
- Other residual waste technologies (e.g. mechanical biological treatment [MBT] and autoclaves) and
- Composting and other organic recycling plants (e.g. anaerobic digestion)

A2.4.2 This capacity data collected in 2012 was reviewed using a number of data sources including:

- Environment Agency Site Permit Data 2016
- Environment Agency "Active Sites" Data 2016
- The report entitled "New Waste Management Capacity permitted in the North East since the Urban Mines baseline". This was produced by Leo Oliver of DCC in January 2016 from data supplied by individual WPAs and endorsed by the Environment Agency.

A2.4.3 Using this updated assessment, those significant facilities not included in the July 2012 assessment were added to the original capacity dataset, plus any updated data such as extensions of existing facilities or closures not anticipated during the original study. Any data gaps were ascertained via desk research, discussion with the relevant WPA or discussion with the operator/developer of the facility.

A2.4.4 From this review, revised capacity forecasts per Plan year 2016-2035 were produced by key waste management types:

- Recycling & Reuse
- Composting and AD
- Energy Recovery
- Landfill (non-hazardous and inert)
- Other Treatment

A2.5 Update of Capacity Gap Analysis

A2.5.1 Using the methodology applied in the original July 2012 report, waste arisings (i.e. demand) per waste management type was compared to available waste management capacity, both at regional and DCC WPA level, to identify capacity shortfalls and surpluses, per year of the planning period i.e. 2016-2035.

A2.5.2 As with the original July 2012 study, a number of scenarios were developed to identify impacts on the estimated capacity gap. These scenarios were:

- Baseline: No change in recycling rate or landfill diversion from 2016, growth factors applied.
- Scenario 1: LACW Recycling 50% by 2020, no change in C&I recycling;
- Scenario 2: LACW Recycling 50% by 2020, C&I recycling 70% by 2025;
- Scenario 3: As (1) plus Landfill diversion of LACW 90% by 2020, C&I no change;
- Scenario 4: As (1) plus Landfill diversion of LACW 90% by 2020, C&I 75% by 2020;

A2.5.3 This analysis therefore took into account:

- Existing, planned & proposed waste facilities and capacities;
- Recycling and recovery statutory targets (i.e. 50% household recycling by 2020);
- Landfill diversion targets (90% LACW diversion from DCC residual waste disposal contract);

- Stretch targets e.g. C&I recycling 70% by 2025 and C&I landfill diversion 75% by 2020) to test "what-ifs";
- Self-sufficiency and proximity principle consequences;
- Landfill trends;
- Policy and legislative changes;
- Consequences of household/municipal waste management on capacity availability for commercial and industrial waste

III. Active Waste Sites in the Durham County Council Area

The following is the 2016 Environment Agency published list of sites active in County Durham. Note capacities listed are permitted capacities, and not necessarily used in the capacity gap modelling.

Permit	Operator	Site Type	Permit Site Type	Site Name	Annual Capacity (Permitted)	2016 Input (tonnes)	Site PC	OS Grid Ref	Site Address	Permit Status	Issue Date
LB3536AZ (104770)	W J Drennan Limited	Anaerobic Digestion	S1212: Anaerobic digestion facility inc use of biogas	High Hedley Hope Farm	28,600	10524	DL13 4PR	NZ 150 410	High Hedley Hope Farm, East Hedley Hope, Bishop Auckland, County Durham, DL13 4PR,	Licence issued	27-Jul-14
HP3591ZH (67160)	U K Waste Management Ltd	Biological Treatment	A23: Biological Treatment Facility	Blue House Farm Treatment Centre	364,000	6975	DH4 6QF	NZ 314 474	Blue House Farm Treatment Centre, Marks Lane, West Rainton, Houghton-le Spring, Tyne & Wear, DH4 6QF,	Licence issued	28-Dec-90
BB3501HY (401350)	Digit Resource Management Limited	Biological Treatment	S0819: Sewage sludge treatment	West Shaw Farm	249,999	45038	DL12 8UT	NZ 083 169	Barnard Castle, County Durham, DL12 8UT,	Licence issued	28-May-14
BP3133TC	Emerald Biogas Ltd	Biological Treatment	A23: Biological Treatment Facility	Emerald Biogas Energy Park	102,400	31121	DL5 6AB	NZ 272 234	Emerald Biogas, Preston Road, Aycliffe Business Park, County Durham, DL5 6AB,	Effective	10-Nov-16

Permit	Operator	Site Type	Permit Site Type	Site Name	Annual Capacity (Permitted)	2016 Input (tonnes)	Site PC	OS Grid Ref	Site Address	Permit Status	Issue Date
PB3737RV (67215)	H W Martin Waste Limited	CA Site	S0813: Non-hazardous & hazardous HWA Site	Tudhoe Household Waste Recycling Centre	5,000	4432	DL16 6TL	NZ 268 359	Tudhoe H W R C, Tudhoe Ind Est, Spennymoor, County Durham, DL16 6TL,	Licence modified	25-Feb-93
DB3208FU (66099)	W S I Renewables Limited	CA Site	A13: Household Waste Amenity Site	Shildon Transfer Station & Recycling Facility	75,000	8982	DL4 1HF	NZ 223 254	The Recycling Centre, Hackworth Industrial Park, Shildon, County Durham, DL4 1HF,	Licence modified	02-Sep-04
PB3833AW (67210)	H W Martin Waste Limited	CA Site	S0813: Non-hazardous & hazardous HWA Site	Horden Household Waste Recycling Centre	75,000	3569	SR8 3SX	NZ 438 425	Horden H W R C, B1283 Sunderland Road, Peterlee, County Durham, SR8 3SX,	Licence modified	25-Feb-93
PB3739RD (67212)	H W Martin Waste Limited	CA Site	S0813: Non-hazardous & hazardous HWA Site	Romanway Household Waste Recycling Centre	74,999	6906	DL14 9AW	NZ 205 271	Romanway H W R C, Tindale Crescent, Bishop Auckland, County Durham, DL14 9AW,	Licence modified	25-Feb-93
PB3830AF (67199)	H W Martin Waste Limited	CA Site	S0813: Non-hazardous & hazardous HWA Site	Annfield Plain Household Waste Recycling Facility	74,999	8079	DH9 7XW	NZ 175 508	Annfield Plain H W R C, Morrison Busty, Annfield Plain, County Durham, DH9 7XW,	Licence modified	25-Feb-93

