

HAMPSHIRE COUNTY COUNCIL, NEW FOREST NATIONAL PARK AUTHORITY, PORTSMOUTH CITY COUNCIL, SOUTH DOWNS NATIONAL PARK AUTHORITY & SOUTHAMPTON CITY COUNCIL

# Hampshire Minerals & Waste Plan

## Waste: Background Study

August 2022



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# Executive Summary

## Introduction

An update to the Hampshire Minerals and Waste Plan (adopted in 2013) is being prepared by the five Minerals and Waste Planning Authorities (MWPA) which cover the geographical area of Hampshire and include Hampshire County Council, New Forest National Park Authority, Portsmouth City Council, South Downs National Park Authority and Southampton City Council.

This Waste Background Study seeks to establish the quantities of waste that are produced in Hampshire, how and where they are managed and predict what quantities of waste will be produced in Hampshire up to 2040. It also looks at national and local legislation and policy regarding waste and considers what the infrastructure requirements for waste management are likely to be.

## Waste Management in Hampshire

### How do we know how much waste arises in Hampshire?

In order to estimate how much waste is produced in Hampshire, data from Environment Agency records taken up to 2020 was used, particularly the Waste Data Interrogator. While it has a number of caveats, this is considered the most up-to-date and robust source of waste data in England. Data on waste received throughout England, listed as coming from the Hampshire authorities, is used as an approximation for the waste that has been produced in the area. The baseline figure for current waste arisings is considered to be 5.7 million tonnes, this is summarised in Table 1a below.

**Table 1a - Waste arisings (tonnes) from Hampshire 2020**

Source Authority	Non-hazardous waste	Inert waste	Hazardous waste	Total
Hampshire Authorities	2,998,497	2,177,920	120,885	5,297,302
South East share*	236,439	128,657	n/a	365,096
<b>Total</b>	<b>3,234,936</b>	<b>2,306,577</b>	<b>120,885</b>	<b>5,662,398</b>

### How do we know how much waste management capacity is available in Hampshire?

A methodology for estimating waste management capacity has been undertaken which indicates a current treatment capacity within the plan area of 5.3 million tonnes. This excludes facilities outside of the plan area which provide capacity for identified long term waste movements.

## Assessment of need for new facilities in Hampshire

### Developing waste growth scenarios

In order to determine what capacity for managing waste will be needed in the future, local demand factors, past trends, housing growth and other influences have been considered for each waste source. Minimum and maximum growth predictions were explored, and a weighted average was adopted. A separate growth rate was therefore applied to Local Authority Collected Waste (-0.28% per annum), Commercial and Industrial waste (3.28% per annum), Construction, Demolition and Excavation waste (-1.3% per annum) and Hazardous waste (1.91% per annum).

Estimated total arisings for 2040 are 7.4 million tonnes per annum. These rates of growth were then combined with a range of recycling rate predictions, with 65% chosen as a medium estimate in order to determine the capacity gap.

### Current estimated capacity gap

Considering the estimated current treatment capacity and forecasted growth rate over the plan period (to 2040), an estimated capacity gap for the Hampshire Plan area has been identified. This is summarised in Table 2a below. The technical workings supporting this summary are provided in Annex 5.

**Table 2a - Current estimated treatment capacity gap (tonnes per annum (tpa)), December 2020 (based on most recent 2020 data)**

Waste Properties	2020	2025	2030	2035	2040
Non-hazardous	715,930	1,141,639	1,643,829	2,235,869	2,933,466
Inert	-288,738	-435,220	-572,400	-700,868	-821,178
Hazardous	-53,857	-41,857	-28,667	-14,167	1,773

## Meeting the future waste management needs of Hampshire's waste

### Addressing the capacity gap

The current main waste treatment capacity deficit identified is for non-hazardous waste. As such, arisings, treatment types and locations were considered to identify a range of facility types and throughputs to address the gap.

Table 3a below summarises the total minimum need identified for non-hazardous waste treatment capacity. It is based on the continuation existing recovery capacity.

**Table 3a - Identified non-hazardous total treatment capacity requirement**

<b>Capacity type</b>	<b>Additional provision requirement in 2040 (tpa)</b>
Recycling capacity	1,988,152
Recovery capacity	945,314
<b>Total</b>	<b>2,933,466</b>

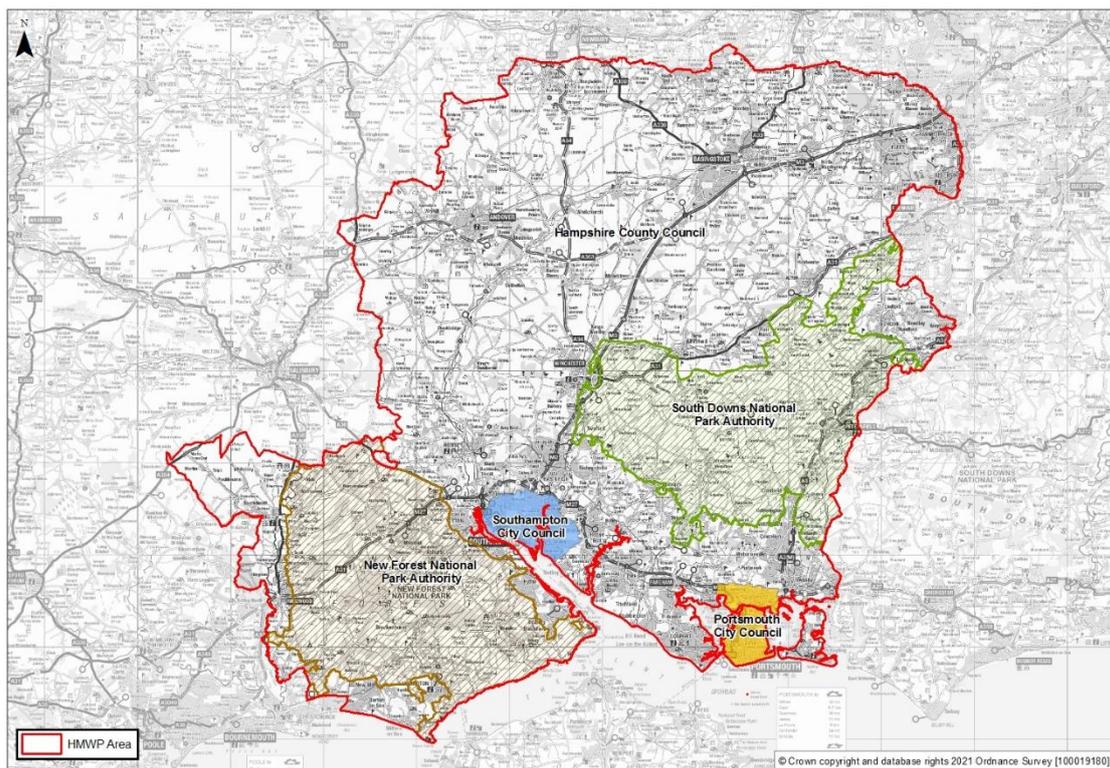
## List of Abbreviations

C,D&E	Construction, Demolition & Excavation (waste)
C&I	Commercial & Industrial (waste)
CHP	Combined Heat & Power
DEFRA	Department for Environment, Food & Rural Affairs
EA	Environment Agency
EfW	Energy from Waste
ELV	End of Life Vehicle
EP	Environmental Permit
ERF	Energy Recovery Facility
EWC	European Waste Catalogue
HWRCs	Household Waste Recycling Centres
IBA	Incinerator Bottom Ash
LACW	Local Authority Collected Waste
LAPPC	Local Authority Pollution Prevention & Control
MAF	Materials Analysis Facility
MBT	Mechanical Biological Treatment
MHT	Mechanical Heat Treatment
MRF	Material Recovery Facility
MRS	Metal Recycling Site
MSW	Municipal Solid Waste
Mt / mtpa	Million tonnes / million tonnes per annum (tpa - tonnes per annum)
RDF	Residual Derived Fuel
SRF	Solid Recovered Fuel
TPP	Temporary Planning Permission
WEEE	Waste Electrical & Electronic Equipment
WDI	Waste Data Interrogator
WDF	Waste Data Flow
WPA	Waste Planning Authority
WTS	Waste Transfer Station

# 1. Introduction

- 1.1 The Hampshire Minerals and Waste Plan was prepared by the five Minerals and Waste Planning Authorities (MWPA) which cover the geographical area of Hampshire and include Hampshire County Council, New Forest National Park Authority, Portsmouth City Council, South Downs National Park Authority and Southampton City Council (the 'Hampshire Authorities').

Figure 1 - Administrative areas of the Hampshire Authorities



- 1.2 The current Hampshire Minerals and Waste Plan (HMWP)<sup>1</sup> (the Plan) was adopted by the Hampshire Authorities in October 2013. The Plan is based upon the principle of ensuring that the Plan area has the right developments to maintain a reliable and timely supply of minerals and excellent management of waste, whilst protecting the environment and communities. It contains policies to enable minerals and waste decision-making, as well as minerals and waste site allocations (rail depots, land-won sand and gravel quarries, brick-making clay quarries and landfill) which support Hampshire's vision and objectives for minerals and waste development to 2030. The effectiveness of the policies in the HMWP are reviewed through Annual Monitoring Reports.

<sup>1</sup> Hampshire Minerals & Waste Plan (2013) - [www.hants.gov.uk/landplanningandenvironment/strategic-planning/hampshire-minerals-waste-plan](http://www.hants.gov.uk/landplanningandenvironment/strategic-planning/hampshire-minerals-waste-plan)

- 1.3 The HMWP is a Local Plan, supported by other development documents such as the Statement of Community Involvement for each Authority.
- 1.4 Figure 2 shows the documents that make up the HMWP and the linkages to other strategies.

Figure 2 – Hampshire Minerals and Waste Plan linkages to other strategies



- 1.5 Planning Regulations<sup>2</sup> and National Planning Policy<sup>3</sup> require that policies in Local Plans should be reviewed to assess whether they require updating at least once every five years and updated, as necessary. As such, the HMWP was reviewed in 2018. That review concluded that the policies were working effectively to achieve the Vision and there was no requirement at that time to update the HMWP.
- 1.6 The 2018 Review also concluded, that the HMWP would be reviewed again in two years (2020) to determine the effectiveness of the policies and whether there is a need to amend site allocations.
- 1.7 The 2020 Review of the HWMP concluded that the Plan requires some updating. An updated Plan is important as an out-of-date Plan allows less control in achieving the right developments, in the right locations, at the right

<sup>2</sup> Regulation 10A of the Town and Country Planning (Local Planning) (England) Regulations 2012 (as amended) - <https://www.legislation.gov.uk/uksi/2012/767/contents>

<sup>3</sup> National Planning Policy Framework (2021) - <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

time for Hampshire and could lead to more planning applications determined at appeal.

## Study preparation

1.8 The information, data and analysis contained within this Study is required to inform the partial update of the HMWP. Therefore, the Study attempts to answer the following key questions:

- What is the national waste planning context and what requirements does it impose?
- How much waste is currently generated in Hampshire?
- What waste management facilities are currently available to manage the waste produced in Hampshire?
- How much waste are the existing waste management facilities able to manage?
- How much is waste predicted to increase / decrease until 2040 in Hampshire?
- How many and which types of new facilities are likely to be required to manage waste in future, if any, in Hampshire?

## Study structure

1.9 This Study firstly considers the policy context. It then looks at current overall waste arisings and waste management data and figures. Following that, it examines future waste management needs and the waste capacity that is currently available to meet them. Finally, it concludes what waste capacity may be needed in the future and what forms it might take.

1.10 Various technical terms are referred to throughout this Study and key definitions and abbreviations are provided where necessary. A glossary is also provided at the end of this Study.

## Waste data

1.11 The planned provision of additional infrastructure capacity and its spatial distribution should be based on robust analysis of best available data and information, and an appraisal of options<sup>4</sup>. Any quantified assessment of 'need' for additional future waste infrastructure should therefore be underpinned by an analysis of the existing baseline and how this is likely to change in the future. For instance, will the amount of waste generated in the future exceed the waste

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<sup>4</sup> National Planning Policy for Waste, 2014 - [www.gov.uk/government/publications/national-planning-policy-for-waste](http://www.gov.uk/government/publications/national-planning-policy-for-waste)

management capacity or will future planned provision be adequate to accommodate changing waste management requirements?

- 1.12 It is widely acknowledged that assessing waste management requirements is an area of considerable uncertainty, and any predictions can only be based on the best available data. A common approach to assessing need<sup>5</sup> is to firstly establish a baseline - i.e. 'what is happening now'. Then, drawing on informed assumptions about how waste generation may change in the future, it is possible to project what may happen in the future and compare the change to the baseline. Coupled with what is known about how and where waste is currently managed in an area, it is then possible to begin to predict what additional waste management capacity could be required in the future. This approach to assessing 'need' has been adopted for the purposes of this report.
- 1.13 Assessing future need, based on the collection and analysis of data, and projecting it into the future, is important to inform locally derived 'targets' for waste management. Such targets can be useful to help monitor the performance of the HMWP. More specifically, targets can help indicate 'where we need to be' by the end of the plan period. Data gathering is also necessary to help monitor performance against established targets, such as those set nationally by the current Waste Management Plan (2021)<sup>6</sup>.
- 1.14 Local waste management targets may also need to be considered. Comparing locally derived 'needs' against established targets is a useful way to test and review the data findings by way of 'benchmarking'. It should be recognised that locally derived targets may be different to other targets because of differences in the methodologies used; the scope for refinement of data at the local level (based on local knowledge of operations etc.); and the different definitions or categories used to present the data.
- 1.15 This Study will provide the key technical evidence to justify the need for additional waste management infrastructure until 2040. The Study seeks to collate and verify data, inform the plan preparation process, summarise the main findings and discuss the implications of these data findings.

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<sup>5</sup> National Planning Policy Guidance for Waste, 2015 - [www.gov.uk/guidance/waste](http://www.gov.uk/guidance/waste)

<sup>6</sup> Waste Management Plan for England, 2021 - [www.gov.uk/government/publications/waste-management-plan-for-england-2021](http://www.gov.uk/government/publications/waste-management-plan-for-england-2021)

## 2. Policy Context and Legislation

### Relevant Legislation

2.1 The European Union (EU) has adopted a number of Directives aimed at harmonising waste management and disposal policies throughout Europe and guaranteeing environmental protection. These Directives are currently implemented through UK legislation, as the UK was a member until 31 January 2020, with a transition period until 31 December 2020. Specifically, “*EU legislation which applied directly or indirectly to the UK before 11.00 p.m. on 31 December 2020 has been retained in UK law as a form of domestic legislation known as ‘retained EU legislation’.*”<sup>7</sup> Due to the UK exit from the European Union (Brexit), any future Directives will not be directly or indirectly applied to UK legislation. Instead, domestic legislation is expected to develop in the future. As most of the current legislation will still originate from the EU, the key EU Directives are considered below.

### Waste Framework Directive

2.2 The key current European Directive relating to waste is termed the EU Waste Framework Directive. “*The EU Waste Framework Directive (Directive 2008/98/EC)*<sup>8</sup> *provides the legislative framework for the collection, transport, recovery and disposal of waste, and includes a common definition of waste. The directive requires all member states to take the necessary measures to ensure waste is recovered or disposed of without endangering human health or causing harm to the environment and includes permitting, registration and inspection requirements.*” (From the UK Government website on waste regulation and legislation, 2014)<sup>9</sup>. Article 28 of the Waste Framework Directive<sup>10</sup> obligates Member States to develop waste management plans, they can further request this of either regional or local authorities.

### Landfill Directive

2.3 The EU Landfill Directive (1999/31/EC of on the landfill of waste)<sup>11</sup> aims to prevent, or reduce as much as possible, any negative impact from landfilling on surface water, groundwater, soil, air or human health. This includes applying

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<sup>7</sup> EU Exit Arrangements, National Archives - [www.legislation.gov.uk/eu-legislation-and-uk-law](http://www.legislation.gov.uk/eu-legislation-and-uk-law)

<sup>8</sup> EU Waste Framework Directive, 2008 -

[www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/218586/1\\_31220081122en0003003\\_0.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/218586/1_31220081122en0003003_0.pdf)

<sup>9</sup> UK Government page on waste regulation and legislation, 2013 - [www.gov.uk/guidance/waste-legislation-and-regulations](http://www.gov.uk/guidance/waste-legislation-and-regulations)

<sup>10</sup> EU Waste Framework Directive, 2008 - [ec.europa.eu/environment/waste/plans/index.htm](http://ec.europa.eu/environment/waste/plans/index.htm)

<sup>11</sup> EU Landfill Directive, 1999 - [eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:31999L0031](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:31999L0031)

stringent technical requirements on location, management, engineering, closure and monitoring for landfills. The EU Council Decision 2003/33/EC<sup>12</sup> outlines the criteria and procedures for the acceptance of waste at landfills. In April 2014, EU legislation was adopted to strengthen the quality of the environment impact procedure set out by Directive 2011/92/EU<sup>13</sup>. This ensures coherence and synergy with other areas of EU legislation and policy. The Directive (and subsequent amendments) also provide definitions of waste types based on the nature of their composition and chemical constituents. It is the interpretation of these definitions along with guidance provided by the Environment Agency (EA) on waste classification and assessment of waste<sup>14</sup> which have influenced the classification of waste arisings used to inform the current and projected capacity gap addressed further within this report.

### **The Industrial Emissions Directive**

- 2.4 In 2010, the Industrial Emissions Directive (Directive 2010/75/EU)<sup>15</sup> was adopted. It is based upon seven previously existing directives, including the Integrated Pollution Prevention and Control Directive. The Industrial Emissions Directive aims to achieve a high level of protection of human health and the environment by reducing harmful industrial emissions across the EU, utilising Best Available Techniques (BAT). This legislation prevents and controls pollution into air, water and land to avoid generating waste from large industrial installations.

### **Mining Waste Directive**

- 2.5 The Mining Waste Directive (Directive 2006/21/EC)<sup>16</sup> introduces measures for safe management of waste resulting from the extraction, treatment and storage of mineral resources and the working of quarries. It outlines a number of requirements to ensure protection of the environment and human health, depending on the risks posed by the type of waste. All waste producers regulated by the Directive are required to submit a waste management plan with aims to prevent or reduce waste generation or encourage waste recovery and safe waste disposal.

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<sup>12</sup> EU Council Decision, 2003/33/EC - [eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32003D0033](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32003D0033)

<sup>13</sup> EU Environmental Impact Assessment rules, 2011 - [eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:ev0032](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:ev0032)

<sup>14</sup> Technical Guidance WM3, 2014 - [www.gov.uk/government/publications/waste-classification-technical-guidance](http://www.gov.uk/government/publications/waste-classification-technical-guidance)

<sup>15</sup> EU Industrial Emission Directive, 2010 - [eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32010L0075](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32010L0075)

<sup>16</sup> EU Mining Waste Directive, 2006 - [eur-lex.europa.eu/legal-content/EN/LSU/?uri=CELEX:32006L0021](http://eur-lex.europa.eu/legal-content/EN/LSU/?uri=CELEX:32006L0021)

## Hazardous Waste Directive

2.6 The European Hazardous Waste Directive (91/689/EEC) was replaced by the revised European Waste Framework Directive (2008/98/EC)<sup>17</sup>. Within this Directive, there is a need for additional record keeping, monitoring and control obligations when managing hazardous waste. Mixing of hazardous substances is banned in order to prevent risks for the environment and human health.

## Other EU Directives

2.7 In addition to the above directives, the following are also relevant to the management of waste:

- Urban Wastewater Directive (91/271/EEC)<sup>18</sup>;
- Packaging Waste Directive (94/62/EC)<sup>19</sup>; and,
- Waste Electrical and Electronic Equipment Directive (2012/19/EU)<sup>20</sup>.

## Environmental Protection Legislation

2.8 The *Environmental Protection Act 1990*, Part II<sup>21</sup> provides the basis for licensing controls and other provisions aimed at ensuring that waste handling, disposal and recovery options do not harm the environment. It also states that responsibility for waste rests on all parties involved in its management; from the original producer to everybody who handles it up until its full recovery or disposal. To this end it introduced the 'Duty of Care'. The *Waste Management (England and Wales) Regulations 2006* (SI 2006 No. 937)<sup>22</sup> introduced amendments to the Act, including an extension of the definition of industrial waste to include agricultural and mining and quarrying waste, which therefore become controlled wastes.

## National Planning Policy, Strategy and Circulars

2.9 The National Planning Policy for Waste sets out detailed waste planning policies. It should be read in conjunction with the National Planning Policy

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<sup>17</sup> EU Waste Framework Directive, 2008 - [www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/218586/l\\_31220081122en0003003\\_0.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/218586/l_31220081122en0003003_0.pdf)

<sup>18</sup> EU Urban Wastewater Directive, 1991 - [eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:31991L0271](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:31991L0271)

<sup>19</sup> EU Packaging Waste Directive, 1994 - [eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:01994L0062-20150526](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:01994L0062-20150526)

<sup>20</sup> EU Waste Electrical and Electronic Equipment Directive, 2012 - [eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32012L0019&qid=1612956889688](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32012L0019&qid=1612956889688)

<sup>21</sup> EPA, 1990 Part II - [www.legislation.gov.uk/ukpga/1990/43/part/II](http://www.legislation.gov.uk/ukpga/1990/43/part/II)

<sup>22</sup> Waste Management Regulations, 2006 - [www.legislation.gov.uk/uksi/2006/937/contents/made](http://www.legislation.gov.uk/uksi/2006/937/contents/made)

Framework<sup>23</sup>, the National Waste Management Plan for England and national policy statements for waste water and hazardous waste;

- *National Planning Policy for Waste* (October 2014)<sup>24</sup>;
- *Waste Management Plan for England* (January 2021)<sup>25</sup>;
- *Waste Prevention Programme for England* (December 2013)<sup>26</sup>;
- *Resource and Waste Strategy (December 2018)*<sup>27</sup>;
- *25 Year Environment Plan (February 2018)*;
- *National Policy Statements*<sup>28</sup>; and
- *All Waste Development Plan Documents*<sup>29</sup>.

2.10 New national guidance becomes available on an on-going basis, as and when new issues arise or are considered. For example, there have been some recent developments on what constitutes recovery, both on land and as part of incineration<sup>30</sup>.

### Regional Planning Policy

2.11 The South East Plan was partially revoked on 25 March 2013. Policy NRM6, which deals with the Thames Basin Heaths Special Protection Area, remains in place as a saved policy<sup>31</sup> and is relevant to the Plan area.

### Local Planning Policy

2.12 The Hampshire Minerals & Waste Plan (2013) remains the adopted Plan until it is replaced by the updated HMWP.

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<sup>23</sup> National Planning Policy Framework, 2021 - [www.gov.uk/government/publications/national-planning-policy-framework--2](http://www.gov.uk/government/publications/national-planning-policy-framework--2)

<sup>24</sup> National Planning Policy for Waste, 2014 - [www.gov.uk/government/publications/national-planning-policy-for-waste](http://www.gov.uk/government/publications/national-planning-policy-for-waste)

<sup>25</sup> Waste Management Plan for England, 2021 - [www.gov.uk/government/publications/waste-management-plan-for-england-2021](http://www.gov.uk/government/publications/waste-management-plan-for-england-2021)

<sup>26</sup> Waste Prevention programme for England, 2013 - [www.gov.uk/government/publications/waste-prevention-programme-for-england](http://www.gov.uk/government/publications/waste-prevention-programme-for-england)

<sup>27</sup> <https://www.gov.uk/government/publications/resources-and-waste-strategy-for-england>

<sup>28</sup> E.g. National policy statement for waste water, 2012 - [www.gov.uk/government/publications/national-policy-statement-for-waste-water](http://www.gov.uk/government/publications/national-policy-statement-for-waste-water) and Hazardous waste national policy statement, 2013 - [www.gov.uk/government/publications/hazardous-waste-national-policy-statement](http://www.gov.uk/government/publications/hazardous-waste-national-policy-statement)

<sup>29</sup> As they form part of the National Waste Management Plan.

<sup>30</sup> Waste recovery on land guidance, 2016 - [www.gov.uk/government/collections/waste-recovery-on-land-guidance](http://www.gov.uk/government/collections/waste-recovery-on-land-guidance) and Municipal waste incinerators (qualifying as a recovery operation), 2016 [www.gov.uk/government/publications/applying-to-qualify-as-a-recovery-operation-municipal-waste-incinerators](http://www.gov.uk/government/publications/applying-to-qualify-as-a-recovery-operation-municipal-waste-incinerators)

<sup>31</sup> Natural Resource Management (NRM6) - [www.bracknell-forest.gov.uk/south-east-plan-policy-nrm6.pdf](http://www.bracknell-forest.gov.uk/south-east-plan-policy-nrm6.pdf)

## Other relevant Strategies

2.13 A Statement of Community Involvement (SCI) sets out the approach for involving the community in the preparation, alteration and continuing review of all development plan documents (DPD), and in publicising and dealing with planning applications. Each of the Authorities has adopted its own Statement of Community Involvement. These are as follows:

- Hampshire – Statement of Community Involvement (2017)<sup>32</sup>
- Portsmouth – Statement of Community Involvement (2017)<sup>33</sup>
- Southampton – Statement of Community Involvement (2019)<sup>34</sup>
- New Forest – Statement of Community Involvement (2013)<sup>35</sup>
- South Downs – Statement of Community Involvement (2017)<sup>36</sup>

## Waste management targets

2.14 A number of waste management targets have been set at the international, national, regional and local level. Since this Study assesses 'local' needs, it is important to consider the relevance of these targets, their potential influence, and their local applicability with regard to the amount and type of waste developments required.

## Waste Framework Directive Targets

2.15 EU Member States are required to comply with the Waste Framework Directive<sup>37</sup> and move towards a European recycling society with a high level of resource efficiency. Action includes putting measures in place to achieve the following targets:

- *'by 2020, the preparing for re-use and the recycling of waste materials such as at least paper, metal, plastic and glass from households and possibly from other origins as far as these waste streams are similar to waste from households, shall be increased to a minimum of overall 50 % by weight; and*

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<sup>32</sup> Hampshire SCI (2017) - [www.hants.gov.uk/landplanningandenvironment/strategic-planning/statement-community-involvement](http://www.hants.gov.uk/landplanningandenvironment/strategic-planning/statement-community-involvement)

<sup>33</sup> Portsmouth SCI (2017) - [www.portsmouth.gov.uk/ext/development-and-planning/planning-policy/statement-of-community-involvement](http://www.portsmouth.gov.uk/ext/development-and-planning/planning-policy/statement-of-community-involvement)

<sup>34</sup> Southampton SCI (2019) - [www.southampton.gov.uk/images/involving-you-in-planning-\(sci\)\\_tcm63-424238.pdf](http://www.southampton.gov.uk/images/involving-you-in-planning-(sci)_tcm63-424238.pdf)

<sup>35</sup> New Forest SCI (2013) - [www.newforestnpa.gov.uk/planning/community-involvement/](http://www.newforestnpa.gov.uk/planning/community-involvement/)

<sup>36</sup> South Downs SCI (2017) - [www.southdowns.gov.uk/wp-content/uploads/2015/02/Statement-of-Community-Involvement-August-2017.pdf](http://www.southdowns.gov.uk/wp-content/uploads/2015/02/Statement-of-Community-Involvement-August-2017.pdf)

<sup>37</sup> Waste Framework Directive targets - [ec.europa.eu/environment/waste/framework/targets.htm](http://ec.europa.eu/environment/waste/framework/targets.htm)

- *by 2020, the preparing for re-use, recycling and other material recovery, including backfilling operations using waste to substitute other materials, of non-hazardous construction and demolition waste excluding naturally occurring material defined in category 17 05 04 in the list of waste shall be increased to a minimum of 70 % by weight.”*

### **Circular Economy Package**

2.16 The Circular Economy Package<sup>38</sup> (also see Section 10.2) seeks to address the whole cycle of waste from production and consumption to waste management and the market for secondary raw material.

2.17 The package, amongst others, also provides revised legislative proposals<sup>39</sup> to the Waste Framework Directive Targets above of:

- A common EU target for recycling 60% of municipal waste by 2025; and
- A common EU target for recycling 65% of municipal waste by 2030.

### **Clean Growth Strategy**

2.18 The UK Government have recently set an ambition<sup>40</sup> to work towards zero avoidable food waste by 2050, maximising the value we extract from our resources, and minimising the negative environmental impacts.

### **25 Year Environment Plan**

2.19 The 25 Year Environment Plan sets out government action to help the natural world regain and retain good health. It aims to deliver cleaner air and water in our cities and rural landscapes, protect threatened species and provide richer wildlife habitats. It calls for an approach to agriculture, forestry, land use and fishing that puts the environment first.

2.20 The Plan strives to ensure that communities are ‘Using resources from nature more sustainably and efficiently’ and ‘Minimising waste’. Great emphasis is being placed on ‘natural capital’.

2.21 There is a noticeable change in focus to not only protect the natural capital that already exists but enhance this where possible. This extra step is needed to increase resilience to climate change.

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<sup>38</sup> Circular Economy Package, 2018 - [ec.europa.eu/environment/circular-economy/index\\_en.htm](https://ec.europa.eu/environment/circular-economy/index_en.htm)

<sup>39</sup> Revised legislative proposals - [eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52015PC0595](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52015PC0595)

<sup>40</sup> The Clean Growth Strategy, 2017 -

[www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/651916/BEIS\\_The\\_Clean\\_Growth\\_online\\_12.10.17.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/651916/BEIS_The_Clean_Growth_online_12.10.17.pdf)

2.22 The 25 Year Environment Plan sets out guidelines on how to transition from single use plastics to materials that can be recycled more easily leading to a reduction in overall waste.

