



## **North East Lincolnshire**

## **Waste Needs Assessment Update 2026**

### **Appendix 5: Hazardous Waste Management Requirements for North East Lincolnshire to 2045**

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## Abbreviations and Glossary of Terms

### Abbreviations

| Abbreviation    | Term                                                                 |
|-----------------|----------------------------------------------------------------------|
| APCr            | Air Pollution Control Residues                                       |
| C, D & E / CDEW | Construction, Demolition & Excavation Waste                          |
| CFC             | Chlorofluorocarbon                                                   |
| CWEM            | Cheshire & Warrington Econometric Model                              |
| C&I             | Commercial and Industrial Waste                                      |
| DEFRA           | Department for Environment, Food and Rural Affairs                   |
| DPD             | Development Plan Document                                            |
| EA              | Environment Agency                                                   |
| ELVs            | End of Life Vehicles                                                 |
| EWC             | European Waste Catalogue                                             |
| GVA             | Gross value added                                                    |
| HTI             | High Temperature Incinerator                                         |
| HWI             | Hazardous Waste Interrogator                                         |
| HWRCs           | Household Waste Recycling Centres                                    |
| LACW            | Local Authority Collected Waste                                      |
| MRS             | Metal Recycling Sites                                                |
| nPPG            | National Planning Practice Guidance                                  |
| NEL             | North East Lincolnshire                                              |
| NELC            | North East Lincolnshire Council                                      |
| PI              | Pollution Inventory                                                  |
| REACH           | Registration, Evaluation, Authorisation and Restriction of Chemicals |
| RoHS            | Restriction of Hazardous Substances Directive                        |
| WDI             | Waste Data Interrogator                                              |
| WEEE            | Waste Electrical & Electronic Equipment                              |
| WNA             | Waste Needs Assessment                                               |
| WPA             | Waste Planning Authority                                             |

## Glossary of Terms

| TERM                                                   | DEFINITION                                                                                                                                                                                                                                                                                                  |
|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Construction, Demolition &amp; Excavation Waste</b> | Controlled waste arising from the construction, repair, maintenance and demolition of buildings and structures.                                                                                                                                                                                             |
| <b>DEFRA</b>                                           | The UK Government department responsible for developing national waste management policy.                                                                                                                                                                                                                   |
| <b>Duty to Cooperate</b>                               | The duty to cooperate is a legal test that requires cooperation between local planning authorities and other public bodies to maximise the effectiveness of policies for strategic matters in Local Plan making.                                                                                            |
| <b>End of Life Vehicles</b>                            | Vehicles classed as waste having been declared as no longer usable and for which a Certificate of Destruction has been issued by DVLA. Deemed hazardous until hazardous components removed via depollution processes.                                                                                       |
| <b>Environment Agency</b>                              | The body responsible for the regulation of waste management activities through issuing permits to control activities that handle or produce waste. It also provides up-to-date information on waste management matters and deals with other matters such as water issues including flood protection advice. |
| <b>Hazardous Waste Landfill</b>                        | Sites where hazardous waste may be disposed by landfill. This can be a dedicated site or a single cell within a non-hazardous landfill, which has been specifically designed and designated for depositing hazardous waste.                                                                                 |
| <b>Hazardous Waste</b>                                 | Waste requiring special management under the Hazardous Waste Regulations 2005 due to it posing potential risk to public health or the environment (when improperly treated, stored, transported or disposed). This can be due to the quantity, concentration, or its characteristics.                       |
| <b>Household Waste</b>                                 | Waste from households collected through kerbside rounds, bulky items collected from households and waste delivered by householders to household waste recycling centres and "bring recycling sites". along with waste from street sweepings, and public litter bins.                                        |
| <b>Household Waste Recycling Centres</b>               | A facility that is available to the public to deposit waste not collected through kerbside collection. (otherwise known as a civic amenity site)                                                                                                                                                            |
| <b>Incineration</b>                                    | The controlled combustion of waste. Energy may also be recovered in the form of heat (see Energy from Waste).                                                                                                                                                                                               |
| <b>Industrial Waste</b>                                | Waste arising from any factory and from any premises occupied by an industry (excluding mines and quarries).                                                                                                                                                                                                |
| <b>Landfill (including land raising)</b>               | The permanent disposal of waste to land, by the filling of voids or similar features, or the construction of landforms above ground level (land-raising).                                                                                                                                                   |
| <b>Recovery</b>                                        | Subjecting waste to processes that recover value including recycling, composting or thermal treatment to recover energy.                                                                                                                                                                                    |
| <b>Recycling</b>                                       | The reprocessing of materials extracted from the waste stream either into the same product or a different one.                                                                                                                                                                                              |
| <b>Waste Planning Authority (WPA)</b>                  | The local authority responsible for waste development planning and control. In this case North East Lincolnshire Council.                                                                                                                                                                                   |
| <b>Waste Transfer Station</b>                          | A site to which waste is delivered for bulking prior to transfer to another place for further processing or disposal.                                                                                                                                                                                       |

## 1 Introduction

- 1.1 North East Lincolnshire (NEL) Council has contracted BPP Consulting to produce an updated Waste Needs Assessment (WNA) using 2024 data in order to ensure its emerging Local Plan policies relating to waste remain relevant and reflect the best available data. This updated WNA consists of the following sections:
1. Local Authority Collected Waste Management Requirements to 2045.
  2. Commercial & Industrial Waste Management Requirements to 2045.
  3. Construction, Demolition & Excavation Waste Management Requirements to 2045.
  4. Hazardous Waste Management Requirements to 2045; and
  5. Scoping report for Other Waste; plus
  6. Review of Strategic Waste Flows
- 1.2 This particular report assesses the future management requirements for hazardous waste predicted to arise in North East Lincolnshire over the Plan period.
- 1.3 The National Planning Practice Guidance chapter on Waste states that: "*Planned provision of new capacity and its spatial distribution should be based on robust analysis of best available data*." (emphasis added) (Para 035). Therefore, this exercise involves a robust analysis to identify what might be considered to be the "best available data" relating to hazardous waste production and management.

### Definitions

- 1.4 The term 'hazardous waste' is used in England, Wales and Northern Ireland to describe waste with hazardous characteristics as set out in the List of Wastes (LoW) Regulations.<sup>1</sup> Certain types of waste are classed as 'hazardous' because they possess properties that are considered to pose a threat to human health or the environment such as toxicity, flammability, corrosiveness and carcinogenicity. Hazardous waste is different to other waste considered as it does not have a discrete source as it is a collection of different materials which are generally collected and managed separately due to their hazardous properties, and which may arise from different sources. For example, fridges containing CFC gases and cathode ray tubes used in TV and computer monitor screens which are classed as hazardous waste may occur in both domestic and commercial waste streams and require separate management from other wastes to minimise the environmental impact of their management.
- 1.5 Hazardous wastes generally arise within the following waste streams depending on their origin:
- Local Authority Collected Waste (LACW)
  - Commercial and Industrial Waste (C&I)
  - Construction and Demolition and Excavation Waste (C, D & E)

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<sup>1</sup> List of Wastes (England) Regulations 2005 which came into force on 16th July 2005.