Permit	Operator	Site Type	Permit Site Type	Site Name	Annual Capacity (Permitted)	2016 Input (tonnes)	Site PC	OS Grid Ref	Site Address	Permit Status	Issue Date
PB3735RC (64005)	H W Martin Waste Limited	CA Site	A13: Household Waste Amenity Site	Potterhouse Household Waste Recycling Centre	24,999	8368	DH1 5RL	NZ 263 458	Potterhouse H W R C, Potterhouse Lane, Pity Me, Durham, County Durham, DH1 5RL,	Licence transferred	27-Jan-99
PB3831RX (64065)	H W Martin Waste Limited	CA Site	A13: Household Waste Amenity Site	Coxhoe Household Waste Recycling Centre	24,999	3159	DH6 4RT	NZ 329 366	Coxhoe H W R C, The Avenue, Coxhoe, Durham, County Durham, DH6 4RT,	Licence transferred	30-Sep-03
AB3209GU (66105)	Durham County Council	CA Site	A13: Household Waste Amenity Site	Stainton Grove Waste Transfer Station	12,000	8561	DL12 8UJ	NZ 073 179	Stainton Grove W T S, Stainton Grove, Stainton Camp, Nr Barnard Castle, County Durham, DL12 8UJ,	Licence modified	19-Aug-04
PB3738RA (67209)	H W Martin Waste Limited	CA Site	A13: Household Waste Amenity Site	Strangford Road Household Waste Recycling Centre	7,490	5693	SR7 8QE	NZ 419 494	Strangford Road H W R C, Strangford Road, Seaham, County Durham, SR7 8QE,	Licence transferred	25-Feb-93
PB3830RM (67206)	H W Martin Waste Limited	CA Site	A13: Household Waste Amenity Site	Hett Hills Household Waste Recycling Centre	7,490	2001	DH2 3JX	NZ 236 514	Hett Hills H W R C, B6313 Chester Le Street To Craghead, Chester-le Street, County Durham, DH2 3JX,	Licence transferred	25-Feb-93

Permit	Operator	Site Type	Permit Site Type	Site Name	Annual Capacity (Permitted)	2016 Input (tonnes)	Site PC	OS Grid Ref	Site Address	Permit Status	Issue Date
PB3831AZ (60013)	H W Martin Waste Limited	CA Site	A13: Household Waste Amenity Site	Heighington Household Waste Recycling Centre	7,490	4575	DL5 6AP	NZ 273 226	Heighington H W R C, Heighington Lane, Newton Aycliffe, County Durham, DL5 6AP,	Licence transferred	25-Feb-93
PB3832RK (67203)	H W Martin Waste Limited	CA Site	A13: Household Waste Amenity Site	Thornley Household Waste Recycling Centre	4,999	2250	DH6 2QA	NZ 395 394	Thornely Crossing Ind Est, Salters Lane, Shotton Colliery, County Durham, DH6 2QA,	Licence transferred	25-Feb-93
SP3794ZG (64092)	Dixon Kevin James	Car Breaker	A19a: ELV Facility	Kevin Dixon Commercials	4,999	833	DH9 7HY	NZ 175 513	Unit 8 Morrison Industrial Estate, Annfield Plain, Stanley, County Durham, DH9 7HY,	Licence issued	07-Jan-04
BP3694ZC (64079)	Gamble Alec	Car Breaker	A19a: ELV Facility	Autocraft	2,500	197	DH9 6HA	NZ 212 506	Brookside Works, Unit 6 Craghead Industrial Estate, Craghead, Stanley, County Durham, DH9 6HA,	Licence issued	24-Mar-05
KP3295EA (100016)	Stephanyan Ara	Car Breaker	A19a: ELV Facility	Compound D	2,500	111	DL17 8LN	NZ 282 329	Compound D, Saddler Street, Dean & Chapter in Est, Ferryhill, County Durham, DL17 8LN,	Licence modified	05-Sep-07

Permit	Operator	Site Type	Permit Site Type	Site Name	Annual Capacity (Permitted)	2016 Input (tonnes)	Site PC	OS Grid Ref	Site Address	Permit Status	Issue Date
SP3294ZY (64089)	Graham Andrew Monte & Shaun Darren Monte	Car Breaker	A19a: ELV Facility	Monte's Transport Spares	2,500	22	DH4 6AD	NZ 317 503	Next to Railway Crossings, Rear of Morton Crescent, Fencehouses, Houghton-le Spring, Tyne & Wear, DH4 6AD,	Licence issued	20-Oct-05
BP3294ZM (64077)	Brunton Kevin	Car Breaker	A19a: ELV Facility	Kevin Brunton Car & Commercial	2,499	578	DH9 7HY	NZ 175 513	Unit 10 Morrison Industrial Estate, Anfield Plain, Stanley, County Durham, DH9 7HY,	Licence issued	26-May-04
BP3894ZV (64075)	Mavin Leslie	Car Breaker	A19a: ELV Facility	Rooster Motorcycles	2,499	34	DH9 7RU	NZ 173 511	6 A Morrison Industrial Estate, New Kyo, Stanley, County Durham, DH9 7RU,	Licence issued	02-Feb-05
CB3403MU (64087)	J Denham Metals Ltd	Car Breaker	A19a: ELV Facility	Coppycrooks Yard	2499	2061	DL14 9PN	NZ 210 263	Coppycrooks Yard, West Auckland Road, West Auckland, Bishop Auckland, County Durham, DL14 9PN,	Licence transferred	03-Feb-05
LP3694ZJ (64102)	Brunton William Chapman	Car Breaker	A19a: ELV Facility	Sacriston Auto Dismantlers	2499	486	DH7 6AG	NZ 234 477	Old Colliery Yard, Sacriston, Durham, County Durham, DH7 6AG,	Licence issued	26-Jan-05
MP3994ZU (64114)	Richardson Clifford	Car Breaker	A19a: ELV Facility	Village Inn Garage	2499	2	DH6 3AN	NZ 369 397	Land/premises At, Hartlepool Street North, Thornley, Durham, County Durham, DH6 3AN,	Licence issued	30-Sep-04