2.23 The Plan sets clear policy direction on ‘embedding an ‘environmental net gain’ for development, including housing and infrastructure’ this includes action to work with interested parties and streamline environmental processes but to widen environmental gains to include flood protection, recreation and improved water and air quality.

### **Resources and Waste Strategy**

2.24 The Resources and Waste Strategy<sup>41</sup> sets out Government’s ambition to preserve material resources. It aims to promote resource efficiency and aid the transition towards a circular economy.

2.25 More specifically, it identifies five strategic ambitions:

- To work towards all plastic packaging placed on the market being recyclable, reusable or compostable by 2025;
- To work towards eliminating food waste to landfill by 2030;
- To eliminate avoidable plastic waste over the lifetime of the 25 Year Environment Plan;
- To double resource productivity by 2050; and
- To eliminate avoidable waste of all kinds by 2050.

### **Waste Management Plans and local waste targets**

2.26 The Waste Management Plan for England (2021)<sup>42</sup> sets out the following key elements relevant to this Plan:

- “include the measures to be taken so that, by 2035:
  - the preparing for re-use and the recycling of municipal waste is increased to a minimum of 65% by weight.
- the amount of municipal waste landfilled is reduced to 10% or less of the total amount of municipal waste generated (by weight).
- Measures to be taken to ensure that by 2020:
  - at least 50% by weight of waste from households is prepared for re-use or recycled.

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<sup>41</sup> Resources and Waste Strategy, 2018 - [assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/765914/resources-waste-strategy-dec-2018.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/765914/resources-waste-strategy-dec-2018.pdf)

<sup>42</sup> Waste Management Plan for England, 2021 - [www.gov.uk/government/publications/waste-management-plan-for-england-2021](https://www.gov.uk/government/publications/waste-management-plan-for-england-2021)

- at least 70% by weight of non-hazardous construction and demolition waste that is not naturally occurring material falling within the description of code 17 05 04 in the List of Wastes is subjected to material recovery.”

2.27 It also highlights improvement that could be made to recovery facilities, particularly:

- The importance of energy from waste plants obtaining R1 recovery status<sup>43</sup>;
- The importance of decarbonising virtually all heat in order to deliver net zero greenhouse gas emissions;
- That the production of heat for heat networks by waste incinerators substantially reduces their emissions by displacing gas boiler heating;
- Considering Anaerobic Digestion to be the most effective way of treating separately collected food waste.

2.28 Hampshire County Council is part of Project Integra, a joint venture by the 14 waste authorities in Hampshire. Project Integra produced a refreshed Joint Municipal Waste Management Strategy for the period 2013 to 2023, which was adopted in November 2012<sup>44</sup> (and updated in 2021<sup>45</sup>) and committed the authorities to meeting relevant government targets.

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<sup>43</sup> R1' Recovery status acts as a proxy for the energy-generating efficiency of facilities. Facilities, including gasification and pyrolysis plants, which achieve the status are classed as a recovery operation for the purposes of the waste hierarchy and so are a level up from the bottom rung of 'disposal'

<sup>44</sup> Hampshire Joint Municipal Waste Management Strategy – Refresh of Core Strategy 2012, Project Integra - [documents.hants.gov.uk/waste/jmwms-2012.pdf](https://documents.hants.gov.uk/waste/jmwms-2012.pdf)

<sup>45</sup> [Joint Municipal Waste Management Strategy \(Project Integra, 2021\) - documents.hants.gov.uk/project-integra/pi-jmwms.pdf](https://documents.hants.gov.uk/project-integra/pi-jmwms.pdf)

### 3. Hampshire Minerals and Waste Plan (2013)

#### Waste Policies

- 3.1 The Hampshire Minerals and Waste Plan (2013) contains nine policies (25 – 33) specifically focussed on waste. These policies are applied in the deciding of planning applications submitted to Hampshire County Council by the Development Management team. As part of the HMWP Annual Monitoring procedure, the Development Management team are asked to comment on the HMWP policies and their implementation into application decisions.
- 3.2 Table 1 below shows an extract from the 2020 Annual Monitoring Report<sup>46</sup>, outlining the comments made by the Hampshire County Council Development Management Team on the implementation of the waste policies within the HMWP.

**Table 1 – Development Management comments on HMWP waste policies**

HMWP Policy	Comment
Policy 25 (Sustainable waste management):	Need to consider the balance between transfer and processing facilities within Hampshire. The circular economy package should be included in this policy in line with the NPPF. Consideration should be made on how much residual landfill capacity is apportioned to out of area waste. Consideration should be given to strengthening the policy to encourage the processing of waste indoors to reduce the social impact of sites.
Policy 26 (Safeguarding - waste infrastructure):	Need to strengthen the potential relocation of capacity. Definitions could be included of the smaller energy recovery facilities such as Anaerobic Digestion and Pyrolysis.
Policy 27 (Capacity for waste management):	A comment was made that “Particularly in waste policies, [there is] no provision for non-new sites and for changes that occur on a site that would not change the substantive function or introduce new capacity.” While this is covered in Policy 27 (Capacity for waste management development) there may be a possibility in the future to clarify the policy position on ancillary developments on waste sites. Consider the role of facilities higher up the waste hierarchy. More details needed on past performance requirements.

<sup>46</sup> HMWP Annual Monitoring Report 2020 - [Annual Monitoring Report for Minerals & Waste in Hampshire 2020](#)

Policy 28 (Energy recovery development):	<p>Need to consider strengthening and enforcing issues around the policy, e.g. on driving waste up the hierarchy and providing combined heat and power.</p> <p>AD plants may need a different approach.</p> <p>Consideration should be given to requiring operators to prove they have explored other options with regard to the waste hierarchy.</p>
Policy 29 (Location of waste sites):	<p>Part 1 uses Roman numerals while parts 2 and 3 letters of the alphabet and the layout may be better if labelled part 'A' (currently parts 1 and 2) and part 'B' (currently part 3).</p>
Policy 30 (Construction, demolition and excavation waste development):	<p>Potential conflict with Policy 9, as there is tension between restoration and reuse of developed land.</p> <p>The British Standards for Concrete have been updated, this policy should be updated in line with these.</p>
Policy 31 (Liquid waste and wastewater management):	<p>Thames Water commented on the need for a specific wastewater treatment policy: "as fundamentally, wastewater treatment has different geographical and technical requirements from other forms of waste management or waste treatment that form the majority of waste proposals that the HMWP is intended to provide policy guidance for. For example, wastewater treatment plants are constrained by the location of the sewerage network and need to be located close to where the sewerage network terminates (which is generally low lying ground to enable flows to gravitate and avoid high energy consumption associated with unnecessary pumping) and need to be located close to a suitable receiving watercourse into which the treated effluent can be discharged. In relation to existing wastewater treatment plants the existing discharge point can often be a critical issue as effluent discharges can form a significant proportion of river flows which are required to be maintained by the Environment Agency. Hence, these are reasons why a specific wastewater policy is required." The adopted HMWP includes a policy on wastewater treatment (Policy 31), however these comments may inform any future review.</p> <p>The issue of nitrates needs to be explored within this policy.</p>
Policy 32 (Non-hazardous waste landfill):	<p>Policy needs updating with most up-to-date sites.</p> <p>Additional landfill capacity will be an issue for this policy. All new proposals will need to demonstrate that all alternatives are not possible.</p> <p>The Environment Bill, Waste Strategy and/or Circular Economy Package could make it hard to demonstrate need for a new landfill proposal.</p> <p>The shift towards regional landfill modelling needs to be considered and potentially included in a review of this policy.</p>
Policy 33 (Hazardous and low-level radioactive waste development):	<p>Issues concerning drainage need to be included in this policy.</p>

Safeguarding policies (Policies 15, 16, 26, 34 ):	The indicators relate to development, however annual monitoring can most directly be done on granted permissions. Additionally, a need for improved guidance and processes in this area were identified, leading to the development of the Minerals and Waste Safeguarding Supplementary Planning Guidance.
CLUs	Granting Certificates of Lawful Use (CLUs) has highlighted a discrepancy that exists in how these decisions are made to those of a planning application submitted before a development takes place. Due to the fact that in CLUs the development already exists and is simply certified as lawful by the Local Planning Authority, rather than permitted per se, there is little opportunity to ensure it is in accordance with the adopted Plan. A review of the Plan would need to consider whether there is a way of affecting this through new policy or if the current legal framework prevents this issue from being addressed.

## 4. Waste management in Hampshire

### Which waste streams do we need to plan for?

- 4.1 Waste Planning Authorities (WPAs) are obliged to prepare Local Plans which identify sufficient development and land use opportunities to meet the needs of their area for the management of all waste streams<sup>47</sup>. Waste can be classified by its 'source' and by its 'properties'.
- 4.2 The principal 'streams' based upon the sources are as follows:
- Waste from Households (WfH) – usually collected by Local Authorities;
  - Commercial and Industrial (C&I) - from businesses; and,
  - Construction, Demolition and Excavation (C,D&E) - from the construction sector.
- 4.3 The source categories are the most frequently used in planning and are also particularly useful in forecasting arisings growth estimates. They are not however always helpful when describing the types of waste involved (e.g. hazardous waste can come from households as well as businesses). The operators of waste management facilities however may also be interested in the type of waste - the 'feedstock' - and hence its properties.
- 4.4 The principal waste categories (or 'streams') based upon the properties are:
- Non-hazardous waste is produced mainly from both households (WfH) and commercial & industrial waste (C&I);
  - Inert wastes derive mainly from construction, demolition and excavation (C,D&E) activities; and,
  - Hazardous waste is produced from all three waste sources and is considered harmful to humans or the environment.
- 4.5 Both the sources and properties of waste have been considered within this study.

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<sup>47</sup> National Planning Policy for Waste, 2014 - [www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/364759/141015\\_National\\_Planning\\_Policy\\_for\\_Waste.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/364759/141015_National_Planning_Policy_for_Waste.pdf)

## The Waste Hierarchy and waste management activities

- 4.6 The Waste Hierarchy is a framework to consider how waste is managed (and should be managed), particularly in relation to the role different facilities play in prioritising the diversion of waste from disposal (i.e. landfilling of waste). Everyone who creates or manages waste - local authorities, businesses, and their contractors - are required by law to apply the waste hierarchy in order to prevent more waste, and deal with waste sustainably<sup>48</sup>.
- 4.7 The Waste (Management) Hierarchy (see Figure 3) has become a cornerstone of sustainable waste management, setting out the order in which options for waste management should be considered based on environmental impact (with disposal as the lowest priority).

Figure 3 - The Waste Management Hierarchy



Source: Waste Framework Directive (Directive 2008/98/EC)

- 4.8 The types of waste treatment facility can be defined by one of the broad processes described in the waste hierarchy (as described in the revised EU Waste Framework Directive). To help continue driving waste up the hierarchy, away from disposal, planning has a key role to play by providing for developments that ensure waste materials, in order of priority can be:

1. **Recovered by reprocessing** (recycled) into products, materials or substances whether for the original or other purposes (includes the reprocessing of organic material). This is known as *recycling*.

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<sup>48</sup> Article 4 of the European Union revised Waste Framework Directive 2008/98/EC sets out 5 steps in dealing with waste - [eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:312:0003:0030:EN:PDF](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:312:0003:0030:EN:PDF)

2. **Recovered in some other form** e.g. combusted with energy recovery, anaerobic digestion, processes which can produce energy (fuels, heat and power) and materials from waste, etc<sup>49</sup>.

4.9 Whilst planning for these waste streams, it is helpful to group waste facilities under **three broad terms** which describe the processes of waste management: **recycling, recovery, and disposal**. While preparing for re-use is considered a waste activity if the process uses materials classified as waste (unlike direct re-use where the material never becomes waste in the first place), in practice a lot of these facilities will be more related to industrial and business processes, than to waste processes, and may not fall under the waste permitting and waste planning regimes.

1. **Recycling (including composting)** - this identifies facilities that provide a sorting and baling operation of 'pre-sorted waste' or only particular types of waste such as clean paper and card, food and drink cans, etc., such as in a Material Recovery Facility (MRF), where the sorted waste is sent on to a reprocessing facility which will recycle or re-form the waste material into new products.
2. **Recovery** - this term refers to the treatment of waste to extract its 'energy' and encompasses facilities that burn waste to generate heat and/or power such as an Energy Recovery Facility (ERF) or a carefully controlled compost type operation (such as Anaerobic Digestion) that traps gases (to burn for energy) and/or produce material to act as a fertilizer or a 'feedstock' for other waste treatment facilities.
3. **Disposal** - this describes landfill facilities that have to deal with wastes that cannot be recycled or recovered as a last resort.

4.10 These terms will be used throughout this Study to describe the broad management of waste and help define the type of facilities and their capacity requirements in the years ahead.

4.11 The Waste Framework Directive<sup>50</sup> also refers to the principles of self-sufficiency and proximity when developing waste disposal facilities. These principles outline that waste disposal facilities, wherever practical, should respect the objective of allowing a community (taken as the Plan area in this instance) to

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<sup>49</sup> The consultation document - *Guidance on applying the Waste Hierarchy, 2011* - stated this category also includes backfilling operations- i.e. infilling with inert construction waste -

<https://www.gov.uk/government/publications/guidance-on-applying-the-waste-hierarchy>

<sup>50</sup> EU Waste Framework Directive, 2008 -

[www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/218586/l\\_31220081122en0003003\\_0.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/218586/l_31220081122en0003003_0.pdf)

become self-sufficient and that wastes should be disposed of as close to the source as possible.

### **How much waste arises in Hampshire?**

- 4.12 For data collection purposes it is important to establish an agreed list of waste streams. There are different ways of estimating waste, but the only current comprehensive source of waste data is the Environment Agency (EA), which collates waste transfer note data in an annual Waste Data Interrogator (WDI). This is data on waste management, rather than arisings, but due to the regulated nature of the waste sector most waste that is produced will need to be managed by licenced facilities in some way, and so is likely to be recorded in this way.
- 4.13 This data has a number of caveats (discussed below) but has the advantage of mandatory data collection from the majority of waste operators, consistency (between operators and carriers) and the ability to compare data from year to year. To ensure accuracy, transfer tonnes have been discounted to reduce, as far as practicable, the risk of double counting, while a proportion of waste generally attributed to the South East has been apportioned to Hampshire, Portsmouth and Southampton.
- 4.14 Data from the WDI is used for C&I and C,D&E waste, while data from the Hazardous WDI has been used for hazardous waste arisings.
- 4.15 In addition to the WDI, data from Waste Data Flow (WDF) has been used for WfH. In addition, EA Incinerator Returns have also been used to inform energy from waste (EfW) throughputs not included within the WDI for years preceding 2019 (2019 WDI data onwards includes incinerator returns). The latest available data for the 2020 calendar year has been used within this study.
- 4.16 The approximate tonnage arisings in Hampshire are shown in Table 2. The arisings for each waste type (non-hazardous, inert, and hazardous) are then discussed in further detail under separate headings in this Study. It is important to stress that the tonnages are approximate, despite the precise figures that are given here, due to the varying reliability of the source data and the approximations made.

**Table 2 - Waste arisings (tonnes) from Hampshire 2020**

<b>Source Authority</b>	<b>Non-hazardous waste</b>	<b>Inert waste</b>	<b>Hazardous waste</b>	<b>Total</b>
Hampshire Authorities	2,998,497	2,177,920	120,885	5,297,302
South East share*	236,439	128,657	-	365,096
<b>Total</b>	<b>3,234,936</b>	<b>2,306,577</b>	<b>120,885</b>	<b>5,662,398</b>

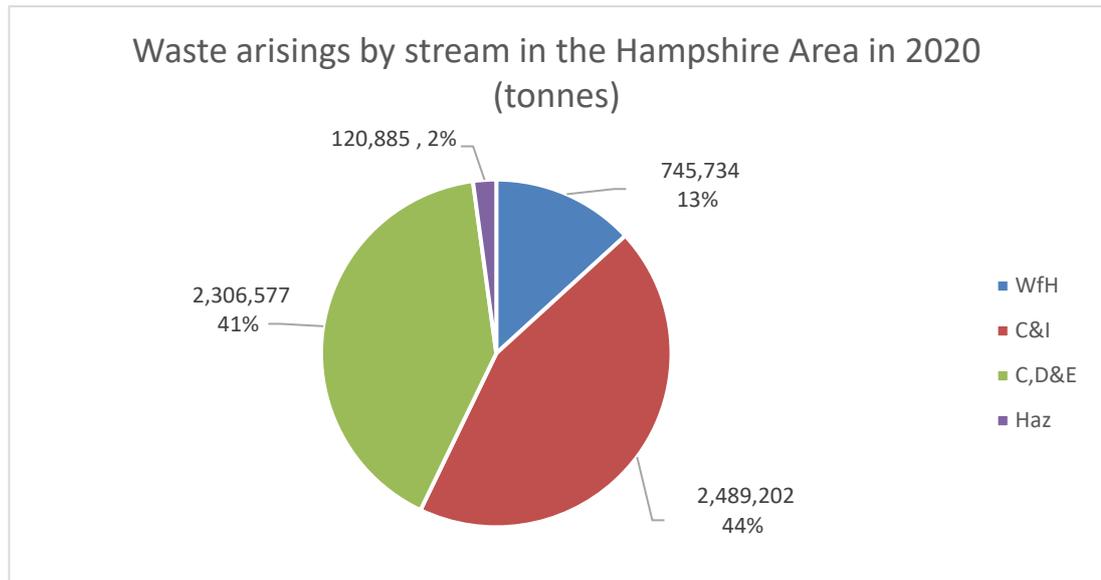
Source: EA WDI, HWDI and WDF, 2020

\*Where the origin of waste was 'South East', an apportionment based on the ratio of waste collected across all South East authorities was undertaken and applied to waste originating as 'South East' only to estimate the Hampshire share.

4.17 Table 2 shows the estimated waste arisings in Hampshire by properties of the waste. This estimation is based on using the estimates of WfH and C&I waste as non-hazardous waste and estimates of C,D&E as Inert waste, in line with the categories in the EA WDI. While WfH and C&I waste will contain an inert component and C,D&E waste will contain a non-hazardous component, these are usually small proportion of the overall (around 5-10%) and of broadly the same size. Therefore, this simplification is considered not to significantly affect the accuracy of the figures, which should be looked at as accurate to tens of thousands of tonnes and no lower. Both of these waste streams will contain some hazardous waste, but due to the smaller quantities of the hazardous waste stream (as can be seen in Table 2) this will not significantly affect the figures.

4.18 Figure 4 illustrates the proportions of each waste stream within waste arisings from Hampshire.

**Figure 4 - Waste arisings from Hampshire (tonnes and percentage for each waste stream)**



Source: EA WDI, HWDI and WDF, 2020

### **Environment Agency WDI Limitations**

4.19 The EA WDI has a number of caveats that need to be considered:

1. Human error (at the data entry stage) is an issue throughout the data, for example in noting down the source or category of waste.

A particular example is the use of 'South East' as a source of waste, with significant waste tonnages attributed to it, making estimation of Hampshire's waste difficult. Where possible, this data has been apportioned, as discussed above, though it is possible this waste is being double counted. There has been a big change in the amount of waste coded under 'South East' between 2018 and 2020, which will affect any time series. There is also waste data that does not list a source at all.

2. The WDI did not include EfW data until 2019, however, some information on waste that goes to EfW facilities may still have been present due to the waste transfer notes from waste facilities sending waste to EfW sites being submitted. As discussed, data from WDF and EA incinerator throughputs have been used to address this issue in years preceding 2019.
3. Another key consideration is the potential double counting of waste. This happens because of the presence of waste transfer stations, but also because waste can have many components that may be processed in different facilities at different times. For example, inert waste may have wood fractions removed at one facility and then have the rest of the waste

passed on to an aggregate recycling facility for further processing, meaning that the aggregate portion of the waste has been counted twice. To address this issue, transfer tonnages received by waste transfer stations within the Plan area have been discounted as far as practicable to reduce the risk of double counting, while waste tonnages arising from within the Plan area and received by waste transfer stations outside of the Plan area have been included since the second, or onward movement of this waste will likely show the Waste Planning Authority of the transfer facility as the origin of the waste. By doing this, a more accurate representation of waste arisings from within the Plan area can be made.

A better way to address this would be to look at each facility's inputs and outputs. However, the EA has advised that 'waste removed' (output) data is not as reliable as 'waste received' (input) data and the two may not align.

Some further double counting may arise as preparing waste for an operation can sometimes come under that operation's general heading. For example, baling waste to be taken for recycling is considered part of recycling. However, this means that waste still needs to be taken to a further facility for its final fate, meaning that the waste may be managed (and counted) twice.

4. Issues also arise as some facilities have exemptions from the EA and may not be required to submit waste transfer notes, which is particularly the case with inert waste facilities, or sites on farms used to process agricultural waste. Additionally, parts of the C,D&E waste stream are dealt with immediately on site and outside the waste permitting and planning system, so never get recorded as waste.
5. There are also issues with terminology. Waste is not classified in the WDI under the exact same terminology as the Waste Hierarchy, therefore approximations have to be made.
6. The WDI only includes England data, so flows to Scotland, Northern Ireland or abroad could be missed.
7. The WDI contains data from Hampshire County Council, Portsmouth City Council and Southampton City Council. While the National Parks are Waste Planning Authorities in their own right, their data comes under Hampshire County Council.

## Household Waste

4.20 A separate strand of waste is that from households which is collected by Local Authorities. Local Authorities are required to collect the waste from households (directly, as well as through Civic Amenity Sites). There are country wide targets, but each Authority may also set its own targets and ambitions, as discussed in Section 2.

4.21 They also collect other wastes such as street sweepings or can offer waste collection services to businesses. County and Unitary Authorities then have a duty to dispose of this waste.

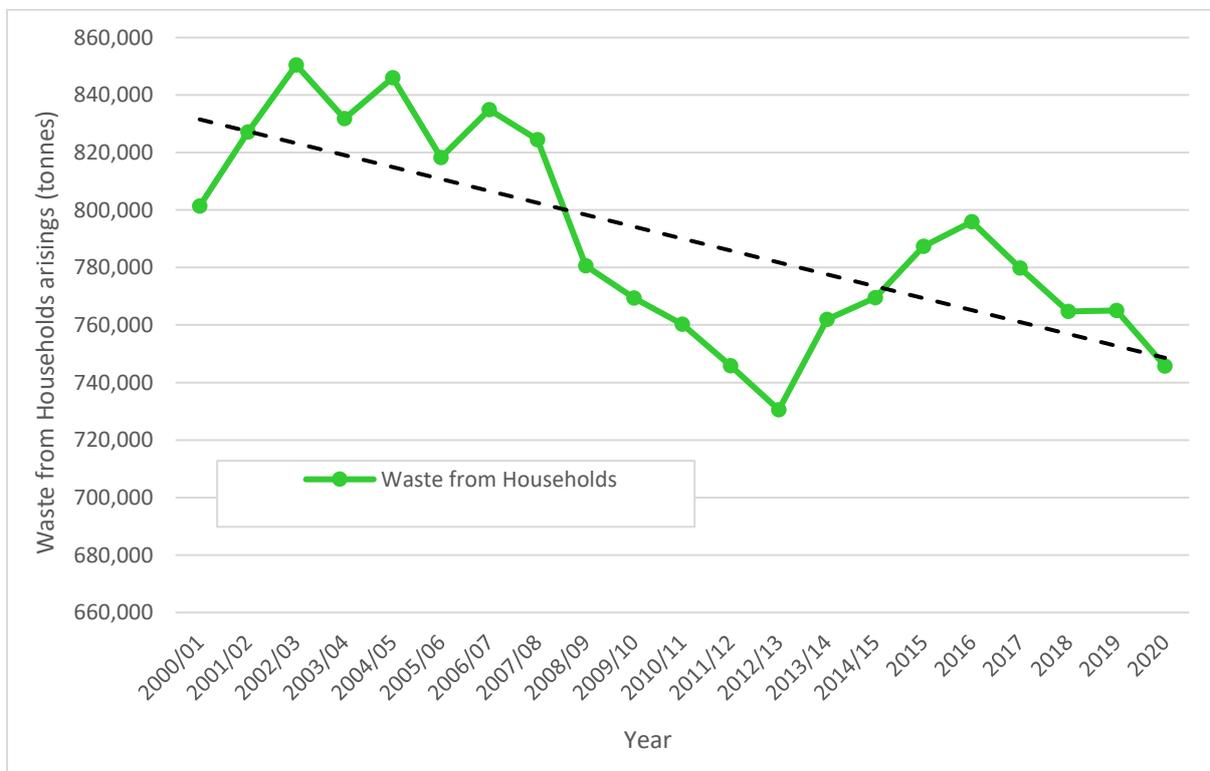
4.22 Table 3 illustrates the WfH data that can be gained from Waste Data Flow. Furthermore, Figure 5 identifies the tonnage arising trend from 2000 to 2020.

**Table 3 - WfH (tonnes) for Hampshire (incl. Portsmouth and Southampton) 2016-2020**

Year	WfH (tonnes)
2016	795,908
2017	779,788
2018	764,748
2019	765,025
2020	745,734

Source: Waste Data Flow

**Figure 5 - WfH (tonnes) in Hampshire, 2000-2020 (with trendline)**



Source: Waste Data Flow

4.23 As WfH will largely go through waste management facilities with environmental permits, the data will be included in the figures obtained from the EA WDI, where it is combined with other business waste in the category Household, Industrial and Commercial (HIC) waste, this is identified in Table 4.

**Table 4 - Estimated waste arisings (tonnes) per source and property in Hampshire 2020**

Waste source / properties	Non-hazardous	Inert	Hazardous	Total
WfH	745,734	0	0	745,734
C&I	2,489,202	0	120,885	2,610,087
C,D&E	0	2,306,577	0	2,306,577
<b>Total</b>	<b>3,234,936</b>	<b>2,306,577</b>	<b>120,885</b>	<b>5,662,398</b>

Source: EA WDI and HWDI, and WDF, 2020

4.24 To some extent, this data is also reported in Waste Data Flow which is considered to be a robust source of data. Making comparisons however between Waste Data Flow and the EA WDI can be problematic due to different collection methodologies.

4.25 Some of the caveats that apply to the WDI may also apply to this data. While the data is checked, there may be issues with human error, as well as the potential for double counting depending on what happens to the waste.

### **How much waste management capacity is available in Hampshire?**

4.26 In order to plan for future waste management capacity within the Plan area, a sound understanding of current annual treatment capacity is required (please note that this does not include transfer (i.e. transfer station) capacity, although this has been determined for completeness).

4.27 Waste capacity can be interpreted differently, but for the purposes of this study, waste capacity has been interpreted to mean the maximum tonnage of waste that a site is considered to be capable of treating in a year, bearing in mind restrictions such as permit, planning permission and conditions, physical and other properties of the site.

4.28 Waste capacity data has been sourced in a number of different ways. These are summarised in Table 5 below together with the relative positives and limitations for each approach. This methodology has been developed at a regional level through the South East Waste Planning Advisory Group (SEWPAG) and is included in Annex 2.



**Table 5 - Methodologies for estimating waste site capacity, in order of expected accuracy**

Method	Description	Positives	Limitations
Waste Operator Survey	Waste Operators can be contacted directly to ascertain site capacity	Direct engagement with waste operators likely to result in the most up to date information	Questions may be subject to interpretation and not all operators may respond. Significant discrepancies from other sources, particularly EA WDI throughput, should be clarified
Planning Permissions	Planning conditions and supporting information may provide capacity information. Planning applications submitted through the Planning Portal require an annual throughput tonnage to be entered	Most relevant waste management facilities should have planning permission	May not always contain information on the waste capacity of a site and conditions and operations may change over time
EA WDI throughputs	In most cases, the Environment Agency Waste Data Interrogator will show how much waste was actually managed at each facility, with data that stretches back a number of years. Adding 20% to the past 5-year maximum amount could stand in for a capacity estimate	Actual data on the ground, verified by the EA.	Does not always correlate with capacity as may vary for many reasons (operational, market, economy). An average uplift of any value will misrepresent sites that have more or less headroom. Changes in data collection or processing will affect comparisons
Environmental Permits / Exemptions	Most waste facilities in England have EA waste permits which limit the amount of waste that can be managed on an annual basis	A full data set from all permitted waste facilities which also take operational restrictions into account	Some permits are based on a banding system and therefore might indicate a quantity that the site could not realistically reach

Source: SEWPAG Waste Capacity Methodology, 2021 (Annex 2)

4.29 A combination of approaches has been used to ascertain the estimated current treatment capacity for Hampshire. Wherever possible, data from waste operator surveys and planning permissions were used. This is an ongoing process and yearly updates will be required.

### Waste Operator Survey

4.30 Existing waste operators active within the Plan area were provided with surveys in the form of questionnaires, these were intended to be completed and returned to provide up to date and accurate information relating to the capacity

of the waste sites. This attained a response rate of 71% in 2019 and 63% in 2020.

### **Planning Permissions and application documents**

- 4.31 Planning permissions were also reviewed for all waste sites within the Plan area. This is since capacity restrictions relating to annual throughput may be included as a planning condition to manage site operations with consideration towards surrounding amenity interests.
- 4.32 If no such condition was included by the planning authority when granting permission, the supporting statements provided by the applicant (usually the operator or agent on behalf) as part of the planning application were reviewed. The supporting statements are likely to include the proposed level of contribution in terms of waste management would need to be demonstrated to justify the proposal.
- 4.33 All findings from reviewing planning history associated with the sites were taken into account to inform the overall waste management capacity provision within the Plan area.