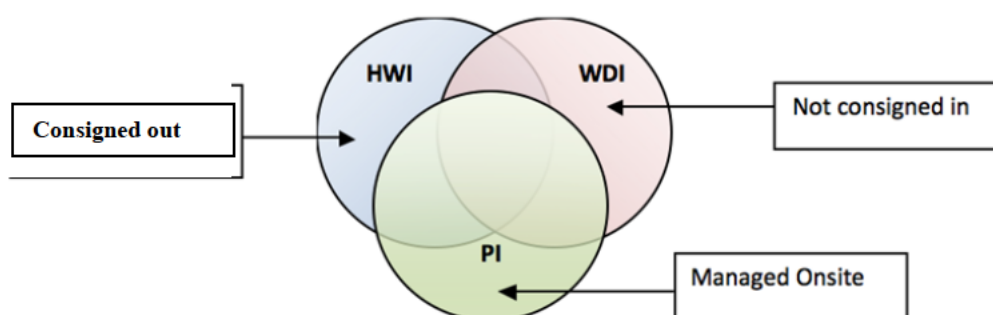
<http://www.legislation.gov.uk/uksi/2005/895/contents/made>

- 1.6 As the management requirements of the wastes classed as hazardous are often different to that of the non-hazardous elements of these waste streams, hazardous waste is planned for separately. As the quantities are considered separately in this report, they have been excluded from the C&I waste, C, D & E waste and LACW stream reports that form part of the WNA 2026 to avoid 'double counting'.

### Data Sources

- 1.7 The Environment Agency's Hazardous Waste Interrogator (HWI) consists of data relating to movements of waste consigned as hazardous aggregated into a single dataset and made publicly available that is updated each year. This includes hazardous waste consigned between producers and disposal/treatment facilities, as well as most consignments between intermediate facilities and final fate sites. While the HWI always specifies the waste origin and destination by Waste Planning Authority (WPA) it does not identify the specific facility at which the waste was managed, whereas the Environment Agency Waste Data Interrogator (WDI) - which reports on inputs to (and outputs from) all permitted facilities in England - does report by receiving facility but may only report origin by source region in some cases. Hence both datasets have been accessed to generate a more complete picture of management routes followed by hazardous waste arising in NEL. The resulting values have been cross checked with values presented in the Environment Agency's Pollution Inventory through which significant waste and non-waste facilities report their hazardous waste arisings (amongst other matters).

The relationships between the datasets are illustrated in Figure 1.



**Figure 1: Relationship between Datasets for Hazardous Waste with possible omissions identified**

**Net Self Sufficiency**

- 1.8 There is no expectation in national policy that individual Plan areas be self-sufficient in management capacity for hazardous waste arising within them. This is because different hazardous waste types require management through distinct specialist facilities. For example, asbestos contaminated soil will generally require specialist landfill, whereas oily water from interceptors will require management through a treatment plant, while certain wastes may require high temperature incineration to destroy them. Provision of such facilities may only be viable at a regional, or larger scale.
- 1.9 However, it is still considered appropriate to assess whether the current provision of capacity will be sufficient to meet any emerging future needs within the Plan area.

## 2 Calculating a Baseline Arisings Estimate

- 2.1 The WNA 2015 estimated that between 76,000t (excluding waste transferred on) and 77,500t of hazardous waste was produced in the Plan area. These estimates drew on the following sources:
1. The EA Hazardous Waste Interrogator - movements from origin to, and between, permitted waste management sites.
  2. The EA Waste Data Interrogator – hazardous waste inputs to permitted waste management sites and removals (in some cases).
  3. The EA Pollution Inventory Site outputs - hazardous waste produced by significant industrial sites.

This report presents the outcome of replicating the approach to generating a baseline adopted in 2015, using datasets for 2024.

### EA Hazardous Waste Interrogator 2024

- 2.2 The EA Hazardous Waste Interrogator 2024 indicates that:
- In 2024, c31,000 tonnes of hazardous waste reported as having originated in North East Lincolnshire;
  - Of this, c900 tonnes were reported as having been managed in North East Lincolnshire itself, with the difference (c.30,000 tonnes) reported as having been managed outside North East Lincolnshire i.e. exported.
  - In addition, c61,500 tonnes of hazardous waste were imported to North East Lincolnshire for management.
- 2.3 The above data shows that more hazardous waste was managed in North East Lincolnshire than was produced in 2024 (c62,500 vs c31,000 tonnes).

### EA Waste Data Interrogator 2024

- 2.4 The EA Waste Data Interrogator 2024 indicates the following:
- In 2024 c24,000 tonnes of hazardous waste managed at permitted sites (both within and beyond North East Lincolnshire) were attributed to North East Lincolnshire as its source;
  - Of this, the EA WDI indicates that of this only c2,000 tonnes were managed in North East Lincolnshire itself, with the difference (c22,000 tonnes) being managed outside the Plan area (i.e. exported).
  - In addition, c71,000 tonnes of hazardous waste were imported for management in North East Lincolnshire.
- 2.5 The above data shows that as found in the WNA 2015, more hazardous waste was managed in North East Lincolnshire than was produced in 2024, regardless of the data source relied upon (62,500 - 73,000 vs c24,000 - 31,000 tonnes).

- 2.6 It should be borne in mind in both cases that the management of hazardous waste from elsewhere in NEL, may itself give rise to hazardous waste requiring onward management. Examples being Air Pollution Control Residues (APCr) from High Temperature Incinerators (HTI) or processing residues arising from treatment facilities. It is questionable as to whether such waste ought to be assigned to NEL as a producer if it largely arises as a consequence of waste from elsewhere being managed within NEL. However, as the management activity constitutes economic activity within NEL, outputs of residues have been counted as NEL waste in this exercise. Hence it presents what may be regarded as a worst-case scenario in terms of quantities of waste arising.

#### EA Pollution Inventory 2024

- 2.7 The Pollution Inventory (PI) dataset shows that c15,500 tonnes of hazardous waste were produced by the non-waste installations operating in North East Lincolnshire reporting through this route in 2024. Given that the PI value is lower than either of the totals shown by the other two datasets, it has been assumed that the tonnage of hazardous waste reported through the PI has been captured in the other two datasets and therefore this dataset has been discounted.

