

Respondents: Shlomo and Josh Downen

Main Matter 2 – Scope and Context of the Plan and Waste Management in the Plan Area

Issue: Whether the identification of future waste needs is sufficiently evidenced based and robust.

1. Does the Waste Needs Assessment (May 2023) (WNA) provide an appropriate and robust mechanism to support the identification of the future waste management needs in the Plan area and does it adequately take into account future growth forecasts and Government targets to reduce residual waste and increase recycling rates?

Based on ONS population forecast data for Nottingham and Nottinghamshire, in conjunction with the Environmental Improvement Plan (EIP) target to reduce residual waste per capita to 437 kg by 2027 and the Environment Act target to halve residual waste to 287 kg / capita by 2042, assuming a linear fall of 10kg per person per year between 2027 and 2042, total residual waste (excluding major mineral waste) in Nottingham and Nottinghamshire would fall to 417,981 tonnes per annum by 2038.

This c. 418,000 tpa figure is a slightly lower level of waste than is reflected in the corrected Table 10 (PAM8) figure of 431,000 tpa (i.e. 225,000 + 206,000 tpa not recycled).

This indicates that the Council is slightly over-estimating waste arisings compared to what would be achieved if the targets were to be on track to be met.

It is also worth noting that if waste continues to fall in line with the 2042 target, then the combined figure for Nottingham and Nottinghamshire, accounting for both LACW and C&I (while excluding major mineral waste) would fall from c. 418,000 tpa in 2038 to c. 372,000 tpa in 2042.

As such, allowing new or expanded residual waste treatment capacity to be built to serve Nottingham and Nottinghamshire based on 2038 figures could result in the over-provision of residual waste treatment in contravention of the principles set out in the updated EN-1 and EN-3, potentially undermining the waste hierarchy.

It is also worth noting that much of this residual material is likely to be unsuitable for incineration due to being non-combustible, and that there is the potential for some of the residual material to be diverted to other purposes such as for the production of Sustainable Aviation Fuel or 'SAF' (in line with the Government's Jet Zero Strategy) and/or to heat cement kilns.

With respect to the non-combustibility of some residual waste we note the comment made by Shlomo Downen within Objection 894 (CD4, page 8 and CD5, page 23 –

with further detail provided in CD6, electronic pages 300-307 and 477-478), which is not disputed by the Councils (as per CD7, electronic pages 45-46).

With respect to the diversion of residual waste to SAF production and cement kiln usage we note CD6 electronic pages 303, 379, 380, 381, 479, and 501.

Additionally, it should be noted that the interim (2027) target for residual municipal waste reduction is more ambitious than that for overall residual waste, reflecting the reality that the sort of waste that is currently used as incinerator feedstock (e.g. plastic and food waste) is a key focus for residual waste reduction efforts in the coming years.

These considerations mean that the capacity gap analysis in CD1 Table 11 296,831 figure could significantly overestimate the quantities of material that would be available for 'Energy Recovery' arising in Nottingham and Nottinghamshire for any new incinerator that was given planning consent under the plan.

It would therefore be helpful if an indicative waste arisings figure for 2042 were provided (in Table 10, and transposed into Table 11) to show the level energy recover capacity required in the event that the residual waste reduction targets were met, taking account of alternative uses for non-recyclable waste, i.e. as feedstock for SAF and cement kilns. This is necessary because any new incineration facility granted planning permission based on compliance with the emerging Waste Local Plan could be expected to be operational in (and indeed well beyond) 2042.

Interim Target 3 of the EIP is that: "By 31 January 2028, the total mass of municipal residual waste in a year does not exceed 333 kg per capita". Assuming the 2019 municipal waste per capita figure would be halved by 2042, this would mean that a linear fall in waste per capita for Nottingham and Nottinghamshire between 2027 and 2042 would result in municipal waste falling to a total of 333,319 tonnes by 2038 and then to 303,916 tonnes by 2042.

Arguably, the municipal residual waste figures of 333,319 tonnes by 2038 and 303,916 tonnes by 2042 are a better fit for the types of waste covered in Table 11's HIC figure than the aforementioned total residual waste figures of 418,000 tonnes in 2038 to c. 372,000 tonnes in 2042.

As such, the 423,656 tonne combined residual arisings produced figure for HIC in Table 11 for 2038 (296,831 for energy recovery + 126,825 for disposal = 423,656 for total residual) should be reduced by more than 21% (to around 333,000 tonnes for total residual), and further reduced to around 304,000 tonnes to show the 2042 forecast.