### **Environmental Permits**

- 4.34 For completeness, and to fill any information gaps relating to capacity, Environmental Permits for permitted sites were considered. These permits include restrictions set by the Environment Agency as the regulatory authority on how much waste the respective waste facilities can receive. Restrictions on throughput and capacity are commonly subject to variations, therefore, along with reviewing permits, all associated variation notices accompanying permits were also reviewed. The findings of which were again used to inform the overall level of waste management capacity.

### **EA WDI Throughput**

- 4.35 The Environment Agency Waste Data Interrogator (WDI) is the basis for most waste arisings methodologies as it is one of the most comprehensive and accurate sources of waste data. However, it collects throughput data and not capacity data so can only represent an approximation of capacity.
- 4.36 This methodology takes the highest throughput figure of the past 5 years and adds a 20% overhead to it, to account for the various reasons why a site may not be currently making full use of its operational capacity. This will necessarily be an approximation and overestimate those sites working close to capacity and underestimate all other sites.

- 4.37 This methodology cannot be used for sites that have not been recently active. This may be a useful way of double-checking capacity if sites are still operational. However, in planning terms as it is permitted capacity that gets counted, unless there is reason to believe that capacity has been permanently lost, in-operational capacity should still be estimated and counted.
- 4.38 Additionally, the throughput figures can be used to double check capacity figures received through other methods.

#### **Environmental Permits and Exemption Limits**

- 4.39 For completeness, and to fill any information gaps relating to capacity, Environmental Permits or Exemption Limits for all permitted/exempt sites within the Plan area can be requested from the Environment Agency. These permits/exemptions include restrictions set by the Environment Agency as the regulatory authority on how much waste the respective waste facilities can receive. Restrictions on throughput and capacity are commonly subject to variations, therefore, along with reviewing permits, all associated variation notices accompanying permits may also need to be reviewed.
- 4.40 A key issue with permits/exemptions is that they come in wide bands and so may overestimate site capacity.

#### **Applying estimated capacity to existing waste sites**

- 4.41 Most sites accept a range of waste materials categorised by nature (non-hazardous, inert or hazardous). The information regarding restrictions on throughput do not generally provide a split between these material types. As such, the capacity level of an existing site was factored against the sites level of throughput of the different waste types received in preceding years. This provided a more realistic position of the amount of waste by type that the waste site could manage and is a preferred method to splitting the known capacity level equally across each of the three waste types. Data on the split can also be gained directly from waste facility operators through annual surveys.
- 4.42 Table 6 below provides a representation of available capacity across the Plan area. Landfill void capacity is distributed across the 20-year Plan period, though there is only one non-hazardous landfill site in Hampshire and that is estimated to have around 5 years void space left as of the end of 2020.

**Table 6 – Estimated and rounded permanent waste capacity in Hampshire, 2020 (tonnes per annum)**

<b>Disposal capacity per facility WPA</b>	<b>Non-hazardous</b>	<b>Inert</b>	<b>Hazardous</b>	<b>Total</b>
Hampshire County Council	121,492	6,819,402	48,178	6,989,072
Portsmouth UA	0	0	0	0
Southampton UA	0	0	0	0
<b>Total</b>	121,492	6,819,402	48,178	6,989,072
<b>Recycling capacity excl. WTS per facility WPA</b>	<b>Non-hazardous</b>	<b>Inert</b>	<b>Hazardous</b>	<b>Total</b>
Hampshire County Council	1,349,805	1,351,168	28,742	2,729,715
Portsmouth UA	133,250	0	0	133,250
Southampton UA	72,900	74,999	0	147,899
<b>Total</b>	1,555,955	1,426,167	28,742	3,010,864
<b>Recovery capacity excl. WTS per facility WPA</b>	<b>Non-hazardous</b>	<b>Inert</b>	<b>Hazardous</b>	<b>Total</b>
Hampshire County Council	651,551	1,169,148	96,000	1,916,699
Portsmouth UA	210,000	0	0	210,000
Southampton UA	101,500	0	0	101,500
<b>Total</b>	963,051	1,169,148	96,000	2,228,199
<b>Transfer capacity per facility WPA</b>	<b>Non-hazardous</b>	<b>Inert</b>	<b>Hazardous</b>	<b>Total</b>
Hampshire County Council	1,510,162	304,505	111,785	1,926,453
Portsmouth UA	374,999	0	0	374,999
Southampton UA	30,205	3,000	0	33,205
<b>Total</b>	1,915,366	307,505	111,785	2,334,657

## 5. Non-Hazardous waste

### How much non-hazardous waste is generated in Hampshire?

#### Sources of non-hazardous waste data

- 5.1 Non-hazardous waste data is likely to be the most reliable element of the EA WDI, as most waste operators will be covered, and they are required to make yearly waste transfer note submissions. Even so, this data is subject to the caveats discussed in previous sections. Other sources of non-hazardous waste data arisings include data on Local Authority Collected Municipal Waste (LACMW) from the Local Authority managed Waste Data Flow (WDF) system which includes waste incineration data.
- 5.2 While WDF is considered to provide robust data due to the requirements placed on Local Authorities, other estimates of Commercial & Industrial (C&I) waste arisings are known to be a lot less reliable and can be considered less reliable than the EA WDI data. The reason is the last comprehensive survey of C&I waste arisings was conducted in 2009 by Jacobs on behalf of DEFRA, so any models using this data are likely to be looking at a historic snapshot of waste production, as well as contain within them the caveats associated with this survey.
- 5.3 Some further estimates have been produced on C&I<sup>51</sup> waste, but with less detail and availability of data at a regional or sub-regional level. No new survey of the scale used by Jacobs is currently planned, and a survey of Hampshire is outside the scope for the preparation of the Plan.

#### Estimates of non-hazardous waste arisings

- 5.4 Estimating non-hazardous waste arisings is not a simple process, due to the caveats discussed in the sections above. Even at a national level, the methodology<sup>52</sup> has been subject to ongoing revisions<sup>53</sup>, leading to considerable changes to the estimates. For example, the estimate for England for 2012 went from 43.8 million tonnes to 30 million tonnes and was then revised further to 33.9 million tonnes.

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<sup>51</sup> UK statistics on waste, DEFRA - [www.gov.uk/government/statistics/uk-waste-data](http://www.gov.uk/government/statistics/uk-waste-data)

<sup>52</sup> UK Statistics on Waste, DEFRA, 2021 -

[assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1002246/UK\\_stats\\_on\\_waste\\_statistical\\_notice\\_July2021\\_accessible\\_FINAL.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1002246/UK_stats_on_waste_statistical_notice_July2021_accessible_FINAL.pdf)

<sup>53</sup> Commercial and Industrial Waste Arisings Methodology revisions for England, DEFRA, 2018 -

[assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1002247/Commercial\\_and\\_Industrial\\_Waste\\_Arisings\\_Methodology\\_RevisionsFeb2018\\_contact\\_details\\_update.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1002247/Commercial_and_Industrial_Waste_Arisings_Methodology_RevisionsFeb2018_contact_details_update.pdf)

- 5.5 Regionally, a more local methodology has been discussed through SEWPAG and an initial proposal has been prepared, though leaving some of the more detailed judgements, as to what should and should not be included, to each individual Council. The methodology, included in Annex 3, is based on the waste received figures in the WDI, while attempting to remove double counting. In Hampshire, this has been done by discounting waste transfer stations within the Plan area. Inert waste has not been removed, as it is estimated that the tonnage of inert waste within the non-hazardous management route are comparable to the tonnages of non-hazardous waste in the inert waste management route.
- 5.6 A proportion of the waste that is only noted as arising in the South East has been allocated, though some question marks remain as to whether this waste is not being double counted (particularly since a proportion is at end of life vehicle sites which are known to move waste around more than other management methods).
- 5.7 Furthermore, the more reliable WfH figures are used from the Waste Data Flow system, though it is noted once again that they may not be directly comparable to the WDI figures. This is done because otherwise splitting the WfH component would be quite challenging and would not match the data used by the Councils' waste disposal functions.
- 5.8 Finally, there may be other considerations that are not included here (some are listed in the full proposed SEWPAG methodology), such as exports to areas that are not contained in the WDI (including outside the UK). As comparison of the figures obtained through this methodology with the national methodology<sup>54</sup> have indicated that this local methodology is likely to overestimate the commercial and industrial waste quantities, this is considered sufficient level of detail to allow for waste planning without risking under-provision or perceived accuracy that cannot be justified by the data quality.
- 5.9 Table 7 looks at the non-hazardous waste arisings figure, based on the methodology discussed above.

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<sup>54</sup> Using population to apportion national C&I waste to the Plan area puts C&I waste at 1.3 million tonnes compared to local calculations of 2.5 million tonnes.

**Table 7 - Non-hazardous waste arisings in Hampshire (tonnes and percentage for each authority)**

<b>Authority</b>	<b>Total</b>	<b>Percent</b>	<b>South East Share* (included)</b>	<b>Energy from Waste** (included)</b>
Hampshire County Council	2,740,198	85%	203,434	390,386
Portsmouth City Council***	231,359	7%	13,408	80,213
Southampton City Council	263,380	8%	19,598	73,159
<b>Total</b>	<b>3,234,936</b>	<b>100%</b>	<b>236,440</b>	<b>543,758</b>

Source: EA WDI 2020

\*Where the source of waste was 'South East', an apportionment based on the ratio of waste collected across all South East authorities was undertaken and applied to waste originating as 'South East' only to estimate the Hampshire, Portsmouth and Southampton share.

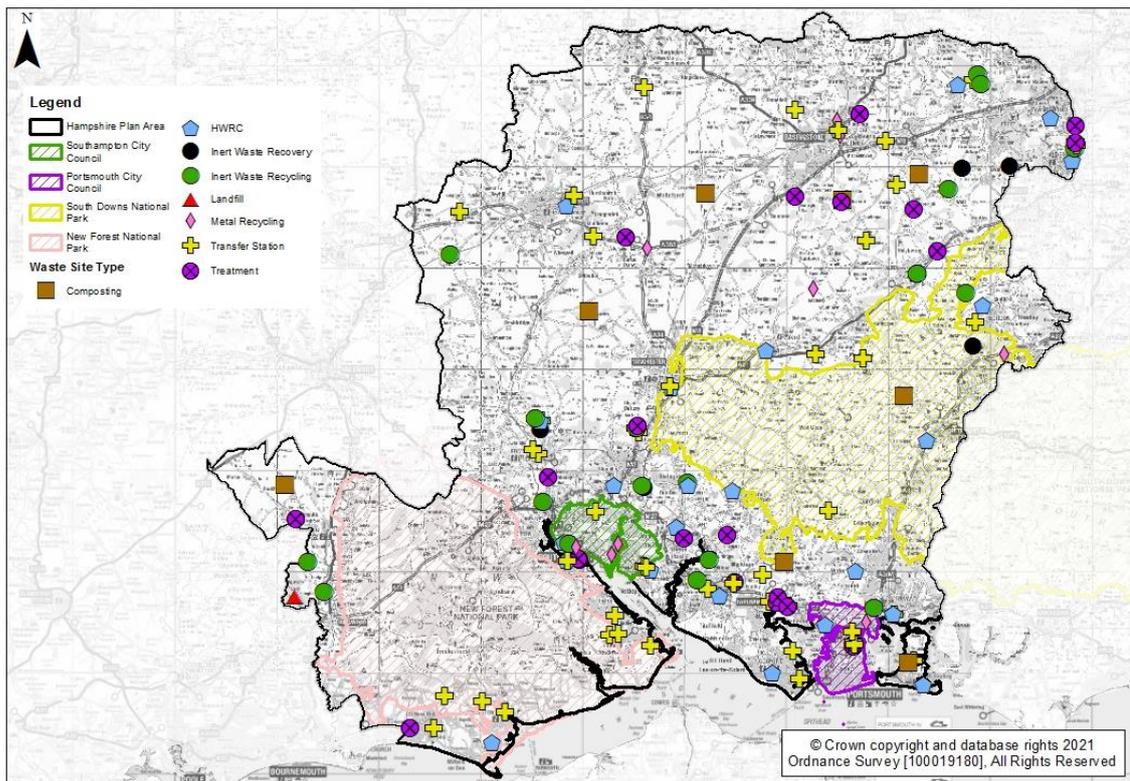
\*\* Energy from Waste inputs are based on the "incinerator" facility type in the WDI

\*\*\* Portsmouth's share has been estimated based on 2019 data, as the 2020 WDI contains an error where Portsmouth and Hampshire waste has been grouped together.

## **How is non-hazardous waste managed in Hampshire?**

5.10 The facilities managing non-hazardous waste in Hampshire are shown on Figure 6 - . These include civic amenity sites (HWRCs), waste transfer stations (some of which serve a recycling function as well), composting sites, various recycling and treatment facilities, one landfill and three Energy from Waste (EfW) facilities.

Figure 6 - Location of waste management facilities in Hampshire (2020)



### Non-hazardous waste recovery

- 5.11 Recovery of non-hazardous waste under the Waste Hierarchy is the extraction of energy from waste, as well as the preparation of waste for this to happen. This can be done in different ways, such as separating, then crushing waste into pellets (creating Refuse Derived Fuels) or burning the waste directly in an incinerator while recovering sufficient proportion of the energy in order to qualify as a recovery operation. Other sites might deal with liquid waste or use a biological or chemical treatment in order to process the waste.
- 5.12 The Hampshire Plan area has three large EfW facilities, that primarily handle household waste and qualify as recovery operations. These are located in Portsmouth, Marchwood and Basingstoke and are estimated to have a collective capacity of 512,000 tonnes per annum.
- 5.13 In 2019 around 511,000 tonnes of waste went to these EfW facilities, filling up 99.8% of their estimated capacity. Of the waste received, 95% was municipal waste.
- 5.14 There are other facilities in Hampshire that provide a recovery function, including smaller EfW facilities, Combined Heat and Power (CHP) facilities, sites that offer biological treatment, liquid waste processing and sites that

separate out the non-hazardous element of other waste (e.g. wood), then use it for energy.

- 5.15 A particular sub-type of recovery is achieved through Anaerobic Digestion (AD). This process produces both energy and a material that can then be used as a fertiliser in agriculture. While the material produced is not the same material as went in, due to the fact that more than just energy is recovered from this process, it sits between recovery and recycling. In fact, based on a recent WRAP report<sup>55</sup>, it is estimated that in 2018 7.5 million tonnes of digestate were produced from a total feedstock of 8 million tonnes. At a 93% conversion rate, that could be considered a much better use of material than composting (which had a 53% conversion rate). However, there is considerable variability between different facilities both in the material and the energy produced, as some use up all the energy produced, while others manage to export theirs to other facilities for example through the production of biogas (some of which can be directly injected in the national grid).
- 5.16 There are currently two AD sites in Hampshire, both in Basingstoke, with a combined capacity of around 80,000 tonnes per annum. AD has been encouraged through the HMWP, but a number of planning applications have seen sites ultimately not coming forward and others gaining permission but not going ahead. The market forces that influence which facilities go ahead and which not, are generally beyond the remit of the Plan. However, it should be noted that upcoming changes to waste collection that will seek to remove the food waste component from general waste may see an increased interest in AD and CHP.
- 5.17 Changes to technology or technology viability also do not fall under the remit of the Plan. For example, when the Plan was produced pyrolysis was an emerging technology. However, permissions for facilities have not resulted in new infrastructure being built.

### Climate change

- 5.18 The waste industry's contribution to climate change is intrinsically linked to consumption, waste generation and the practices of the general population. The waste industry seeks to respond to the demands of the population, as well as government policy and guidance. Changes in how waste is collected, handled, treated and ultimately disposed of, can have significantly different impacts on greenhouse gas emission.

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<sup>55</sup> WRAP, Anaerobic Digestion and Composting Industry Market Survey Report 2020 - [wrap.org.uk/resources/report/anaerobic-digestion-and-composting-latest-industry-survey-report-new-summaries](https://wrap.org.uk/resources/report/anaerobic-digestion-and-composting-latest-industry-survey-report-new-summaries)

5.19 The waste management sector is estimated to have been responsible for 5% of UK greenhouse gas emissions in 2018, with 92% of those emissions coming from methane, mainly from landfill sites<sup>56</sup>.

5.20 According to the Climate Change Committee (CCC)<sup>57</sup>, virtually all of the Green House Gas (GHG) emissions from the waste sector come from non-hazardous waste, the majority of which come from landfill. With the proportion coming from landfill significantly reducing since 1990, the CCC finds that “more Local Authority waste is now incinerated for energy than recycled or composted in England”, so that “waste sector emissions are primarily driven by the volumes of residual waste that end up in landfill or EfW facilities”.

5.21 The CCC policy recommendations for waste include:

- Set a target for a 68% recycling rate by 2030 covering all wastes in England;
- universal municipal waste recycling collections, along with downstream recycling, composting and anaerobic digestion (AD) facilities;
- composting facilities should be incentivised to install forced aeration;
- increased methane capture and oxidation at landfill sites;
- new waste conversion plants (including incineration, gasification & pyrolysis facilities) must be built with carbon capture and storage (CCS) or 'CCS ready'; and
- existing waste conversion plants should start retrofitting CCS from late 2020s onwards, with 2050 a backstop date for full CCS coverage.<sup>58</sup>

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<sup>56</sup> Department for Business, Energy & Industrial Strategy, 2018 UK Greenhouse Gas Emissions - [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/862887/2018\\_Final\\_greenhouse\\_gas\\_emissions\\_statistical\\_release.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/862887/2018_Final_greenhouse_gas_emissions_statistical_release.pdf)

<sup>57</sup> Climate Change Committee, The Sixth Carbon Budget – Waste, 2020 - [www.theccc.org.uk/wp-content/uploads/2020/12/Sector-summary-Waste.pdf](http://www.theccc.org.uk/wp-content/uploads/2020/12/Sector-summary-Waste.pdf)

<sup>58</sup> Climate Change Committee, The Sixth Carbon Budget – Waste, 2020 - [www.theccc.org.uk/wp-content/uploads/2020/12/Sector-summary-Waste.pdf](http://www.theccc.org.uk/wp-content/uploads/2020/12/Sector-summary-Waste.pdf)

## 6. Inert waste

### How much inert waste is generated in Hampshire?

- 6.1 Inert waste is generated primarily from construction, demolition and excavation (C,D&E) wastes that are produced mainly from civil engineering activities such as the construction and demolition of buildings and roads. Due to the nature of the waste, much of the arisings can be re-used on construction sites in footings, as an aggregate or fill material, or landscaping, and thus does not need to leave the site (although it is unknown what proportion is 'lost').
- 6.2 C,D&E waste also moves from construction/demolition sites to be disposed. Alternatively, the hard material may be suitable for use in aggregate recycling processes and the soft material such as soils/clays can be recovered and used in projects such as landscaping elsewhere. Table 8, below, shows the arising tonnages of inert waste in Hampshire.

**Table 8 - Inert waste arisings in Hampshire for 2020 (tonnes and percentage)**

Authority	Waste	Percentage
Hampshire Authorities	2,177,920	94%
South East share*	128,657	6%
<b>Total</b>	<b>2,306,577</b>	<b>100%</b>

Source: WDI 2020

\*Where the source of waste was 'South East', an apportionment based on the ratio of waste collected across all South East authorities was undertaken and applied to waste originating as 'South East' only to estimate the Hampshire share.

- 6.3 Approximately 2% of the Plan area C,D&E waste arisings is non-inert wastes (such as packaging wastes and municipal wastes), while around 0.04% of HIC waste is actually mineral and quarry waste or has ended up in inert landfills. These small quantities mean that C,D&E waste can be assumed to be inert, while Household, Industrial and Commercial (HIC) waste can be assumed to be non-hazardous with significantly affecting accuracy.

### Sources of inert waste data

- 6.4 Obtaining up-to-date and accurate tonnages for C,D&E waste arisings is challenging due to the nature of how this waste is generated and the wide range of possible end uses. The Environment Agency record the waste tonnages when the site has an Environmental Permit and the C,D&E waste is taken off site but it is estimated that in the past significant volumes of C,D&E waste has moved under an Exemption (to an Environmental Permit) and thus the tonnages are not recorded.

- 6.5 A potential source of some of this data is the annual aggregate monitoring surveys, which include data from aggregate recycling facilities. Another option is estimating C,D&E waste, which is largely inert, based on the level of construction activity in an area. A disadvantage of trying to estimate the total volume of C,D&E waste, besides the poor availability of data, is that not all of it will require facilities permitted through the waste planning regime.
- 6.6 Owing to these uncertainties, forecasting facility requirements is unreliable.

### **Inert waste arisings methodology**

- 6.7 As a member of the South East Waste Planning Advisory Group (SEWPAG) Hampshire County Council have discussed and contributed to a regionally agreed methodology for the estimation of C,D&E waste arisings.
- 6.8 The agreed methodology, outlined in full in Annex 4, is a regionally modified version of the national DEFRA Methodology for Calculating C,D&E Waste and utilises a ‘point of management’ approach. An overview of the methodology is provided below.
- 6.9 The estimate of C,D&E waste arisings in Hampshire is calculated using the following equation:
- Inputs to the permitted landfill facilities and ‘recovery to land’ operations
  - +
  - Outputs from intermediate permitted facilities (e.g. Waste Transfer Stations)
  - +
  - Recycled aggregates
  - +
  - Inputs to sites exempt from requiring an environmental permit for waste management
- 6.10 An apportionment of the South East’s ‘Non-Codeable’ inert waste was also added to the estimate, in order to capture waste which arises in Hampshire but is incorrectly labelled in transit.

### **How is inert waste managed in Hampshire?**

- 6.11 The facilities managing inert waste in Hampshire are shown on Figure 6 - . These include aggregate recycling facilities, land recovery and inert landfill operations.

- 6.12 A proportion of inert waste recycling is for aggregate recycling that can then be used instead of primary aggregates, such as sand and gravel extracted from the land or dredged from the seabed. Accordingly, aggregate recycling facilities are considered in the Mineral: Background Study<sup>59</sup>. Capacity requirements for the treatment of this waste are considered in Section 11 below.
- 6.13 Unlike with non-hazardous waste, the recovery of inert waste does not involve an energy component, but usually means that the inert waste has been 'recovered' or put to a beneficial use, e.g. for landscaping, restoration etc. The EA has recently changed the criteria that are used to determine whether an operation is considered recovery or landfill<sup>60</sup>, which may mean that fewer operations are classified as recovery.

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<sup>59</sup> Minerals: Background Study - [Hampshire Minerals and Waste Plan - Partial Update | Hampshire County Council \(hants.gov.uk\)](https://www.hants.gov.uk/minerals-and-waste-plan)

<sup>60</sup> Waste recovery on land guidance, 2016 - [www.gov.uk/government/collections/waste-recovery-on-land-guidance](https://www.gov.uk/government/collections/waste-recovery-on-land-guidance)

## 7. Hazardous waste

### How much hazardous waste is generated in Hampshire?

#### Sources of hazardous waste data

- 7.1 Hazardous waste is produced in all three principal waste stream sources. The largest amount is produced from the commercial and industrial sector with minor amounts from municipal and construction/demolition sources. Hazardous waste comes in a number of sub-streams of its own, as different types of waste can require highly specialised facilities. Sometimes it is grouped with other types of specialist wastes that require highly specific waste management.
- 7.2 The methodology for hazardous waste arisings is similar to that for non-hazardous waste – all waste received at facilities with an origin marked as Hampshire, Portsmouth or Southampton is counted. Then waste transfer tonnages within the plan area are excluded in order to avoid double counting.

**Table 9 - Hazardous waste arisings in Hampshire (tonnes and percentage for each authority)**

Authority	Waste*	Percentage
Hampshire County Council	81,502	67%
Portsmouth City Council	17,538	15%
Southampton City Council	21,845	18%
<b>Total</b>	<b>120,885</b>	<b>100%</b>

Source: HWDI\*\*, 2020

\*Waste tonnages do not include waste managed at Waste Transfer Stations within the Plan Area. These tonnages were removed to avoid double counting.

\*\*The HWDI is considered more precise than the WDI and does not contain a 'South East' source category.

- 7.3 The hazardous waste arisings from the Hampshire Authorities are shown in Table 9 - these arisings include the following top 10 hazardous waste types:

**Table 10 - Top 10 hazardous waste arisings from Hampshire by tonnes and EWC (2020)**

European Waste Chapter code description	Tonnes (2020)
Solid wastes from gas treatment	13,023
Bilge oils from other navigation	11,345
Other wastes (including mixtures of materials) from mechanical treatment of waste containing dangerous substances	9,825
Bituminous mixtures containing coal tar	8,959

<b>European Waste Chapter code description</b>	<b>Tonnes (2020)</b>
Soil and stones containing dangerous substances	8,726
Oil from oil/water separators	7,639
Oily water from oil/water separators	7,320
Mineral-based non-chlorinated engine, gear and lubricating oils	7,232
Construction materials containing asbestos	6,992
Discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous c	6,703

Source: HWDI, 2020

7.4 While some conclusions can be drawn, it should be noted that year on year the picture can change significantly, both in terms of quantities and types of materials. Table 11 shows the top hazardous waste arisings in 2019 to illustrate this.

**Table 11 - Top 10 hazardous waste arisings from Hampshire by tonnes and EWC (2019)**

<b>European Waste Chapter code description</b>	<b>Tonnes (2019)</b>
Soil and stones containing dangerous substances	22,180
Solid wastes from gas treatment	13,334
Construction materials containing asbestos	11,335
Discarded equipment containing chlorofluorocarbons	9,030
Oily water from oil/water separators	8,542
Bilge oils from other navigation	7,801
Lead batteries	7,541
Mineral-based non-chlorinated engine, gear and lubricating oils	7,451
Discarded electrical and electronic equipment	6,465
Bituminous mixtures containing coal tar	6,450
Wastes whose collection and disposal is subject to special requirements in order to prevent infection	3,805

Source: HWDI\*\*, 2019

7.5 The breakdown of waste categories can sometimes make a full picture more difficult to see. For example, totalling all the categories that include oil gives around 39,000 tonnes of waste arisings in 2019 and around 34,000 tonnes in 2020, making this a key hazardous material type produced in the Plan area.

## How is hazardous waste managed in Hampshire?

- 7.6 The specialist nature of hazardous waste and the facilities required to manage it mean that these facilities are often of a regional or national nature, as the quantities of waste from each local authority are too small to justify a greater number of facilities. This waste travels further than other types of waste and each authority is not expected to provide a full range of hazardous waste management facilities.
- 7.7 Key hazardous waste management capacity facilities within the Hampshire plan area include:
- Biological treatment facility in Marchwood, in the New Forest,
  - Incineration facility at Fawley, in the New Forest,
  - Aggregate recycling facility in Winchester, and
  - Liquid waste processing in Eastleigh.
- 7.8 A review of the 2019 UK radioactive wastes data from the UK Radioactive Waste Inventory<sup>61</sup> indicates that there is one site generating radioactive waste in the Hampshire plan area. This is Her Majesty's Naval Base (HMNB) Portsmouth and the 2019 Inventory notes that very small quantities of intermediate level radioactive waste<sup>62</sup> are produced through decommissioning of naval vessels. The lifetime total for the site is expected to be 25.9 m<sup>3</sup>.
- 7.9 As noted, hazardous waste requires specialist facilities and can therefore travel greater distances. Table 12 shows that even though there is significant management capacity within Hampshire, much of Hampshire's hazardous waste still has to go out of the area to be processed.

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<sup>61</sup> UK Radioactive Waste Inventory, 2019 - <https://ukinventory.nda.gov.uk/>

<sup>62</sup> Intermediate Level Waste (ILW) exceeds the upper boundaries for Low Level Waste (gigabecquerel (GBq) per tonne of alpha activity, or 12 GBq per tonne of beta/gamma activity) but does not generate a significant amount of heat.

**Table 12 – Hazardous waste imports and exports**

<b>Hazardous waste management</b>	<b>Tonnes (2020)</b>
Hazardous waste exported from Hampshire (exports)*	88,771
Hazardous waste from Hampshire managed within Hampshire	32,114
Hazardous waste not from Hampshire managed within Hampshire (imports)	39,558
Hazardous waste not from Hampshire received at Hampshire transfer facilities (imports)**	9,888

Source: HWDI, 2020

Totals may not exactly match with the arisings estimates, due to the uncertain role of transfer stations.

\* All references to Hampshire are to the Hampshire plan area, in the HWDI noted as the Waste Planning Authorities of Hampshire, Portsmouth City and Southampton City

\*\* It is unclear how waste at received at transfer facilities will then be noted, so there may be some double counting.

## 8. Landfill

- 8.1 Landfill involves the controlled infilling of voids in the ground with waste, with such voids usually created through mineral extraction. Landfill requires planning consent from the Waste Planning Authority, along with an Environmental Permit from the Environment Agency.
- 8.2 There are three types of landfill:
- **Inert waste** typically is non-biodegradable, will not react chemically and unlikely to give rise to environmental pollution or harm to humans;
  - **Non-hazardous waste** is the residual waste left from household and commercial/industrial sources once all the materials that can be re-used, recycled or recovered have been removed; and
  - **Hazardous waste** requires specially licenced landfill operations to take waste such as clinical, asbestos, organic and inorganic chemicals, oils, paints, adhesives and contaminated soils.
- 8.3 The need for landfill stems primarily from the need to deal with wastes which could not be processed through other sections of the waste hierarchy.
- 8.4 Based on WDI data from 2018, around 240,000 tonnes of non-hazardous waste arising from Hampshire was sent to landfill, dropping to 205,500 tonnes in 2019 and to 178,000 tonnes in 2020.
- 8.5 There is currently one operational landfill site within Hampshire which can accept non-hazardous waste; this is the Blue Haze landfill site near Ringwood. This operation has planning permission which allows up to 250,000 tonnes of waste per annum to be imported and is required to cease operations in December 2029 for non-inert waste and December 2031 for inert waste.
- 8.6 At the end of 2020, it was estimated that the remaining void space could accommodate a further 552,000 tonnes of waste to the end of 2024, based on current input rates. An application was submitted in December 2020, proposing a reprofiling scheme, which would provide an additional 770,000 tonnes of capacity.
- 8.7 Looking to neighbouring waste planning authorities, Table 13 provides the estimated landfill capacity available for non-hazardous waste.