#### Summary of Headline Data

- 2.8 The data from the HWI and WDI shows that hazardous waste arising in North East Lincolnshire was between c24,000 and c31,000 tonnes requiring offsite management<sup>2</sup>. The breakdown of management as indicated by the WDI and HWI is shown in Table 1.

**Table 1: North East Lincolnshire Hazardous Waste Arisings & Management Data**

*Source: HWI 2024 and WDI 2024 Environment Agency*

*Blue indicates values contributing to arisings, pink to Borough management capacity*

| Data source | North East Lincolnshire Hazardous Waste Arisings (tonnes) |                                         | Hazardous Waste Managed in North East Lincolnshire (tonnes) |                                                |                      |
|-------------|-----------------------------------------------------------|-----------------------------------------|-------------------------------------------------------------|------------------------------------------------|----------------------|
|             | Quantity Attributed to NEL                                | NEL waste managed outside NEL (exports) | Quantity Managed in NEL Attributed to NEL                   | Quantity Managed in NEL from outside (imports) | Total Managed in NEL |
| HWI         | 31,042                                                    | 30,174                                  | 868                                                         | 61,251                                         | 62,119               |
| WDI         | 24,021                                                    | 21,865                                  | 2,157                                                       | 70,988                                         | 73,145               |

#### Discussion

- 2.9 Table 1 shows that:
- the values obtained from the HWI and those from WDI for 2024 are of a similar order of magnitude when it comes to waste arising in North East Lincolnshire (c31,000 vs c24,000 tonnes).
  - imports to NEL and the total waste managed in NEL were also of a similar order of magnitude.

<sup>2</sup> Consultation of the site specific entries in the PI shows c15,000 tonnes of this arose from 4 major industrial sites in NEL not classed as waste management facilities

## Integrating HWI and WDI values

- 2.10 In order to arrive at the best available data, the values that appear in both the HWI and the WDI datasets have been integrated by management fate. Precedence is given to the larger value that appears in either dataset on a fate by fate basis. The results of this exercise are shown in Table 2 below.

**Table 2: North East Lincolnshire Hazardous Waste Arisings: WDI Input vs. HWI Values to obtain Integrated values (taking highest individual entry)**

*Source: WDI 2024, HWI 2024*

| Fate                      | WDI NEL Input to all sites | HWI NEL Waste | Integrated Value |
|---------------------------|----------------------------|---------------|------------------|
| Landfill                  | 651                        | 523           | <b>651</b>       |
| Treatment <sup>3</sup>    | 8,323                      | 14,817        | <b>14,817</b>    |
| Recovery (inc. Recycling) | 14,749                     | 12,389        | <b>14,749</b>    |
| Incineration              | 124                        | 193           | <b>193</b>       |
| <b>Final Fate Total</b>   | <b>23,846</b>              | <b>27,922</b> | <b>30,410</b>    |
| Transfer                  | 175                        | 3,062         | <b>3,062</b>     |
| <b>Overall Total</b>      | <b>24,021</b>              | <b>30,985</b> | <b>33,472</b>    |

- 2.11 When the WDI permitted site input values are integrated with the HWI data for hazardous waste movements, the total value increases by roughly c9,500 tonnes. This higher value takes into account the greater quantities of waste reported in the WDI as managed through recovery and for treatment and transfer waste fates in the HWI.
- 2.12 The final integrated value is a composite of the higher values of the two sources for each management route. This is c33,500 tonnes (or c30,500 tonnes if movement for transfer were to be ignored on the basis that the waste would ultimately go to a 'next step' site also reported in the data).

## Conclusion

- 2.13 Hazardous waste arisings attributable to North East Lincolnshire for 2024 have been found to be between c30,500 (excluding waste transferred on) and c33,500 tonnes of waste sent to transfer is included. This compares with c76,000 and c77,500 tonnes in 2013, this represents a halving in the final fate total.

<sup>3</sup> Treatment may represent a final fate where incoming hazardous waste is converted into non-hazardous treatment residues or it may not where for example the treatment of the hazardous waste results in hazardous treatment residues, the ultimate fate of which is unknown. While the data does not provide the granularity to distinguish between the two, all tonnages of treatment waste have been assumed to be going to final fate for the purpose of this exercise.

### Discussion of Hazardous Waste Arising Baseline value

2.14 The baseline arising value generated for 2024 (c33,500t) is significantly lower than the value obtained for 2013 of c77,500 tonnes presented in the WNA 2015. See Table 3 below.

**Table 3: North East Lincolnshire Hazardous Waste Arisings: Comparison between management profile generated for 2013 and 2024 showing difference and percentage change**

*Source: Table 4 WNA 2023 vs Table 2 above*

| Fate                        | 2013          | 2024          | Diff           | % change    |
|-----------------------------|---------------|---------------|----------------|-------------|
| Landfill                    | 5,197         | 651           | -4,546         | -87%        |
| Treatment                   | 9,754         | 14,817        | +5,063         | 52%         |
| Recycling/Recovery          | 6,920         | 14,749        | +7,829         | 113%        |
| Incineration or use as fuel | 23,502        | 193           | -23,309        | -99%        |
| Solvent Reclamation         | 30,670        | 0             | -30,670        | -100%       |
| <b>Final Fate Total</b>     | <b>76,043</b> | <b>30,410</b> | <b>-45,633</b> | <b>-60%</b> |
| Transfer                    | 1,317         | 3,062         | +1,745         | 133%        |
| <b>Total</b>                | <b>77,360</b> | <b>33,472</b> | <b>-43,888</b> | <b>-57%</b> |

2.15 Table 3 indicates that the decrease is primarily due to the fall in the tonnage of waste sent to landfill and incineration and lack of any apparent waste going for solvent recovery in 2024.

### Composition of North East Lincolnshire Hazardous Waste

2.16 To understand the source of the difference in values, the main types of hazardous waste has been analysed to identify the principal arisings<sup>4</sup> that contribute to the 2024 value. This has been based on the integrated dataset i.e. the source of the preferred value for each of the fates.

**Table 4: Principal Hazardous Waste Types arising in North East Lincolnshire in 2024**

*Source: WDI 2024, HWI 2024, Environment Agency*

| Hazardous Waste Type             | WDI    | HWI   | Integrated Value |
|----------------------------------|--------|-------|------------------|
| Aqueous liquid wastes            | 1,981  | 5,089 | 5,089            |
| Treatment of waste residues      | 0      | 4,935 | 4,935            |
| Other acids                      | 4,749  | 4,775 | 4,775            |
| Fuel oil and diesel              | 3,542  | 0     | 3,542            |
| Hazardous soil and stones        | 2,865  | 1,107 | 2,865            |
| Electrolyte from batteries       | 1,129  | 2,532 | 2,532            |
| Flue gas treatment waste         | 0      | 2,202 | 2,202            |
| Lead acid batteries              | <1,000 | 2,161 | 2,161            |
| End-of-life vehicles             | 2,148  | 0     | 2,148            |
| Bilge oils from other navigation | 1,927  | 0     | 1,927            |
| Calcium hydroxide                | <1,000 | 1,159 | 1,159            |
| <b>Total</b>                     |        |       | <b>33,334</b>    |

2.17 Table 4 shows the following:

- The primary hazardous waste type/source is 'Aqueous liquid wastes' (c5,000 tonnes) which accounted for 15% of the principal hazardous wastes that arose in NEL for 2024.
- 'Treatment of waste residues' also accounted for c5,000 tonnes.
- 'Other acids' also accounted for just less than 5,000 tonnes.

