

Dorset Council's Outline Statement on Waste Need

- 1.1 This note addresses the Appellant's need case, which they claim is compelling. In particular the Waste Need Statement¹ submitted in support of the application includes the following statements:

S.9 Without any action taken there will be an increasing shortfall in residual waste treatment capacity in Dorset reaching 234,000 tonnes by 2033 (annually). There is an urgent need for new waste management infrastructure of the type proposed to meet the significant projected shortfall.

and

S.12 Nationally and regionally high volumes of residual waste are being generated, and despite efforts to reduce waste production, increase re-use and recycling and recover energy from waste, significant volumes of residual wastes (arising from both municipal and C&I sources) are still being sent to landfill for disposal. Furthermore, around 2.5 Mt of UK derived residual waste is exported to Europe for use as a fuel in ERF of which 2.1 Mt is RDF, which could instead be recovered in the UK at ERF's.

and

S.13 The south west region is generating 2.6 Mt of residual waste and 0.5Mt of this is sent to landfill. It is the worst performing region in England in terms of the percentage of waste landfilled (19%) and sends less residual waste to energy recovery (28%), compared to England as a whole (43%). Some 81% of the RDF produced regionally is exported to Europe. A need exists to divert more residual waste from landfill to energy recovery and to manage more RDF in the region.

- 1.2 It is the Council's contention that the case is not supported by the most recent data, locally, regionally or nationally. For the purpose of this exercise:
- 'locally' is taken to relate to the area covered by the Bournemouth, Poole and Dorset Waste Local Plan (including Christchurch) referred to hereinafter as the 'Dorset sub-region' (the Plan Area);
 - 'regionally' to the waste planning areas in the former South West region as listed in Table 2; and
 - 'nationally' is taken to relate to England;

¹ Portland energy recovery facility Waste need statement ToR (September 2020)

Assessment of Local Need

1.3 With careful analysis, the latest Environment Agency WDI data for 2022 can be used to estimate the tonnage of residual waste that might be suitable for management through EfW generated in the Dorset subregion. To do this it is necessary to consider tonnages of waste identified in the Waste Data Interrogator as:

- arising in the subregion going to EfW and landfill as these represent final fates²; plus
- arising in the subregion being exported for management outside England (as this is not reported in the WDI); plus
- arising in the subregion sent to transfer/treatment facilities outside the subregion (as such waste will not be identified as arising in the subregion at its final destination); less (to avoid double counting); minus
- arising outside the subregion sent to transfer/treatment facilities inside the subregion (as such waste will be incorrectly identified as arising in the subregion at its final destination after it leaves the transfer/treatment facility, so will have been counted in the tonnages above).

1.4 And then generate tonnages of residual waste using the following waste types/codes:

- Biodegradable waste: LOW 20 02 01
- Combustible waste (RDF): LOW 19 12 10
- Mixed municipal waste: LOW 20 03 01
- Other wastes arising from mechanical treatment of wastes: LOW 19 12 12.

It should be noted that:

1. The above waste description 'mixed municipal waste' covers both black bag waste destined for disposal/recovery i.e., residual waste and commingled recyclates going for recycling via a Material Recycling Facility. Therefore, to identify the tonnage of true residual waste, inputs to these types of facilities (MRFs) have been excluded from the tonnage going for export (item 3 in Table 1) and to receiving sites outside of Dorset subregion calculation (item 4 in Table 1).

² Note to avoid double counting inputs to Dorset subregion intermediate facilities of Dorset subregion waste, tonnages have been ignored on the basis that their outputs will either go to final fate (item 1) or to facilities outside Dorset subregion (item 2).

2. The waste description 'other wastes' captures residues from waste processing sites. A significant number of these deal with construction and demolition waste in the form of skips, the processing residues of which are not suitable for incineration. An estimation of 50% of the tonnage sent to landfill is assumed to be suitable for incineration based on other detailed data work.³

1.5 Table 1 below shows how the quantity of residual waste has been determined.

Table 1: Residual waste arising in Dorset subregion 2021 & 2022.
Source: WDI (values in 000s tonnes).