**Table 13 - Non-hazardous landfill in neighbouring authorities to Hampshire**

Authority	Date of Estimate	Permitted capacity (million tonnes)	Estimated End Date
West Berkshire <sup>63</sup>	2020	0	-
Central and Eastern Berkshire <sup>64</sup>	2020	0	-
West Sussex <sup>65</sup>	2018	0	-
Surrey <sup>66</sup>	2020	4,653,000	2025 - 2030
Dorset <sup>67</sup>	2019	0	-
Wiltshire <sup>68</sup>	2009	5,402,800	2025
Isle of Wight	2012	616,000	2027

8.8 Historically, landfill capacity in the South East has been tied to the number of mineral workings in the region and the need to restore these mineral workings. Traditional restoration schemes have required large amounts of material to fill the void which has resulted once the mineral is extracted.

8.9 More recently, there has been a decline in landfill capacity due to a number of sites being restored and closed. There are also fewer mineral sites coming forward and changes in restoration schemes to include no-fill or low-fill restoration. Landfill, as a method of waste management, is now seen as an option of last resort. Landfill tax has significantly increased the costs of landfilling and resulted in waste being increasingly managed through recycling and recovery.

8.10 The result is that there is 'finite' capacity for disposal (and demand) of both hazardous and non-hazardous waste to landfill in the South East. This issue has led the South East Waste Planning Authorities to prepare a Statement of Common Ground on the subject<sup>69</sup>.

8.11 There are opportunities for the re-working of former landfill sites to either remove existing landfilled materials in order to reuse the materials or void or to exploit benefits from the in-situ material itself. Such materials may be valuable and therefore the re-working of such sites would enable the value to be recovered in addition to providing additional landfill capacity if needed.

<sup>63</sup> West Berkshire Local Waste Assessment (Proposed submission), November 2020

<sup>64</sup> Joint Central and Eastern Berkshire Waste Background Study (Proposed submission), July 2020

<sup>65</sup> West Sussex Waste Local Plan Review, May 2019

<sup>66</sup> Surrey Waste Local Plan, December 2020

<sup>67</sup> Adopted Dorset Waste Plan, December 2019

<sup>68</sup> Adopted Wiltshire and Swindon Waste Core Strategy, July 2009

<sup>69</sup> SEWPAG Joint Position Statement: Non-hazardous landfill in the South East of England, September 2018

8.12 The capacity gap for dealing with waste currently sent to landfill is considered in Section 11.

## 9. Imports and exports

- 9.1 In line with the National Planning Policy for Waste<sup>70</sup>, the need for additional waste management capacity of more than local significance should be considered. As such, consideration has been given to the impacts of imported waste within Hampshire, as well as Hampshire's exports to other authorities.
- 9.2 In principle, in line with national guidance and with regional agreements, waste is considered not to adhere to administrative boundaries, which is why waste plans aim for net self-sufficiency, rather than catering for the exact waste arisings found in their plan areas. However, the proximity principle invites the locating of waste management facilities near to the sources of waste or where the outputs would be used, so consideration should be given to waste movements, if any patterns are emerging and how any issues could be addressed.

### Patterns of imports and exports

- 9.3 A series of maps has been produced to illustrate the patterns of imports and exports. These are presented below.

#### Imports

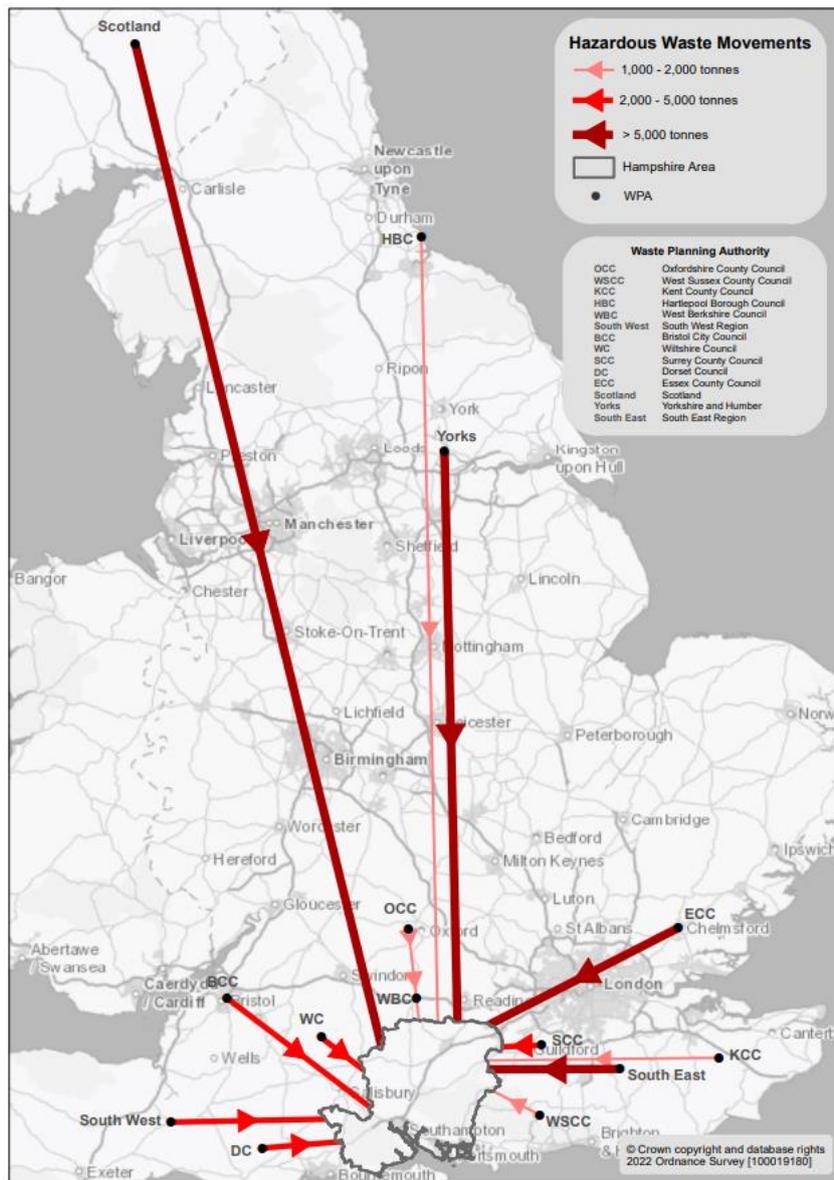
- 9.4 The following Figures (7 – 9) show the patterns of waste imports into the Hampshire Plan Area.

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<sup>70</sup>National Planning Policy for Waste, 2014 - [www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/364759/141015\\_National\\_Planning\\_Policy\\_for\\_Waste.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/364759/141015_National_Planning_Policy_for_Waste.pdf)



Figure 9 - Hazardous waste imports into the Hampshire Plan Area (2020)



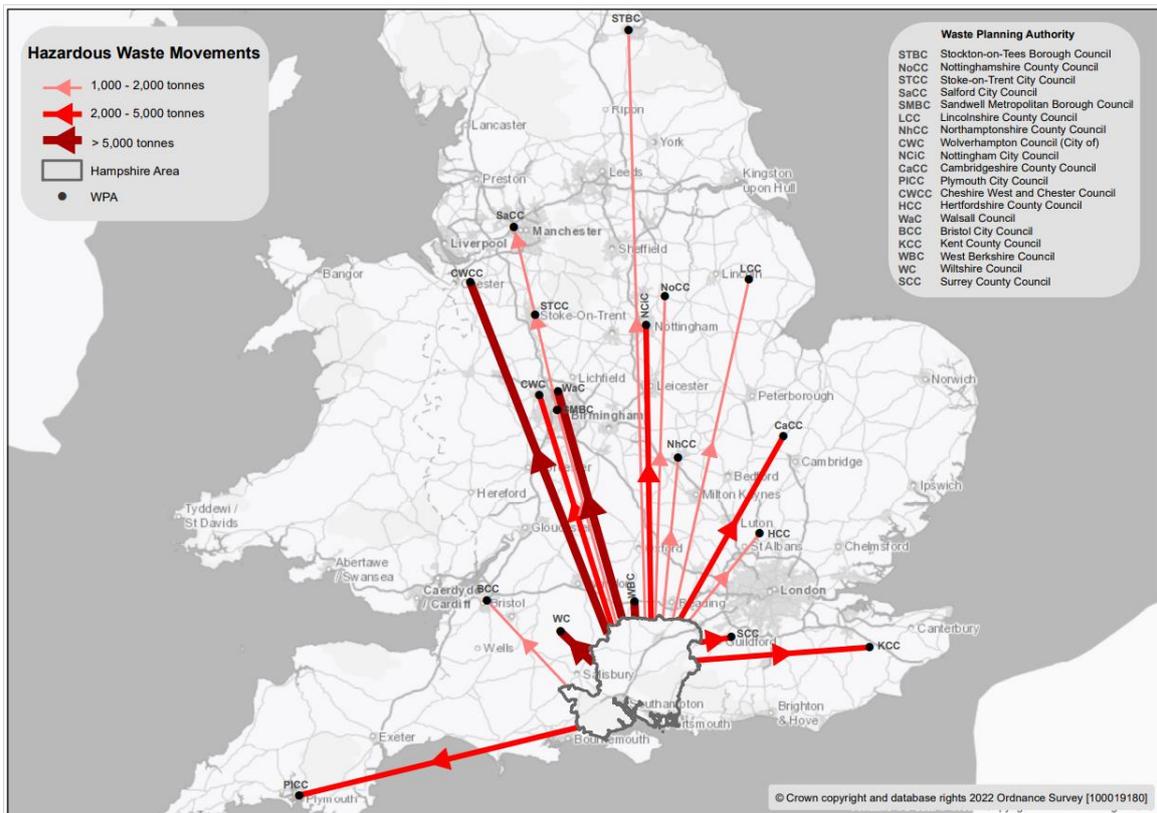
Source: EA WDI 2020

## Exports

9.5 The following Figures (10 – 12) show the patterns of waste exports out of the Hampshire Plan Area.



Figure 12 - Hazardous waste exports out of the Hampshire Plan Area (2020)



Source: EA WDI 2020

### London waste

- 9.6 A particular location of interest is London, due to its more limited opportunities for waste facilities and historically high export levels. However, the current London Plan sets out intent to achieve greater net self-sufficiency. As such, it is expected that any waste that London exports or accepts as an import from the Plan area will gradually decline over time and this should be considered when planning for treatment types and capacity within the Plan area.
- 9.7 2020 WDI and HWDI data was used to assess current imports and exports to and from London and the Plan Area (see Table 14).

Table 14 - Waste movements between London and Hampshire in 2020

Movement	HIC	Inert	Hazardous
Hampshire to London (tonnes)	43,285	855	1,378
London to Hampshire (tonnes)	218,740	38,099	1,026
Net movement (Hampshire position)	-175,455	-37,244	352

Source: WDI and HWDI, 2020  
 '-' = net import

- 9.8 The 2020 WDI data shows there to be significant net imports of non-hazardous and inert wastes into the Hampshire Plan Area from London. The majority of

non-hazardous waste being imported to Hampshire is metal and composting waste. The majority of inert waste being imported into Hampshire is gypsum-based construction waste.

- 9.9 The 2020 HWDI data shows that the net flow of hazardous waste is almost even between London and Hampshire.

## 10. Assessment for the need of new facilities in Hampshire

### Estimated future waste arisings

10.1 The data on the waste currently generated in Hampshire usefully provides some of the picture of how much waste management capacity is required. Waste arisings are not 'static' however, and therefore planning for an amount of waste arising in one year does not necessarily provide a robust prediction of future arisings. The HMWP will identify this need up to the year 2040, recognising that the amount of waste requiring management may change over the next twenty years. It is also important to recognise that different types of waste are likely to display different growth trends.

### What wider influences may impact future waste arisings?

#### The Circular Economy

10.2 The European Commission has adopted a Circular Economy Package<sup>71</sup> which includes proposed actions and revised legislative proposals on waste to stimulate Europe's transition towards a circular economy. The Commission intend to implement the actions below which should reduce the quantities of waste that arise as better use is made of resources, as well as drive waste 'up the waste hierarchy'.

- Simplify definitions and harmonise calculation methods for recycling rates throughout the EU;
- Increase economic incentives for better product design through provisions on extended producer responsibility schemes;
- Increase the 'Preparing for re-use and recycling' target for municipal waste to 60% by weight by 2025 and 65% by weight by 2030;
- Limit the landfilling of municipal waste to 10% by 2030 and a ban on landfilling separately collected waste;
- Increase the 'Preparing for reuse and recycling' targets for all packaging waste to 65% (including 60 % of wood packaging, 75% of paper and cardboard packaging, and 55 % of plastic packaging by 2025) by 2025, and 75% by 2030; and

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<sup>71</sup> Circular Economy Package, 2018 - [ec.europa.eu/environment/circular-economy/index\\_en.htm](https://ec.europa.eu/environment/circular-economy/index_en.htm)

- Ensure the separate collection of bio-waste (including biodegradable garden and park waste, food and kitchen waste from households, restaurants, caterers and retail premises) where it is technically, environmentally and economically practicable and appropriate.

## Leaving the European Union

10.3 Leaving the EU may also create some uncertainties for waste arisings. The Chartered Institution of Waste Management has identified three tiers of potential impact<sup>72</sup>:

### *1) General economic and political*

A change to the sterling exchange rate would directly influence the costs and profits from international trade, including in refuse derived fuel (RDF) and scrap materials for recycling. A change in terms of trading with the EU and other partners could also result in higher tariffs and more border crossing bureaucracy.

### *2) Movement of waste*

During 2016, less than 9.9 million tonnes of waste material was exported from the UK. Although not all of this was destined for the continent, the market in northern Europe for RDF treatment has continued to grow. According to the waste industry<sup>73</sup>, this European market has helped mitigate the extensive capacity gap for recovery treatment in the UK and offered waste producers in the UK alternative cost effective treatment routes. Although the impacts of Brexit are unknown, the potential impact on the value of the pound and unknown trade agreements may impact the UK's future ability to rely on Europe's existing capacity.

Imposed tariffs on waste movements could have numerous implications for waste management projects.

### *3) Legal and policy impacts*

Policy within England is mainly driven by EU waste targets, and most of these have a target date of 2020.

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<sup>72</sup> Policy implications of Brexit, 2017 - [ciwm-journal.co.uk/3d/Post-Brexit-Compliance-Report/offline/download.pdf](http://ciwm-journal.co.uk/3d/Post-Brexit-Compliance-Report/offline/download.pdf)

<sup>73</sup> Mind the gap, 2017-2030 - [www.sita.co.uk/wp-content/uploads/2017/09/MindTheGap20172030-1709-web.pdf](http://www.sita.co.uk/wp-content/uploads/2017/09/MindTheGap20172030-1709-web.pdf)

10.4 The National Infrastructure Plan<sup>74</sup> sets out the Government's plans for economic, housing and social infrastructure over the next five years. The government is committed to investing over £100 billion by 2020-2021 into infrastructure projects such as transport, energy, communications, flooding and coastal, erosion, science and research, water and waste, housing and regeneration and social infrastructure (e.g. school, prisons and hospitals). These projects will impact on waste arisings and management in the short term, through waste created or used during their development, and in the long-term, through the ongoing use and implications of the new infrastructure.

10.5 In September 2017, the Government commissioned Anthesis<sup>75</sup> to prepare and deliver a 'National Infrastructure Assessment: Waste Infrastructure Analysis' study which was published in May 2018<sup>76</sup>. This study aimed to assess the costs and benefits of increasing separation of different waste streams (such as food waste) as well as the costs and benefits of directing the separated waste streams down different treatment/disposal pathways.

### Local Demand Factors

10.6 Local housing predictions could potentially have an impact on waste arisings in the future both by introducing more dwellings and population that would produce waste into the plan area, but also through the potential for construction waste either directly from the development or indirectly if there is redevelopment activity. Table 15 shows past housing completions of each of the Hampshire's Authorities and demonstrates that from 2008-09 to 2019-20, an average of 5,983 houses were completed across Hampshire per year. From 2010 the growth rate in housing completions is 7.32%. Looking at the total number of dwellings in the Hampshire plan area, they increased from 747,299 in 2010 to 801,400 in 2019, an average of 5,878 dwellings per year, representing a growth rate of 0.78%. The shorter-term average of 2015 to 2019 was 7,303 dwellings per year, representing a growth rate of 0.96%.

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<sup>74</sup>National Infrastructure Delivery Plan, 2016-2021 -

[www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/520086/2904569\\_nidp\\_deliveryplan.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/520086/2904569_nidp_deliveryplan.pdf)

<sup>75</sup> MRW, 2017 - [www.mrw.co.uk/latest/science-report-on-waste-and-resources-imminent/10023289.article](http://www.mrw.co.uk/latest/science-report-on-waste-and-resources-imminent/10023289.article)

<sup>76</sup> Waste infrastructure analysis for England - <https://nic.org.uk/studies-reports/national-infrastructure-assessment/national-infrastructure-assessment-1/waste-infrastructure-analysis-england/>

**Table 15 - Past housing completions in Hampshire (number of dwellings)**

Authority / Year	2008 -09	2009 - 10	2010 -11	2011 -12	2012 -13	2013 -14	2014 -15	2015 -16	2016- 17	2017- 18	2018- 19	2019- 20
Hampshire (excluding SCC + PCC)	4558	3773	3571	3796	3005	3232	3855	5065	5501	6047	6997	7665
Portsmouth City Council	1309	726	317	276	351	222	406	436	393	408	183	168
Southampton City Council	1034	525	791	662	402	371	1010	965	621	658	946	460
<b>Total</b>	<b>6901</b>	<b>5024</b>	<b>4679</b>	<b>4734</b>	<b>3758</b>	<b>3825</b>	<b>5271</b>	<b>6466</b>	<b>6515</b>	<b>7113</b>	<b>8126</b>	<b>8293</b>
<b>Change per year</b>	-	<b>-1877</b>	<b>-345</b>	<b>55</b>	<b>-976</b>	<b>67</b>	<b>1446</b>	<b>1195</b>	<b>49</b>	<b>598</b>	<b>1013</b>	<b>167</b>
<b>% change per year</b>	-	<b>-37.4</b>	<b>-7.4</b>	<b>1.2</b>	<b>-26.0</b>	<b>1.8</b>	<b>27.4</b>	<b>18.5</b>	<b>0.8</b>	<b>8.4</b>	<b>12.5</b>	<b>2.0</b>

Source: Hampshire County Council – Land Availability Monitoring System

10.7 In terms of future housing projections however, combining the Local Housing Need (LHN) of the fifteen Local Planning Authority Local Plans within Hampshire provides a figure of 7,261 houses per annum. This is outlined by Local Planning Authority in Table 16 below. It is acknowledged that LHN calculations change, when new data becomes available, and when the DLUHC decide to alter the standard methodology. The most recently published or emerging Local Plan figures have been used. 7,261 houses per annum is more in line with the short term, rather than long term past growth discussed above, however here may also be practical limitations to whether these plans can be delivered on the ground.

**Table 16 - Projected LHN in Hampshire**

Local Planning Authority	Local Plan Period	Local Plan Housing Need	Housing Growth Per Annum
Southampton City Council	2006 - 2026	16,300	815
Portsmouth City Council	2006 - 2027	12,800	610
Basingstoke and Deane District Council	2011 - 2029	15,300	850
East Hampshire District Council	2011 - 2028*	10,060	592
Eastleigh Borough Council	2016 - 2036**	14,580	729
Fareham Borough Council	2006 - 2026	3,729	186
	2021 - 2037**	8,389	524
Gosport Borough Council	2011 - 2029	3,060	170
Hart District Council	2014 - 2032	7,614	423
Havant Borough Council	2006 - 2026	6,300	315
New Forest District Council	2016 - 2036	10,420	521

Local Planning Authority	Local Plan Period	Local Plan Housing Need	Housing Growth Per Annum
New Forest National Park Authority	2016 - 2036	1,260	63
Rushmoor Borough Council	2014 - 2032	7,850	436
Test Valley Borough Council	2011 - 2029	10,584	588
Winchester City Council	2011 - 2031	12,500	625

\*Figure includes all housing outside of the South Downs National Park

\*\*Figures from emerging Local Plans

10.8 In addition to housing there are also transport and other major infrastructure projects that could impact waste arisings through direct waste arisings or through redevelopment activity. For example, Fawley power station is to be demolished and there is a Capital Programme<sup>77</sup> for Hampshire that plans to delivers schemes totalling £386 million over the three years from 20120/21 to 2022/23. This follows a revised programme of £347 million for 2019/20, providing a total capital programme of £733 million over the four years.

### Developing waste growth scenarios

10.9 The Planning Practice Guidance (PPG) for waste gives advice on how to predict waste growth in the future, based on the source and properties of the waste<sup>78</sup>. It states that local authorities 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”.

10.10 The PPG sets out certain assumptions and factors that it recommends considering and these have been addressed, wherever possible and pragmatic to do so, in developing waste growth scenarios for Hampshire.

10.11 This approach has been discussed at SEWPAG. Though a final methodology is not yet available, it was considered reasonable that key growth factors are considered, as well as their likely accuracy and impacts on waste arisings.

10.12 The waste growth factors and their weightings for each of the different types of waste (WfH, C&I, C,D&E and hazardous) are discussed in the sections below.

10.13 The weighted average growth rate was then applied to the 2020 baseline arisings figure for each of the waste types in order to calculate the predicted arisings in 2040.

<sup>77</sup> Capital Programme 2020/21 to 2022/2023 Decision Day Report - [2018-02-05 Cabinet Capital programme 2018-19 to 2020-21 \(HF000015588356\) \(modern.gov.co.uk\)](#)

<sup>78</sup> Planning practice guidance for waste, 2015 - [www.gov.uk/guidance/waste](#)

10.14 Some consideration needs to be given to using 2020 as a baseline, due to the potential impacts of the Covid-19 pandemic that began in 2020, with a nationwide lockdown introduced in the UK in March 2020. The effects would have been expected to be an increase in WfH (due to increased presence at home both for work and leisure) and a decrease in C,D&E waste (due to reduced construction activities). In Hampshire there was a small decrease in WfH, in line with previous trends and against expectations. There was also a reduction in C,D&E waste. This was in line with a downward trend from 2015 onwards, making the trend more pronounced.

## Waste growth by source

### Waste from Households

10.15 It has been indicated by local operators that Waste from Households (WfH) and Commercial and Industrial Waste (C&I) are likely to be similar composition and therefore require similar types of treatment. However, calculations have shown a decline in WfH and an increase in C&I waste, so separate growth rates have been considered.

10.16 The growth factors, their source, considerations and weightings are shown in Table 17. While the population (and other related figures, such as households, dwellings, GDP, GVA etc.) continues to grow, WfH has been declining over the past decade. This trend is in line with a downward trend in England as well. This may be the result of a variety of local and national initiatives and changes in waste disposed of from households. However, it is difficult to predict whether this trend will continue, with further waste minimisation policies and efforts across Hampshire and nationally, or if there will be a plateauing out. Due to the high accuracy of WfH data, greater weighting has been placed on the trend in this data than on population growth.

**Table 17 - Growth factors for WfH**

Trend	Trend figure	Weighting	Commentary
2015-2020 trend*	-1.08%	30%	Local data, one of the most accurate waste data sets, in line with a negative long-term trend.
2015-2020 population**	0.75%	5%	Accurate data, should be closely linked to WfH, but link not obvious in data
2010 - 2020 trend*	-0.19%	30%	Local data, one of the most accurate waste data sets, in line with a negative short-term trend.
2010-2020 population**	0.74%	5%	Accurate data, should be closely linked to WfH, but link not obvious in data
2015-2020 trend (England)***	0.56%	10%	National data, one of the most accurate waste data sets, in line with a negative long-term trend (until 2020, after which may be impacted by the pandemic), avoids local anomalies but

Trend	Trend figure	Weighting	Commentary
			also may not reflect local circumstances.
2010-2020 trend (England)***	0.32%	10%	National data, one of the most accurate waste data sets, in line with a negative short-term trend (until 2020, after which may be impacted by the pandemic), avoids local anomalies but also may not reflect local circumstances.
National estimates	-0.57%	10%	Based on the governments estimates of impacts on non-hazardous waste production of CPR and other measures to reduce waste. The latest estimates. However, measures not yet tested and may not apply equally locally.
<b>Average</b>	<b>0.08%</b>		
<b>Median</b>	<b>0.32%</b>		
<b>Weighted average</b>	<b>-0.28%</b>		

\* Based on data from WDF

\*\* Based on data from the ONS<sup>79</sup>

\*\*\* Based on data from DEFRA<sup>80</sup>

## Commercial and Industrial Waste

10.17 The difficulties in estimating C&I waste (discussed in earlier sections) will have an influence on the accuracy of any historic waste growth. The growth factors, their source, considerations and weightings are shown in Table 18. Business growth is included, as the number of businesses should be closely related to C&I waste quantities, though it is recognised that the types of businesses, as well as waste minimization efforts are likely to affect this potential correlation. The short-term local trend in C&I waste particularly stands out as a potential outlier (though it is somewhat reflected in the national trend), while the long-term trends will be more affected by changes in data collection methodologies. The long-term trends in C&I waste and the growth in businesses seem closely related, however the recent increase in C&I does not seem to follow a similar increase in businesses.

**Table 18 - Growth factors for C&I waste**

Trend	Trend figure	Weighting	Commentary
2015-2020 trend*	5.24%	35%	Local information, medium accuracy, potentially affected by changes in data collection, significant change in 2020
2015-2020 businesses**	2.35%	5%	Business numbers can be difficult to ascertain, different businesses produce very different

<sup>79</sup> Mid-Year population estimates by district, gender and single year of age 2001 to 2019, ONS - [www.hants.gov.uk/landplanningandenvironment/facts-figures/population/estimates-forecasts](http://www.hants.gov.uk/landplanningandenvironment/facts-figures/population/estimates-forecasts)

<sup>80</sup> Data source: UK Statistics on Waste, DEFRA, July 2021 update - [assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1002246/UK\\_stats\\_on\\_waste\\_statistical\\_notice\\_July2021\\_accessible\\_FINAL.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1002246/UK_stats_on_waste_statistical_notice_July2021_accessible_FINAL.pdf)

Trend	Trend figure	Weighting	Commentary
			waste quantities, consistent with long term trend, link with waste growth can be expected but is not clear from data
2010 - 2020 trend*	6.82%	15%	Local information, medium accuracy, potentially highly affected by changes in data collection over the years
2010-2020 businesses**	2.12%	5%	Business numbers can be difficult to ascertain, different businesses produce very different waste quantities, consistent with short term trend, link with waste growth can be expected but is not clear from data
2015-2020 trend (England)***	1.16%	15%	National data, 2017 onwards not directly comparable, avoids local anomalies but also may not reflect local circumstances
2010-2020 trend (England)***	0.55%	15%	National data, 2017 onwards not directly comparable, avoids local anomalies but also may not reflect local circumstances
National estimates	-0.57%	10.00%	Based on the governments estimates of impacts on non-hazardous waste production of CPR and other measures to reduce waste. The latest estimates. However, measures not yet tested and may not apply equally locally.
<b>Average</b>	<b>2.52%</b>		
<b>Median</b>	<b>2.12%</b>		
<b>Weighted average</b>	<b>3.28%</b>		

\* Based on data from WDI and WDF

\*\* Based on data from the ONS<sup>81</sup>

\*\*\* Based on data from DEFRA<sup>82</sup>

## Construction, Demolition and Excavation waste

10.18 Construction, Demolition and Excavation (C,D&E) waste arisings are largely derived from the development and redevelopment of infrastructure.

10.19 The PPG also suggests that Waste Planning Authorities should start from the basis that net arisings of construction and demolition waste will remain constant over time<sup>83</sup>.

10.20 The growth factors, their source, considerations and weightings are shown in Table 19. The local short-term trend shows a decline in arisings, which may be affected by year-on-year variations, however, is based on regionally agreed

<sup>81</sup> ONS UK business: activity, size and location -

[www.ons.gov.uk/businessindustryandtrade/business/activitysizeandlocation/datasets/ukbusinessactivitysizeandlocation](http://www.ons.gov.uk/businessindustryandtrade/business/activitysizeandlocation/datasets/ukbusinessactivitysizeandlocation)

<sup>82</sup> UK Statistics on Waste 2021, DEFRA -

[assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1002246/UK\\_stats\\_on\\_waste\\_statistical\\_notice\\_July2021\\_accessible\\_FINAL.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1002246/UK_stats_on_waste_statistical_notice_July2021_accessible_FINAL.pdf)

<sup>83</sup> Planning Policy Guidance - Waste (Paragraph: 033 Reference ID: 28-033-20141016) -

<https://www.gov.uk/guidance/waste>

methodology. Due to data availability issues, this methodology could not be used for a long-term trend though going back to 2015 resulted in a -5.24% growth rate. As this is a significant drop from the 2015-2019 -1.26% growth rate, potentially impacted by the first year of the Covid-19 pandemic in 2020, the weighting for this growth rate has been reduced. Local housebuilding was used as a proximate measure of construction activity, however the continual growth in dwellings does not match up with either the negative local trend or with the national assumption of constant inert waste.