<sup>4</sup> These account for 99.6% of the total value.

### 3 Forecasting Future Hazardous Waste Arisings

#### National Policy

- 3.1 The National Policy Statement for Hazardous Waste published in 2013<sup>5</sup> remains the most current statement of Government policy on the issue. This states that arisings of hazardous waste are expected to increase for the following reasons:
- Continuing consumer demand for consumer durables containing hazardous materials.
  - Increasing use of producer responsibility schemes, such as those provided for Waste Electrical and Electronic Equipment (WEEE) which require the separate collection of WEEE resulting in more hazardous items being removed from the mixed municipal waste stream, for separate management as hazardous waste.
  - Changes to the list of hazardous properties in the revised Waste Framework Directive and changes to the European Waste Catalogue List, leading to more wastes that must be managed as “hazardous”.
  - There are still uses in which components that become hazardous waste may be unavoidable for the foreseeable future. For example, the use of oil in internal combustion engines.

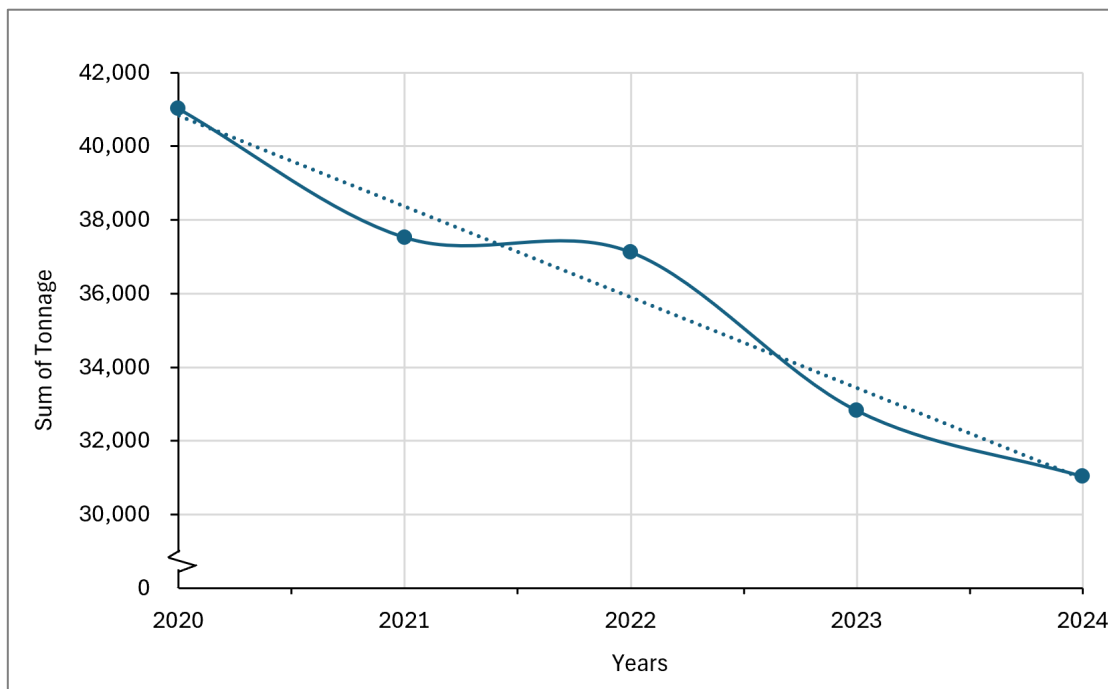
#### Defining Growth Factors for North East Lincolnshire

- 3.2 While Planning Practice Guidance advises that future hazardous waste arisings be estimated by extrapolating time series data taken from the HWI, use of historical HWI data alone to establish possible future trends is not considered reliable due to frequent changes in the definition of hazardous waste and refinement of regulatory guidance, This widens the range of wastes classed as hazardous and thereby distorts time series data of arisings. That is to say it would be expected that the 2024 dataset captured a wider range of wastes than the 2013 dataset presented in the WNA 2015 and hence would expect to increase all things being equal (which they aren't in the case of NEL, see later).

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<sup>5</sup> National Policy Statement for Hazardous Waste: A framework document for planning decisions on nationally significant hazardous waste infrastructure Defra June 2013 [Hazardous waste national policy statement - GOV.UK](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/281212/nps-hazardous-waste-national-policy-statement.pdf)

- 3.3 Time series data for NEL arisings taken from the HWI are plotted in Figure 2. This shows that annual arisings have declined consistently over the five-year period. This is despite the ever-tightening regulatory classification of waste referred to in para 3.2 above.