Permit	Operator	Site Type	Permit Site Type	Site Name	Annual Capacity (Permitted)	2016 Input (tonnes)	Site PC	OS Grid Ref	Site Address	Permit Status	Issue Date
EB3804LV (64037)	Sharpsmart Limited	Clinical Waste Transfer	A12: Clinical Waste Transfer Station	Sharpsmart Ltd	24999	576	DL16 6JF	NZ 276 350	Unit 44 Enterprise City, Meadowfield Avenue, Green Lane Industrial Est, Spennymoor, County Durham, DL16 6JF,	Licence modified	04-Jan-02
FP3391ZM (67168)	Personnel Hygiene Services Ltd	Clinical Waste Transfer	A12: Clinical Waste Transfer Station	Personnel Hygiene Services Ltd - Peterlee	4999	493	SR8 2LS	NZ 409 403	1 Bracken Hill, Southern Western Ind Est, Peterlee, County Durham, SR8 2LS,	Licence modified	19-Jul-91
HB3237AU (104278)	Teesdale Conservation Volunteers Ltd	Composting	A22: Composting Facility	Teesdale Conservation Volunteers (Rotters)	999999	1764	DL12 9TB	NZ 045 166	Conservation Centre, Deepdale, Startforth, Barnard Castle, County Durham, DL12 9TB,	Licence issued	15-Aug-12
EP3896ZQ (66155)	Mr Andrew Thompson & Mr Elizabeth Thompson	Composting	A22: Composting Facility	Murton Hall Farm	60000	3214	TS28 5NU	NZ 416 325	Hurworth Burn, Wingate, County Durham, TS28 5NU,	Transferred to IPPC	15-Feb-06

Permit	Operator	Site Type	Permit Site Type	Site Name	Annual Capacity (Permitted)	2016 Input (tonnes)	Site PC	OS Grid Ref	Site Address	Permit Status	Issue Date
YP3634WS	Mr Andrew Thompson & Mrs Elizabeth Thompson	Composting	A22: Composting Facility	Murton Hall Farm EPR/EP3896ZQ	60000	37950	TS28 5NX	NZ 416 324	Hurworth Burn, County Durham, TS28 5NX,	Effective	29-Jun-16
CB3032AH (103351)	F & R Jackson Limited	Deposit of waste to land (recovery)	S1539: Use of waste deposit for recovery	Barford Camp	49999	4464		NZ 092 180	Barford Camp, Streatlam, Barnard Castle, County Durham,	Licence modified	19-Oct-11
AB3903ZS (400939)	Northumbrian Water Limited	Deposit of waste to land (recovery)	A25: Deposit of waste to land as a recovery operation	Burnhope Moor	2500	2186	DL13 1HL	NY 848 382	Burnhope Moor, Causeway Road, Ireshopeburn, Bishop Auckland, County Durham, DL13 1HL,	Licence issued	15-Apr-15
KP3794ZQ (64183)	Durham County Council	Haz Waste Transfer	A9: Haz Waste Transfer Station	St John's Road Transfer Station	25000	4245	DH7 8XQ	NZ 252 393	Services Direct, St John's Road, Meadowfield Ind Est, Meadowfield, County Durham, DH7 8XQ,	Licence issued	19-Feb-07

Permit	Operator	Site Type	Permit Site Type	Site Name	Annual Capacity (Permitted)	2016 Input (tonnes)	Site PC	OS Grid Ref	Site Address	Permit Status	Issue Date
HP3996ZM (66082)		Haz Waste Transfer	A9: Haz Waste Transfer Station	Chilton Depot	4999	5	DL17 0SD	NZ 283 305	Chilton Depot, Chilton Industrial Estate, Chilton, County Durham, DL17 0SD,	Licence issued	06-May-04
AP3138SD	W & M Thompson (Quarries) Ltd	Inert LF	L05: Inert LF	Bishop Middleham Quarry 2	1725000	249516	DL17 9EB	NZ 330 324	Bishop Middleham Quarry 2, Bishop Middleham, County Durham, DL17 9EB,	Not Subject to PPC	30-Jun-06
MB3033RE (210006)	Sherburn Stone Co Ltd	Inert LF	L05: Inert LF	Crime Rigg Quarry Landfill	380000	102018	DH6 1LA	NZ 340 418	Crime Rigg Quarry Landfill, Shadforth, Durham, County Durham, DH6 1LA,	Licence modified	28-Sep-07
CB3533RE (67251)	Ward Bros Enterprises Ltd	Inert Waste Transfer	A14: Transfer Station taking Non-Biodegradable Wastes	Wards Transfer Station	93600	17965	DH7 8HZ	NZ 255 400	Wards Transfer Station, Thistle Road, Littleburn Ind Est, Langley Moor, County Durham, DH7 8HZ,	Licence transferred	20-Dec-95
YP3998ZB (64020)	Dent James	Inert Waste Transfer	A14: Transfer Station taking Non-Biodegradable Wastes	George Street Transfer Station	4999	2610	SR7 7SL	NZ 425 493	Land/premises At, George Street Industrial Est, Seaham, County Durham, SR7 7SL,	Licence issued	16-Sep-99