**Table 19 - Growth factors for C,D&E waste**

Trend	Trend figure	Weighting	Commentary
2015-2020 trend*	-5.24%	30%	Local information, medium accuracy, affected by changes in data collection, 2020 may be anomalous.
2015-2020 housebuilding**	0.94%	20%	Accurate figures and in line with predicted housing growth, however housebuilding has increased, while inert waste has decreased so the link may not be there.
2010 - 2020 trend*			2010 to 2020 figures not comparable due to data unavailability, 2015 -2019 growth rate is - 1.26%.
2010-2020 housebuilding**	0.79%	10%	Accurate figures, however, housebuilding has increased, while inert waste has decreased, so the link may not be there.
2015-2020 trend (England)			Not available.
2010-2020 trend (England)			Not available.
National recommendation	0.00%	40%	National assumption, may not be reflective of local circumstances.
<b>Average</b>	<b>-0.88%</b>		
<b>Median</b>	<b>0.39%</b>		
<b>Weighted average</b>	<b>-1.30%</b>		

\* Based on data from WDI

\*\* Based on data from HCC on housebuilding<sup>84</sup> and dwellings<sup>85</sup>

## Hazardous waste

10.21 Hazardous waste data is considered fairly accurate though is a less transparent dataset (please see earlier sections for discussion). The number of businesses may also be linked to hazardous waste quantities as businesses are more likely to produce a variety of hazardous wastes than households.

<sup>84</sup> Large and Small site NET Completions 2011/12 to 2020/21, HCC - <https://www.hants.gov.uk/landplanningandenvironment/facts-figures/land-supply>

<sup>85</sup> Based on the estimated dwellings for 2020 (HCC) - <https://www.hants.gov.uk/landplanningandenvironment/facts-figures/population/estimates-forecasts>

10.22 The growth factors, their source, considerations and weightings are shown in Table 20. The short-term trend is a potential outlier, however without the data to calculate a similar national trend it is difficult to compare.

**Table 20 - Growth factors for hazardous waste**

Trend	Trend figure	Weighting	Commentary
2015-2020 trend*	2.68%	35%	Local information, less transparent data set, significant upward trend without clear explanation, some upward movement may be expected in 2020-2022 due to the pandemic, but that shouldn't continue to the same extent across the whole Plan period
2015-2020 businesses**	2.35%	10%	Business numbers can be difficult to ascertain, different businesses produce very different waste quantities, link with waste growth can be expected but is not clear from data
2010 - 2020 trend*	0.72%	35%	Local information, less transparent data set, may be better at showing a general trend than recent data
2010-2020 businesses**	2.12%	10%	Business numbers can be difficult to ascertain, different businesses produce very different waste quantities, link with waste growth can be expected but is not clear from data
2015-2020 trend (England)***			Not available
2010-2020 trend (England)***	2.72%	10%	(2010-2018 trend) National data, avoids local anomalies but also may not reflect local circumstances.
<b>Average</b>	<b>2.12%</b>		
<b>Median</b>	<b>2.35%</b>		
<b>Weighted average</b>	<b>1.91%</b>		

\* Based on data from HWDI

\*\* Based on data from the ONS<sup>86</sup>

\*\*\* Based on data from DEFRA<sup>87</sup>

### Waste growth by source

10.23 Putting together the growth figures from the sections above the predicted arisings are shown in Table 21. It should be stressed that due to the unknown overall accuracy no precision under 10,000 tonnes is implied, despite the calculations producing specific numbers.

**Table 21 - Predicted waste arisings in the Hampshire Plan area by 2040 (tonnes)**

Waste Type	Growth rate	2020	2030	2040
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<sup>86</sup> ONS UK business: activity, size and location -

<https://www.ons.gov.uk/businessindustryandtrade/business/activitysizeandlocation/datasets/ukbusinessactivitysizeandlocation>

<sup>87</sup> ENV 23 UK Statistics on Waste, DEFRA - UK statistics on waste - [www.gov.uk/government/statistical-data-sets/env23-uk-waste-data-and-management](http://www.gov.uk/government/statistical-data-sets/env23-uk-waste-data-and-management)

Waste Type		Growth rate	2020	2030	2040
Non-hazardous	WfH	-0.28%	745,734	725,442	705,701
	C&I	3.28%	2,489,202	3,437,393	4,746,771
Inert	C,D&E	-1.30%	2,306,577	2,022,915	1,774,137
Hazardous	Haz	1.91%	120,885	146,075	176,515
<b>Total</b>		1.35%*	5,662,398	6,331,825	7,403,125
<b>(Non-hazardous subtotal)</b>		2.64%*	3,234,936	4,162,835	5,452,472

\* Illustrative

10.24 It is estimated that by 2040, the Hampshire Plan area will be producing 7.4 million tonnes of waste per year, an increase of 1.5 million tonnes over 2020. Much of this increase is driven by the high growth rate estimated for C&I waste, so changes in this prediction based on newer data, as well as new and better data on C&I waste overall may lead to significant changes to the predicted figure. This makes annual monitoring of the changes in waste all the more important and may require the Plan to adopt a more dynamic approach to waste need.

## 11. Meeting the future waste management needs of Hampshire

### Duty to Cooperate

- 11.1 A number of 'Duty to Co-operate meetings' (a legal test requiring cooperation between local planning authorities to maximise the effectiveness of policies) were undertaken in 2021 and 2022 with adjoining Waste Planning Authorities; Isle of Wight Council, Dorset Council, Wiltshire County Council, West Sussex Council, Surrey County Council, Wokingham Borough Council, West Berkshire Council, Bracknell Forest Council and Oxfordshire County Council.

### Addressing the capacity gap

- 11.2 Establishing the existing waste capacities and predicting the waste arisings in 2040, allows the capacity gap for 2040 to be calculated and, with that, the waste facilities that the Plan needs to deliver.
- 11.3 In an effort to drive waste up the waste hierarchy, the focus of the Plan will be on recycling and recovery facilities, with an ambition of zero waste to landfill. Within this, recycling facilities are prioritised, so the aim is to provide a minimum of additional recycling capacity. Recovery facilities are also important in order to keep waste away from landfill, however as they are lower down on the waste hierarchy than recycling, the aim is to maintain their capacity, but have a cap so as to limit any potential discouraging effects on recycling facilities coming forward.
- 11.4 To predict the distribution of recycling and recovery facilities in the future a number of recycling scenarios were considered. 50% was considered as the absolutely minimum that the plan should be aiming for, as that is currently achieved by a number of planning authorities. However, this is not in line with government targets which are set at 65%. A more ambitious scenario of 80% was considered, however there are currently no clear mechanisms of what would encourage markets to reach those levels of recycling. Therefore, a 65% mid-range scenario was adopted, as being higher than what Hampshire is currently achieving with WfH, but in line with government targets and so, hopefully, a realistic ambition. It is notable that the 2020 targets from the Waste Management Plan for England<sup>88</sup> for recycling have not been met, however

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<sup>88</sup> Waste Management Plan for England, 2021 - <https://www.gov.uk/government/publications/waste-management-plan-for-england-2021>

there are a number of governmental proposals and work streams<sup>89</sup> that should enable increased waste prevention and recycling in the future, aiding in achieving these goals.

- 11.5 Despite the level of effective technology currently available to divert waste away from landfill, there is still a requirement for this option for dealing with wastes which cannot currently be recycled, or which are contrary to the input specification of recovery and pre-recovery treatment facilities such as RDF and SRF technology.
- 11.6 As addressed previously, there is limited current non-hazardous landfill capacity available within the Plan area. The South East Waste Planning Advisory Group (SEWPAG) has recognised that, with the early closing of landfill sites and the successful diversion of waste from landfill, there is likely to be a move towards regionally strategically landfill sites in the near future<sup>90</sup>.
- 11.7 In line with NPPW, the Waste Framework Directive and the Waste Management Plan for England, in order to drive waste away from landfill, the provision of landfill capacity has been discounted from capacity and all the predicted capacity gap is covered through recycling or recovery facility requirements. However, acknowledging that there still may be waste that needs to go to landfill and in order to fulfil Hampshire’s responsibility towards other authorities that may receive Hampshire’s landfill waste, provision is also made for Hampshire’s potential landfill needs. This has been calculated by estimating 5% of the total waste arisings until the end of the plan period minus the landfill void availability in 2019.

### Summary of need

- 11.8 Table 22 summarises the capacity gap for each waste type. While growth for WfH and C&I waste has been calculated separately, their capacity needs are combined as similar kinds of facilities will be able to deal with non-hazardous waste from both sources.

**Table 22 - Identified capacity requirements by 2040 (tonnes per annum)**

	<b>Non-hazardous</b>	<b>Inert</b>	<b>Hazardous</b>
Predicted arisings (2040, tpa)	5,452,472	1,774,137	176,515
Recycling capacity (2020, tpa)	1,555,955	1,426,167	28,742

<sup>89</sup> In particular the 25 Year environment Plan (DEFRA, 2018) and all associated consultation and legislation - <https://www.gov.uk/government/publications/25-year-environment-plan> --

<sup>90</sup> SEWPAG Joint Position Statement: Non-hazardous landfill in the South East of England, September 2018

	<b>Non-hazardous</b>	<b>Inert</b>	<b>Hazardous</b>
Recovery capacity (2020, tpa)	963,051	1,169,148	146,000
Transfer capacity (2020, tpa)*	1,915,366	307,505	111,785
Disposal capacity (2020, t)*	552,140	6,819,402	178
<b>Capacity gap (tpa)</b>	<b>2,933,466</b>	<b>-821,178</b>	<b>1,773</b>
Overall recycling gap (tpa)	1,988,152	-272,978	85,993
Overall recovery gap (tpa)	945,314	-548,200	-84,220
<b>Landfill need (t)**</b>	<b>3,888,266</b>		

\* Transfer capacity and disposal capacity are not counted in the capacity gap, the former because it may constitute double counting for capacity and the latter because it is at the bottom of the waste hierarchy

\*\* Landfill need is the total void required in tonnes, over the plan period (2020 to 2040)

11.9 It is estimated that almost 3 million tonnes of capacity are required for non-hazardous waste of which almost 70% will need to be recycling. This is more than the estimated 65% recycling rate as currently there is less recycling capacity than would be required to treat 65% of waste arisings.

11.10 For inert waste, there is sufficient capacity. However, if the ambition is to recycle 65% of inert waste in line with the ambitions for non-hazardous waste, there would need to be a re-balance of capacity. As noted in earlier sections, recovery capacity for inert waste is closely tied to other projects, including quarry infilling and considered a beneficial use of inert waste. However, other work<sup>91</sup> also shows that improvements could be made to the amount of recycled aggregates produced in Hampshire and further inert waste recycling capacity would contribute to these ambitions as well.

## **Types of waste facilities and locational requirements**

11.11 National guidance suggests plans should not generally prescribe the waste management techniques or technologies that will be used to deal with specific waste streams in the Plan area. Rather, the type or types of waste management facility that would be appropriately located on the allocated site or in the allocated area should be identified. Waste planning authorities should consider the size, type and mix of facilities when planning for waste infrastructure.

11.12 Summary tables are set out in 'Annex 1: Waste Site Location Categories' and provide information about seven broad types of waste management

<sup>91</sup> Minerals: Background Study - [Hampshire Minerals and Waste Plan - Partial Update | Hampshire County Council \(hants.gov.uk\)](https://www.hants.gov.uk)

development. The information has been collated using the following publications:

- Defra (2010) *Guidance on Applying the Waste Hierarchy*.
- Enviros Consulting for ODPM (2004) *Planning for Waste Management Research Study*.
- *National Planning Policy for Waste (2014) Appendix B*
- Guidance for developments requiring planning permission and environmental permits 2012 (Environment Agency)

11.13 For each of the broad types of development, it is necessary to ensure waste is managed at all levels of the waste hierarchy. For instance, facilities are necessary to support activities such as preparing for re-use<sup>92</sup> and recycling<sup>93</sup>, recovery and disposal.

11.14 Each of the broad types of development is associated with different potential impacts on the environment and communities which need to be appropriately managed. These planning issues are set out in the tables in 'Annex 1: Waste Site Location Categories'.

11.15 Guidance for both the siting and the locational requirements for waste management facilities are further provided by the following publications:

- National Planning Policy for Waste (Appendix B) (October 2014); and
- Guidance for developments requiring planning permission and environmental permits (October 2012)

11.16 The NPPW requires waste management infrastructure to demonstrate its suitability in terms of proximity to sensitive receptors, suitable transport infrastructure, the natural and historic environment, water quality and flood risk, landscape considerations and their potential to create nuisance through noise, light and odour emissions.

11.17 Guidance from the Environment Agency (2012) provides a detailed summary of considerations to be addressed when siting both composting and Anaerobic Digestion facilities and ERFs, and that a distance of 250m between the facility and nearby receptors should be demonstrated to address the potential impact relating to bioaerosols, odour, dust, noise.

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<sup>92</sup> May involve checking, cleaning or repairing recovery operations, by which products or components of such products that have become waste are prepared so that they can be re-used without any other pre-processing.

<sup>93</sup> Recycling includes the reprocessing of organic material i.e. composting (so long as it meets PAS/Quality Protocol standards).

11.18 The Guidance also advises the siting of waste facilities should avoid sensitive water bodies, in particular Source Protection Zones, and in relation to ERF technology, there should be consideration for existing Air Quality Management Areas (AQMA) and nearby areas for conservation, in particular Sites of Special Scientific Interest (SSSI) (2km buffer) and International sites (10km buffer).

### **Safeguarding of existing and proposed waste facilities**

11.19 A key element of providing sufficient waste management capacity is protecting the capacity that already exists and any that will be allocated through the HMWP Partial Update. This is done through the safeguarding of existing and proposed waste sites.

11.20 Safeguarding can protect sites from direct impacts, such as competing uses seeking to repurpose the land for non-waste uses, as well as from indirect impacts when inappropriate development is built near existing and proposed waste sites and threatens to prejudice their future working. Many of these potential impacts can be addressed through appropriate mitigation measures. In other situations, it may be necessary to consider relocating the capacity or demonstrating that it is no longer needed. In all cases suitable consideration will be required for the balance of need between waste facilities and other land uses.

11.21 National Policy provides the framework for the safeguarding of waste facilities. Safeguarding of waste sites is considered in more detail in the '*Minerals & Waste Safeguarding in Hampshire*' *Supplementary Planning Document*<sup>94</sup> which has been produced to support the preparation of the Plan.

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<sup>94</sup> Minerals and waste safeguarding in Hampshire SPD (2016) - <https://www.hants.gov.uk/landplanningandenvironment/strategic-planning/hampshire-minerals-waste-plan/supplementary-planning-documents>

## 12. Transporting waste

12.1 Hampshire has many close functional interrelationships with its neighbouring authorities. Waste produced in Hampshire is not necessarily managed within the Plan area. Some is likely to be transported elsewhere, through transfer stations, as previously referenced throughout the report, and at the same time waste may be brought into the area.

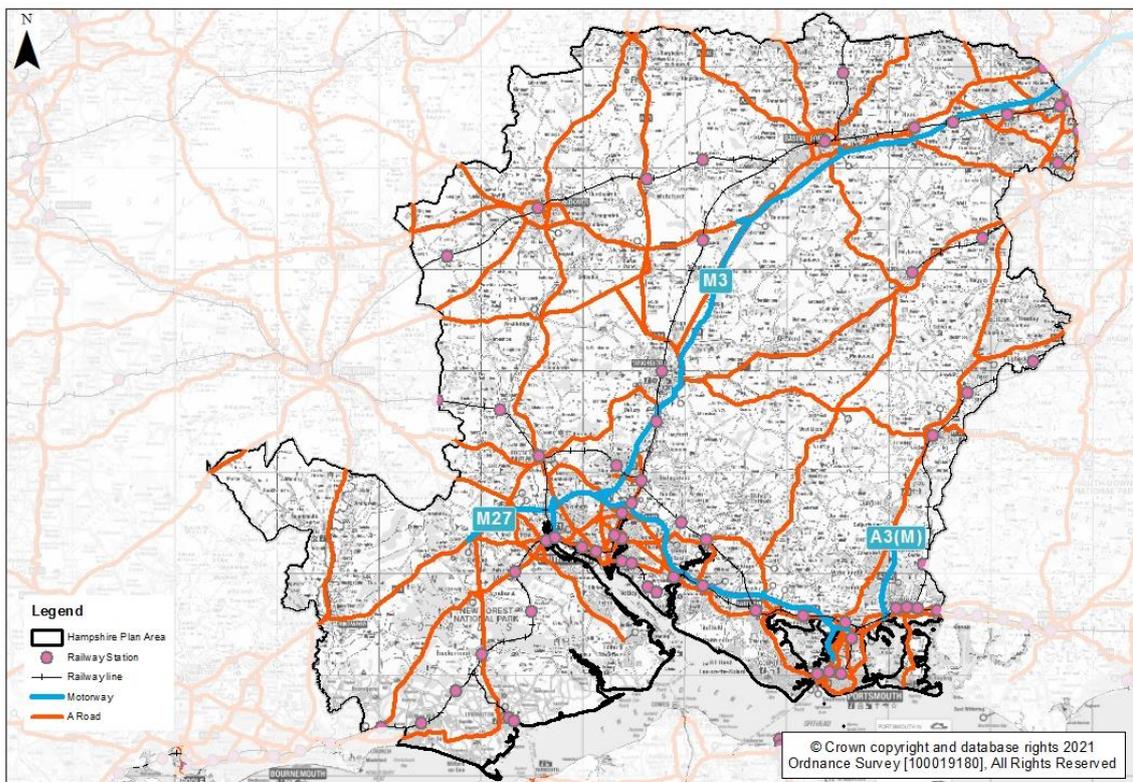
### Road

12.2 There are currently only three operational rail depots within Hampshire, and all are utilised for aggregate movements, therefore all of the waste within the Plan Area is transported by road.

12.3 There is a significant road network within Hampshire (see

12.4 Figure 13). Highways England has identified the Strategic Route Network as the M3, M27 and A3M in Hampshire which link with the M25 and A31, A27 and A3. Other key trunk and A-roads within Hampshire include the A31, A34 and A303 and the network of routes linking the main development centres and their hinterlands.

Figure 13 - Strategic transport routes in Hampshire



12.5 The routes taken will be dependent on the location of the facilities and the markets for the waste which can change over time.

- 12.6 HGV traffic is often regarded as one of the most visible features associated with waste facilities. This may include complaints made to waste planning authorities about the intimidation of large vehicles, danger, use of roads unsuitable for the size of vehicle, damage to verges, dust, spillages, mud from wheels, vibration and noise.
- 12.7 Conditions and legal agreements on transport management and HGV routing can be used to mitigate some of these impacts. Alternatives to road transport such as water and rail should be encouraged where feasible. Planning conditions can be specified relating to:
- site working hours;
  - direction vehicles turn out of the site;
  - routing of HGV's approaching sites;
  - provision of signposting;
  - sheeting of HGVs; and
  - wheel / vehicle washing facilities.

## Rail

- 12.8 Hampshire is well connected by rail but currently only contains three operational rail depots, which are majority dedicated to aggregates.
- 12.9 The currently adopted Hampshire Minerals and Waste Plan (2013) includes two allocated potential rail depot sites including:
- Basingstoke Sidings; and,
  - Micheldever Sidings.
- 12.9 Neither of the sites named above have come forward to application stage so far in the Plan Period, however, they have both been proposed for re-allocation in the Hampshire Minerals and Waste Plan Partial Update – Draft Plan. Furthermore, another three potential rail depots have been proposed for allocation within the Partial Update – Draft Plan, consisting of:
- Holybourne Rail Terminal;
  - Totton Sidings; and,
  - Andover Sidings.
- 12.10 The potential for rail connection at waste sites could reduce the need for local road impacts, although the likelihood of this opportunity is dependent on a number of factors including location of the site, access to the rail network and

cost. However, the possibility should be considered within the HMWP Partial Update should a future opportunity arise.

12.11 Permitting new rail depots within the Plan area would also reduce the transport of imported waste by road. As such, the potential for more rail depots should also be examined by the Plan or to encourage and enable such a proposal in the future.

12.12 Further information can be found in the Wharves and Rail Depots Topic Paper<sup>95</sup>.

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<sup>95</sup> Wharves and Rail Depots Topic Paper (2022) - <https://www.hants.gov.uk/landplanningandenvironment/strategic-planning/hampshire-minerals-waste-plan/minerals-waste-plan-partial-update-consultation>

## Annex 1: Waste Site Location Categories

A range of different waste management facilities have been classified based on the types of activities involved. These categories should be used to inform the suitability of the proposed allocations for waste activities.

### Category 1: Activities requiring open sites or ancillary open areas (possibly involving biological treatment)

<p><b>Description / overview</b></p>	<ul style="list-style-type: none"> <li>• Activities requiring space for storage of waste and machinery (e.g. recycling crusher and screener; vehicle dismantlers). Open sites can accommodate processing equipment (e.g. storage containers/skips, loaders for shipment).</li> <li>• Activities similar to some agricultural practices require large open spaces (e.g. composting plants using open air windrows (elongated piles)). Large areas of land are converted to hard-standing areas for the running of machinery, and soil and ground water protection measures.</li> <li>• Small proportion of the site may include building (e.g. for staff facilities).</li> </ul>
<p>Waste facilities</p>	<ul style="list-style-type: none"> <li>• Open windrow composting (composting sites typically require sites 2-3 hectares).</li> <li>• Aggregate recycling / construction and demolition waste processing (typically require 2 hectares or greater).</li> <li>• Processing incinerator bottom ash (IBA).</li> <li>• End of Life Vehicle (ELV) processing / scrap metal yard.</li> <li>• Soil hospital (remediation of contaminated soils).</li> <li>• Household Waste Recycling Centre (HWRC) or Civic Amenity Site (typically approximately 0.8 hectare site required).</li> </ul>
<p>Examples of waste streams handled</p>	<ul style="list-style-type: none"> <li>• Unsorted or segregated household waste.</li> <li>• Construction waste (soils, rubble etc).</li> <li>• Incinerator bottom ash.</li> <li>• Scrap vehicles.</li> <li>• Biodegradable municipal solid wastes and industrial wastes converted to composted products (garden type waste collected separately or co-collected with kitchen waste that is suitable for open windrow composting).</li> </ul>
<p>Appropriate locations for these activities (including site requirements)</p>	<ul style="list-style-type: none"> <li>• Typically located in rural or urban fringe sites (where access is good).</li> <li>• Close proximity to development areas (markets) is preferable (it is often not viable to transport materials such as recycled aggregate long distances).</li> </ul>

	<ul style="list-style-type: none"> <li>• Larger scale centralised composting facilities can be located at selected composting sites but smaller facilities can be located at landfill sites, sewage treatment works, industrial sites and transfer stations.</li> <li>• Small scale composting operations are also located on farms, due to their ability to exploit existing infrastructure, equipment, and labour associated with normal farm activities<sup>96</sup>.</li> <li>• Aggregate recycling sites and ELV sites can be located on industrial estates alongside heavier industrial uses (affordable sites of an adequate size can be very difficult to obtain for these uses however).</li> <li>• Aggregate recycling activities (usually temporary operations) can also be located at mineral workings and landfill sites and at demolition and construction sites where the spoil is to be used in the project itself.</li> <li>• Rail sidings can be used for activities whereby materials are loaded for shipment to market (transshipment of waste).</li> <li>• Household Waste Recycling Centres and Civic Amenity sites require good access from the primary road network and sufficient vehicle queuing space.</li> </ul>
Locations where activities would be unsuitable	<ul style="list-style-type: none"> <li>• Would not normally be compatible with a business park environment or an urban setting, or close to villages.</li> <li>• An appropriate distance of 'buffer' would be required between operations and sensitive receptors.</li> <li>• Should be located at appropriate distances from sensitive habitats (where there are potential dust and bioaerosol impacts).</li> </ul>

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<sup>96</sup> Most on-farm facilities possess waste management exemptions, and all community-run sites are exempt and so are restricted in size.

## Category 2: Activities requiring a mix of enclosed buildings/plant and open ancillary areas (possibly involving biological treatment)

<b>Description / overview</b>	<ul style="list-style-type: none"> <li>• Activities which involve temporary storage of waste usually consist of buildings where vehicles deliver waste either onto the floor, into bays, or into compaction units. Inert wastes in particular may be transferred to such sites and stored in the open.</li> <li>• Facilities may require extensive plant and specialist machinery.</li> <li>• For instance, hard standing areas to site recycling bins, skips and possibly compactors which can be fully / partially enclosed or open.</li> <li>• Unsorted waste may be stored in open bunkers or skips, housed within a building. Facilities may be co-located on sites (e.g. storage alongside a Waste Transfer Station).</li> <li>• Sites usually require a minimum of 0.5 hectares (but size depends on throughput).</li> </ul>
<b>Waste facilities</b>	<ul style="list-style-type: none"> <li>• Outdoor Waste Transfer Station (where space required for open storage).</li> <li>• Anaerobic digestion (AD) plant (small scale) (agricultural / rural locations) (unsorted waste, segregated waste and residual waste may be stored in open bunkers, possibly outside).</li> <li>• Enclosed composting systems<sup>97</sup>.</li> <li>• MBT (Mechanical Biological Treatment) plant (including biological treatment e.g. AD)<sup>98</sup>.</li> <li>• Sites for aggregating waste wood (sorting and processing).</li> <li>• Biological treatment of liquid waste and leachate (can involve enclosed buildings and tanks in open areas).</li> <li>• Wastewater Treatment Works.</li> </ul>
<b>Examples of waste streams handled</b>	<ul style="list-style-type: none"> <li>• Unsorted or segregated household or commercial waste.</li> <li>• Green waste.</li> <li>• Specialist wastes (e.g. liquid waste and leachate).</li> </ul>
<b>Appropriate locations for these</b>	<ul style="list-style-type: none"> <li>• Enclosed composting facilities are suited to areas allocated for employment / industrial uses in urban areas and are compatible with the more intensive</li> </ul>

<sup>97</sup> e.g. In-vessel composting (IVC) allows collected food waste to be composted on a large scale. IVC is not considered as environmentally beneficial as anaerobic digestion. For effective waste handling, a covered waste reception area, as well as hard standing for post composting and a covered storage area are needed.

<sup>98</sup> The term 'mechanical and biological treatment' (MBT) is commonly used to describe a hybrid process which combines mechanical and biological techniques used to sort and separate mixed household waste.

<p>activities (including site requirements)</p>	<p>B2 activities under the Use Classes Order.</p> <ul style="list-style-type: none"> <li>• Small scale AD plants (throughput of circa 5000 tonnes per annum) can be located on sites less than 0.5 hectares (Wastewater Treatment Works in particular can provide suitable locations).</li> <li>• Facilities to recycle agricultural waste can be located on farms (digestate from AD plants maybe used by neighbouring farms).</li> <li>• Options for locating wastewater treatment plant are very limited and are typically linked to existing infrastructure.</li> </ul>
<p>Locations where activities would be unsuitable</p>	<ul style="list-style-type: none"> <li>• An appropriate distance of 'buffer' would be required between operations producing bioaerosols / odours, and sensitive receptors.</li> <li>• Should be located at appropriate distances from sensitive habitats (where there are potential dust and bioaerosol impacts).</li> <li>• Facilities involving open-air activities with potential to generate noise would not normally be compatible with a business park environment, an urban setting, or close to villages.</li> </ul>

### Category 3: Activities requiring enclosed industrial premises (small scale)

<b>Description / overview</b>	<ul style="list-style-type: none"> <li>Waste developments are increasingly enclosed within new or existing structures, often sited on brownfield or industrial land; allowing for a large proportion of the perceived issues / problems to be mitigated for, i.e. dust and noise.</li> <li>'Small scale' enclosed premises are typically &lt;1-2 hectares (throughput of approx. 50,000 tonnes per annum).</li> <li>Usually located on industrial estates.</li> <li>Enclosing activities helps to mitigate against many noise / odour issues.</li> </ul>
<b>Waste facilities</b>	<ul style="list-style-type: none"> <li>Plant for Refused Derived Fuel production (small scale e.g. Mechanical Heat Treatment / Autoclaving)<sup>99</sup>. Autoclaving is a pressurised steam treatment process that can produce fuel pellets or pulp (by 'cooking' waste).</li> <li>Dis-assembly and re-manufacturing plant (Waste Electronic &amp; Electrical Equipment recycling).</li> <li>Enclosed waste transfer station (designed to process dry, separated recyclables).</li> <li>Small-scale recyclables processing facility.</li> </ul>
<b>Examples of waste streams handled</b>	<ul style="list-style-type: none"> <li>All types of non-hazardous waste typically handled (e.g. dry mixed recyclables).</li> <li>Inert waste may also be handled (e.g. sorting of construction waste, glass etc).</li> <li>Clean waste wood can be handled for recycling Waste Electronic &amp; Electrical Equipment.</li> </ul>
<b>Appropriate locations for these activities (including site requirements)</b>	<ul style="list-style-type: none"> <li>As activities can be similar to other industrial activity, these facilities can be located on land previously used for general (B2) industrial activities or E(g)(iii) uses (light industry appropriate in a residential area).</li> <li>The requirement for good transport infrastructure is essential and therefore, where possible, should be located close to the primary road network or have potential access to rail.</li> <li>Placement of sites near to the source of waste is increasingly important, by limiting movement of waste from source the impact of sites decreases.</li> </ul>
<b>Locations where</b>	<ul style="list-style-type: none"> <li>Sites with existing access issues should be avoided where possible.</li> </ul>

<sup>99</sup> Refuse-derived fuel, (RDF), is made by refining municipal solid waste in a series of mechanical sorting and shredding stages to separate the combustible portion of the waste. Either a loose fuel, known as fluff, floc or coarse RDF (c-RDF), or a densified pellet or briquette (d-RDF) is produced.

activities would be unsuitable	<ul style="list-style-type: none"><li>• Areas should be avoided where facilities seeking expansion of existing hardstanding would encroach into flood zones.</li></ul>
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#### Category 4: Activities requiring enclosed industrial premises (large scale)

<b>Description / overview</b>	<ul style="list-style-type: none"> <li>• Large buildings required to process mixed waste primarily via mechanical and / or biological means.</li> <li>• Various physical separation and waste reduction techniques can be used either as stand alone operations or in combination. Such activities are typically housed in an enclosed 'warehouse' type building.</li> <li>• 'Large scale' enclosed premises typically require site of 2-4 hectares (throughput can be up in excess of 100,000 tonnes per annum).</li> </ul>
<b>Waste facilities</b>	<ul style="list-style-type: none"> <li>• Materials Recovery Facility (MRF) (for dry recyclables).</li> <li>• Enclosed Anaerobic Digestion (AD) plant (large scale).</li> <li>• Enclosed MBT (Mechanical Biological Treatment) (large scale integrated plant)<sup>100</sup>.</li> </ul>
<b>Examples of waste streams handled</b>	<ul style="list-style-type: none"> <li>• Unsorted 'black bag' wastes (AD and MBT).</li> <li>• Residual household waste following doorstep separation of dry recyclables / green waste.</li> <li>• Residual waste following separation of recyclables / organics at another facility.</li> </ul>
<b>Appropriate locations for these activities (including site requirements)</b>	<ul style="list-style-type: none"> <li>• Large scale processing operations can take place in a range of buildings and at different locations. Preference should be given to industrial or degraded sites or sites on or close to existing waste management facilities.</li> <li>• E(g)(iii) / B2 and B8 use class designations may potentially be acceptable.</li> <li>• Sites need to be suitable for use by HGVs.</li> <li>• Consideration should be given to the potential for co-location with rail or barge transfer operations.</li> </ul>
<b>Locations where activities would be unsuitable</b>	<ul style="list-style-type: none"> <li>• Mixed household waste has the potential to cause additional nuisance from litter, odour and leachate. The planning and siting considerations will therefore be different to dry recyclables processing.</li> <li>• Locating sites close to residential development should be avoided. Some operations which involve mechanical processing and external loading and unloading of material may be inherently noisy which will also affect the choice of site.</li> </ul>

<sup>100</sup> The term 'mechanical and biological treatment' (MBT) is commonly used to describe a hybrid process which combines mechanical and biological techniques used to sort and separate mixed household waste, and produce a Refused Derived Fuel (RDF).