**Figure 2: Hazardous Waste arising (tonnes) in NEL as reported via the HWI 2020-2024**

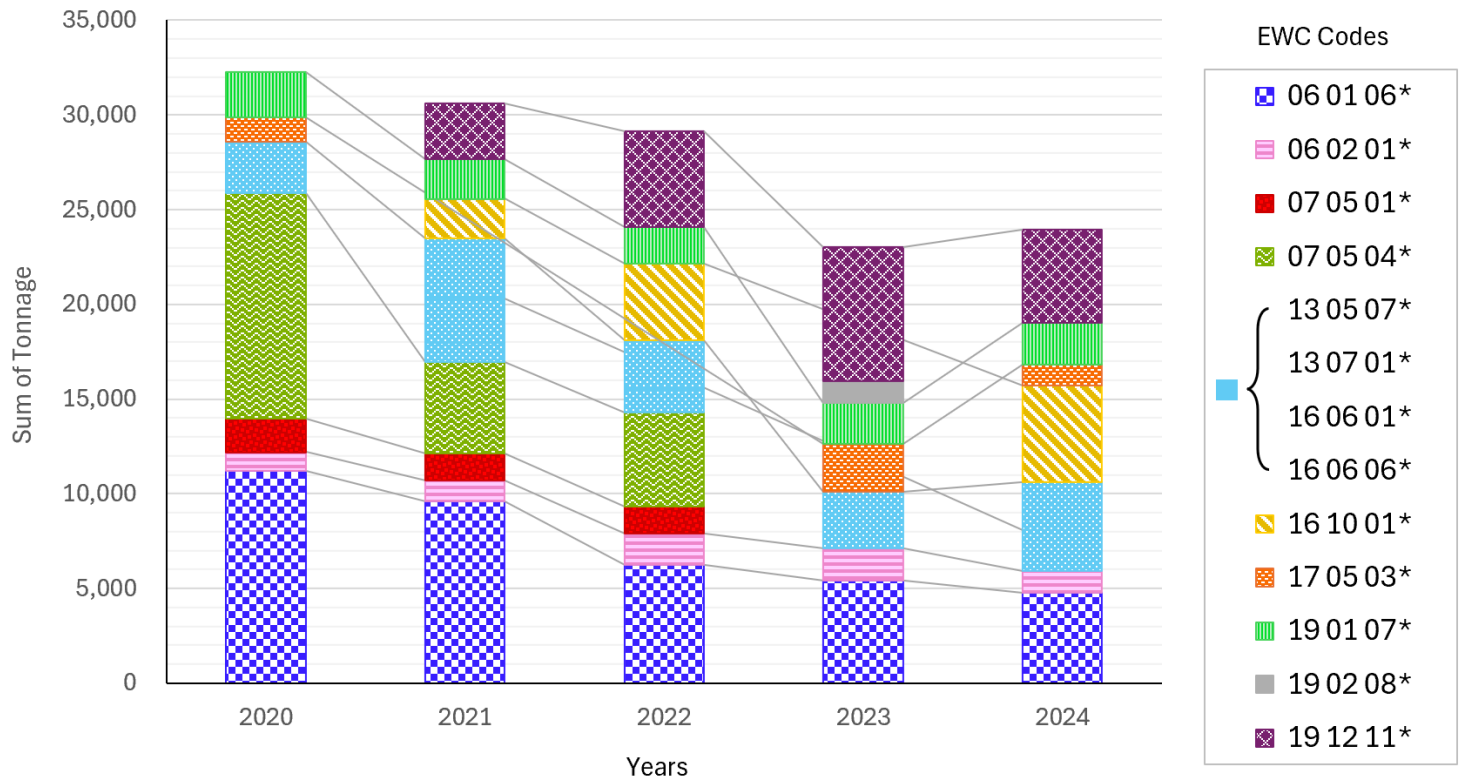
*Sources: HWI 2020 - 2024*

*Dashed blue line = trendline NB: x axis not at zero*

- 3.4 The annual growth rate shown by the trendline is just over -6% per annum. If that were projected forward to the end of the forecast period 2045 it suggests that the tonnage of hazardous waste requiring management in the final year would stand at around 9,000 tonnes.
- 3.5 In order to understand the contributing factors to the negative growth rate, the composition of the hazardous waste that has arisen in NEL in the past 5 years has been assessed by waste type in the next section.

### **Composition of NEL Hazardous Waste**

- 3.6 The wastes that contributed 1000t or more towards the overall tonnage in the past 5 years are displayed in Figure 3 below.



**Figure 3: Principal Hazardous Waste streams in NEL as recorded by the HWI 2020-2024**

*Sources: HWI 2020, HWI 2021, HWI 2022, HWI 2023, HWI 2024*

The EWC Codes listed in Figure 2 legend correspond to the following waste descriptions:

- **06 01 06\*** = Other acids
- **06 02 01\*** = Calcium hydroxide
- **07 05 01\*** = Aqueous washing liquids and mother liquors
- **07 05 04\*** = Other organic solvents, washing liquids and mother liquors
- **13 05 07\*** = Oily water from oil/water separators
- **13 07 01\*** = Fuel oil and diesel
- **16 06 01\*** = Lead acid batteries
- **16 06 06\*** = Separately collected electrolyte from batteries and accumulators
- **16 10 01\*** = Aqueous liquid wastes containing hazardous substances
- **17 05 03\*** = Soil and stones containing hazardous substances
- **19 01 07\*** = Solid wastes from gas treatment
- **19 02 08\*** = Liquid combustible wastes containing hazardous substances
- **19 12 11\*** = Mechanical treatment of waste residues containing hazardous substances

The EWC codes appear in reverse order on the chart columns.

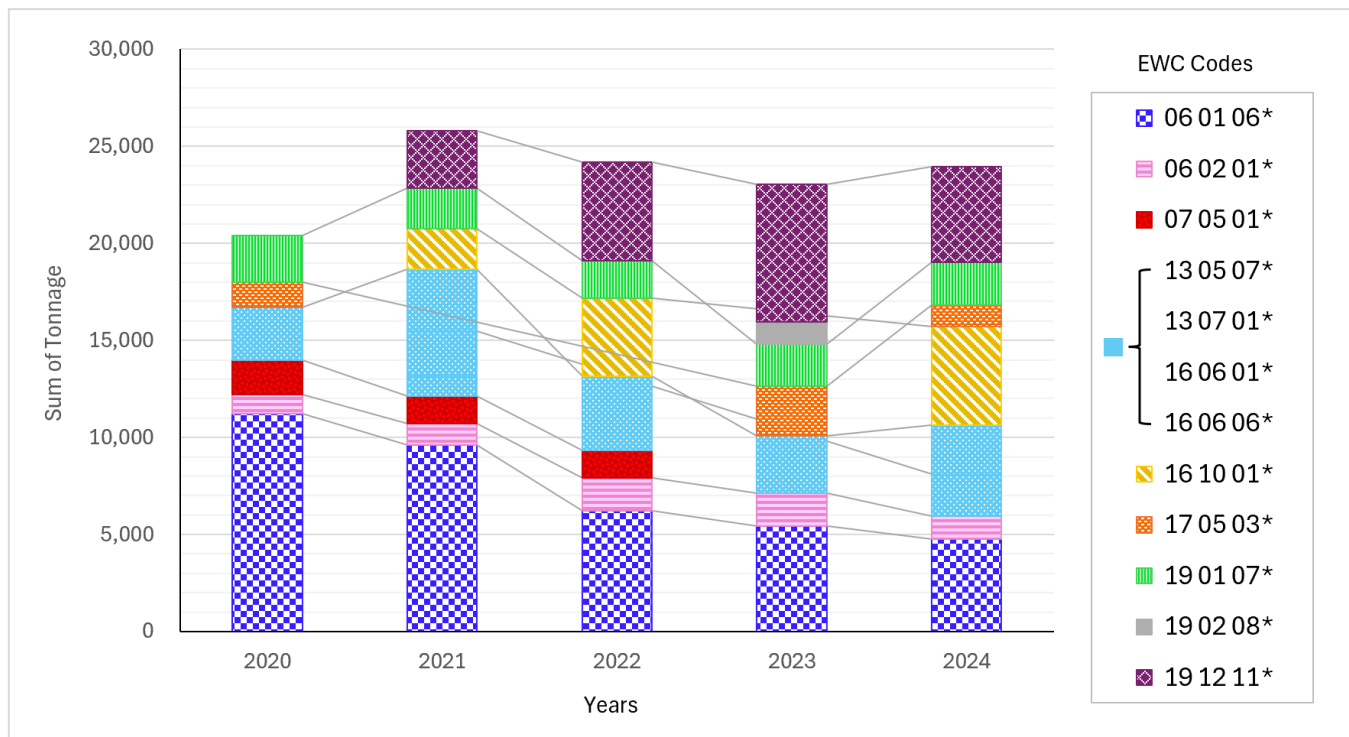
- 3.7 Waste codes 13 05 07\*, 13 07 01\*, 16 06 01\* and 16 06 06\* have been grouped together in Figure 2 because this waste all originates from the maintenance and depollution of internal combustion engine vehicles which will ultimately end up as ELVs.