The table below sets out our calculations for the various figures used above.

Residual waste calculations for plan area (Nottingham & Nottinghamshire)

Year	Population	Total Residual Waste (kg/person)	Total Residual Waste (tonnes)	Municipal Residual Waste (kg/person)	Municipal Residual Waste (tonnes)
2027	1,219,581	437	532,957	333	406,120
2028	1,225,997	427	523,501	326	400,206
2029	1,232,159	417	513,810	320	394,126
2030	1,238,180	407	503,939	313	387,922
2031	1,244,125	397	493,917	307	381,614
2032	1,249,675	387	483,624	300	375,111
2033	1,254,818	377	473,066	294	368,415
2034	1,259,728	367	462,320	287	361,584
2035	1,264,645	357	451,478	280	354,691
2036	1,269,393	347	440,479	274	347,687
2037	1,273,967	337	429,327	267	340,574
2038	1,278,229	327	417,981	261	333,319
2039	1,282,547	317	406,567	254	326,024
2040	1,286,984	307	395,104	248	318,700
2041	1,291,488	297	383,572	241	311,335
2042	1,296,017	287	371,957	234.5	303,916

Source / Calculations for table:

- Population.** At <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/datasets/localauthoritiesinenglandz1> the ONS published their set of 'Population projections – local authorities: SNPP Z1' documents. According to the ONS, "2018-based estimates are the latest principal projection". So, we have used these latest datasets from the ONS to inform our calculations (in the table above).
- Total Residual Waste (kg/person).** 2027 figure is Interim Target 1 of the UK Government's Environmental Improvement Plan (EIP) from January 2023, which states: *"By 31 January 2028, the total mass of residual waste excluding major mineral wastes in the most recent full calendar year does not exceed 437 kg per capita"*. 2042 figure is the Long term target: *"By 31 December 2042, the total mass of residual waste excluding major mineral wastes in a calendar year does not exceed 287 kg per capita"*. Intervening values assume a linear fall of 10kg/person/year.
- Total Residual Waste (tonnes).** Calculated: Population × Residual Waste. Result divided by 1,000 to convert kg to tonnes.

- **Municipal Residual Waste (kg/person).** 2027 figure is interim target 3 of the EIP: “By 31 January 2028, the total mass of municipal residual waste in a year does not exceed 333 kg per capita”. 2042 is half the 2019 value for municipal waste in line with the wider residual waste reduction target. Calculation is set out in CD6 electronic page 475 (i.e. page 3 of Incineration Overcapacity Technical Annex). Intervening values assume a linear fall of 6.6kg/person/year.
- **Municipal Residual Waste (tonnes).** Calculated: Population × Municipal Residual Waste. Result divided by 1,000 to convert kg to tonnes.

Note: It would have been reasonable to assume that municipal waste would more than halve between 2019 and 2042 on the basis that it would continue to be the focus of reduction efforts in line with the greater level of reduction seen for the 2027 target. Therefore, the numbers used are considered to be conservative, as they are more likely to over-estimate rather than under-estimate the levels of municipal residual waste arising in the event residual waste reduction targets are met. Similarly, as outlined above, these figures do not take account of the non-combustibility of a portion of this residual waste, and so is likely to overstate the quantity of residual waste potentially available for energy recovery and other uses as a fuel (such as feedstock for SAF production and to heat cement kilns).

2. Does the WNA adequately take into account levels of waste management capacity in neighbouring authorities?

It would appear that all of the waste management facilities listed in WNA Appendices F and G are located within the Plan Area, and that no account is made of waste management capacity in neighbouring authorities. This means that no account is taken within the WNA of, for example, the prospect of there being any ‘spare capacity’ to process waste from the Plan Area at facilities such as the:

- 455,000 tonnes of capacity at the fully operational Newhurst Quarry incinerator in Leicestershire
- 245,000 tonnes of capacity at the fully operational Sheffield incinerator (where planning permission was varied in 2011 and 2012 to allow the facility to process waste from Nottinghamshire)
- 190,000 tonnes of capacity at the fully operational North Hykeham incinerator in Lincolnshire
- 170,000 tonnes of capacity at the Drakelow incinerator (which is currently in commissioning)
- 86,400 tonnes of capacity at the existing Boston Energy Production Facility, which moved from biomass to RDF feedstock in 2022

- 56,000 tonnes of capacity at the fully operational Newlincs incinerator in North Lincolnshire

This amounts to a combined capacity of more than 1.2 million tonnes of incineration capacity located in neighbouring authorities that appears to have been ignored by the WNA, due to the WNA focussing narrowly on facilities located within the Plan Area. Added to this omission is the failure to account for either form of waste management capacity in neighbouring authorities.