	<ul style="list-style-type: none"><li>• Sites with existing access issues should be avoided where possible.</li><li>• Areas should be avoided where facilities seeking expansion of existing hardstanding would encroach into flood zones.</li></ul>
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### Category 5: Activities requiring enclosed building with stack (small scale)

<b>Description / overview</b>	<ul style="list-style-type: none"> <li>Plants with a throughput of approx. 50,000 tonnes per annum.</li> <li>Smaller scale thermal treatment facilities are often designed to receive a specific component of the waste stream.</li> <li>Can offer a waste management option which is more likely to be accepted by local residents. Energy is generated.</li> <li>Often combustion chambers are fired up according to the need to respond to fluctuations in the supply of waste.</li> <li>Gasification is a thermal process in which carbon is converted to a syngas leaving a solid residue.</li> <li>Pyrolysis takes place either in the complete absence of oxygen or with limited oxygen.</li> <li>Require site of &lt;1-2 hectares.</li> </ul>
Waste facilities	<ul style="list-style-type: none"> <li>Pyrolysis and gasification technologies (advanced thermal treatment).</li> <li>Small scale incinerator.</li> <li>Small thermal plants (Combined Heat &amp; Power (CHP) plant)<sup>101</sup>.</li> <li>Small thermal treatment plants (furnaces or kilns) are also used to treat clinical wastes at hospital sites.</li> </ul>
Examples of waste streams handled	<ul style="list-style-type: none"> <li>Capable of handling a wide range of waste materials.</li> <li>Can be specifically designed to take a pre-processed feedstock or refuse derived fuel (RDF) (<i>see categories 3 and 4 above</i>).</li> <li>Can be used to treat clinical wastes at hospital sites.</li> <li>Unburned residue (bottom ash) is produced after combustible material is burnt.</li> <li>There are three products of pyrolysis: gas, liquid and a solid known as char.</li> </ul>
Appropriate locations for these activities (including site requirements)	<ul style="list-style-type: none"> <li>Localities which are as close as possible to the source of waste arisings in order to minimise transport.</li> <li>Sites which offer the potential for CHP and export of energy to businesses which would otherwise</li> </ul>

<sup>101</sup> The revised Waste Framework Directive sets a threshold above which energy efficient municipal waste incinerators can be classified as recovery facilities, and below which they continue to be classified as disposal facilities.

	<p>use fossil fuel sources. May also be considered as part of large scale residential developments.</p> <ul style="list-style-type: none"> <li>• Can be more suited to rural areas and areas of dispersed population centres than large-scale facilities.</li> <li>• Most small thermal plants have been designed to treat specific industrial waste streams as part of combined heat and power (CHP) arrangements. CHP may be connected to existing decentralised energy networks in town and city centres for instance.</li> <li>• Preference should be given to areas allocated for business use or in traditional commercial/industrial urban areas.</li> <li>• Existing waste sites should also be considered. Plants can be located alongside modern industrial buildings or as a part of business parks where CHP potential can be developed.</li> <li>• Pyrolysis and gasification- the scale of individual buildings and process components is likely to be compatible with most small / medium sized industrial activities.</li> </ul>
<p>Locations where activities would be unsuitable</p>	<ul style="list-style-type: none"> <li>• Should be located appropriate distances from sensitive habitats and other sensitive receptors (e.g. residential).</li> <li>• Safeguarding zones around aerodromes where building height is restricted should be avoided.</li> <li>• Pyrolysis and gasification facilities should avoid sites closer than 250m of housing etc where possible or demonstrate emission standards can be met where closer.</li> </ul>

## Category 6: Activities requiring enclosed building with stack (large scale)

<b>Description / overview</b>	<ul style="list-style-type: none"> <li>Plants with a throughput of approx. 200,000 tonnes per annum.</li> <li>Plants typically designed to handle large volumes of mixed waste following the 'mass combustion' approach.</li> <li>Designed to burn waste as efficiently as possible, usually recovering energy.</li> <li>The volume of waste needing disposal following treatment is reduced by approximately 90%, reducing the need for landfill.</li> <li>The whole process is typically contained within a single building.</li> <li>Legislation requires that all new and existing plants operate to extremely high environmental standards.</li> <li>Require site of 2-5 hectares.</li> </ul>
<b>Waste facilities</b>	<ul style="list-style-type: none"> <li>Energy Recovery Facility ('mass burn' with energy generation)<sup>102</sup>;</li> <li>Fluidised bed incinerators generally require some form of refuse derived fuel (RDF).</li> <li>Biomass plant (including proportion of waste biomass feedstock).</li> </ul>
<b>Examples of waste streams handled</b>	<ul style="list-style-type: none"> <li>Can receive between 90,000 and 600,000 tonnes of waste per year.</li> <li>Capable of handling a wide range of waste materials.</li> <li>Contaminated paper (e.g. with grease from food) can be more suited to energy recovery.</li> </ul>
<b>Appropriate locations for these activities (including site requirements)</b>	<ul style="list-style-type: none"> <li>Often located in or near urban areas.</li> <li>Compatible with the more intensive Class B2 activities under the Use Classes Order.</li> <li>Existing waste sites should also be considered.</li> <li>Should be located as close as possible to the source of waste arisings in order to minimise transport.</li> <li>Should be located on sites which offer the potential for combined heat and power (CHP) and export of energy to nearby businesses.</li> </ul>
<b>Locations where activities would be</b>	<ul style="list-style-type: none"> <li>Not normally be compatible with a hi-tech business park environment or a rural/semi rural setting.</li> <li>Should be located appropriate distances from</li> </ul>

<sup>102</sup> The revised Waste Framework Directive sets a threshold above which energy efficient municipal waste incinerators can be classified as recovery facilities, and below which they continue to be classified as disposal facilities

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unsuitable	sensitive habitats and other sensitive receptors (e.g. residential). <ul style="list-style-type: none"><li>• Safeguarding zones around aerodromes where building height is restricted should be avoided.</li></ul>
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## Category 7: Landfilling

<p><b>Description / overview</b></p>	<ul style="list-style-type: none"> <li>• Modern landfill practice requires a significant degree of engineering in order to contain tipped waste, control emissions and minimise potential environmental effects.</li> <li>• The majority of landfills are operated on a phased cell system whereby, as one cell is being filled, another is being prepared, and another is being completed / restored<sup>103</sup>.</li> </ul>
<p>Waste facilities</p>	<ul style="list-style-type: none"> <li>• Waste disposal mainly below ground level (infilling a void). Landraise, also generically referred to as landfill, refers to waste disposal mainly above pre-existing ground levels.</li> <li>• The primary by-products where biodegradable materials are disposed of are landfill gas and leachate (requiring ancillary operations including abstraction systems).</li> <li>• Inert waste can be used to restore minerals workings.</li> <li>• Sites may include a separate protective cell for hazardous materials.</li> </ul>
<p>Examples of waste streams handled</p>	<ul style="list-style-type: none"> <li>• Most types of non-hazardous waste may be disposed of via landfill although as disposal is increasingly discouraged, the future role of landfill is likely to be limited to the residues of other waste management operations such as incinerator ashes and materials recovery facility (MRF) rejects etc.</li> <li>• Hazardous wastes (although certain hazardous wastes are banned from landfill disposal).</li> <li>• Inert waste (non-biodegradable) is a restoration material and is not classed as landfilling.</li> </ul>
<p>Appropriate locations for these activities (including site requirements)</p>	<ul style="list-style-type: none"> <li>• Landfill sites sited where an existing void is available, such as in existing mineral workings.</li> <li>• The location of land-raise sites is less limited and may include derelict land, or extensions to existing landfills.</li> <li>• Landfill sites tend to be located in rural areas.</li> <li>• Range in size from just a few hectares (Ha) to over 100 Ha. The larger sites are more economically viable.</li> </ul>
<p>Locations where activities would be unsuitable</p>	<ul style="list-style-type: none"> <li>• Sites close to housing, commercial or recreational areas etc. should generally be avoided.</li> <li>• Areas overlying principal aquifers or close to potable waters should also be avoided.</li> </ul>

<sup>103</sup> Cells are holes which are lined with a waterproof liner and contain systems to manage landfill gas and leachate/ liquids. When complete the cells are covered with clay to seal the waste.

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	<ul style="list-style-type: none"><li>• Sensitive habitats should be avoided.</li><li>• Bird strike' zones around aerodromes should be avoided.</li></ul>
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## **Annex 2: SEWPAG Waste Capacity Methodology**

# SEWPAG Waste Capacity Methodology

Version 3, December 2021

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## SEWPAG Waste Capacity Methodology

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## 1. Introduction

- 1.1 Waste planning authorities (WPA) should plan for the sustainable management of waste, including commercial and industrial (C&I) waste<sup>104</sup>.
- 1.2 Furthermore, national policy<sup>105</sup> states that: *“Local planning authorities and county councils (in two-tier areas) are under a duty to cooperate with each other, and with other prescribed bodies, on strategic matters that cross administrative boundaries.”*
- 1.3 The management of waste has little regard to administrative boundaries, with waste arising in one authority’s area frequently being managed in another. Furthermore, in order to secure economies of scale, waste management facilities will often have a catchment which extends beyond the boundary of the planning area within which it is situated. This is recognised in the current<sup>106</sup> National Planning Policy for Waste that expects waste planning authorities to: *“plan for the disposal of waste and the recovery of mixed municipal waste in line with the proximity principle, recognising that new facilities will need to serve catchment areas large enough to secure the economic viability of the plant;”*. For these reasons the management of waste is a cross boundary strategic matter, the planning for which requires co-operation between waste planning authorities.
- 1.4 The National Planning Policy Guidance on Waste further states that *“there is no definitive list of actions that constitute effective cooperation under the duty. However, it may include:*
  - *gathering, evaluating and ensuring consistency of data and information required to prepare Local Plans. This may include joint commissioning of studies or the joint preparation of an evidence base [...]*
  - *jointly monitoring waste arisings and capacity.”*<sup>107</sup>
- 1.5 In line with the above, the South East WPAs are working together as part of the South East Waste Planning Advisory Group (SEWPAG) to produce an annual monitoring report (AMR) that will include waste arisings and capacities. The AMR includes estimates of site capacities and so a joint methodology is proposed.
- 1.6 Furthermore, this methodology can then also be used in Plan making.
- 1.7 The South East Waste Planning Advisory Group constituent authorities are:
  - Bracknell Forest Council
  - Brighton and Hove City Council
  - Buckinghamshire County Council
  - East Sussex County Council
  - Hampshire County Council (incorporating Southampton City, Portsmouth City and New Forest National Park Waste Planning Authorities)

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<sup>104</sup> National Planning Policy Guidance (Waste, para 013, 2014) - [www.gov.uk/guidance/waste](http://www.gov.uk/guidance/waste)

<sup>105</sup> Paragraph 24 and 25 of the National Planning Policy Framework February 2019

<sup>106</sup> The version of National Planning Policy for Waste referred to in this document was published on 16 October 2014: [www.gov.uk/government/publications/national-planning-policy-for-waste](http://www.gov.uk/government/publications/national-planning-policy-for-waste)

<sup>107</sup> National Planning Policy Guidance (Waste, para 015, 2014) - [www.gov.uk/guidance/waste](http://www.gov.uk/guidance/waste)

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  - Kent County Council
  - Medway Council
  - Milton Keynes Council
  - Oxfordshire County Council
  - Reading Borough Council
  - Royal Borough of Windsor and Maidenhead
  - Slough Borough Council
  - South Downs National Park Authority
  - Surrey County Council
  - West Berkshire Council
  - West Sussex County Council
  - Wokingham Borough Council

## 2. Context

- 2.1 Waste capacity is used in plan making and monitoring, in order to estimate the capacity gap between estimated and projected arisings and the available waste management capacity.
- 2.2 However, waste capacity is not routinely recorded or reported either on planning applications or within data that the Environment Agency collects.
- 2.3 To address this data gap, SEWPAG has designed a waste operator survey (see Appendix A) that can be sent out, ideally on an annual basis at a time coordinated with other SEWPAG authorities.
- 2.4 As there may be reasons for an authority not to conduct a survey, to need to verify the data provided in the survey or deal with operators that have not responded, a more detailed methodology has been developed to be able to consistently estimate capacities for all sites.
- 2.5 The use of a common survey and capacity methodology should make capacity figures across the region more comparable and, ultimately, suitable to put together for a regional picture (e.g. in the SEWPAG AMR).

## 3. Methodology

- 3.1 Waste capacity can be interpreted differently, but here it is defined as the maximum tonnage of waste that a site is considered to be capable of managing in a year, bearing in mind restrictions such as permits, planning permissions and conditions, physical and other properties of the site.
- 3.2 Waste capacity data can be sourced in a number of different ways. These are summarised in Table 1 below together with the relative positives and limitations for each approach. The approaches are listed in preference order, as the methods listed first should be more accurate, however cross referencing is recommended.

**Table 1 – Methodologies for estimating waste site capacity, in order of expected accuracy**

<b>Method</b>	<b>Description</b>	<b>Positives</b>	<b>Limitations</b>
Waste Operator Survey	Waste Operators can be contacted directly to ascertain site capacity.	Direct engagement with waste operators likely to result in the most up to date information.	Questions may be subject to interpretation and not all operators may respond.  Significant discrepancies from other sources, particularly EA WDI throughput, should be clarified.
Planning Permissions	Planning conditions and supporting information may provide capacity information.  Planning applications submitted through the Planning Portal require an annual throughput tonnage to be entered.	Most relevant waste management facilities should have planning permission.	May not always contain information on the waste capacity of a site and conditions and operations may change over time.
EA WDI throughputs	In most cases the Environment Agency Waste Data Interrogator will show how much waste was actually managed at each facility, with data that stretches back a number of years. Adding 20% to the past 5-year maximum amount could stand in for a capacity estimate.	Actual data on the ground, verified by the EA.	Does not always correlate with capacity as may vary for many reasons (operational, market, economy). An average uplift of any value will misrepresent sites that have more or less headroom. Changes in data collection or processing will affect comparisons.
Environmental Permits / Exemptions	Most waste facilities in England have EA waste permits which limit the amount of waste that can be managed on an annual basis.	A full data set from all permitted waste facilities which also take operational restrictions into account.	Some permits are based on a banding system and therefore might indicate a quantity that the site could not realistically reach.

Source: Based on the proposed Surrey County Council methodology, 2016, further developed by SEWPAG<sup>108</sup>

<sup>108</sup> Surrey County Council Capacity Estimate Scoping Statement, 2016 - [www.surreycc.gov.uk/\\_data/assets/pdf\\_file/0008/97442/2016-08-16-Background-Paper-4-Capacity.pdf](http://www.surreycc.gov.uk/_data/assets/pdf_file/0008/97442/2016-08-16-Background-Paper-4-Capacity.pdf)

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### *Waste Operator Survey*

- 3.3 Existing waste operators active within each WPA can be provided with surveys in the form of questionnaires, intended to be completed and returned to provide up to date and accurate information relating to the capacity of the waste sites. Waste operators should be most aware of the situation on site, whether the site is working at capacity and what operational limitations there are.
- 3.4 A key issue with this data is the low response rate some WPAs get. There are various ways in which response rate can be improved including: sending chaser emails, making chaser phone calls, involving the monitoring team and pre-filling parts of the form. There may be cases where planning conditions require sites to report annually.
- 3.5 Another issue may be the varying levels of understanding that waste operators can have of both capacity and waste terminology. Clarifications may be required.

### *Planning Permissions and application documents*

- 3.6 Planning permissions can also be reviewed for all waste sites. This is since capacity restrictions relating to annual throughput may be included as a planning condition to manage site operations with consideration towards surrounding amenity interests.
- 3.7 Planning permission limitations are part of what affects capacity so this is a useful source of information, though they are not always present or expressed in tonnages (for example the limitation may be in vehicle movements, necessitating information on the average tonnage of a vehicle load). They may be varied through further planning application, which may bring about a change to the capacity.
- 3.8 If no such condition was included by the planning authority when granting permission, the supporting statements provided by the applicant (usually the operator or agent on behalf) as part of the planning application can be reviewed. The supporting statements may include the proposed level of contribution in terms of waste management in order to justify the proposal.

### *EA WDI Throughput*

- 3.9 The Environment Agency Waste Data Interrogator (WDI) is the basis for most waste arisings methodologies as it is one of the most comprehensive and accurate sources of waste data on waste managed, albeit for permitted facilities only. However, it collects annual throughput data and not capacity data so can only represent an approximation of capacity.
- 3.10 This methodology takes the highest throughput figure of the past 5 years and adds a 20% overhead to it, to account for the various reasons why a site may not be currently making full use of its operational capacity. This will necessarily be an approximation and overestimate those sites working close to capacity and underestimate all other sites.
- 3.11 This methodology cannot be used for sites that have not been recently active. This may be a useful way of double checking whether sites are still operational. However, in planning terms

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as it is permitted capacity that gets counted, unless there is reason to believe that capacity has been permanently lost, in operational capacity should still be estimated and counted.

- 3.12 Additionally, the throughput figures can be used to double check capacity figures received through other methods.

### *Environmental Permits and Exemption Limits*

- 3.13 For completeness, and to fill any information gaps relating to capacity, Environmental Permits or Exemption Limits for all permitted/exempt sites within the Plan area can be requested from the Environment Agency. These permits/exemptions may include restrictions set by the Environment Agency as the regulatory authority on how much waste the respective waste facilities can receive. Restrictions on throughput and capacity are commonly subject to variations, therefore, along with reviewing permits, all associated variation notices accompanying permits may also need to be reviewed.

- 3.14 A key issue with permits/exemptions is that they may come in wide bands and so may overestimate site capacity.

### *Applying estimated capacity to existing waste sites*

- 3.15 Most sites accept a range of waste materials categorised by nature (non-hazardous, inert or hazardous). The information regarding restrictions on throughput do not generally provide a split between these material types. Therefore, the capacity level of an existing site may need to be compared to the throughput of the different waste types received in preceding years or based on reported distribution by the waste operator. This could provide a more realistic position of the amount of waste by type the waste site could manage and is a preferred method to splitting the known capacity level equally across each of the three waste types.

- 3.16 Landfill or recovery to land (developments which require inert input as part of restoration) void capacity may need to be distributed for calculation purposes. This can be done across the plan period to match up with other capacities that will be based on a tonnes per annum figure or it could be. Alternatively, a predicted trajectory can be shown, based on the estimated site closure date or on historic throughputs.

- 3.17 Ideally, capacities should be updated annually in line with monitoring and survey work.

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## Appendix 1 – Waste Operator Survey template

Hampshire Example



Hampshire Minerals and Waste Plan (2013)

### **Waste Management Operator Returns 2020 (calendar year)**

#### Guidance Notes

Before completing this form, please read the following guidance notes:

- Capacity and waste tonnage details will be published in the Annual Monitoring Report, usually as council wide averages so would not be treated confidentially. If this is an issue, please contact [planning.policy@hants.gov.uk](mailto:planning.policy@hants.gov.uk) to discuss.
- Please complete the form in as much detail as possible based upon information for the 2020 calendar year (1<sup>st</sup> January to 31<sup>st</sup> December).
- Please complete a separate form for each site.
- Where/if information has been pre-filled, please amend if incorrect.
- **Personal information given on this form will be used for the purpose of correspondence only.**

#### Site Details

Site Name	
Site Address	
Operator Name	
Respondent Name	
Email	
Phone No.	

**Status of Site (please tick or fill in, as appropriate)**

<b>Active</b> Operational site, fully developed and managing waste tonnages for all or part of 2020.	<b>Non-operational</b> Site fully developed but not actively managing waste tonnages during 2020.	<b>Not yet developed</b> Planning permission received but yet to commence waste operations.	<b>Permanently Closed in 2020<sup>109</sup></b> Waste management operations have ceased during 2020.	<b>Other (please specify)</b> E.g. Already closed by 2020, planning permission has lapsed etc.
If permanently closed, date the site closed:				

**Planning Status**

Planning permission number (if known)	
Permitted end date for site (if known and if permission is temporary, dd/mm/yyyy)	
End date for the operational capacity (if different from permission end date, dd/mm/yyyy)	
Environmental permit number(s)	
<b>Number of people employed by site waste activities (number of full-time equivalents)</b>	

**Description of Activities**

Please describe in a sentence or two the fundamental waste management operations which took place on site during 2020 (including the most relevant technologies). This relates to the processes you carry out on-site rather than any future processes which occur once the waste has left your site.

<sup>109</sup> Please continue to fill in this form with details for the period in 2020 while the site was operational.

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**Waste Management Site Capacity in 2020 (tonnes per annum)**

What is the maximum that your site could realistically manage under each category listed below, bearing in mind any restrictions (such as permits, planning conditions, traffic, space, hours of working etc.).

Capacity per Waste Type	Transfer	Recycling	Composting	Recovery (e.g. AD/Biomass/CHP/EfW <sup>110</sup> , please specify)	Other Recovery (e.g. SRF <sup>111</sup> /wood/on land <sup>112</sup> , please specify)	Landfill (also void remaining at end 2020)
1. Non-hazardous waste <sup>113</sup>						
1a. of which agricultural						
1b. of which CD&E <sup>114</sup>						
2. Inert waste						
2a. of which CD&E						
3. Metal						
4. Hazardous						
5. Radioactive						
6. Other (please specify)						

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<sup>110</sup> Anaerobic Digestion / Biomass used for energy production / Combined Heat and Power / Energy from Waste

<sup>111</sup> Solid Recovered Fuel

<sup>112</sup> Deposits in or on land where the activity is considered recovery, for inert waste only.

<sup>113</sup> This can be household, industrial or commercial

<sup>114</sup> Construction, Demolition and Excavation waste

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**Has anything changed during 2020? (e.g. new operator, site closure, site expansion)**

**Are there any planned future changes on the site?** (any future changes to your site e.g. early restoration, planned expansion that you think we should know?)

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### Data Protection and Freedom of Information

I agree that Hampshire County Council can hold contact details and related responses. I understand that these details will only be used in relation to Minerals and Waste Planning Policy matters.

To the best of my knowledge the information provided is currently an accurate representation of the waste managed on the site.

Signed..... Date.....

Please note that only signed and dated forms can be accepted (please type in for electronic forms).

This information is collected by Hampshire County Council, as data controller in accordance with the General Data Protection Regulations (2020). More information on how the Council manages data can be found at: <https://www.hants.gov.uk/aboutthecouncil/privacy>. Specific Privacy Notices for minerals and waste planning policy are also available:

<https://documents.hants.gov.uk/mineralsandwaste/StrategicPlanningPrivacyNoticeMineralsandWastePolicy.pdf>

The purposes for collecting this data are:

1. To assist in monitoring and reporting of waste management capacity in the plan area.
2. To contact you, if necessary, regarding the answers given on this form.

The above purposes may require public disclosure of any data received by Hampshire County Council on the form, in accordance with the Freedom of Information Act 2000 (as amended).

If you have any concerns regarding the processing of your data, please contact [planning.policy@hants.gov.uk](mailto:planning.policy@hants.gov.uk)

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## Annex 3: SEWPAG Proposed Methodology for Estimating Commercial and Industrial Waste Arisings in the South East (draft October 2021)

### 1. Introduction

- 1.1 Waste planning authorities should plan for the sustainable management of waste, including commercial and industrial (C&I) waste<sup>115</sup>.
- 1.2 Furthermore, national policy<sup>116</sup> states that: *“Local planning authorities and county councils (in two-tier areas) are under a duty to cooperate with each other, and with other prescribed bodies, on strategic matters that cross administrative boundaries.”*
- 1.3 The management of waste has no regard to administrative boundaries, with waste arising in one authority’s area frequently being managed in another. Furthermore, in order to secure economies of scale, waste management facilities will often have a catchment which extends beyond the boundary of the planning area within which it is situated. This is recognised in the current<sup>117</sup> National Planning Policy for Waste that expects waste planning authorities to: *“plan for the disposal of waste and the recovery of mixed municipal waste in line with the proximity principle, recognising that new facilities will need to serve catchment areas large enough to secure the economic viability of the plant;”*. For these reasons the management of waste is a cross boundary strategic matter, the planning for which requires co-operation between waste planning authorities.
- 1.4 The National Planning Policy Guidance on Waste further states that *“there is no definitive list of action that constitute effective cooperation under the duty. However, it may include:*  
- *gathering, evaluating and ensuring consistency of data and information required to prepare Local Plans. This may include joint commissioning of studies or the joint preparation of an evidence base [...]*  
- *jointly monitoring waste arisings and capacity.”*<sup>118</sup>
- 1.5 In line with the above, the South East Waste Planning Authorities are working together as part of the South East Waste Planning Advisory Group (SEWPAG) to produce an annual monitoring report (AMR) that will include waste arisings and capacities. The AMR includes estimates of C&I arisings and so a joint methodology is proposed.
- 1.6 Furthermore, this methodology can then also be used in Plan making.
- 1.7 The South East Waste Planning Advisory Group constituent authorities are:
- Bracknell Forest Council
  - Brighton and Hove City Council

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<sup>115</sup> National Planning Policy Guidance (Waste, para 013, 2014) - [www.gov.uk/guidance/waste](http://www.gov.uk/guidance/waste)

<sup>116</sup> Paragraph 24 and 25 of the National Planning Policy Framework February 2019

<sup>117</sup> The version of National Planning Policy for Waste referred to in this document was published on 16 October 2014: [www.gov.uk/government/publications/national-planning-policy-for-waste](http://www.gov.uk/government/publications/national-planning-policy-for-waste)

<sup>118</sup> National Planning Policy Guidance (Waste, para 015, 2014) - [www.gov.uk/guidance/waste](http://www.gov.uk/guidance/waste)

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  - Kent County Council
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  - Milton Keynes Council
  - Oxfordshire County Council
  - Reading Borough Council
  - Royal Borough of Windsor and Maidenhead
  - Slough Borough Council
  - South Downs National Park Authority
  - Surrey County Council
  - West Berkshire Council
  - West Sussex County Council
  - Wokingham Borough Council

## 2. Context

2.6 C&I waste is waste produced by the commercial and industrial sector, that is to say by businesses and organisations. The most relevant data comes from the Environment Agency Waste Data Interrogator (WDI) “(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”.<sup>119</sup>

2.7 The Department for Environment, Food & Rural Affairs (DEFRA) provides national waste statistics and notes that “C&I waste generation remains extremely difficult to estimate owing to data limitations and data gaps. As a result, C&I estimates for England have a much higher level of uncertainty than Waste from Households (or other Local Authority Collected Waste) and users should exercise caution in application of the figures and interpreting trends over time”<sup>120</sup>.

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<sup>119</sup> National Planning Policy Guidance (Waste, para 035, 2014) - [www.gov.uk/guidance/waste](http://www.gov.uk/guidance/waste)

<sup>120</sup> DEFRA, UK Statistics on Waste, March 2020 - [www.gov.uk/government/statistics/uk-waste-data](http://www.gov.uk/government/statistics/uk-waste-data)

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2.8 In order to estimate C&I waste arisings, DEFRA has produced a methodology in 2014, which was then updated in 2018<sup>121</sup>. This methodology adds inputs from the WDI, inputs outside the WDI (e.g. incinerators), inputs of recyclate to UK re-processors and exports of RDF and other materials. It then subtracts waste from households (not full amount), Chapter 19 processing residues fated for landfill, incineration or recovery and Chapter 16 wastes removed from metal recycling sites with fate transfer or treatment.

