

North Yorkshire County Council & Partner Authorities

Mineral and Waste Local Plan

Waste Arisings and Capacity Requirements Study

Non-Technical Summary¹

North Yorkshire County Council is producing a Joint Minerals and Waste Plan ('the 'Plan') in conjunction with the North Yorkshire Moors National Park Authority and the City of York Council. The purpose of the Plan is to determine where future development should be directed and how it should be implemented; the scale and type that is needed; and when it is required over the period from the present to 2030. A new Local Plan for the adjacent Yorkshire Dales National Park Authority area is also in preparation. This study considers waste arisings and capacity requirements for the whole of the North Yorkshire sub-region (ie the four local authority areas mentioned above) in order to support preparation of both these plans.

1. The Waste Arisings and Capacity Requirements study (WACR) involved four tasks:
 - (i) estimating current quantities of waste created;
 - (ii) establishing capacity that is currently available for each management method;
 - (iii) forecasting future change in arisings and management methods over the period to 2030;
 - (iv) comparing this with the available capacity to identify any gaps.

2. The WACR covered the principal waste streams and this summary focuses on the main ones:
 - Local Authority Collected Waste (LACW) – virtually all this waste originates in households apart from small quantities of street sweepings, waste from parks, etc.;
 - Commercial & Industrial (C&I) wastes) – covering wastes generated from the retail, service and public sectors and a wide range of industries;
 - Construction, Demolition & Excavation (CD&E) wastes – material generated by varied development and regeneration projects, comprising waste building materials, soil, etc.
 - Hazardous wastes - these are a sub-component of all the above streams which are assessed separately because they require special management facilities;
 - Agricultural wastes – generated on all types of agricultural holdings.

3. Additionally the study reviewed the quantities of low-level radioactive and waste water treatment (ie. sewage sludge) wastes arising in the Plan area.

Identifying baseline arisings

4. The WACR used the most up-to-date information about waste arisings in 2011, derived primarily from data reported by the waste management industry to Defra and the Environment Agency (EA). The total quantity of wastes created in that year was almost 1.98 million tonnes. The quantities and relative proportions are summarised in Table NTS1.

¹ This non-technical summary has been produced in support of a study undertaken in 2013 by Urban Vision with 4Resources. The study was commissioned by North Yorkshire County Council in order to provide more robust evidence on waste needs to support local plans for waste in North Yorkshire referred to in the introductory paragraph. The non-technical summary has been produced by the consultants who prepared the original report.

Table NTS1: Summary of Arisings in the Principal Waste Streams, 2011

Wastes	LACW	Commercial	Industrial	CD&E	Hazardous
Tonnage (rounded)	438,600	455,600	289,600 ²	768,800	27,000
Proportion	22%	23%	15%	39%	1%

5. Each waste stream was also analysed to identify the proportions that were being recycled, composted, treated, or sent to recovery (energy from waste) or disposal (landfill) sites.

Analysing capacity

6. A list of waste management sites was compiled and the capacity of each was identified from its planning permission or the maximum quantity of waste that it managed in the last six years, taking whichever figure was greater, in order to gain a realistic estimate of potential capacity. Sites were categorised by the waste management function they perform (eg. bulking wastes, separating recyclables, composting, landfill, etc.) and the waste streams they handle. This approach ensures that the comparison of capacity and future management need is undertaken in sufficient detail that any gaps can be identified accurately.

Projecting growth

7. Future waste management capacity requirements over the life of the Plan were modelled using a set of forecasting scenarios that considered different rates of improvement in recycling performance and diversion from landfill as summarised in Table NTS2.

Table NTS2: Summary of recycling scenario assumptions

	Current recycling	Maximised recycling	Median recycling
LACW	All scenarios were based on assumptions consistent with those used by the Waste Disposal Authority's infrastructure procurement		
C&I	No change	75% recycled 25% of remainder to energy recovery	50% recycled 50% of remainder to energy recovery
CD&E	No change	75% recycled	50% recycled

8. The approach combined these assumptions with three further scenarios modelling different rates of growth in waste arisings, producing 9 scenarios in all. Growth rates for LACW were consistent with those that informed the Waste Disposal Authority's infrastructure procurement, while those for the other streams used forecasts taken from the Yorkshire & Humberside regional econometric model. All assumptions are therefore derived from sources that inform other planning activity ensuring a consistency of approach.
9. The assumptions were then used to forecast the quantity of each waste stream that would be created through the life of the Plan, and how they are likely to be managed in the future.

² This figure excludes wastes managed at restricted user facilities (typically sites that manage their own wastes at source). A large volume of waste from the power generation industry is managed in this way in the Plan area.

Gap analysis

10. The culmination of the WACR is a comparison of the current capacity for recycling, treating and landfilling of each waste stream with the predicted quantities that need to be managed in those ways over the period to 2030. The WACR reveals that current LACW recycling performance is *above the average for England* but further improvement will be needed to achieve the national target for 2020. The comparable rate for C&I wastes is *a little below the national average* as estimated by the most recent survey, while the CD&E rate is *closer to the national average* although there is limited accurate data about all aspects of this waste stream. Therefore further improvement in recycling rates is likely to be needed and is expected to occur as waste management practice evolves in response to a range of pressures.
11. The identified capacity gaps are summarised in Tables NTS3 and NTS4 are based on the Maximised Recycling and Median Recycling assumptions respectively as shown in the table above. Figures in the table refer to the gap or surplus in annual capacity that is forecast to exist at 2030. Capacity gaps are shown in red text with the negative figures identifying surpluses. In virtually all cases the gaps exist throughout the Plan period, changing in size according to the growth assumptions that were used.