## Discussion

### 3.8 Consideration of the columns in Figure 3 reveals the following:

- The peak value for 2020 is largely due to 11,889 tonnes of 'other organic solvents, washing liquids and mother liquors' (EWC 07 05 04\*) waste. By way of comparison, no waste of this type is reported as coming from NEL in 2024. This decline is attributed to the closure of the Novartis Grimsby pharmaceutical plant in 2023.<sup>6</sup>
- The trough 2023 value is due to the absence of 'hazardous aqueous liquid wastes' (EWC 16 10 01\*) produced in NEL in that year. By way of comparison, HWI 2024 and WDI 2024 shows c5,000t and c2,000t of this waste type produced in NEL in 2024 respectively.
- While the 2024 value is higher than 2023, it is of a similar order of magnitude, albeit the contributing wastes vary with contaminated liquid combustible wastes (EWC 19 02 08\*) waste only occurring in 2023 and Aqueous liquid wastes containing hazardous substances reappearing after an absence in 2023. The absence of 'other organic solvents, washing liquids and mother liquors' (EWC 07 05 04\*) is common in both years.

### 3.9 Since the principal source of 'other organic solvents, washing liquids and mother liquors' (EWC 07 05 04\*) in NEL closed in 2023, this justifies resetting of the baseline as the plant is not expected to reopen. Hence to get a more accurate picture of the 5-year trend Figure 3 was replotted excluding this waste entirely.



**Figure 4: Principal Hazardous Waste streams in NEL as recorded by the HWI 2020-2024 excluding EWC 07 05 04\***

Sources: HWI 2020, HWI 2021, HWI 2022, HWI 2023, HWI 2024

<sup>6</sup> <https://apps.eurofound.europa.eu/restructuring-events/detail/95640>. The Pollution Inventory dataset shows that 5,546t of 07 05 04 was removed from this plant in 2022 while in 2023 this figure dropped to 666t.

- 3.10 Figure 4 shows the variability between the total amount of hazardous waste produced in NEL between each of the years is less marked in the four-year period 2021-2024. While arisings in specific wastes vary from year to year, the overall growth rate is only +5% with a mean value of 23,478 tpa. The notable difference between 2020 and the other years is the complete absence of 19 12 11\* waste reported as arising in NEL. These are mechanical processing of waste residues from permitted sites. Further interrogation of the WDI shows that this arose from the ENVA Battery processing operation at its Immingham MRF and in effect reset the baseline again. If the 2020 value is excluded because of this, the overall growth rate is -2% with a mean value of 24,248 tpa.
- 3.11 On the basis of the above analysis, it is proposed to adopt a static growth rate for the forecast period, reflecting the most recent dataset. This is supported by consideration of factors that are expected to influence arisings of hazardous waste by type in future years as follows:
- the transition from internal combustion engines to electric and other non-conventionally powered vehicles resulting in a long-term decline in arising of waste coded under EWC code 13 05 07\*, 13 07 01\*, 16 06 01\* and 16 06 06\* <sup>7</sup>.
  - the decline in arisings of contaminated soils and asbestos based waste as legacy brownfield sites are redeveloped, and building stock containing asbestos materials replaced resulting in a long-term decline in arising of waste coded 17 05 03\* (noting that it only arose in significant quantities in 2023, which is unsurprising given it is by nature an intermittent waste stream).
  - counter to the above suppressing influences, is the relatively recent focus on the presence of persistent organic pollutants (POPs) in various household items such as plastic foam-based furniture and electrical cables initially introduced as fire retardants but now requiring special management as potentially hazardous waste (if present at levels above certain thresholds). The extent to which this additional source of contamination is likely to affect hazardous waste arisings in NEL is unknown but given its widespread incidence it may be assumed this will counter the decline resulting from the above transitions to some extent. However, it should also be noted that the widespread use of POPs is in decline and therefore this effect can be expected to reduce over time<sup>8</sup>.
- 3.12 Given the above competing factors, it is proposed that the mean arising value across the most recent four-year period be taken as a constant for which provision of management capacity ought to be planned in NEL. This is consistent with the approach taken in the WNA 2015 which took a static growth forecast.

**Table 5: Forecast Hazardous Waste Arisings in NEL Total**

*Source: WDI 2021-2024*

|                           | Plan Milestone Year |      |      |      |
|---------------------------|---------------------|------|------|------|
|                           | 2030                | 2035 | 2040 | 2045 |
| Proposed Value (5yr mean) | 24,248              |      |      |      |

<sup>7</sup> <https://www.gov.uk/government/speeches/phasing-out-the-sale-of-new-petrol-and-diesel-cars-from-2030-and-support-for-zero-emission-vehicle-zev-transition>

<sup>8</sup> <https://www.gov.uk/guidance/using-persistent-organic-pollutants-pops>

### **Conclusion**

- 3.13 A static growth rate appears to be justified by the most recent 5-year data, and analysis of future influences on arisings. It prevents an unrealistically low value of c9,000t to be forecast to 2045 which would have been the case if a -6% growth rate was taken.
- 3.14 The tonnage values shown in Table 2 have been used to project capacity requirements in the next section of this report based on an assessment of existing capacity within North East Lincolnshire and management routes followed.

## 4 Management Routes Followed by NEL Hazardous Waste

- 4.1 This section assesses the management routes followed by hazardous waste arising from North East Lincolnshire in 2024. This section focuses on waste produced within, but managed outside, North East Lincolnshire. The HWI is used as the primary source, cross checked with the WDI to identify the specific receiving site where possible. This is complimentary to the assessment of flows undertaken in a separate report that forms part of the WNA 2026.
- 4.2 Table 2 shows that the HWI identified c31,000 tonnes of hazardous waste leaving North East Lincolnshire for management. This was managed at facilities located within a wide range of WPAs (c70). Applying a significance threshold, whereby only WPAs receiving over 500 tonnes of waste are considered, reduces the number of receiving WPAs down to 9 (as shown in Table 11), with Leeds being the principal recipient (c8,000 tonnes) followed by Derbyshire (c6,000 tonnes). This is presented in rank order in terms of WPA tonnage and fate in Table 11.
- 4.3 In summary:
- the tonnage exported from North East Lincolnshire in 2024 was c31,000 tonnes; and
  - movements to the 8 principal WPAs accounted for c87% of total arisings exported for management.
  - the city of Leeds was the principal recipient of hazardous waste for management from North East Lincolnshire followed by Derbyshire.