2.9 A number of SEWPAG authorities have attempted to use the DEFRA methodology in their Plan preparation activities. As this has not been wholly successful, some have modified the methodology while others have proposed the use of different methodologies.

2.10 In order to better align and to explore the opportunity for an agreed methodology these issues were considered at two detailed meetings and through follow up work.

### 3. Methodology options

3.1 A number of methodology options were considered and discussed.

3.2 Population Proportion: Uses DEFRA published data on C&I waste arisings and the Office of National Statistics (ONS) population data to calculate the population respective to the England population. The resulting proportion is then applied to the England C&I figures. This is a quick and simple methodology, that relies on national data which should be robust, however offers no local breakdown and relies on a relationship between population and C&I waste. It also uses population projection figures.

3.3 LACW Proportion: Similar to the population method however uses Local Authority Collected Waste (LACW) figures and not population. Provides comparable numbers and shows quite similar results to the population figures and has the same benefits and disadvantages. It uses yearly LACW data, however how this data is calculated could vary.

3.4 DEFRA methodology version 1: Use local figures where possible and apply a population proportion to the national figures where local ones are not available (e.g. for paper recycling). This methodology produces figures that are very low compared to other methodologies.

3.5 DEFRA methodology version 2: Use local figures where possible and compensate for the lack of national figures by: adding inputs from permitted facilities and energy from waste and removing LACW, C,D&E waste, mining, agricultural and hazardous waste, wastewater and landfill leachate and intermediate sites. Data from WDF and WDI. A detailed methodology that may be prone to local interpretation.

3.6 EWC methodology version 1: Use of the WDI data based on European Waste Catalogue Codes (EWC) codes to breakdown the waste data into percentages that are then applied to the more aggregated data from the WDI. Use of waste received and excluding transfer facilities. Removal of LACW based on data from WDF. A methodology with an initial set up outlay, with percentages that then loose accuracy with time.

3.7 EWC methodology version 2: Use of the WDI and a database tool to pick out the relevant EWC data directly. Removal of LACW based on data from WDF. A methodology with an initial set up outlay that may be prone to local interpretation.

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<sup>121</sup> DEFRA, Commercial and Industrial Waste Arisings Methodology Revisions for England, October 2018 - [www.gov.uk/government/statistics/uk-waste-data](http://www.gov.uk/government/statistics/uk-waste-data)

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3.8 Simplified WDI methodology: Use of HIC waste only as a proxy for C&I non-hazardous waste. Use of waste received and excluding transfer facilities. Removal of LACW based on data from WDF. A relatively simple methodology that does not distinguish between components of the C&I waste stream.

3.9 An additional issue to a number of the options is the apportioning of waste that is not coded to a particular authority. This can be “non-codeable” Berkshire, “non-codeable” South East or generally “non-codeable”. Four potential solutions were considered:

- a) Non-codeable entries are eliminated from the source data. This is within the remit of the Environment Agency, but there is no definitive timeline for this work.
- b) Non-codeable waste is apportioned according to the proportions of the coded waste. This is relatively equitable, but may not reflect the situation on the ground.
- c) Catchment areas are explored as to where the non-codeable waste might be coming from. This is more detailed, but also more resource intensive and uses assumptions as to how far waste might travel.
- d) That a more detailed investigation is undertaken at a regional level to explore the concentration of this type of waste at metal and vehicle reprocessing site, as well as the possibilities for double counting.

#### 4. Proposed methodology

4.1 Based on discussions and work by SEWPAG it is proposed that:

- a) A population proportion is used as a common reference point in plan making and other waste estimating.
- b) A common framework is used (outlined below) to estimate C&I waste arisings in greater detail, while still allowing for local application.
- c) That the non-codeable waste is explored in greater detail at a regional level.

4.2 Using the population proportion from the national England figures allows for a baseline with which to compare other calculations. Using a common starting point in this way should ensure that no waste is “lost” between authorities due the use of differing methodologies or local assumptions. It should ensure that efforts towards net self-sufficiency completely cover all the waste arisings in the region.

4.3 A common framework calculation is proposed based on the commonalities of several different methodologies. Having a common framework means that each authority has a starting point for waste analysis and is broadly compatible in the waste they are considering to their neighbours.

4.4 The framework calculation is:

Waste received at waste management facilities (step 1)

+ Waste received at incineration facilities (step 2)

+ Other additions (step 3)

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– Waste received at intermediary facilities (step 4)

– LACW (step 5)

– Other deductions (step 6)

4.5 Step 1 is based on data from the EA WDI, selecting waste received from the relevant authority at sites both within and outside the authority.

4.6 Step 2 is based EA incinerator tables, selecting waste received from the relevant authority both within and outside the authority. From the 2020 WDI onwards incinerator figures are included in the WDI.

4.7 Step 3 is other additions that the local authority is aware of or wishes to consider – e.g. sites exempt from environmental permits or an estimate of under reporting. One such addition is non-codeable waste which is discussed further below.

4.8 Step 4 is removing waste managed at intermediate sites in order to avoid double counting waste that will first go to intermediate site(s) and then go on to its final fate and be noted again.

4.9 Some methodology options for this step are:

- Excluding waste received at all transfer sites
- Excluding waste received at transfer sites within the relevant authority area (as waste received at transfer sites outside the area may then on be coded to that area)
- Identifying where there is a shortfall of waste received at downstream sites which is deemed to be C&I waste (using EWC codes) and adding this figure (usually very small)

4.10 Step 5 is the removal of LACW in order to get a clearer picture of how much waste is specifically from businesses and similar organisations. The LACW data is available from the WDF system, but it is worth noting that it is not fully compatible with the WDI data. This incompatibility means that at a national level the WDF data is adjusted downwards for this calculation.

4.11 One option for this process is as follows:

- Obtaining a detailed report from WDF for the reporting of Question 100 (Q100) for calendar year.
- Reviewing the sites in the detailed report to remove duplicates and those sites which are outside of England (and so will not be reported in the WDI).
- Determining if sites are within or outside the local authority.
- Matching the 'Facility Type' listed in WDF with the 'Site Category' and 'Site Type' in the WDI.
- Checking to ensure that that the quantity of LACW waste managed at each site (as reported through the WDF) corresponds to the tonnage declared as coming from the local authority in the WDI. Where the WDI value is less than the WDF value the WDI value is used.

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4.12 Step 6 is the removal of any other waste streams that the local authority is already considering or calculating in a different way or that would be handled by a different kind of facility to that likely to handle the rest of the C&I waste. This could include:

- CDE waste (locally calculated or based on EWC chapter 17 from the WDI data with any local adjustments)
- Mining and agricultural wastes (based on EWCs 01 and 02 01)
- Hazardous wastes (based on all EWCs suffixed with \* in the WDI data or use of the hazardous waste category in the WDI)
- Wastewater treatment and landfill leachate (based on EWC 19 07 03 in the WDI data or the appropriate waste treatment work sites)

4.13 The issues of non-codeable waste is not currently fully resolved, with several options available and due to the uncertainties surrounding the types of waste that are not coded correctly and their ultimate fate it is proposed that a study is performed at a regional level.

4.14 Finally, any methodology employed should recognise that waste data is imprecise and that more detailed calculations from national datasets are likely to have reduced accuracy.

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## **Annex 4: SEWPAG Construction, Demolition and Excavation Waste Arisings Methodology**

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# Estimating C,D&E Waste Arisings in the South East (2018)

*This report was produced by Surrey County Council for the South East Waste Planning Advisory Group in July 2020*

## 1. Introduction

### 1.1 Purpose

1.1.1.1 Waste planning authorities should plan for the sustainable management of waste, including construction/demolition waste (national Planning Practice Guidance for Waste, Para 013).

1.1.1.2 This report is concerned with estimating the quantity of Construction, Demolition & Excavation (C,D&E) Waste that arose in South East England for the year 2018. The area of South East England is made up by a number of Waste Planning Authority (WPA) areas. WPAs in South East England are part of the South East Waste Planning Advisory Group (SEWPAG).

1.1.1.3 South East Waste Planning Advisory Group constituent authorities:

- Bracknell Forest Council
- Brighton and Hove City Council
- Buckinghamshire County Council
- East Sussex County Council
- Hampshire County Council (incorporating Southampton City, Portsmouth City and New Forest National Park Waste Planning Authorities)
- Isle of Wight Council
- Kent County Council
- Medway Council
- Milton Keynes Council
- Oxfordshire County Council
- Reading Borough Council
- Royal Borough of Windsor and Maidenhead
- Slough Borough Council
- South Downs National Park Authority
- Surrey County Council
- West Berkshire Council
- West Sussex County Council
- Wokingham Borough Council

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1.1.1.4 The C,D&E waste arisings estimate for the South East will be included in the South East Annual

Monitoring Report to provide a picture of waste arisings and waste management capacity in South East England.

1.1.1.5 The nPPG states when quantifying construction and demolition waste arisings, arisings from any significant planned regeneration or major infrastructure projects over the timescale of the Plan may be relevant (Para 033). There is often lack of information and certainty about when, where and what type of waste such projects are likely to generate. The management of waste arising from major development and specific engineering projects is expressly planned for as part of the project. This is considered to still be the case, therefore it is considered to not be necessary to include arisings from any significant planned regeneration or major infrastructure projects as part of this exercise.

1.1.1.6 The NPPG for waste (Para 035) states that: "Planned provision of new capacity and its spatial distribution should be based on robust analysis of best available data" (emphasis added). It is considered that the information in this report represents the best available data.

## 1.2 Context

1.2.1.1 C,D&E waste can be defined as "The combined waste produced from earth moving activities, demolition of existing buildings/structures and construction of new buildings/structures. It mostly comprises brick, concrete, hardcore, subsoil and topsoil but can also include timber, metals and plastics." This report considers the total Construction, Demolition and Excavation (C,D&E) waste arising in the South East including the non-inert elements such as timber, metals and plastics.

1.2.1.2 The methodology applied for estimating C,D&E waste arisings uses a 'point of management' approach derived from the national Defra Methodology for Calculating C,D&E waste, applied for Waste Statistics and Waste Framework Directive reporting purposes<sup>1</sup>. The Defra method was adapted to regional circumstances in order to:

- More accurately reflect arisings used at exempt sites by attributing a tonnage estimate to actual numbers of a specific exemption registered in the South East. This has been informed by a survey of selected exemptions conducted by Surrey County Council in November 2016 and a WRAP report<sup>2</sup>
- Include waste converted into recycled aggregate based on the data reported in the South East Aggregates Monitoring (AM) Report<sup>3</sup>.

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<sup>1</sup> Department for Environment, Food and Rural Affairs (DEFRA), 2012, Methodology for estimating annual waste generation from the Construction, Demolition & Excavation (C,D&E) Sectors in England

<sup>2</sup> WRAP, 2013, Review of the Factors Causing Waste Soil To Be Sent To Landfill; 2007 to 2011.

<sup>3</sup> South East Aggregate Monitoring Report 2018

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1.2.1.3 Four years of C,D&E waste arisings data have been calculated for the South East using a 'point of management' approach. The previous estimates are listed in Table 1.

*Table 1 Historic estimates for the South East using a 'point of management' approach (tonnes)*

<b>Year</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
Construction, Demolition & Excavation Waste	13,219,025	15,342,851	14,511,779

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## 2. Methodology

### 2.1 Overview

2.1.1.1 The estimate of C,D&E waste arising in the South East is calculated using the equation below.

***C,D&E waste arisings =***

*Inputs to final fate (ultimate point of management) permitted facilities (landfill and recovery to land operations)*

***+***

*Outputs from intermediate permitted facilities (such as waste transfer sites)*

***+***

*Recycled aggregates*

***+***

*Inputs to final fate exemptions (facilities exempt from requiring an environmental permit for waste management)*

2.1.1.2 The method used to assess C,D&E waste arisings in the South East is a modified version of the national methodology. The national methodology was modified to reflect local circumstances, in particular:

- To include South East waste classed as C,D&E waste which was managed at permitted sites in 2018, as reported in the EA WDI, with steps taken to deduct possible double counting and, capture wastes that may have been reclassified as a consequence of processing through intermediate (e.g. transfer) sites.
- To include the quantity of waste that may have gone to sites in the South East registered under the U1 exemption for use in construction. This quantity has been established as follows:
  - Establish the population of registered exemptions by reference to the Environment Agency 'register of exemptions'.
  - Applying an estimated value for the quantity of waste managed at each U1 exemption based on previous research<sup>4</sup>.
- To include the quantity of waste converted to recycled aggregate in the South East. This value is the value set out in the South East Aggregates Monitoring Report (2018), which is generated from data submitted by MPAs in the South East, obtained from respondents to the annual survey of recycled aggregate producers operating within each Minerals and Waste Planning Authority (MWPA) area.

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<sup>4</sup> WRAP, 2013, Review of the Factors Causing Waste Soil To Be Sent To Landfill; 2007 to 2011

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2.1.1.3 The method uses information from several key sources as outlined in Table 2.

*Table 2 Data used for calculating Construction, Demolition & Excavation (C,D&E) waste arisings*

<b>Data Needed</b>	<b>Data source</b>
Waste dealt with by transfer and treatment facilities	Environment Agency Waste Data Interrogator
Waste sent for permanent deposit (including landfill and recovery to land)	Environment Agency Waste Data Interrogator
Waste managed under exemptions	Environment Agency public register of exempt sites WRAP 2013 Estimate
Waste recycled as aggregate	Aggregates Monitoring Report for the South East

2.1.1.4 It should be noted that this method for estimating C,D&E arisings was originally undertaken at the scale of WPA area rather than for the South East. Examination of C,D&E waste input to sites in Surrey WPA in 2018 (WDI) reveals that some sites reported some of their waste inputs as coming from areas not coded down to WPA level.

2.1.1.5 This meant there was a risk of waste inputs to Surrey sites, arising within Surrey, not being counted. If this “unattributed” waste value is ignored, it could risk underestimating C,D&E waste arisings in the WPA area.

2.1.1.6 It is possible to quantify the “unattributed” waste value using the WDI. A decision can then be made about how this information is used. A proportion of this arisings value can be attributed to the relevant WPA area. A variety of methods can be used to derive proportions, each of which involves making assumptions.

2.1.1.7 The step in the methodology to account for this “unattributed waste” was not applied when calculating C,D&E waste arisings for the South East, as waste inputs to sites in the South East are coded with an Origin Region in the WDI.

2.1.1.8 Sections 2.2 to 2.8 of this report provide a detailed walk-through of the methodology and calculations. The key steps in the methodology (following the equation above) are summarised below.

## Method summary

### Step 1

Calculate inputs, arising in the South East, to all permitted facilities applying select EWC codes for C,D&E waste (Codes: 17 – all, 19 12 09, 20 02 02).

- Deduct EWC codes relating to hazardous waste (counted elsewhere) (codes suffixed \*)
- Adjust figures to account for intermediate facilities by:
  - Obtaining the values for waste going to its final fate or leaving the South East (these figures are taken as final – see equation)
  - Deduct inputs of C,D&E waste to 'Transfer' 'Metal Recycling Facilities' and 'Treatment' sites in the South East whose outputs are managed at 'downstream' permitted sites to avoid double counting

Add the proportion of Ch.19 outputs from intermediate permitted facilities in the South East that are deemed to have been C,D&E inputs from the South East.

### Step 2

Obtain the figure for recycled aggregate for the year of interest based on the SE AM Report.

### Step 3

Calculate the quantity of C,D&E waste managed at exempt sites.

### Step 4

Sum the results of the above steps to gain an overall figure.

## Step 1

### 2.2 Inputs to permitted facilities

2.2.1.1 C,D&E waste is taken to be comprised of wastes falling within the following List of Waste/European Waste Catalogue codes:

- Chapter 17 (Construction & Demolition Waste)
- 19 12 09 (minerals such as sand, stones)
- 20 02 02 (soil and stones).

2.2.1.2 C,D&E waste managed by 'Recovery to Land' is waste reported as being managed at sites which are registered as in the 'on/in land' and 'use of waste' reporting categories of the WDI. This is waste deposited for beneficial purposes such as landscape and/or amenity improvements.

2.2.1.3 Based on information extracted from the EA WDI using the codes above, the total amount of C,D&E waste which arose in the South East and that was managed through permitted facilities amounted to 16,074,034 tonnes in 2018.

Table 3 Management of C,D&E Waste from The South East through Permitted Sites. Source WDI 2018

	Landfill	Recovery to Land	Transfer	Treatment	Metal Recycling Sites	Subtotal
South East arisings managed at South East sites	5,019,798	1,690,031	2,440,937	4,765,373	190,522	14,106,661
South East arisings managed at sites outside The South East	913,807	55,366	350,610	531,650	115,940	1,967,373
<b>Total</b>	<b>5,933,605</b>	<b>1,745,398</b>	<b>2,791,547</b>	<b>5,297,023</b>	<b>306,462</b>	<b>16,074,034</b>

(Cells shaded in orange are to be determined – see section 2.4 below)

## 2.3 Deductions for hazardous waste

2.3.1.1 Hazardous waste is discounted from the C,D&E waste arisings calculations as the requirements for management of this waste stream are accounted for separately. Therefore the hazardous waste component needs to be deducted from the totals in Table 3. The hazardous waste component was identified using all C,D&E waste codes (Chapter 17, 19 12 09, 20 02 02) suffixed by “\*” in the WDI. A total of 211,713 tonnes of hazardous waste was deducted (149,575 tonnes of which was managed at sites outside the South East).

2.3.1.2 The quantities remaining after this deduction are displayed by management route in Table 4 and the result is that the quantity of waste arising is reduced to 15,862,321 tonnes.

Table 4 Management of C,D&E Waste from the South East through Permitted Sites excluding hazardous waste component Source WDI 2018

	Landfill	Recovery to Land	Transfer	Treatment	Metal Recycling Sites	Subtotal
South East arisings managed at South East sites	5,008,070	1,690,031	2,394,918	4,761,010	190,493	14,044,523
South East arisings managed at sites outside the South East	841,127	55,366	339,014	466,355	115,935	1,817,798
<b>Total</b>	<b>5,849,197</b>	<b>1,745,398</b>	<b>2,733,932</b>	<b>5,227,366</b>	<b>306,428</b>	<b>15,862,321</b>

(Cells shaded in orange are to be determined, see section 2.4 below)

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## 2.4 Adjustments for intermediate facilities

### 2.4.1 Final fate

2.4.1.1 Waste managed by Landfill and that managed through 'Recovery to Land' involve its permanent deposition. It is therefore regarded as having reached its final fate and so the input tonnage values from the South East are taken as final values.

2.4.1.2 The value for the C,D&E waste managed 'outside of the South East' is also taken as a final value regardless of fate. The result is that 8,515,899 tonnes can be accounted for at this stage in the calculation (Table 5).

*Table 5 Management of C,D&E Waste from the South East through Permitted Sites excluding hazardous component final fate accounted for (tonnes). Source WDI 2018*

	Landfill	Recovery to Land	Transfer	Treatment	Metal Recycling Sites	Subtotal
South East arisings managed at South East sites	5,008,070	1,690,031	?	?	?	6,698,101
South East arisings managed at sites outside South East	841,127	55,366	339,014	466,355	115,935	1,817,798
Total	5,849,197	1,745,398	339,014	466,355	115,935	8,515,899

### 2.4.2 Deduct movements of waste arising in the South East to intermediate sites within the South East

2.4.2.1 Having established the quantity of the South East's C,D&E waste going to a final fate or leaving the South East as 8,515,899 tonnes (Table 5), the South East's C,D&E waste managed at intermediate sites in the South East (i.e. Transfer, Treatment and MRS sites) also needs to be accounted for.

2.4.2.2 Inputs to intermediate sites need to be examined to ensure that the final value does not:

- Double count inputs to intermediate sites (e.g. transfer sites) that subsequently get managed at another site as South East waste (as the intermediate site is located in the South East) and hence over report arisings; nor
- Miss C,D&E waste that may have been reclassified following processing through these sites and hence under report arisings. This can occur where waste leaving an intermediate site is reclassified as a waste from a waste management process (under 'Chapter 19' other than 19 12 09 which is already counted).

2.4.2.3 This is explained by the following example:

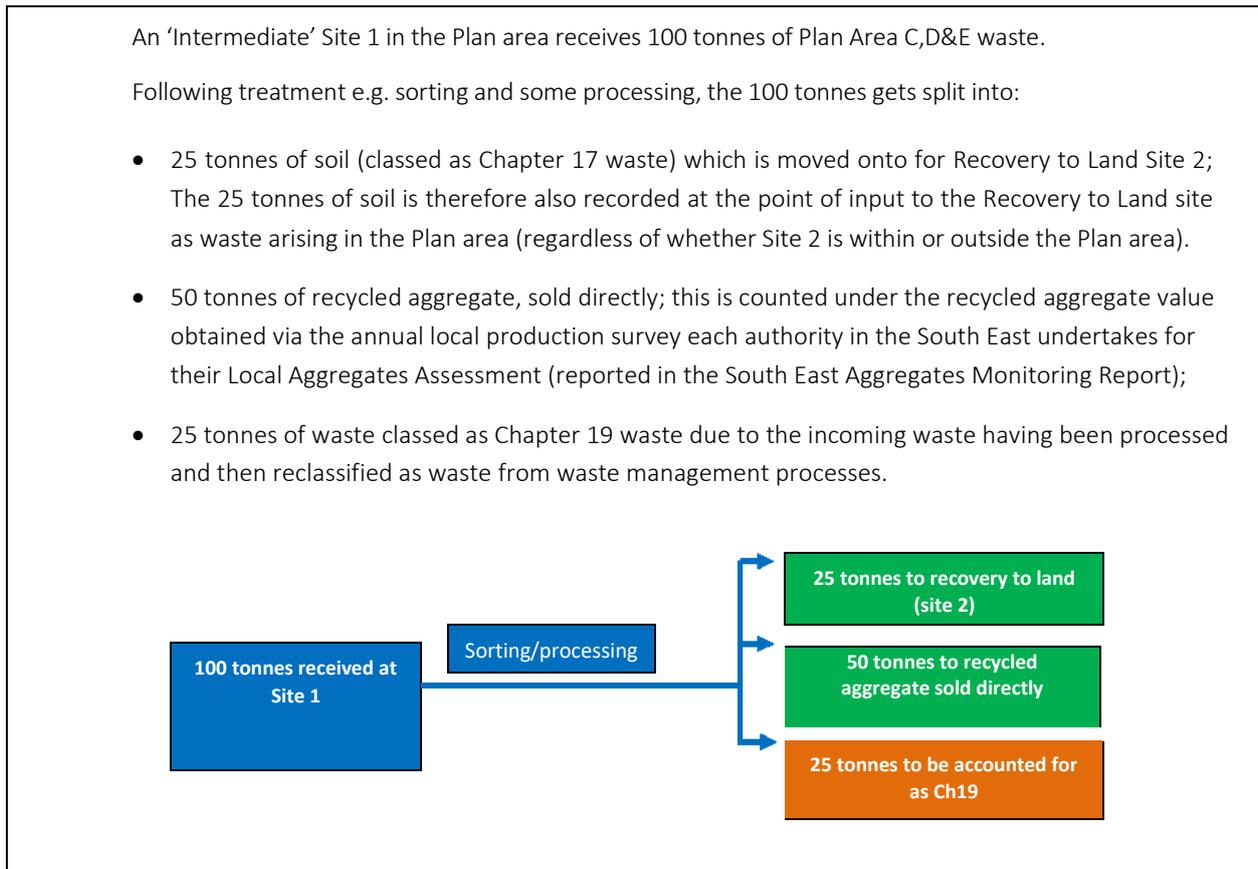


Figure 1 Diagram of intermediate site outputs

2.4.2.4 By adopting this approach, inputs of South East C,D&E waste to intermediate sites may be disregarded as this material will be accounted for at its subsequent/final fate. This is regardless of whether it is received at another permitted site as waste under a C,D&E waste code from the South East, as waste under a non C,D&E waste code from the South East or as waste that ceases to be waste at the intermediate site.

2.4.2.5 The element of Chapter 19 waste coming from intermediate sites located in the South East that may have arisen from C,D&E waste coming from the South East is estimated as follows:

- identifying each intermediate site located in the South East that received C,D&E waste from the South East that also reported Chapter 19 waste as an output; and then.
- considering the balance in tonnage between C,D&E waste received and C,D&E waste removed; and then
- where there is a shortfall between outputs and inputs, estimating the proportion of the Chapter 19 output that might be attributed to the input of C,D&E waste from the South East, based on the proportion of total C,D&E waste received at the site that arose in the South East.

2.4.2.6 Hence this calculation requires answering the following questions:

- 
- Does the intermediate site receive C,D&E waste from the South East?
  - Does the total of C,D&E waste outputs amount to less than the C,D&E waste inputs?
  - Does the site have outputs classed under Chapter 19?
  - What is the difference/shortfall and might that be made up by outputs classed under Chapter 19?

### 2.4.3 Transfer Sites

2.4.3.1 The method set out in above (section 2.4.2) was applied to sites in the South East identified as 'transfer' facilities in the WDI 2018 which both received C,D&E waste from the South East and produced Chapter 19 waste.

2.4.3.2 Where outputs from transfer sites located in the South East and receiving C,D&E waste from the South East, were less than the declared input of C,D&E waste to these sites this was taken to indicate one of two situations. Either incoming C,D&E waste is being converted into product such as recycled aggregate produced from hardcore (this product does not need to be declared on site returns) or incoming C,D&E waste is being reclassified as a different waste type following processing (normally EWC code 19 12 12). While the former situation would indicate the South East C,D&E waste had met its final fate within the South East (no longer requiring management as a waste and counted as such in recycled aggregate production data), the latter case would indicate it has gone for onward management, either within the South East or outside the South East as a non C,D&E waste.

2.4.3.3 In order to establish which of either situation might explain the shortfall indicated, the proportion of the Chapter 19 output that may be attributed to the South East, and hence be counted as 'making-up' for any shortfall identified, must first be determined. This is done by considering the origin of the C,D&E waste received at an individual site level in the WDI data and then calculating the percentage of C,D&E waste received arising from the South East. This percentage is then applied to the Chapter 19 output value to arrive at a value for the proportion of Chapter 19 output that may be attributed to the South East. Where the Chapter 19 output value exceeds the shortfall, only the value equivalent to the shortfall has been used. This is shown in Appendix 1.

2.4.3.4 This gives a total addition of Chapter 19 waste of 662,055 tonnes (Appendix 1).

### 2.4.4 Treatment sites

2.4.4.1 Applying the same method to facilities identified as 'treatment' facilities in the South East (from the WDI 2018) which both received C,D&E waste from the South East, and produced Chapter 19 waste gives a total addition of Chapter 19 waste from treatment sites of 593,349 tonnes (Appendix 1).

### 2.4.5 Metal Recycling Sites

2.4.5.1 The method set out in paragraphs 2.4.2.5 and 2.4.2.6 was applied to Metal Recycling Sites. The results are shown in the table below.

Table 6 Metal Recycling facilities in the South East, receiving C,D&E waste from the South East and producing Chapter 19 waste (quantities are in tonnes) (source WDI 2018)

WPA	Facility name	C,D&E Input	C,D&E Output	Difference <sup>5</sup>	Chapter 19 Ouput	% C,D&E input from Plan Area	Chapter 19 Figure to include <sup>6</sup>
Berkshire	A4 Metal Recycling Ltd	2,627	-	2,627	13,649	96%	2,518
Buckinghamshire	A S M Metal Recycling Ltd	32,651	8,820	23,831	57,456	53%	12,743
Buckinghamshire	Asm Metal Recycling Ltd	27,417	719	26,697	42,073	71%	18,943
East Sussex	Greystone Quarry	6,987	376	6,611	22,049	100%	6,611
East Sussex	H Ripley & Co Limited	23,936	20,819	3,116	5,653	76%	2,374
Kent	H Ripley & Co	17,660	10,752	6,909	9,108	89%	6,128
Oxfordshire	Metal Salvage Ltd	4,504	534	3,970	3,860	100%	3,860
West Sussex	Adversane Lane, Billingshurst - EPR/HP3294HV	10,174	7,035	3,138	11,603	89%	2,795
West Sussex	Elliott Metals	2,344	1,482	862	1,258	100%	862
<b>Total</b>							<b>56,833</b>

<sup>5</sup> Difference between C,D&E Input and C,D&E Output

<sup>6</sup> multiply % by difference or Ch19 Output, whichever is lower

## 2.4.6 Outcome

2.4.6.1 The result of the C,D&E waste arisings following adjustments for South East sites classed as transfer, treatment and metal recycling in the WDI 2018 and which received C,D&E waste from the South East are shown in Table 7.

*Table 7 Management of C,D&E Waste from The South East through Permitted Sites excluding hazardous component final fate accounted for [Source WDI 2018]*

	Landfill	Recovery to Land	Transfer	Treatment	Metal Recycling Sites	Subtotal
South East arisings managed at South East sites	5,008,070	1,690,031	662,056	593,349	56,833	8,010,339
South East arisings managed at sites outside South East	841,127	55,366	339,014	466,355	115,935	1,817,798
Total	5,849,197	1,745,398	1,001,069	1,059,704	172,768	9,828,137

## Step 2

### 2.5 Recycled Aggregates

2.5.1.1 Each year the South East Aggregate Working Party (SEAWP) prepares a Aggregates Monitoring Report which reports on how much aggregate is produced and sold and how this relates to the demand for aggregate in the South East. As part of this, each Mineral Planning Authority conducts an annual survey of recycled aggregate producers of the quantity of C,D&E waste processed and recycled aggregate sold. The values for Recycled Aggregate sales reported in these surveys have been included in the calculation of C,D&E waste arising overall.