Permit	Operator	Site Type	Permit Site Type	Site Name	Annual Capacity (Permitted)	2016 Input (tonnes)	Site PC	OS Grid Ref	Site Address	Permit Status	Issue Date
CB3130RB (100223)	Stonegrave Aggregates Ltd	Material Recycling Facility	A15: Material Recycling Treatment Facility	Aycliffe Quarry	160000	130126	DL5 6NB	NZ 288 221	Land / Premises At, Aycliffe Quarry, Aycliffe Village, Darlington, County Durham, DL5 6NB,	Licence issued	22-Dec-08
CB3708LD (100582)	O' Brien Waste Recycling Solutions Ltd	Material Recycling Facility	S0814: Materials Recycling Facility	Thornley Transfer Station	75000	17743	DH6 2QA	NZ 397 396	Unit U, Thornley Ind Est, Shotton Colliery, Durham, County Durham, DH6 2QA,	Licence transferred	29-Sep-08
CB3007XV (102072)	Eco Tyre Disposals Ltd	Material Recycling Facility	A15: Material Recycling Treatment Facility	Former C-Tyres Site	34999	3346	DH7 8HJ	NZ 255 399	Rosebay Road, Littleburn Industrial Estate, Langley Moor, Durham, County Durham, DH7 8HJ,	Licence transferred	03-May-11
VP3991ZK (67227)	European Metal Recycling Ltd	Metal Recycling	A20: Metal Recycling Site (mixed MRS's)	E M R Burnopfield	45500	10809	NE16 6EA	NZ 175 563	E M R Burnopfield, Hobson Ind Est, Newcastle Upon Tyne, Tyne & Wear, NE16 6EA,	Licence modified	08-Nov-93
AP3591ZL (67249)	Seaham Metals	Metal Recycling	A20: Metal Recycling Site (mixed MRS's)	Seaham Metals	4950	3701	SR7 9BN	NZ 425 493	Land/premises At, George Street Ind Est, Seaham, County Durham, SR7 9BN,	Licence issued	25-Mar-94

Permit	Operator	Site Type	Permit Site Type	Site Name	Annual Capacity (Permitted)	2016 Input (tonnes)	Site PC	OS Grid Ref	Site Address	Permit Status	Issue Date
TP3735PA	Stonegrave Aggregates Limited	Non Haz (SNRHW) LF	L02: Non Haz (SNRHW) LF	Aycliffe Quarry Landfill	148840	88919	DL5 6NB	NZ 286 221	Aycliffe Quarry, Aycliffe Village, Darlington, County Durham, DL5 6NB,	Effective	22-Jul-15
LP3832NM	Durham County Council	Non-Hazardous LF	L04: Non-Hazardous LF	JOINT STOCKS LANDFILL PHASE 2	333000	227146	DH6 4RT	NZ 331 365	JOINT STOCKS LANDFILL, JOINT STOCKS QUARRY, COXHOE, DURHAM, DH6 4RT,	Effective	04-Mar-15
AB3209CB (60010)	Durham County Council	Non-Haz Waste Transfer	A11: Household, Commercial & Industrial Waste T Stn	Heighington Lane Waste Transfer Station	176969	49730	DL5 6QG	NZ 273 225	Heighington Lane Waste Transfer Station, Heighington Lane, Aycliffe, County Durham, DL5 6QG,	Licence transferred	18-Oct-87
AB3209MF (67083)	Durham County Council	Non-Haz Waste Transfer	A11: Household, Commercial & Industrial Waste T Stn	Thornley Transfer Station	176900	39643	DH6 2QA	NZ 395 395	Thornley Station Ind Est, Salters Lane, Shotton Colliery, Durham, County Durham, DH6 2QA,	Licence transferred	01-Sep-82
AB3300CT (67171)	Durham County Council	Non-Haz Waste Transfer	A11: Household, Commercial & Industrial Waste T Stn	Annfield Plain Waste Transfer Station	176800	62099	DH9 7RU	NZ 175 508	Annfield Plain W T S, Morrison Busty Industrial Estate, Annfield Plain, Stanley, County Durham, DH9 7RU,	Licence modified	03-Sep-91

Permit	Operator	Site Type	Permit Site Type	Site Name	Annual Capacity (Permitted)	2016 Input (tonnes)	Site PC	OS Grid Ref	Site Address	Permit Status	Issue Date
CB3400TX (66156)	Tonks Recycling Limited	Non-Haz Waste Transfer	A11: Household, Commercial & Industrial Waste T Stn	Tonks Recycling	74999	65815	DH6 5PG	NZ 303 361	Tonks Recycling, Tursdale Ind Estate, Durham, County Durham, DH6 5PG,	Licence transferred	31-May-05
EP3495LQ (64154)	J B T Waste Services Ltd	Non-Haz Waste Transfer	A11: Household, Commercial & Industrial Waste T Stn	Westline Transfer Station	74999	71034	DH2 1AU	NZ 268 549	Land/premises At, West Line Industrial Estate, Birtley, Chester-le Street, County Durham, DH2 1AU,	Licence modified	31-Aug-05
FP3095LV (101250)	Warrens Group Limited	Non-Haz Waste Transfer	S0801: HCI Waste Transfer Station	Warrens Group Limited	74999	1245	DL13 3QG	NZ 105 311	Eden Hall, Hamsterley, Bishop Auckland, County Durham, DL13 3QG,	Licence modified	07-Apr-10
RP3591ZD (67266)	Ken Thomas Site Clearance Ltd	Non-Haz Waste Transfer	A11: Household, Commercial & Industrial Waste T Stn	Ken Thomas Site Clearance Ltd	74999	30704	DH9 9UY	NZ 194 548	The Old Brickworks, Tanfield Lea Industrial Estate South, Tanfield, Durham, County Durham, DH9 9UY,	Licence modified	23-Feb-98