No	Component	2021	2022	Constituent Data Values
1	Subregion waste to Landfill in England	36.3	39.7	50% 191212 plus mixed municipal and biodegradable. No RDF reported
2	Subregion waste to EfW in England	32.4	67.4	RDF plus mixed municipal plus 191212
3	Exports outside England from subregion sites	85.8	54.8	Only RDF (191210) reported
4	Transfers of subregion waste to transfer/treatment sites outside subregion	46.5	24.4	Transfer/Treatment only as others may involve non residual mixed municipal i.e., commingled recyclates.
5	Waste from outside subregion to subregion transfer/treatment sites	-22.5	-2.2	191212 plus mixed municipal and biodegradable.
	Total Residual Waste	178.5	184.1	

1.6 Table 1 shows that the arisings of residual waste that may be suited to EfW from the subregion is currently in the region of between 178kt (2021) and 184kt (2022). This is substantially below the projection of 320ktpa of residual waste given in the adopted Waste Local Plan for 2023. It should be borne in mind that the Plan projections were taken off a baseline value generated from data of 2015, so in fact is seven years old, and much has happened to suppress waste growth during the intervening period⁴. It should also be noted that the final values given in Table 3 deduct 50% of the 191212 waste going to landfill - this accounted for a further c20,000 tonnes to the total. While it may be reasonable to initially overestimate need in the Plan to account for uncertainty, now it is apparent that the Plan estimates of need substantially overestimate, the Council contends that the requirement for which Policy 6

³ See Technical Note submitted to the Medworth DCO Examination by Beyond Waste (August 2023).

⁴ See for example Defra commissioned a Future Waste Arisings report in 2020 published in 2021. This includes the most current national growth forecast for the LACW and C&I waste stream in England.

seeks to provide (up to 232,000tpa at 2033) should be adjusted to reflect the best available data. Such data would be included in the Authorities' AMR as an adjustment to the requirement at the next opportunity.

1.7 In addition, Table 1 shows:

- a substantial increase in waste going to EfW (see line 2) and a corresponding downswing in waste being exported as RDF (see line 3). This switch can be expected to intensify from 2023 onwards now that the receiving EfW plant is fully operational⁵. This undermines the Appellant's case based on a concern as to the loss of energy value to the UK due to the export of residual waste.
- The fact that the increased tonnage going to EfW (line 2) is not reflected in a reduced tonnage to landfill (line 1), also suggests that the waste going to landfill may not be suited to management by EfW, were additional capacity to be provided, so any claimed benefit (of avoided emissions) resulting from landfill diversion is likely to be overstated.

⁵ The upswing is due to the commencement of operation of the Bridgwater EfW plant in Somerset. This took a total of 16,263 tonnes of waste from Dorset (in the form of RDF) from Summer 2022 being its first part year of operation. Given the Bridgwater EfW plant has an operating capacity of 100,000 tpa, it can be expected to take the majority of Dorset's RDF produced from LACW from 2023 onwards, virtually eliminating exports of RDF abroad.

Assessment of Regional Need

1.8 The Appellant's Statement of Case states:

1.50 Overall, there is a compelling national and regional need case for the provision of new energy recovery facilities to divert more residual waste away from landfill and enable more of the RDF material produced in the UK to be managed in the UK to provide more sustainable lower carbon energy and reduce exports.

1.9 The Appellant's Waste Needs Statement suggests that the tonnage of residual waste arising in the South West was 2.6Mt. However, a more current assessment of data applying the method presented in Table 1 to 2022 data indicates arisings to be c1.93Mt as shown in Table 2. This represents a difference of 26% in residual waste requiring management from the estimation the Appellant's case relies upon.