**Table 6: WPAs Receiving over 500 tonnes of Hazardous Waste from NEL (in rank order)**

*Source: HWI 2024 Environment Agency*

| Deposit WPA             | Waste Fate |                                      |                                                  |           |                       |                       | Grand Total |
|-------------------------|------------|--------------------------------------|--------------------------------------------------|-----------|-----------------------|-----------------------|-------------|
|                         | Landfill   | Incineration without energy recovery | Recovery (inc incineration with energy recovery) | Treatment | Transfer for Recovery | Transfer for Disposal |             |
| Leeds City              | 0          | <500                                 | <500                                             | 7,696     | <500                  | <500                  | 7,845       |
| Derbyshire              | 0          | 0                                    | 5,962 <sup>9</sup>                               | 0         | <500                  | <500                  | 6,001       |
| Redcar & Cleveland      | <500       | 0                                    | <500                                             | 2,415     | <500                  | <500                  | 2,910       |
| Northamptonshire        | <500       | 0                                    | <500                                             | 2,202     | <500                  | 0                     | 2,800       |
| Kingston Upon Hull City | 0          | 0                                    | 1,773                                            | 0         | <500                  | <500                  | 2,118       |
| Walsall                 | 0          | 0                                    | 0                                                | 1,785     | <500                  | <500                  | 1,843       |
| Wakefield               | 0          | 0                                    | 1,589                                            | <500      | <500                  | <500                  | 1,738       |
| Lincolnshire            | 0          | 0                                    | 650                                              | 0         | <500                  | <500                  | 935         |

<sup>9</sup> Interrogation of WDI indicates this is the 19 12 11\* waste arising from the ENVA Battery processing facility going to the Darley Dale Smelter (Non-Ferrous Metal Reprocessing facility), although the WDI inputs are not coded below Yorkshire & Humber region.

## 5 Hazardous Waste Management Capacity in NEL

- 5.1 The following section addresses the management routes followed by hazardous waste managed within NEL. This establishes a baseline and identifies if any unmet need exists when looking at particular waste types within the overall stream.
- 5.2 The analysis in the previous section indicates that in total 33,500 tonnes of hazardous waste was managed at NEL facilities in 2024. This was managed at 15 sites across NEL as shown in Table 7. The most significant tonnages were managed at Immingham East Terminal (Exolum) and Immingham Materials Recycling Facility (Enva), which in 2024 managed 28,899 tonnes (40% of the total inputs) and 25,879 tonnes (35% of the total inputs) respectively. The waste managed at Immingham East Terminal was primarily ‘mineral-based non-chlorinated engine, gear and lubricating oils’ reported as having been imported from Lincolnshire. The waste managed at Immingham Materials Recycling Facility was solely ‘lead acid batteries’ which primarily came from Nottinghamshire and from outside the UK. Almost 100% of waste managed at both facilities was reported as having come from outside NEL itself.

**Table 7: NEL Facilities Reporting Receiving Hazardous Waste in excess of 500t (tonnes)**

*Source: WDI 2022, WDI 2023, WDI 2024*

| Site Name                                  | Operator                      | WDI 2022 | WDI 2023 | WDI 2024 | Peak value    |
|--------------------------------------------|-------------------------------|----------|----------|----------|---------------|
| Immingham East Terminal                    | Exolum Immingham Ltd          | 9,869    | 29,214   | 28,899   | 29,214        |
| Immingham Materials Recycling Facility     | Enva Battery Recycling Ltd    | 27,395   | 25,205   | 25,879   | 27,395        |
| Kiln Lane Treatment Plant                  | FBM Metals (UK) Ltd           | 8,839    | 7,706    | 9,627    | 9,627         |
| Huckers Yard                               | Stokesley Metals Limited      | 2,882    | 2,532    | 3,111    | 3,111         |
| S.A.R. Metals Materials Recycling Facility | S.A.R. Metals Ltd             | 1,237    | 2,836    | 3,034    | 3,034         |
| Immingham Briquetting Works                | CPL Products Ltd              | 1,243    | 1,091    | 916      | 1,243         |
| Grimsby Car Salvage                        | Grimsby Car Salvage Ltd       | <500     | <500     | 564      | 564           |
| Grimsby Household Waste Amenity Site       | Paprec Energies Cyclerval Ltd | 533      | <500     | 386      | 533           |
| <b>Total</b>                               |                               |          |          |          | <b>74,721</b> |

- 5.3 Table 7 shows that the combined management capacity of NEL permitted facilities that accepted 500t or more of hazardous waste offered for hazardous waste across the three year period was c.75,000tpa.

### **Possible Future Capacity Requirements**

- 5.4 As hazardous waste is a 'catch all' term for a range of wastes that generally occur within each Plan area in relatively small quantities, to reach a 'critical mass' of inputs to make a facility viable, facilities to manage hazardous waste normally rely on catchments well beyond a particular WPA area. This means that assessments of need confined to a Plan Area alone are unlikely to be helpful in bringing the development of additional capacity forward. That is to say, if each WPA in assessing arisings in isolation determines their local need to be insufficient to justify further provision within their Plan Area then it is unlikely that capacity will be promoted for development. However, across a wider area there may well be sufficient waste that constitutes a critical mass to justify investment in a new facility. Therefore, to contextualise the current hazardous waste management provision made within NEL it is necessary to consider the wider context.

### **National Strategy**

- 5.5 The most recent national position is set out in the Government Strategy for Hazardous Waste Management in England (2010). This considers the future need for hazardous waste facilities in England including the types of facility that may be required. The Strategy determined that the following generic types of facility would likely be required:
- Facilities to treat oily wastes and oily sludges
  - Waste electrical and electronic equipment plants
  - Oil regeneration plant
  - Bioremediation / soil washing to treat contaminated soil diverted from landfill
  - Hazardous waste landfill
  - Treatment plant for air pollution control residues.

- 5.6 Applying this to the reported hazardous waste arising in NEL indicates the following:

#### Facilities To Treat Oily Wastes and Oily Sludges

- 5.7 This forms the largest stream of hazardous waste in England and the national Strategy identified a need for additional facilities to allow a higher proportion of this waste to be recovered. Thermal desorption is one possible technique for treating this type of waste.
- 5.8 There is no apparent merchant capacity within NEL to manage this stream although some may be dealt with via on-site effluent treatment facilities at sites reporting through the Pollution Inventory. However, examination of HWI datasets only indicates that 612 tonnes of waste of this type was generated within NEL in 2024.