Permit	Operator	Site Type	Permit Site Type	Site Name	Annual Capacity (Permitted)	2016 Input (tonnes)	Site PC	OS Grid Ref	Site Address	Permit Status	Issue Date
DB3908TT (64188)	Lister Recycling and Waste Management Limited	Non-Haz Waste Transfer	A11: Household, Commercial & Industrial Waste T Stn	Lister Scrap Metals	24999	5302	DH8 8BH	NZ 096 500	Unit 6 Castleside Road, Consett, County Durham, DH8 8BH,	Licence transferred	31-Aug-07
GP3494ZZ (64164)	W Marley Agricultural Contractors Ltd	Non-Haz Waste Transfer	A11: Household, Commercial & Industrial Waste T Stn	Constantine Farm	24999	3108	DL15 8AQ	NZ 172 336	Constantine Farm, North Bitchburn, Crook, County Durham, DL15 8AQ,	Licence issued	15-Sep-06
DP3298LP (64140)	Mulligan James	Non-Haz Waste Transfer	A11: Household, Commercial & Industrial Waste T Stn	Mount Pleasant Recycling	4999	2729	DL15 9AL	NZ 171 364	Mount Pleasant Garage, Stanley, Crook, County Durham, DL15 9AL,	Licence issued	16-Jun-05
PB3734RH (68671)	H W Martin Waste Limited	Non-Haz Waste Transfer	A11: Household, Commercial & Industrial Waste T Stn	Middleton Household Waste Recycling Centre	2490	1069	DL12 0NG	NY 948 247	Highways Depot, Off B6277, Middleton In Teesdale, County Durham, DL12 0NG,	Licence transferred	14-May-97

Permit	Operator	Site Type	Permit Site Type	Site Name	Annual Capacity (Permitted)	2016 Input (tonnes)	Site PC	OS Grid Ref	Site Address	Permit Status	Issue Date
PB3739AL (60243)	H W Martin Waste Limited	Non-Haz Waste Transfer	A11: Household, Commercial & Industrial Waste T Stn	Stainton Grove Household Waste Recycling Centre	2490	474	DL12 8UH	NZ 072 181	Stainton Grove H W R C, Stainton Grove, Nr Barnard Castle, County Durham, DL12 8UH,	Licence transferred	25-Feb-93
AB3201MR (400435)	Bellingham Paul	Non-Haz Waste Transfer / Treatment	S0803: HCI Waste TS + treatment	Unit 8 Seaview Ind Est	75000	2677	SR8 4TQ	NZ 441 420	Unit 8 Seaview Ind Est, Kilburn Drive, Horden, Peterlee, County Durham, SR8 4TQ,	Licence issued	14-Jun-13
CP3496SX (100657)	A & G Skip Hire Ltd	Non-Haz Waste Transfer / Treatment	S0803: HCI Waste TS + treatment	Unit 1 Westline Industrial Estate	75000	2875	DH2 1AU	NZ 265 548	Unit 1 Westline Ind Est, Birtley, Chester-le Street, County Durham, DH2 1AU,	Licence modified	05-Dec-08
AB3333RT (103008)	Bainbridge Ian	Non-Haz Waste Transfer / Treatment	S0803: HCI Waste TS + treatment	Hill Top Farm	74999	34083	DL2 3RR	NZ 148 163	Hill Top Farm, Winston, Darlington, County Durham, DL2 3RR,	Licence modified	02-Sep-11
EB3536RQ (103805)	Simpson John	Non-Haz Waste Transfer / Treatment	S0803: HCI Waste TS + treatment	John Simpson Civils	74999	718	DH7 6TX	NZ 211 456	Unit 10, Langley Park Ind Est, Witton Gilbert, County Durham, DH7 6TX,	Licence modified	06-Feb-12
HB3032RK (104233)	Tarmac Trading Limited	Physical Treatment	A16: Physical Treatment Facility	Old Quarrington Recycling	99999	320	DH6 5NN	NZ 329 381	Old Quarrington Quarry, Old Quarrington, Durham, County Durham, DH6 5NN,	Licence modified	03-Sep-12

Permit	Operator	Site Type	Permit Site Type	Site Name	Annual Capacity (Permitted)	2016 Input (tonnes)	Site PC	OS Grid Ref	Site Address	Permit Status	Issue Date
BB3605CS (401450)	Aggregate Industries U K Ltd	Physical Treatment	SR2010 No12: Treatment of waste to produce soil <75,000 tpy	Hulands Quarry	75000	44491	DL12 9JW	NZ 016 141	Hulands Quarry, Bowes, Barnard Castle, County Durham, DL12 9JW,	Licence issued	20-May-14
EB3108GU (403298)	The Viridis Group Ltd	Physical Treatment	SR2010 No12: Treatment of waste to produce soil <75,000 tpy	The Old Brickworks	75000	3764	DL14 8EA	NZ 237 795	Eldon, Eldon, Bishop Auckland, County Durham, DL14 8EA,	Licence issued	26-Oct-16
DB3306SV (402721)	Bishop Middleham Plant and Recycling Limited	Physical Treatment	SR2010 No12: Treatment of waste to produce soil <75,000 tpy	Dean and Chapter Waste Recycling Centre	74999	7648	DL17 8LH	NZ 282 330	Compounds F - L, Dean and Chapter Industrial Est, Ferryhill, County Durham, DL17 8LH,	Licence issued	03-Nov-15
DP3837SF	Veolia ES Cleanaway (UK) Limited	Physical-Chemical Treatment	A17: Physico-Chemical Treatment Facility	Durham Waste Management Centre	49500	793	DL17 9DX	NZ 342 345	Garmondsway Depot, Bishop Middleham, County Durham, DL17 9DX,	Effective	27-Sep-16
FB3130AF (103894)	Veolia Bioenergy U K Limited	Timber Manufacturing	SR2010 No13: Use of waste to manufacture timber <75,000 tpy	Veolia Bioenergy Pellet Mill	74999	8227	DL17 0PF	NZ 281 304	Chilton Ind Est, Chilton Way, Chilton, County Durham, DL17 0PF,	Licence modified	23-Feb-12