**Table 2: Estimated arisings of residual waste in the South West (2022)
(000s tonnes)**

WPA	To Landfill	To EfW	Exports	Transfers Out	Transfers In	Total
Dorset Sub Region	39.7	67.4	54.8	24.4	-2.2	184.1
Bath & NE Somerset	2.9	92.6	0.0	2.8	-0.3	98.0
Bristol	28.7	195.1	42.6	5.7	-31.6	240.5
Cornwall	16.6	218.1	0.7	8.3	-11.1	232.6
Devon	105.8	198.2	1.8	10.1	-53.5	262.4
Gloucestershire	60.6	191.3	26.0	8.3	-17.7	268.5
Isles of Scilly	0.0	0.0	0.0	-	0.0	0.0
North Somerset	12.3	8.0	0.0	1.0	-5.8	15.5
Plymouth	1.6	91.6	0.0	13.8	0.0	107.0
Somerset	56.2	65.7	2.1	8.0	-21.3	110.7
S.Gloucestershire	0.0	158.0	4.9	3.4	-6.4	159.9
Swindon	0.2	50.5	0.2	0.2	-0.7	50.4
Torbay	0.8	42.5	0.0	16.2	-5.0	54.5
Wiltshire	77.6	40.9	25.9	6.7	-8.5	142.6
Region Totals	403.0	1,419.9	159.0	108.9	-164.1	1,926.7

1.10 Within the region there is a total of c.1.94Mt of EfW capacity which is operational, under construction or consented as shown in Table 3.

Table 3: EfW capacity in the South West

Waste Planning Area	Plant Name	Capacity ktpa
Bristol	Avonmouth	350
Cornwall	Cornwall	240
Devon	Exeter	60
	Hill Barton	24
Gloucestershire	Javelin Park	190
Plymouth	Devonport	265
Somerset	Bridgwater	100
S. Gloucestershire	Sevenside	197
<i>Wiltshire</i>	<i>Northacre</i>	243
Region EfW Total		1,939

The list above includes the Northacre Energy from Waste Facility, located in Westbury, Wiltshire, that was granted permission on appeal in February 2023. Once operational (expected c.2026), this facility will accept approximately 243,000 tonnes of residual waste per year. The facility is being provided to service a municipal waste contract with Wiltshire Council and so actual delivery is regarded as having a high degree of certainty.

1.11 A simple comparison between arisings of residual waste of 1.93Mt from Table 2 and existing EfW capacity of 1.94Mt in Table 3 shows that a marginal surplus of capacity already exists in the south west region. Therefore, contrary to the Appellant's claim, there is not a compelling need case for additional EfW capacity to serve the South West region either.

Assessment of National Need

1.12 The Second National Infrastructure Assessment produced by the National Infrastructure Commission^{6 7 8} released in October 2023 presents the most current assessment of EfW capacity. The Assessment sets out the following position for waste management capacity in general in England starting from the position of compliance with the waste hierarchy with the aim of maximising resource efficiency and decarbonising the solid waste sector. This is in the following context:(note that the footnote numbering relating to the extract has been kept so as to provide a true reproduction):

"Government action is needed to limit the waste sector's impact on the environment and achieve net zero. The more waste that is generated, the bigger the impact on the environment. The solid waste sector contributes around five per cent of the UK's carbon emissions.^{422 9}The sector's emissions are not declining and recycling rates have stalled at around 45 per cent.^{423 10}"
National Infrastructure Commission The Second National Infrastructure Assessment page124

1.13 The Commission examined three principal sources of waste – local authority collected waste, commercial and industrial waste, and construction and demolition waste and conducted its assessment within the following legal requirements to drive waste up the hierarchy:

- plans must be in place detailing measures to ensure 65 per cent of municipal waste, including household waste and household like waste from commercial and industrial sources, is recycled by 2035¹¹
- the volume of residual waste per person which is not reused or recycled must be halved by 2042 from 2019 levels
- by 2050, avoidable waste must be eliminated by recycling or reusing any waste which possibly can be reused or recycled.¹²

⁶ The National Infrastructure Commission is an executive agency of the Treasury established to provide impartial, expert advice and make independent recommendations to the government on economic infrastructure.