### Oil Regeneration Plant

- 5.9 The national Strategy identifies a need for further capacity for recycling used lubricants to a very high level back into base lubricating oil. At present, most waste oil is processed into a fuel substitute and used for energy recovery. However, to realise the benefits of moving the management of this waste up the waste hierarchy, capacity for the regeneration of waste oil needs to be increased. Any oil regeneration plant is likely to need a capacity of at least 70,000 tonnes per annum to be viable and new facilities are therefore expected to constitute nationally significant infrastructure. It should be noted that the long-term transition from internal combustion engines to electric vehicles is expected to progressively reduce demand for lubricant oil regeneration capacity over the Plan period, although significant volumes of waste oil will continue to arise in the medium term from the existing vehicle fleet and industrial applications.

### Waste Electrical & Electronic Equipment Plants

- 5.10 The management of WEEE continues to evolve. Since the 2015 assessment, CRT-based equipment has been largely phased out and replaced with Flat Panel Display technology which is not hazardous and is now well-established, with management infrastructure having developed accordingly. While there is generally sufficient WEEE treatment capacity nationally, emerging waste streams such as end-of-life electric vehicle lithium-ion batteries, solar photovoltaic panels reaching end-of-life, and the growing range of electronic devices containing hazardous components, are expected to require dedicated processing facilities. These are likely to be developed as regionally significant infrastructure serving wide catchment areas.
- 5.11 Examination of the 2024 HWI and WDI datasets indicates that battery-related hazardous waste is a significant stream in NEL, with lead acid batteries accounting for 2,161 tonnes and separately collected electrolyte from batteries accounting for 2,532 tonnes<sup>10</sup>. End-of-life vehicles contributed 2,148 tonnes. Enva Battery Recycling facility at Immingham is regionally significant and BOC at Stallingborough continues to operate a refrigerant recovery and reclamation facility, confirming that NEL retains some capacity provision within this category.

### Bioremediation / Soil Washing to Treat Contaminated Soil from Landfill

- 5.12 The National Strategy identified a need for capacity to treat contaminated soil. Quantities arising within particular Plan area depend on the level of construction and remediation activity, particularly on brownfield sites. While some soil may be treated by mobile plant at the site of production, some requires off-site treatment according to the nature of contamination and there remains a need for dedicated permanent facilities including some specialist landfill capacity.

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<sup>10</sup> This arose as an output waste from the Enva Battery Recycling Ltd MRF at Immingham which almost exclusively accepted lead acid batteries.

- 5.13 Examination of the 2024 HWI and WDI datasets indicates that c2,865 tonnes of contaminated soil and stones (EWC 17 05 03\*) were generated within NEL, a significant increase from the 913t recorded in 2013. Of this, the majority was sent for recovery at Welbeck Landfill site in Wakefield. Given the historical industrialised nature of the NEL area, contaminated land requiring remediation prior to redevelopment is likely to continue to arise, particularly as brownfield sites are brought forward to meet planned housing growth. However, this can often be undertaken using mobile plant deployed on the site of production itself, and the volumes arising are not considered to justify a dedicated permanent facility within NEL.

#### Hazardous Waste Landfill

- 5.14 Since the implementation of the Landfill Directive in 1996, hazardous waste can only be disposed either to a dedicated hazardous waste landfill site or into a specific cell within a non-hazardous waste landfill site. In the latter case, the types of waste are restricted to 'stabilised non-reactive hazardous waste' only. Hence the cells are referred to as SNRHW Cells.
- 5.15 The national Strategy also includes a principle to reduce reliance on landfill, for it to only be used where, overall, there is no better recovery or disposal option. The 2024 data confirms that this principle is being realised in practice: landfill as a management route for NEL hazardous waste has declined by 87% from 5,197 tonnes in 2013 to just 651 tonnes in 2024. In the case of certain waste streams such as asbestos, alternative solutions to landfill are not fully developed so it remains the preferred management route in such cases.
- 5.16 There are no landfills accepting hazardous waste in NEL. The nearest such facility is located at Winterton in North Lincolnshire which is recorded as receiving a small amount (<500t) of asbestos from NEL. A landfill in Wakefield at Welbeck is recorded as receiving contaminated soil and stones from NEL. The hazardous waste landfill in Northamptonshire at Augean also received a small amount of contaminated soil (<500t) attributed to NEL.

#### Treatment Capacity for Air Pollution Control Residues

- 5.17 The national strategy identified a need for further facilities to treat the Air Pollution Control (APC) residues that arise from the treatment of flue gases from energy from waste plant (EfW) and other combustion plant e.g. large biomass burners.
- 5.18 While historically hazardous waste landfill has been extensively used for this waste stream following 'conditioning', reliance on this solution for the future would be misplaced as the activity benefited from a temporary EU derogation from compliance with the 'Waste Acceptance Criteria' specified in the EU Landfill Directive. Therefore, alternative routes will need to be established. A number of different treatment options exist for APC residues including solidification and vitrification.
- 5.19 HWI 2024 reported c2,200 tonnes of APC residues and this is currently disposed of beyond NEL<sup>11</sup>. In view of the move away from landfilling this residue, consideration might be given to providing capacity for alternative management capacity within the sub-region given adjacent WPAs also host EfW facilities.

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<sup>11</sup> WDI 2024 indicates that c.2,000t of 19 01 07\* (solid waste from gas treatment) arising from Yorkshire & Humber region was received at the OCO Technology Limited Aggregate Manufacturing Facility in Leeds.

## **6 Conclusion on North East Lincolnshire's Hazardous Waste Management Requirements**

- 6.1 The reconciliation process has indicated that c33,500 tonnes of hazardous waste was produced in North East Lincolnshire in 2024. A significant proportion of this tonnage actually arose from waste management facilities undertaking processing of hazardous waste received from outside the Plan area. The tonnage produced is predicted to fall to c24,500 tonnes by the end of the Plan period.
- 6.2 Table 7 shows that the combined management capacity of NEL permitted facilities that accepted 500t or more of hazardous waste offered for hazardous waste across the three year period was c.75,000tpa, which is substantially in excess of the Plan's identified needs. Currently, all reported hazardous waste arising in NEL appears to be effectively managed with no obvious stresses in the system.
- 6.3 Notwithstanding the above, given the varying management requirements of particular waste streams, the continued availability of capacity for the Plan period at facilities outside the Plan area currently managing significant quantities should be confirmed through contact with the host Waste Planning Authorities as set out in the Strategic Flows Report.