Permit	Operator	Site Type	Permit Site Type	Site Name	Annual Capacity (Permitted)	2016 Input (tonnes)	Site PC	OS Grid Ref	Site Address	Permit Status	Issue Date
VP3899VA (102606)	Mr John Kerr & Mr Rodney Kerr	Vehicle Depollution Facility	S0820: Vehicle depollution facility	John Kerr Metals	75000	6670	DH2 1AU	NZ 265 547	Unit 1, Westline Industrial Estate, Birtley, Chester-le Street, County Durham, DH2 1AU,	Licence modified	13-Jun-11
CB3301FV (64098)	Andrew Newton Limited	Vehicle Depollution Facility	S1214: Metal recycling, vehicle storage, depollution	Newton Metal Recycling	30000	1120	TS28 5AH	NZ 398 372	Unit 5, Wingate Grange Ind Est, Wingate, Durham, County Durham, TS28 5AH,	Licence transferred	30-Sep-04
CB3408ME (402070)	J Denham Metals Ltd	Vehicle Depollution Facility	S1214: Metal recycling, vehicle storage, depollution	J Denham Metals Ltd	30000	10000	TS28 5AH	NZ 397 372	Unit 5 Wingate Grange Industrial Estate, Wingate, TS28 5AH,	Licence issued	05-Feb-15
CB3703LH (402268)	Horn Michael	Vehicle Depollution Facility	SR2011 No3: Vehicle Depollution Facility <5000 tps	Crazy L E Ds	4999	22	SR8 2RD	NZ 410 416	3 Pease Road, North West Business Park, Peterlee, County Durham, SR8 2RD,	Licence issued	19-Mar-15

Permit	Operator	Site Type	Permit Site Type	Site Name	Annual Capacity (Permitted)	2016 Input (tonnes)	Site PC	OS Grid Ref	Site Address	Permit Status	Issue Date
EB3200UU (403316)	Christopher Downing & Derek Downing	Vehicle Depollution Facility	S1517: Vehicle storage, depollution	D8 Rc	4999	6	SR8 2JF	NZ 412 419	8 Davy Drive, North West Ind Est, Peterlee, SR8 2JF,	Licence issued	05-Aug-16

Source: Environment Agency (Active sites list) 2016

IV. Landfill Sites

WPA	Site Name	Operator	Address	Type of Landfill	3yrs Average Inert Input	3yrs Average HIC Input	3yrs Average Hazardous Input	Remaining Capacity		End Date Calculated	End date reported
								2015	2016		
County Durham	Aycliffe Quarry Landfill	Stonegrave Aggregates Ltd	Aycliffe Quarry, Aycliffe Villiage, Darlington, County Durham, DL5 6NB,	Non-Haz	1,294	61,764	2,710	1,908,320	2,064,587	2044	21/2/2042
County Durham	Joint Stocks Landfill Phase 2	Durham County Council	Joint Stocks Quarry, Durham DH6 4RT	Non-Haz	77,646	1,098	0	1,700,000	1,700,000	2016	closed
County Durham	Bishop Middleham Quarry 2	W & M Thompson (Quarries) Ltd	Bishop Middleham Quarry 2, Bishop Middleham, County Durham, DL17 9EB,	Inert	372,970	0	4	4,309,592	3,640,558	2031	11/06/2052
County Durham	Crime Rigg Quarry Landfill	Sherburn Stone Co Ltd	Crime Rigg Quarry Landfill, Shadforth, Durham, County Durham, DH6 1LA,	Inert	124,321	6	0	1,746,000	1,930,000	2039	31st December 2024
County Durham	Old Quarrington Quarry Landfill	Tarmac Ltd	Old Quarrington, Coxhoe, Durham, County Durham, DH6 5NN	Inert	594	0	0	1,979,768	1,769,768	2050	3rd July 2026
Gateshead	Blaydon Quarry Landfill Site	Octagon Green Solutions Limited	Blaydon Quarry,Lead Road,Greenside,Blaydon,Gateshead,Tyne and Wear NE21 4SX	Inert	284,024	124,041	17	2,304,721	2,131,700	2022	
Hartlepool	Seaton Meadows Landfill	Alab Environmental Services Ltd	Tofts Farm Industrial Estate, Brenda Road, Hartlepool TS25 2BS	Non-Haz	52,278	10,226	3,561	1,006,822	1,000,402	2037	
Northum-berland	Alcan Ash Lagoons 1-4	Lymouth Power Limited	Lynemouth Smelter, Lynemouth, Ashington NE63 9YH	Non-Haz	0	67,415	0	15,500	15,500	2016	
Northum-berland	Ellington Road Landfill Site	SUEZ Recycling and Recovery UK Ltd	Ellington Road, Newmoor, Ashington, Northumberland NE63 9XS	Non-Haz	15,758	4,633	0	1,220,373	1,219,705	2092	
Northum-berland	Hollings Hill Quarry Landfill	Tarmac Trading Limited	Newlands, Ebchester, Consett, County Durham, DH8 9JQ	Inert	130,839	0	0	784,240	405,026	2021	
Northum-berland	Merryshields Quarry	Thompsons Of Prudhoe Limited	Merryshields Quarry, Stocksfield, Northumberland, NE43 7NS,	Inert	20,236	0	0	not in data	800,000	2075	
Redcar & Cleveland	ICI No 2 Teesport EPR/RP3631DA	Highfield Environmental Limited		Non-Haz	121,633	104,530	0	1,049,067	1,512,326	2023	