Table NTS3: Summary of Capacity Gaps – Maximised Recycling Scenario

MAXIMISED RECYCLING (all figures in 000 tonnes)	NO GROWTH	MINIMISED GROWTH	GROWTH
Non-inert landfill	-147	-151	-121
Inert landfill	63	63	73
Hazardous landfill	7	7	8
Energy recovery	-113	-71	-47
Specialised incineration	13	13	13
Recycling (mixed wastes)	596	614	754
Recycling (specific wastes)	-91	-91	-91
Recycling (CD&E wastes)	247	247	286
Composting	-67	-67	-65
Treatment	-29	-32	-17

Table NTS4: Summary of Capacity Gaps – Median Recycling Scenario

MEDIAN RECYCLING (all figures in 000 tonnes)	NO GROWTH	MINIMISED GROWTH	GROWTH
Non-inert landfill	-147	-151	-121
Inert landfill	144	144	164
Hazardous landfill	7	7	8
Energy recovery	-65	-25	12
Specialised incineration	13	13	13
Recycling (mixed wastes)	547	569	696
Recycling (specific wastes)	-91	-91	-91
Recycling (CD&E wastes)	166	166	195
Composting	-67	-67	-65
Treatment	-29	-32	-17

12. Under the Maximised Recycling assumptions the analysis identified two significant gaps in capacity for recycling mixed (LACW and C&I) wastes and CD&E wastes under. In the Median Recycling scenario the lower recycling performance unsurprisingly reduces the shortage of

CD&E recycling capacity but more landfill capacity is needed as a result. There are also small gaps in two more specialised facilities that are used to manage hazardous wastes.

Capacity requirements

13. The requirements derived from the analysis can be summarised as follows:

- **Disposal for LACW and C&I wastes:** no requirement provided there is continuing but only modest improvement in recycling performance for these streams;
- **Disposal of CD&E wastes:** a capacity gap develops in the period 2017-2021 under all the forecasts resulting in a shortfall of between 143,600 tonnes and 305,600 tonnes. Increasing the recycling rate will not eliminate the gap but it may be reduced further if inactive landfill sites in the Plan area come back into use or if new development and regeneration projects increase local demand for diverting these wastes from landfill and reprocessing them as secondary aggregate;
- **Disposal of hazardous wastes:** continued reliance on external landfill capacity is likely because the very small shortfall (<8000 tonnes per year) is unlikely to be enough to make a new local facility economically viable. Landfilling these wastes is managed through a national network of sites and if this solution is adopted the Council will need to contact other authorities where those facilities are located to establish whether capacity will be available through the Plan period;
- **Energy recovery:** the Allerton Waste Recovery Park (AWRP) plant would, if developed, provide capacity for dealing with LACW and may offer some additional capacity to manage C&I wastes. Any moderate increase in the quantity of the latter that are sent for energy recovery (which does not occur at present) would require a single new facility with a capacity of 50,000 tonnes;
- **Specialised incineration:** this capacity may be required to dispose of hazardous or agricultural wastes. The level of waste produced within the Plan area needing this specialised disposal method may be sufficient to make a small local facility economically viable. However there is no certainty this will happen and therefore the Council could continue to rely on existing capacity in other authorities, subject to confirming it will be available by consulting other planning authorities;
- **Recycling of construction and demolition wastes:** the WACR identified a maximum 286,000 tonne gap. As noted above, growth in regeneration activity could reduce the need to landfill these wastes but it would require even more local recycling capacity unless a significant proportion of the material can be recycled where it is created;
- **Mixed household and business waste recycling:** this is the largest capacity gap (possibly as much as 750,000 tonnes of capacity) which includes capacity for separating mixed recyclable wastes and that for re-processing them into secondary products. The latter is currently filled by exporting separated recyclable materials (paper, glass, plastics, etc.) to facilities in other authorities that serve regional or national catchments. The Council may continue to rely on this capacity provided consultation with other authorities confirms it will be available through the Plan period, however the implied significant level of exports does not help to deliver net self-sufficiency and the Council might instead ensure the Plan provides for an additional element of local capacity;
- **Specialised recycling facilities:** these facilities only handle specific materials such as scrapped vehicles, metals, tyres, waste electrical and electronic equipment, but the WACR indicates there is adequate capacity in the Plan area already;

- **Composting:** no additional requirement;
 - **Treatment of household and business wastes:** no additional requirement is forecast but this conclusion, together with that for energy recovery, assumes the AWRP facilities come forward on time. If this does not occur and other equivalent capacity is not utilised the distribution of wastes across landfill, recycling and recovery management routes will be very different from the outcomes modelled in this work.
14. The study estimated arisings of almost 4.6 million tonnes of agricultural wastes however virtually all this material is managed at source by burning, burial, storage or spreading on land. Only 32,250 tonnes requires management off-site and the existing local capacity is sufficient to meet this need.

Concluding comments

15. The approach to the WACR would also enable the delivery of net self-sufficiency in waste management across the Plan area by 2030 or sooner if this is practicable. Net sufficiency means that there is enough capacity to deal with all the locally arising wastes, and that the quantity of wastes which may leave the Plan to be managed elsewhere is balanced by an equivalent quantity imported from outside the plan area which is managed in local facilities. This means that there is no net import or export of waste into the Plan area. However, the WACR does review the scale and pattern of these movements so the Authorities can take steps to check, where relevant, that any external management capacity will continue to be available in the future.