⁷ The NIC produces a National Infrastructure Assessment once in every Parliament, setting out its assessment of long term infrastructure needs with recommendations to government

⁸ The Second National Infrastructure Assessment National Infrastructure Commission (October 2023)

⁹ 422 For the Commission, the waste sector includes emissions from energy from waste plants which are not included under waste sector emissions in government statistics. See also Climate Change Committee (2020), The Sixth Carbon Budget: Waste

¹⁰ 423 Department for Environment, Food and Rural Affairs (2023), UK Statistics on Waste; Climate Change Committee (2020), The Sixth Carbon Budget: Waste

¹¹ 426 HM Government (2020), The Waste (Circular Economy) (Amendment) Regulations 2020

¹² 427 Department for Environment, Food and Rural Affairs (2023), Environmental Improvement Plan 2023

1.14 The Commission concludes the following (emphasis added):

*"These targets mean recycling rates will need to continue to improve beyond 2035. **Meeting the 2042 target would represent a municipal recycling rate of around 75 per cent.**^{428 13} Analysis for the Commission suggests that meeting the government's targets and delivering a net zero waste sector requires **a significant increase in recycling infrastructure** in the future."
National Infrastructure Commission The Second National Infrastructure Assessment page125*

1.15 With respect to Energy from Waste the Commission states the following (emphasis added):

*"Energy from waste is a major source of waste emissions, second only to landfill.^{442 14} To hit net zero, as Figure 4.6 indicates, the tonnage of waste treated at energy from waste plants without carbon capture and storage will need to reduce by around a quarter by 2035 and by around 80 per cent by 2050.^{443 15} **As recycling rates increase, the total volume of waste going to energy from waste, with or without carbon capture, will decrease.**^{444 16}"*

1.16 In order to inform its assessment and recommendations, the National Infrastructure Commission commissioned consultants (Ricardo) to undertake analysis and modelling on waste arisings and waste treatment methods in England. This reported on both the mix and capacity of waste infrastructure required now and in a range of potential future scenarios out to 2055¹⁷. The key findings of the report, insofar as EfW capacity is concerned, are reproduced below:

*"EfW capacity is modelled to reduce from the baseline capacity of approximately 17Mt under all modelled scenarios. EfW with CCS transitions with capacity modelled to become available in 2030.
The table below shows the estimated capacity requirements in 2042 where there is the target to achieve a 50% reduction in residual waste being sent to landfill and EfW, and 2050.*

¹³ 428 Department for Environment, Food and Rural Affairs (2022), Environment Act Targets Impact Analysis: Waste Reduction

¹⁴ 442 Climate Change Committee (2020), The Sixth Carbon Budget: Waste

¹⁵ 443 Commission analysis

¹⁶ 444 Ricardo (2023), Waste Infrastructure Technology Mix report

¹⁷ Waste Infrastructure Technology Mix report for National Infrastructure Commission Ricardo Final Issue 22/08/2023

Scenario 2042 Capacity 2050 Capacity

Scenario	2042 Capacity			2050 Capacity		
	EfW	EfW CCS	Total	EfW	EfW CCS	Total
Scenario 1	7Mt	7Mt	14Mt	1Mt	11Mt	12Mt
Scenario 2	7Mt	6Mt	13Mt	1Mt	9Mt	10Mt
Scenario 3	9Mt	7Mt	16Mt	4Mt	10Mt	14Mt
Scenario 4	6Mt	6Mt	12Mt	1Mt	8Mt	9Mt

The estimated capacity requirements for EfW in 2042 (including both EfW and EfW with CCS) in the lowest scenario are approximately 12Mt (scenario 4). The highest capacity requirements are approximately 16Mt (scenario 3). In 2050 the lowest capacity requirements are approximately 9Mt and highest requirements approximately 14Mt under the same scenarios."

Waste Infrastructure Technology Mix Report for National Infrastructure Commission Ricardo (page 74)

- 1.17 Therefore based on the very latest analysis of the national position, in order to meet the legally binding target of reduction in residual waste by 2042 as per the Environment Act, EfW capacity would be expected to fall from the current operational or consented amount of 17Mt¹⁸. Hence contrary to the Appellant's claim, there is no compelling need case for additional EfW capacity in England.

Conclusion

- 1.18 This assessment of the best available data confirms that, there is no compelling need case at local, regional or national level for an EfW plant of the capacity subject of this Appeal.

¹⁸ By at least 1 million tonnes or as much as 5 million tonnes depending on which scenario is followed.