WPA	Site Name	Operator	Address	Type of Landfill	3yrs Average Inert Input	3yrs Average HIC Input	3yrs Average Hazardous Input	Remaining Capacity		End Date Calculated	End date reported
								2015	2016		
South Tyneside	Marsden Quarry Landfill	Owen Pugh & Co Ltd	Coast Road, Whitburn, Sunderland SR6 7NG	Inert	447,498	0	0	1,528,002	1,309,155	2020	31st December 2027
Stockton-On-Tees	Cowpen Bewley Landfill Site	Highfield Environmental Limited	Cowpen Bewley, Billingham TS23 4HS	Non-Haz	95,852	136,672	0	1,650,393	1,488,028	2023	
Sunderland	Field House Quarry	AMC Reclamation Ltd	Field House Farm, Houghton-le-Spring DH5 8AJ	Inert	44,671	150	0	437,366	382,444	2029	2020
Sunderland	Houghton-Le-Spring Landfill Site	Biffa Waste Services Ltd	The Quarry, Quarry Row, Houghton-le-Spring, Durham DH4 5AU	Non-Haz	248,860	0	0	1,719,969	1,597,924	2026	2019
Sunderland	Springwell Quarry	Thompsons Of Prudhoe Limited	Springwell Road, Wrekenton NE9 7XW	Non-Haz	246,151	1,401	0	222,934	216,846	2017	2022
Tees Valley Unitary Authorities	Port Clarence Non-Hazardous Landfill Site	Augean North Limited	Off Huntsman Drive, Stockton on Tees TS2 1UE	Non-Haz	7,410	94,667	85,317	645,094	313,153	2019	

V. Key Facilities Capacities

Note where possible, capacities are actual rather than those reported as permitted capacities by the Environment Agency. How Key Facilities are defined is explained in Chapter 6.6.

A5.1 Organic Recycling

WPA	Facility Name	Facility Type	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
County Durham	Aycliffe Quarry	Windrow Composting	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112
County Durham	Bunker Hill Farm	Windrow Composting	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
County Durham	Conservation Centre, Deepdale	Composting	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
County Durham	Emerald Biogas Energy Park	Anaerobic Digestion	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42
County Durham	EVT Contractors	Windrow Composting	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
County Durham	High Hedley Hope Farm	Anaerobic Digestion	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
County Durham	Hulam Farm	Anaerobic Digestion	-	-	-	-	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85
County Durham	Junction House Farm	Windrow Composting	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
County Durham	Murton Hall Farm	Composting	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
County Durham	Quarrington Biogas	Anaerobic Digestion	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Gateshead	Greentech Recycling	Windrow Composting	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Hartlepool	Biopower Hartlepool	Anaerobic Digestion	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109

WPA	Facility Name	Facility Type	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Middlesbrough	Teesside AD Power Plant	Anaerobic Digestion	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57
Newcastle-Upon-Tyne	Nestle U K Ltd	Composting	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
Newcastle-Upon-Tyne	Sandhills	Windrow Composting	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Northumberland	Anick Grange	Windrow Composting	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Northumberland	Codlaw Farms	Windrow Composting	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
Northumberland	Ellington Road	Composting	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91
Northumberland	Green Leaf Recycling	Windrow Composting	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Northumberland	Harecrag Compost	Composting	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Northumberland	West Sleekburn	Composting	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Redcar & Cleveland	Imperial Park AD Plant	Anaerobic Digestion	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
South Tyneside	Wardley Disposal Point	Anaerobic Digestion	-	-	-	-	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Stockton-On-Tees	Cowpen Bewley Landfill	Windrow Composting	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59
Stockton-On-Tees	Ineos MBT	MBT	-	-	-	-	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
Stockton-On-Tees	Norton Bottoms	Composting	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196	196
Totals NE Region			1,108	1,108	1,108	1,108	1,108	1,108	1,108	1,108	1,108	1,108	1,108	1,108	1,108	1,108	1,108	1,108	1,108	1,108	1,108	1,108
Composting (region)			1,108	1,108	1,108	1,108	1,108	1,108	1,108	1,108	1,108	1,108	1,108	1,108	1,108	1,108	1,108	1,108	1,108	1,108	1,108	1,108
AD & MBT (region)			632	632	632	632	632	632	632	632	632	632	632	632	632	632	632	632	632	632	632	632
Totals County Durham			477	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477

WPA	Facility Name	Facility Type	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Composting (Durham)			347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
AD (Durham)			190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190

Source: Various including Environment Agency (Permitting data/WDI 'Active Sites List' 2016, "New Waste Management Capacity permitted in the North East since the Urban Mines Baseline" January 2016 and relevant planning portals

Where start dates for new facilities are not published, start dates have been assumed based upon Anthesis experience.

Capacities in tonnes x 1,000 per annum

A5.2 Residual Waste

WPA	Facility Name	Type	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
County Durham	Aycliffe East	MBT	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127
County Durham	Aycliffe Quarry	Landfill	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Gateshead	Blaydon Quarry	Landfill	124	124	124	124	124	124	124	124	124	-	-	-	-	-	-	-	-	-	-	-
Gateshead	Derwenthaugh Ecoparc	EfW	-	-	-	-	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300
Gateshead	Derwenthaugh Ecoparc	Autoclave	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160
Hartlepool	Niramax Recycling	EfW	-	-	-	-	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87
Hartlepool	Niramax Recycling	MBT	-	-	-	-	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73
Hartlepool	Seaton Meadows	Landfill	86	86	86	86	86	86	86	86	86	86	-	-	-	-	-	-	-	-	-	-

WPA	Facility Name	Type	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Newcastle-Upon-Tyne	Byker	MBT/MRF	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
Northumberland	Alcan Ash Lagoons	Landfill	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Northumberland	Ellington Road	Landfill	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Redcar & Cleveland	No 2 Teesport	Landfill	164	164	164	164	164	164	164	164	-	-	-	-	-	-	-	-	-	-	-	-
Stockton-on-Tees	Billingham LLP	EfW	-	-	-	-	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
Stockton-On-Tees	Cowpen Bewley	Landfill	169	169	169	169	169	169	169	-	-	-	-	-	-	-	-	-	-	-	-	-
Stockton-On-Tees	Ineos MBT	MBT	-	-	-	-	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Stockton-On-Tees	Reliable - Seal Sands	EfW	-	-	-	-	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96
Sunderland	Houghton-Le-Spring	Landfill	249	249	249	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunderland	Renewable Energy Centre	EfW	-	-	-	-	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215
Sunderland	Springwell Quarry	Landfill	169	169	169	169	169	169	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tees Valley Unitary Authorities	Billingham EFW Plant	EfW	846	846	846	846	846	846	846	846	846	846	846	846	846	846	846	846	846	846	846	846