2.5.1.2 The value presented for recycled aggregate sales in the latest Aggregates Monitoring report<sup>7</sup> is 4,184,000 tonnes for 2018. The figure for each Authority is shown in the table below.

*Table 8 Recycled aggregate sales in the South East 2018 (source: SE Aggregates Monitoring Report 2018, p.19)*

WPA	Recycled aggregate (tonnes)
<b>Berkshire</b>	460,000
<b>Buckinghamshire and Milton Keynes</b>	95,000
East Sussex	627,000
Hampshire	594,000
Isle of Wight	94,000
Kent and Medway	738,000

<sup>7</sup> Aggregates Monitoring Report 2018 - [www.hants.gov.uk/landplanningandenvironment/seeawp/seeawpdocuments](http://www.hants.gov.uk/landplanningandenvironment/seeawp/seeawpdocuments)

Oxfordshire	292,000
Surrey	990,000
West Sussex	294,000
Total	4,184,000

### Step 3

## 2.6 Exemptions

2.6.1.1 The national Planning Practice Guidance (nPPG) advises that: "...when forecasting construction and demolition waste arisings, the following may be relevant:

- 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." (emphasis added) *Paragraph: 033 Reference ID: 28-033-20141016*

2.6.1.2 Activities registered under Paragraph U1 (use of waste in the construction) are considered to account for the most significant quantities of C,D&E waste managed through exempt activities. To estimate the quantity of C,D&E waste arising in the South East that may be managed by activities registered in the South East under paragraph U1 the number of registered U1 exemptions registered in 2018 was used to identify the population. This amounted to 1,372 in 2018. A report produced for WRAP<sup>8</sup> estimated a mean value for the quantity of waste managed through an activity registered under U1 as 600 tonnes. Therefore the estimate of overall tonnage managed through exempt sites amounts to 823,200 tonnes.

*Table 9 No. of and value (tonnes) of waste managed at exempt sites registered in the South East*

Year	No. exemptions	Tonnes attributed to exempt sites
2018	1,372	823,200

<sup>8</sup>WRAP, 2013, Review of the Factors Causing Waste Soil To Be Sent To Landfill; 2007 to 2011

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## Step 4

### 2.7 Overall Figure

2.7.1.1 The result of applying the adapted national methodology was an estimated 14,835,337 tonnes C,D&E waste arising in the South East in 2018 (Table 10).

*Table 10 C,D&E Waste arising in the South East excluding hazardous component Source WDI 2018*

	Landfill	Recovery	Transfer	Treatment	Direct Recycling <sup>9</sup>	Total
Total C,D&E waste arisings in the South East, 2018	5,849,197	1,745,398	1,001,069	1,882,904	4,356,768	14,835,337

2.7.1.2 Comparing the result for 2018 with data for previous years shows a small increase in C,D&E waste arisings in the South East from 14,511,779 in 2017 to 14,835,337 in 2018 (Table 11), and an overall increase from 2015 through to 2018.

*Table 11 Management of C,D&E Waste from the South East through Permitted Sites excluding hazardous component final fate accounted for Source WDI 2018*

	2015	2016	2017	2018
Total C,D&E waste arisings	13,219,025	15,342,851	14,511,779	14,835,337
% Annual difference		14%	-6%	2%

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<sup>9</sup>Including Recycled Aggregates and Metal Recycling sites.

## Appendix 1

### Transfer Sites

WPA	Facility name	C,D&E waste input	C,D&E waste output	Difference	Chapter 19 waste output	% C,D&E received from the South East	C,D&E figure to include
Buckinghamshire	Hawes Skip Hire Ltd	40,991	13,112	27,880	31,052	100%	27,880
Buckinghamshire	The Spinney Recycling Centre ( West)	20,814	15,934	4,880	2,873	100%	2,873
Buckinghamshire	Camiers Group Limited	11,408	2,513	8,895	6,208	45%	2,820
Buckinghamshire	Mayling Recycling Limited	5,821	3,397	2,425	2,071	18%	380
East Sussex	Woodland House	16,105	4,097	12,008	9,164	100%	9,164
East Sussex	Haulaway Limited	40,868	10,625	30,243	5,795	100%	5,795
East Sussex	Hazelbank	8,957	5,114	3,842	4,041	100%	3,842
East Sussex	P J Products Ltd	46,977	44,075	2,902	7,145	100%	2,902
East Sussex	Potts Marsh	41	-	41	37,344	100%	41
Hampshire	Havant Waste Transfer Station	25,650	-	25,650	27,252	100%	25,650
Hampshire	Broadcut, Fareham	33,768	4,344	29,424	23,283	100%	23,283
Hampshire	The Waste Centre	85,126	34,304	50,822	17,411	100%	17,411
Hampshire	Lynchford Lane Materials Recycling Facility	70,206	36,001	34,205	13,891	99%	13,707

WPA	Facility name	C,D&E waste input	C,D&E waste output	Difference	Chapter 19 waste output	% C,D&E received from the South East	C,D&E figure to include
Hampshire	Four Dells Waste Facility EPR/JP3890VC	18,239	3,473	14,766	40,223	88%	12,922
Hampshire	Manor Farm Landfill Site, Treatment And Transfer Facility	95,573	27,133	68,440	4,208	79%	3,306
Hampshire	Ambervale Farm	6,161	1,453	4,708	2,489	86%	2,133
Hampshire	Eastleigh Waste Transfer And Recycling Facility	330	104	226	56,325	100%	225
Isle of Wight	Goldfields Transfer Station	1,137	582	555	153	100%	153
Isle of Wight	Fernlea Waste Transfer Station	586	319	267	141	100%	141
Isle of Wight	North Fairlee Farm Transfer Station	2,826	2,727	98	128	100%	98
Kent	Pinden Quarry	90,410	2,791	87,619	60,352	100%	60,352
Kent	Richborough Hall Waste Transfer & Recycling	58,640	17,856	40,785	53,026	100%	40,785
Kent	The Recycling Centre	45,752	23,893	21,860	20,419	100%	20,419
Kent	Site 'b' North Farm Lane	8,078	-	8,078	8,953	100%	8,073
Kent	Knockholt Station Goods Yard	12,820	2,420	10,400	16,295	61%	6,328
Kent	Half Skips	4,600	-	4,600	5,085	100%	4,600
Kent	The Lodge	13,357	7,810	5,547	2,978	100%	2,978

WPA	Facility name	C,D&E waste input	C,D&E waste output	Difference	Chapter 19 waste output	% C,D&E received from the South East	C,D&E figure to include
Kent	Unit 6 Detling Aerodrome	70,684	58,768	11,916	2,073	100%	2,073
Kent	Folkestone Waste Transfer Station	3,044	1,672	1,372	1,888	100%	1,372
Kent	Plot 15 Manor Business Park	21,761	1,706	20,055	23,386	4%	886
Kent	Richborough Park	129,629	29,204	100,425	830	100%	830
Kent	Hersden Waste Transfer Station	6,348	5,487	861	791	100%	791
Kent	Littlebrook Business Park Waste Facility	42,928	2,160	40,768	10,283	4%	445
Kent	Campsite	922	778	144	520	100%	144
Kent	Tilmanstone Works	141	-	141	11,175	100%	141
Kent	Sittingbourne Waste Transfer Station	58	-	58	66,317	79%	46
Kent	Winchester Wts	6,470	6,469	1	2,016	100%	1
Medway	Kent Soils And Composts Limited	24,269	66	24,203	28,252	100%	24,203
Medway	Countrystyle Recycling Ltd	9,598	2,953	6,645	27,441	98%	6,538
Medway	S Lawrence (Crushing Contractors) Limited	9,453	103	9,349	22,374	4%	351
Oxfordshire	Chilton Transfer Station	35,906	7,712	28,194	22,160	100%	22,082
Oxfordshire	Rumbolds Pit	14,473	7,323	7,151	11,793	100%	7,151

WPA	Facility name	C,D&E waste input	C,D&E waste output	Difference	Chapter 19 waste output	% C,D&E received from the South East	C,D&E figure to include
Oxfordshire	Aasvogel Skip Hire	26,099	22,441	3,657	15,006	97%	3,565
Oxfordshire	Hickman Landscapes	3,520	1,937	1,583	631	76%	479
Oxfordshire	B & E Waste Transfer Station	12,702	12,419	282	1,135	98%	277
Oxfordshire	Banbury Transfer Station	1,421	1,381	39	45,177	100%	39
Portsmouth City	Tipner Materials Recovery Facility	44,783	1,055	43,728	40,395	100%	40,395
Portsmouth City	John Hughes Recycling Yard	4,231	3,336	895	2,189	100%	895
Reading	Reynolds Skip Hire	5,098	4,595	503	1,863	100%	503
Slough	Simpson Environmental Services	53,762	3,315	50,447	11,890	100%	11,890
Slough	Gallymead House Transfer Station	34,278	18,671	15,607	12,431	47%	5,847
Slough	Tanhouse Farm M R F	815	-	815	122,492	23%	190
Southampton City	Dibles Wharf Materials Recovery Facility	21,849	127	21,722	20,447	100%	20,447
Southampton City	L & S Waste Management Limited	52,729	18,960	33,769	14,187	100%	14,154
Surrey	Hythe End Farm	36,654	940	35,714	31,490	48%	15,034
Surrey	D & E Roberts, Kingston Rd, Kt22	35,720	6,923	28,797	14,909	77%	11,493
Surrey	Epsom Skip Hire	18,155	10,838	7,317	7,690	100%	7,317

WPA	Facility name	C,D&E waste input	C,D&E waste output	Difference	Chapter 19 waste output	% C,D&E received from the South East	C,D&E figure to include
Surrey	Materials Recycling Facility	19,953	9,195	10,758	3,673	100%	3,673
Surrey	Leatherhead Community Recycling Centre	977	646	331	6,373	100%	331
West Berkshire	Old Stocks Farm	32,769	13,281	19,488	27,021	100%	19,488
West Berkshire	Sheffield Bottom Waste Transfer Facility	42,927	25,476	17,450	17,913	100%	17,447
West Sussex	Rabbit Waste Management Limited	55,567	24,919	30,648	101,782	100%	30,648
West Sussex	Former Wealden Brickworks W T S	33,780	9,083	24,697	63,404	100%	24,697
West Sussex	Ford Waste Recycling Centre & Transfer Station	43,802	23,700	20,102	22,266	100%	20,102
West Sussex	Burleigh Oaks Farm	40,178	17,072	23,106	15,042	99%	14,912
West Sussex	Yapton Waste Recycling Facility	13,540	418	13,121	11,592	100%	11,592
West Sussex	Duncton Quarry	1,247	1,188	60	131	100%	60
Windsor and Maidenhead	St. George's Lane	100,475	7,081	93,394	19,090	99%	18,839
Windsor and Maidenhead	Allwaste ( Berkshire ) Limited	4,968	2,798	2,170	2,125	88%	1,879
Windsor and Maidenhead	Horwoods Yard	2,235	1,689	546	1,097	100%	546

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WPA	Facility name	C,D&E waste input	C,D&E waste output	Difference	Chapter 19 waste output	% C,D&E received from the South East	C,D&E figure to include
						Total	662,056

## Treatment Sites

WPA	Facility name	C,D&E waste input	C,D&E waste output	Difference	Chapter 19 waste output	% C,D&E waste received from the South East	C,D&E figure to include
Berkshire	R Collard Limited	35,299	20,530	14,769	19,569	100%	14,767
Buckinghamshire	Bleak Hall Transfer Station	86,748	49,141	37,607	21,996	100%	21,996
Buckinghamshire	Hangar 5	18,377	1,619	16,758	17,414	100%	16,758
Buckinghamshire	Land Adjacent to Chiltern View Nursery	18,613	4,546	14,067	18,131	70%	9,782
Buckinghamshire	Wycombe Skip Hire & Demolition	14,191	9,540	4,651	7,318	69%	3,219
Buckinghamshire	Springbridge Direct Ltd	9,572	-	9,572	3,034	48%	1,458
Buckinghamshire	Unit 8a Harebridge Industrial Estate	636	272	364	478	100%	364
Buckinghamshire	K & S Walker Recycling	2,467	1,654	812	289	99%	286
Buckinghamshire	Hollybush Lane Aggregate Recycling Facility	74,078	-	74,078	57	25%	14
East Sussex	Woodside Depot	15,654	2,810	12,843	16,869	100%	12,840
East Sussex	Former Titan Marine Salvage Site	41,817	21,313	20,504	6,910	100%	6,910
East Sussex	Sussex Skips M R F, Newhaven	17,393	11,756	5,637	6,351	100%	5,637
East Sussex	Wealden Worms	7,129	2,689	4,440	3,289	100%	3,289
East Sussex	Sussex Waste Management Ltd Transfer Station	4,849	3,387	1,462	1,707	100%	1,462

East Sussex	The Old Timber Yard	10,526	9,170	1,356	8,109	100%	1,356
East Sussex	Materials Processing Facility, Westfield	4,696	353	4,343	1,159	100%	1,159
East Sussex	Polegate Distribution Facility	824	764	60	425	100%	60
East Sussex	Unit 2 A & Unit 2 B	6,725	4,716	2,009	49	100%	49
East Sussex	Unit 8 Knights Business Centre	1,494	1,324	170	5	100%	5
Hampshire	A303 Recycling Facility -EPR/AP3734EH	45,265	1,585	43,680	40,078	91%	36,651
Hampshire	Portsmouth Transfer Station	26,186	-	26,186	25,317	100%	25,317
Hampshire	Waltet Recycling	75,803	11,788	64,015	25,025	100%	25,025
Hampshire	Farlington Redoubt	136,528	41,396	95,132	20,083	99%	19,849
Hampshire	Lee Lane Quarry	35,880	18,948	16,932	35,572	98%	16,629
Hampshire	Hollybush Lane Waste Transfer Station & Recycling Facility	24,905	9,198	15,706	16,371	100%	15,690
Hampshire	Courtwood Farm	36,505	8,282	28,222	16,052	41%	6,654
Hampshire	1a Hollybush Industrial Park	15,783	6,469	9,314	6,079	100%	6,079
Hampshire	Warren Heath Recycling Facility	289,038	978	288,060	4,491	90%	4,050
Hampshire	Thruyton Aerodrome	83,127	888	82,239	10,571	33%	3,512
Hampshire	Units D & E Pegham Industrial Estate	24,073	12,430	11,643	3,419	100%	3,410

Hampshire	Rookery Farm Aggregate Recycling Facility	67,395	2,630	64,765	2,833	100%	2,830
Hampshire	Calf Lane Quarry, Rye Common, Odiham, Rg29	10,749	7,338	3,411	2,579	100%	2,577
Hampshire	Eversley Depot, Starhill Sawmills, Hartley Wintney, Rg27	2,750	477	2,273	63,868	100%	2,273
Hampshire	Fawley Remediation Treatment and Recovery Facility - EPR/ZP3133RH	637	-	637	2,416	100%	637
Hampshire	Eastleigh Railway Sidings	108,495	4,418	104,077	482	100%	482
Hampshire	K B Crushers	18,311	-	18,311	421	100%	421
Hampshire	Thruxton Airport	66,218	-	66,218	139	100%	139
Hampshire	Lailey Recycling Skip Hire	862	661	201	121	100%	121
Hampshire	Aldershot Recycling Facility	18,176	2,342	15,833	60	100%	60
Hampshire	M3 - J9 Recycling Facility	31,038	10	31,028	34	100%	34
Hampshire	Otterbourne W T S	314	309	6	41,570	100%	6
Hampshire	Marchwood Treatment Works	4	0	3	2,563	100%	3
Kent	Tilmanstone Works (Former Brickworks)	31,976	513	31,463	12,091	100%	12,091
Kent	Milton Pipes Materials Recovery Facility	60,600	9	60,591	10,140	100%	10,140
Kent	Callington Court Farm	28,169	-	28,169	9,808	100%	9,808
Kent	Manor Way Materials Recovery Facility	63,980	5	63,975	6,100	100%	6,100

Kent	Sheerness Recycling	29,970	9	29,961	5,560	100%	5,560
Kent	Tilmanstone Works	81,521	12,490	69,031	4,397	100%	4,397
Kent	Omni Recycling Limited	42,274	2,754	39,520	3,765	100%	3,765
Kent	Longfield Farm	5,040	1,410	3,630	4,628	100%	3,630
Kent	J C Mc Carthy Building Supplies Ltd	7,674	5,684	1,990	2,289	100%	1,990
Kent	Veka Recycling Ltd	15,801	-	15,801	10,267	17%	1,753
Kent	Berth 6, Chatham Dockyard	1,428	-	1,428	271,076	100%	1,428
Kent	Sandfield Farm	8,594	7,669	924	1,606	100%	924
Kent	Boarded House Farm	1,895	1,270	625	1,732	100%	625
Kent	Aylesford Recycling Facility - EPR/DB3104KP	611	-	611	25,551	67%	407
Kent	CSG Aylesford Treatment Plant EPR/UP3033UX/V007	11	1	10	2,432	100%	10
Oxfordshire	M & M Waste Recycling Transfer Station	46,029	15,553	30,475	54,133	100%	30,397
Oxfordshire	New Wintles Aggregate Recycling Facility	126,216	17,208	109,008	22,410	98%	21,995
Oxfordshire	Cresswell Field, Worton Farm	74,705	69,327	5,378	55,489	100%	5,377
Oxfordshire	Gill Mill Quarry Recycling Facility	65,535	1,422	64,113	4,605	99%	4,548
Oxfordshire	Ferris Hill Farm	4,118	1,493	2,625	1,835	100%	1,835

Oxfordshire	Hill Farm	1,728	-	1,728	12,741	100%	1,728
Oxfordshire	Shipton Quarry	68,479	-	68,479	395	100%	395
Oxfordshire	Shellingford Quarry	58,562	-	58,562	225	100%	225
Oxfordshire	Banbury Transfer Station	3	-	3	13,785	100%	3
Surrey	Britaniacrest Recycling Ltd	141,535	24,705	116,830	99,215	100%	99,215
Surrey	Hythe End Farm	62,592	-	62,592	49,120	56%	27,637
Surrey	Ellerton Yard	75,757	25,930	49,827	25,540	61%	15,644
Surrey	Reigate Road Quarry	27,582	20,574	7,008	5,572	92%	5,142
Surrey	P M Skip Hire Limited	11,499	8,011	3,488	3,099	100%	3,099
Surrey	Epsom Chalk Pit	6,173	2,131	4,041	3,261	87%	2,825
Surrey	Bluebell Copse Waste Transfer Facility	3,120	680	2,440	13,832	100%	2,440
Surrey	The Chalk Pit	1,232	964	268	256	91%	232
Surrey	Littleton Lane Quarry	24,584	-	24,584	224	100%	224
Surrey	Alton Road Sandpit	2,180	-	2,180	18	100%	18
West Sussex	United Yard	33,770	-	33,770	49,488	68%	23,119
West Sussex	Elbridge Farm Transfer Station	53,959	17,670	36,289	5,712	100%	5,712
West Sussex	Copthorne Yard	14,066	11,196	2,870	4,230	100%	2,870

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West Sussex	Brookhurst Wood Aggregate Treatment & Recycling Facility	2,196	486	1,710	7,629	100%	1,710
West Sussex	Day Aggregates Crawley Depot	39,361	-	39,361	216	100%	216
West Sussex	Sweeptech Recycling Park	232	22	210	26,163	100%	210
West Sussex	Maxi Skips Ltd	11,853	7,060	4,792	42	100%	42
West Sussex	Portfield Quarry	193	-	193	3	100%	3
						Total	593,349

## Annex 5: Technical Workings

Please see document and other annexes for methodologies.

**Table 23 - Non-hazardous waste summary of arisings**

Origin	Hampshire	Portsmouth	Southampton	South East	2020 totals
Waste received excl. incinerators (in/out of plan area)	2,877,952		229,479	14,810,444	3,107,431
Waste received at incinerators (in/out of plan area)	470,599		73,159	2,658,635	543,758
Non-codeable received (in/out plan area)	216,841	-	19,598	1,131,241	236,439
Waste transferred (WTS in plan area)	593,836		58,856		652,692
WfH	745,734				745,734
<b>Total C&amp;I</b>	<b>2,225,822</b>	<b>-</b>	<b>263,380</b>		<b>2,489,202</b>
<b>Total Non-haz</b>	<b>2,971,556</b>	<b>-</b>	<b>263,380</b>		<b>3,234,936</b>

Source: WDI 2020

Note: Due to an error in the 2020 WDI, Portsmouth wastes have been aggregated with Hampshire.

South East waste as those noted WPA not coded (South East) and a proportion has been assigned to Hampshire and Southampton.

**Table 24 - Inert waste summary of arisings**

	2015	2016	2017	2018	2019	2020
Waste arising from Hampshire, POR + SOU	1,539,648	1,451,190	1,662,219	1,374,488	1,497,025	1,329,120
Waste Exemptions Total	233,665	238,373	243,082	247,800	367,800	178,800
Recycled aggregates	990,000	830,000	760,000	721,350	780,000	670,000
Non-codeable South East share	255,190	236,987	193,017	210,914	141,911	128,657
<b>Total Inert</b>	<b>3,018,503</b>	<b>2,756,550</b>	<b>2,858,318</b>	<b>2,554,552</b>	<b>2,786,736</b>	<b>2,306,577</b>

Source WDI 2020 and EA exemption data

**Table 25 - Hazardous waste summary of arisings**

Origin	Hampshire	Portsmouth	Southampton	2019
Waste received (in/out of plan area)	101,294	17,989	22,632	141,915
Waste transferred (WTS in plan area)	19,792	451	787	21,030
<b>Total waste</b>	<b>81,502</b>	<b>17,538</b>	<b>21,845</b>	<b>120,885</b>

## Glossary

Anaerobic Digestion	A biochemical process by which organic matter is decomposed by bacteria under controlled conditions in the absence of oxygen, producing methane gas and other by-products.
Biological Treatment	Technologies that use bacteria under controlled conditions to break down organic materials and wastes.
Biomass plant	A plant which produces renewable energy sources made of biological material from living, or recently living organisms.
Civic Amenity Site	A site where the public can deliver household waste for reuse, recycling or disposal. Also referred to as Household Waste Recycling Centres.
Commercial Waste	A legal definition relating to waste from premises used for trade, business, sport, recreation or entertainment, etc.
Composting	The controlled biological decomposition of organic material (such as grass cuttings, hedge trimmings and tree loppings) in the presence of air to form a humus-like material.
Construction, Demolition and Excavation (C,D&E) Wastes	Wastes from building and civil engineering activities. Legally classified as industrial waste.
Department for Food and Rural Affairs (DEFRA)	The UK Government department responsible for environmental protection, food production and standards, agriculture, fisheries and rural communities.
Dry Recyclables	Recyclable materials such as paper, metals, glass and plastics excluding garden and food wastes.
ELV	End of Life Vehicle such as an old car disposed of as scrap.
Energy Recovery Facility (ERF)	A facility at which waste material is burned to generate heat and/or electricity.
Energy Recovery Incineration (Energy from Waste (EfW))	Burning of waste materials at high temperatures under controlled conditions with the utilisation of the heat produced to supply industrial or domestic users, and/or generate electricity.
Environment Agency (EA)	A public organisation with the responsibility for protecting and improving the environment in England and Wales. Its functions include the regulation of industrial processes, the maintenance of flood defences and water resources, water quality and the improvement of wildlife habitats.
Environmental Permit	Permits are required by anyone who proposes to deposit, recover or dispose of waste. The permitting system is separate from, but complementary to, the land use planning system. An Environmental Permit and the conditions attached is to ensure that the waste operation which it authorises is carried out in a way which protects the environment and human health.
European Waste Catalogue (EWC)	The EWC is a hierarchical list of waste descriptions established by Commission Decision 2000/532/EC. It is divided into twenty main chapters each of which has a two-

	digit code between 01 and 20. Most of the chapters relate to industry but some are based on materials and processes.
Feedstock	The type of waste (a term used by waste management operators).
Gasification	A waste treatment process in which waste is heated to produce a gas that is burned to generate heat energy.
Green Wastes	Organic plant materials such as grass cuttings, hedge trimmings and tree loppings. From household gardens, local authority parks and gardens and commercial landscaped gardens.
Hazardous Waste	Hazardous waste is waste that contains hazardous properties that may render it harmful to human health or the environment. Hazardous wastes are listed in the European Waste Catalogue.
Hazardous Waste Data Interrogator (HWDI)	Released annually by the Environment Agency and contains information on hazardous waste received, hazardous waste removed, and hazardous waste moved between permitted waste operators by local authorities and regional areas.
Household Waste	A legal definition relating to waste from domestic sources such as households, caravans and residential homes, etc.
Household Waste Recycling Centre (HWRC)	A site where the public can deliver household waste for reuse, recycling or disposal. Also referred to as Civic Amenity Sites.
Industrial Waste	A legal definition relating to waste from any factory, industrial process (excluding mines and quarries) or premises used for services such as public transport or utilities, etc. Construction and demolition waste is classified as industrial waste.
Inert Waste	Waste that does not normally undergo any significant physical, chemical or biological changes when deposited at a landfill site. In the context of inert waste, it is materials such as soil, clay, chalk and spoil.
In Vessel Composting (IVC)	Composting within a sealed chamber where environmental parameters are optimised (temperature, moisture, mixing and air flow), resulting in the production of higher quality finished compost within a shorter time.
Landfill	An engineered and controlled waste disposal facility at which waste is placed on or in the land.
Leachate	Water which seeps through a landfill site, extracting substances from the deposited waste to form a pollutant.
Low Level Radioactive Waste (LLW)	This is generally protective clothing, tools, equipment rags, filters, etc., that mostly contain short-lived radioactivity. Although it does not need to be shielded, it needs to be disposed of in a different manner than when disposing of every-day rubbish.
Materials Recovery Facility	A plant for separating out recyclable waste streams, either mechanically or manually, prior to reprocessing.
Mechanical Biological	Mechanical sorting and separation to separate out

Treatment (MBT)	biodegradable materials, which are sent to a biological treatment process.
Mechanical Sorting	Sorting of materials and/or waste using machinery.
Municipal Solid Waste (MSW)	Household waste and any other wastes collected by a Waste Collection Authority, or its agents, such as municipal parks and gardens' waste, street litter, waste from fly-tipping, waste delivered to council recycling points and Civic Amenity site waste.
National Planning Policy Framework (NPPF)	In 2012, the Government streamlined a number of planning policies into one main document – the National Planning Policy Framework (NPPF). This contains the policy framework that Local Plans need to follow and planning decision-making. Local Plans will need to be compliant with the NPPF.
Net Self Sufficiency	Providing enough waste management capacity to manage the equivalent of the waste generated in a given area, while recognising that some imports and exports will continue.
Non-hazardous Landfill	One of the three classifications of landfills made by the Landfill Directive, taking non-hazardous waste.
Non-hazardous Waste	Waste permitted for disposal at a non-hazardous landfill, such waste is neither inert or hazardous and includes the majority of household and commercial wastes.
Non-hazardous Wastes	Wastes which do not pose a threat to human health or the environment if properly regulated, including general household, commercial and industrial wastes. Applies particularly to the categorisation of landfill sites for these waste types.
On / In Land	A waste management category used by the Environment Agency for waste that has been disposed of on or in land, but that classifies as a recovery operation and not as landfill.
Pyrolysis	Thermal decomposition taking place in the absence of oxygen.
Recycled / Recovered Products	Products manufactured from recyclables or the by-products of recovery and treatment processes e.g. secondary aggregates manufactured from incinerator ash.
Recycling	The series of activities by which discarded materials are collected, sorted, processed and converted into raw materials and used in the production of new products.
Residual Waste	Waste which cannot be recycled, has not be captured in a recycling scheme or rejected after sorting/recycling has taken place.
Special Waste	Waste as defined in the Control of Pollution (Special Waste) Regulations 1980, which may be dangerous to life or has a flashpoint of 21 degrees C or less, or is a medicinal product available only on prescription, requiring special care in its transport and disposal. Now superseded by Hazardous Waste.
Transfer Station	A site to which collected waste is delivered and transferred

	to bulk transport for onward delivery by road, rail or water to a waste processing, reprocessing, recycling, recovery or disposal site.
Void Space	Unused licensed capacity at a landfill site.
Waste	Any substance or object which the producer or the person in possession of it intends to, is required to, or does discard. Defined by the Environmental Protection Act 1990. Waste includes any scrap material, effluent or unwanted surplus substance or article which requires to be disposed of because it is broken, worn out, contaminated or otherwise spoiled. Explosives and radioactive wastes are excluded.
Waste Arisings	The amount of waste generated in a given locality over a given period of time.
Wastewater	Wastewater is a broad term describing a mixed liquid waste which can contain a wide range of contaminants in varying concentrations. It is produced by domestic residences, commerce and industry, and/or agriculture and is often disposed of via a pipe, sewer or similar structure.
Waste Data Interrogator (WDI)	Released annually by the Environment Agency and contains information on waste received, waste removed and waste moved between permitted waste operators by local authorities and regional areas.
Waste Electrical and Electronic Equipment (WEEE)	End of life electrical and electronic equipment. Either classed as household or non household WEEE.
Waste Hierarchy	Preferred waste management options in the following order (most preferable first): reducing waste; reusing waste; recovery (recycling, composting, energy recovery) and only then disposal as a last option.
Waste Planning Authorities	The local planning authority responsible for planning control over waste disposal and other management related development.
Waste Transfer Station (WTS)	A location where waste can be temporarily stored, separated and bulked after being dropped off by domestic waste collection lorries and before being carried off by larger vehicles for subsequent treatment or ultimate disposal.

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