



ES Appendix 7.1

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Appendix 7.1: Substitution Effects in the UK Residual Waste Market

This technical appendix to Chapter 7 of the ES Update sets out evidence about the substitution effect of adding additional residual waste treatment capacity to the UK EfW market.

It has been prepared by Robert Asquith, Director at Savills, as a competent expert under regulation 18(5) of the 2017 EIA Regulations. Robert is a Chartered Town Planner and Chartered Resources and Waste Manager with 37 years of professional experience. This includes extensive experience of energy from waste plants nationwide both as a planning consultant and from working within the industry.

The amount of residual waste in the UK and internationally will not increase as a consequence of the commissioning of 260,000 tonnes of annual capacity at Canford EfW CHP Facility.

Gate fees are the prices that waste consigners be they councils, businesses, or other bodies pay to waste management facilities to receive their waste.

The table below indicates information on gates applying to different types of waste management facility. It is from two sources:

- WRAP: Gates Fees Report 2024/25: Comparing the Costs of Alternative Recycling and Waste Treatment Options: August 2025¹
- LetsRecycle.com price March 2026 averages²

Table A7.1–1: Waste Management Gate Fees

Waste Management Plant Facility Type	WRAP Average Gate Fee England (£)	WRAP range (£)	Lets Recycle Average Gate Fee UK (£)
Energy from Waste	116 to 117	69 to 158	100 - 130
Export to EfW outside UK			105 – 155*
Landfill (including tax)	147 to 151**	139 to 172	146 – 156***
Anaerobic digestion	23 to 29	-42 to 78	4 to 20
In vessel composting (IVC)	73 – 83	44 to 83	40 - 65
Open windrow composting			21 to 38
Materials Recycling Facilities (net)**** fully comingled	43 to 44	8 to 126	

¹ <https://www.wrap.ngo/resources/report/uk-gate-fees-report-2024-25>, last accessed 27/04/26

² <https://www.letsrecycle.com/prices/>, last accessed 27/04/26



Materials Recycling Facilities (net)****	5	-17 to 27
Twin stream		

*includes £15/tonne baling/ wrapping costs

**£130 added, being 2026 rate of Landfill Tax (LFT)

***Tax assumed that prevailing during period of data (ie less than current LFT £130 rate)

****net takes account that often waste consigners receive a rebate related to the price of recycling materials sold to processors (eg board mills, metal smelters)

Gate fees for materials recycling facilities, anaerobic digesters, and composting plants are substantially lower than for energy from waste plants or landfills.

Outlier prices within the ranges indicated by WRAP are likely to relate to specific circumstances of time or place. They are not influential in setting the overall pattern.

The contractual basis for new EfW development compared to previous including much of the current operational fleet is quite different. Previously EfWs largely were developed in conjunction with feedstock supply contracts from specific local authorities. These are sometime claimed to lock capacity in and discourage local authorities in particular from seeking to divert waste to recycling or other higher waste hierarchy outcomes; which is denied by the EfW sector and local authorities.

In contrast, however, Canford, in common with all new EfW capacity now, will be a merchant plant. There will be no long term contract and MVV anticipates securing feedstock through a variety of shorter term arrangements in which pricing will be determined mainly by its costs of providing the service and on the expectation these will be lower than the current arrangements in which all residual waste is exported from BCP and Dorset, much of it abroad including considerable transport costs and, for exports outside the UK, wrapping and baling.

Prices for MRFs for example are not the whole cost of using such a facility: there is also the additional cost of running separate collections and any specialist equipment needed for collection. However, it can be deduced from the significant variation in average gate fees shown above that a waste consigner will almost always prefer delivery to a MRF, IVC or AD ahead of an EfW. The difference in pricing to access such plants incentivises investment in separate collections or processing to enable the cheaper options to be utilised.

The provision of 260,000 tonnes annual capacity at Canford will not therefore attract waste that would otherwise have been despatched to processing plants operating at a higher level within the waste hierarchy. It will also not lead to any additional waste being created, when the cost of doing so will be circa £116/ tonne. This underlines that just because EfW plants receive energy revenue that in no way makes it attractive to create waste to feed them.

The need or “demand” for residual waste capacity in England and the UK generally is therefore inelastic. The creation of new supply of capacity will not create more demand, as is the case for example with fossil fuel extraction projects in which in recent examples it has not been possible for promoters to show that their proposed production would not lead to more demand. The demand for fossil fuels is elastic, in large part related to the difficult mechanisms for supplying alternative sources of energy when fossil energy is almost always substantially cheaper. The exact opposite occurs in the supply of EfW capacity for waste management; it does not create more demand for waste management because, save for landfill, alternatives, including reducing waste creation, are much cheaper.



The actual effect of new capacity as proposed at Canford will be diversion from other energy from waste or from landfill. As can be seen above within the UK there is a clear price advantage for EfW over landfill. Whilst the introduction of EfW into the UK's Emissions Trading Scheme (ETS) from 2028 is expected to erode this to some extent it will remain the case that EfW is cheaper than landfill and Landfill Tax will continue to increase at least with inflation. There is no expectation that ETS will divert waste from EfW to landfill³.