WPA	Facility Name	Type	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Tees Valley Unitary Authorities	Port Clarence	Landfill	114	114	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Totals North East Region		**Total**	2,309	2,309	2,309	2,309	2,309	2,309	2,309	2,309	2,309	2,309	2,309	2,309	2,309	2,309	2,309	2,309	2,309	2,309	2,309	2,309
		EfW	1,694	1,694	1,694	1,694	1,694	1,694	1,694	1,694	1,694	1,694	1,694	1,694	1,694	1,694	1,694	1,694	1,694	1,694	1,694	1,694
		Landfill	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
		Other Treatment (MBT)	545	545	545	545	545	545	545	545	545	545	545	545	545	545	545	545	545	545	545	545
Totals County Durham		**Total**	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177	177
		EfW	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Landfill	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
		Other Treatment (MBT)	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127

Source: Various including Environment Agency (Permitting data/WDI 'Active Sites List' 2016, "New Waste Management Capacity permitted in the North East since the Urban Mines Baseline" January 2016 and relevant planning portals

Capacities in tonnes x 1,000 per annum

Notes: Wilton 11, Wilton Site (R/2010/0621) - assumes all capacity for Merseyside
Wood waste/biomass facilities not included e.g. Wilton 10

A5.3 Material Recovery Facilities (MRF) New Capacity Only

WPA	Site Name	Type	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
County Durham	Unit 15, Hackworth Industrial Park (CMA/7/76)	MRF (Mixed household, commercial & inert)	0	0	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75
Stockton-on-Tees BC	Impetus Waste Management Ltd, Reclamation Pond (12/1624/EIS)	MRF (mixed)	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Stockton-on-Tees BC	Impetus Waste Management Ltd, Reclamation Pond Site (13/2796/EIS)	MRF (mixed)	440	440	440	440	440	440	440	440	440	440	440	440	440	440	440	440	440	440	440	440
Stockton-on-Tees BC	O2N Energy (Billingham) LLP (13/2892/EIS)	MRF (for EfW)	0	0	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
Hartlepool Borough Council	Niramax Recycling Ltd (H/2014/0582)	MRF (mixed)	0	0	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
Hartlepool Borough Council	J & B Recycling (H/2014/0309)	MRF (MSW & C&I)	0	0	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75
South Tyneside Council	O'Brien Waste Management (ST/0505/10/FUL)	MRF (mixed)	0	0	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Totals		**MRF**	**640**	**640**	**1036**	**1036**	**1036**	**1036**	**1036**	**1036**	**1036**	**1036**	**1036**	**1036**	**1036**	**1036**	**1036**	**1036**	**1036**	**1036**	**1036**	**1036**

Source: "New Waste Management Capacity permitted in the North East since the Urban Mines Baseline" January 2016 and relevant planning portals

VI. Exempt Sites in County Durham

The following tables gives the number of exempt sites (by exemption) in DCC local authority area (Source: Environment Agency, September 2016)

Exemption	Exemption Description	No of Exempt Sites
D1	Deposit of waste from dredging of inland waters	200
D3	Deposit of waste from a portable sanitary convenience	13
D4	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice	63
D6	Disposal by incineration	33
D7	Burning waste in the open	272
S1	Storage of waste in secure containers	69
S2	Storage of waste in a secure place	143
S3	Storage of sludge	64
T1	Cleaning, washing, spraying or coating relevant waste	71
T10	Sorting mixed waste	24
T11	Repair or refurbishment of WEEE	5
T12	Manual treatment of waste	12
T13	Treatment of waste food	25
T14	Crushing and emptying waste vehicle oil filters	15
T15	Treatment of waste aerosol cans	17
T16	Treatment of waste toner cartridges by sorting, dismantling, cleaning or refilling	2
T17	Crushing waste fluorescent tubes	28
T2	Recovery of textiles	4
T20	Treatment of waste at a water treatment works	1
T21	Recovery of waste at a waste water treatment works	1
T23	Aerobic composting and associated prior treatment	77
T24	Anaerobic digestion at premises used for agriculture and burning of resultant biogas	10
T25	Anaerobic digestion at premises not used for agriculture and burning of resultant biogas	6
T27	Treatment of sheep dip for disposal	17

Exemption	Exemption Description	No of Exempt Sites
T28	Sorting and de-naturing of controlled drugs for disposal	85
T29	Treatment of non-hazardous pesticide washings by carbon filtration for disposal	16
T30	Recovery of silver	1
T32	Treatment of waste in a biobed or biofilter	11
T4	Preparatory treatments (baling, sorting, shredding etc)	65
T5	Screening and blending of waste	54
T6	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising	134
T8	Mechanical treatment of end-of-life tyres	25
T9	Recovery of scrap metal	57
U1	Use of waste for construction	251
U10	Spreading waste on agricultural land to confer benefit	184
U11	Spreading waste on non-agricultural land to confer benefit	32
U12	Use of mulch	67
U13	Spreading of plant matter to confer benefit	95
U14	Incorporation of ash into soil	65
U15	Pig and poultry ash	7
U16	Use of depolluted end-of-life vehicles for vehicle parts	1
U2	Use of baled tyres in construction	27
U3	Use of construction waste for exhibits etc	6
U4	Burning of waste as a fuel in a small plant	131
U5	Use of biodiesel derived from waste	18
U6	Use of sludge for the purposes of re-seeding a waste water treatment plant	3
U7	Use of effluent to clean a highway gravel bed	1
U8	Use of waste for a specified purpose	184
U9	Use of waste to manufacture finished goods	26
Total		**2,718**