We also understand from SD1 that quantities of waste from North Nottinghamshire are being processed in Sheffield to help make use of spare capacity at the Sheffield incinerator, and indeed waste from Nottinghamshire is also sent to the Ferrybridge incinerator complex which, with a combined 1.45Mtpa of capacity, requires waste from a large catchment area to remain operational. It is also the case that waste from Nottinghamshire is sent to help power the Hope Cement Works in nearby Derbyshire. It is possible that if waste from Nottingham and Nottinghamshire were not being sent to these facilities then these plants would need to source their feedstock from even further afield.

4. Are the chosen scenarios for forecast waste arisings sufficiently evidenced based to be considered as the preferred options upon which to base the Plan?

Only the 'high recycling' scenarios are in line with the residual waste reduction targets from the EIP and the Environment Act, although the total arisings forecast underestimates the level of waste minimisation required to meet these targets. The 'low recycling' scenario is clearly out-of-step with meeting our recycling targets. Therefore, only the high recycling scenarios should be retained, and these should be complemented by a scenario that anticipates higher rates of waste minimisation, i.e. lower levels of arisings.

9. Does the Plan adequately take into account the implications of the declarations of climate change emergencies and consequent reductions in CO2 emissions targets and the impacts this might have on sites with contracts for the management of household, industrial and commercial waste with those bodies?

With respect to adverse climate impacts arising from residual waste treatment, we offer the following points:

- As per the evidence set out in UKWIN's Good practice guidance for assessing the GHG impacts of waste incineration - available at <https://ukwin.org.uk/files/pdf/UKWIN-2021-Good-Practice-Guidance-for-Assessing-the-GHG-Impacts-of-Waste%20Incineration.pdf> - incineration is a high-carbon waste treatment option. As noted in that guidance, the adverse climate impacts of waste incineration is recognised, for example, by the Climate Change Committee (CCC) and Zero Waste Scotland (ZWS).

- From a border perspective, the loss of materials to the circular economy through either incineration or landfill (setting aside the prospect of landfill mining) comes with the GHG cost of having to extract new resources and to produce new products to replace those that were lost through incineration and landfill, and this comes with significant GHG costs.
- As a result, we can expect efforts to be made across the board to reduce the generation of residual waste in order to reduce the harmful climate impacts associated with both the direct emissions and the indirect environmental consequences associated with a linear economy.
- When the Government announced its proposals to halve residual waste - see: 'Consultation on environmental targets' (opened by Defra on 16 Mar 2022) available at <https://consult.defra.gov.uk/natural-environment-policy/consultation-on-environmental-targets/> - they rightly stated that: "Tackling residual waste reduces the environmental impacts of treatment, including air, soil, and water pollution [...]. It is more sustainable to prevent waste completely and, where waste is unavoidable, to recycle it [...]. The proposed target can drive both waste minimisation and recycling of unavoidable waste..." It also noted that a reduction in residual waste treatment "will lead to an increase in the reuse, repair and remanufacture [...] and move England's waste system to a more circular economy".
- The impending inclusion of incineration in the UK Emissions Trading Scheme (UK ETS) from 2028 can be expected to encourage the diversion of plastic from incinerators. As more than one tonne of feedstock is required to replace each tonne of high calorific value plastic that is diverted from incineration, the move to inclusion of incineration in the UK ETS is expected to free up millions of tonnes of existing incineration capacity at a time when overall waste arisings are expected to fall. For further detail, see CD6 electronic pages 482-483.

10. Should the Plan be more explicit regarding the approach to net self-sufficiency with particular regard to energy recovery?

It would not be appropriate for Nottingham and Nottinghamshire to seek to be net self-sufficient for energy recovery capacity because waste from the Plan Area is being relied upon for use as feedstock for incinerators in neighbouring authorities that might otherwise need to source feedstock from further afield, and because short-term self-sufficiency is likely to result in medium-term lock-in to the overprovision of incineration capacity within the Plan Area that could be expected to undermine the achievement of recycling and residual waste reduction targets.

It should be noted that information about the overprovision of incineration capacity both nationally and within the Northeastern Cluster (that includes Nottingham and Nottinghamshire) and how incineration could harm recycling is set out on CD6 electronic pages 473-506.