The effect of the new capacity at Canford on landfill is likely to be in the main indirect. Around 20,000 tonnes annually is expected to be diverted directly from landfill but the main effect will be the diversion of residual waste from other EfW. However that EfW capacity released is most likely to be backfilled from elsewhere and ultimately this is most likely to divert waste from landfill; with some potentially also from older and less efficient EfWs. Any EfW that produces a higher amount of carbon dioxide per MWh of energy generated will be disadvantaged competitively by ETS.

The design-stage R1 assessment prepared for Canford shows an R1 co-efficient of 0.83. To be counted as an energy recovery plant a new plant must demonstrate R1 of a minimum of 0.65, although older plants with Environmental Permits and operating prior to 2009 may be certified as R1 if their co-efficients then exceeded 0.6.

The Environment Agency publishes a list of R1 coefficients for UK EfWs⁴. This shows a range of R1 co-efficients from 0.6 to 1.06⁵. The lower end of the range tends to be older and smaller plants and the higher end larger and newer plants and particularly those with heat recovery to industrial users.

Not all plants are operational and several are at development stage. Of 58 plants listed (noting some operational plant have multiple certificates for different process lines – Canford will have only one process line), 13 have R1s higher than that of 0.83 calculated for Canford⁶. Listed in the table below these include unbuilt plants at Westbury, Alton (which was refused planning permission and not appealed) and Heysham (which is understood to have been abandoned⁷).

Table A7.1–2: R1 Values for Selected EfW Facilities

Plant	Operation from year	Throughput	R1	Notes
Devonport	2016	265,000	0.91	Industrial CHP
Ferrybridge 1	2018	675,000	0.85	
Riverside 2, Belvedere	Expected 2026	655,000	0.87	In construction
Runcorn 1	2015	1,100,000	1.06	Industrial CHP

³ <https://zerowasteurope.eu/press-release/including-incineration-eu-ets-not-more-landfilling>, last accessed 27/04/26

⁴ <https://www.data.gov.uk/dataset/8287c81b-2288-4f14-9068-52bfda396402/r1-status-of-incinerators-in-england>

⁵ Portland note : The R1 co-efficient of 0.76 which was stated in evidence at the Portland Inquiry and is included in the EA data quoted here was based on gross power generation of 20.1MW. The EP issued reverts to an earlier stated figure of 18.1MW power output. This earlier stated output, quoted in support of the planning application but modified to that claimed at Inquiry, generated an R1 of 0.68 to 0.71. 0.68 is close to 0.65, below which the plant would not be R1.

⁶ On the assumption of there being no heat offtake at Canford.

⁷ Its Environmental Permit was surrendered 12 February 2024

https://assets.publishing.service.gov.uk/media/65ca04c59c5b7f000c951cc3/Surrender_Issue_Letter_VP3437QR-S002.pdf, last accessed 27/04/26



Runcorn 2	2015		0.88	Industrial CHP
Heysham	Not built - abandoned	350,000	0.88	
Alton	Not built – abandoned	330,000	0.86	
Beddington, Croydon	2018	374,400	0.84	District heating CHP
Ferrybridge 2	2020	675,000	0.93	
Kemsley	2020	657,000	1.0	Industrial CHP
Hooton	In commissioning	260,000	0.85	In commissioning
Northacre, Westbury	Unbuilt	243,000	0.9	
Newhurst	2023	350,000	0.94	Heat network to Loughborough University and nearby users in development

Not all EfWs in the UK achieve the R1 coefficient, including for example that at Exeter. Tolvik’s 2024 report⁸ states 43 operational EfWs out of 63 operational then had R1 certificates. That means 20 plants were disposal operations (not recovery), equivalent to landfill in the waste hierarchy.

From the above it can be deduced that compared to the 63 operational EfWs in the UK at present only eight have R1 co-efficients exceeding that of Canford and 55 are less efficient, having either lower R1 co-efficients or not being R1 operations. It is extremely unlikely Canford EfW would divert waste from those plants listed above with higher R1 co-efficient but more than likely waste will be diverted from plants with lower or no R1 status. Within the category of lower efficiency and non R1 plants it is possible Canford, in combination with other newer and more efficient plants could, once EfW ETS is in operation after 2028, cause plant closures.

In 2024 around 60,000 tonnes of waste from the existing Canford MBT was exported to overseas EfW. The situation with respect to such residual waste exports to EfW, which Canford EfW will reduce, is that the capacity is likely to be taken up with exports from other countries. Landfill tax regimes across Europe are accelerating the type of change seen in the UK and it is reported increasingly Italian waste is being traded internationally into EfW, although other countries are also exporting⁹. Such waste which is likely to replace that from Canford can reasonably be assumed to be diverted from landfill.

⁸ Tolvik Consulting: UK Energy from Waste Statistics – 2024 (April 2025), <https://static1.squarespace.com/static/5eabdfbe067c0b62fc7b58b7/t/6800cd36c2408b1f7ad8f645/1744883006223/uk-energy-from-waste-statistics-2024-4812.pdf>, last accessed 27/04/26

⁹ RDF Industry Group report October 2025: “10 years of the European voice for waste derived fuels (WDF), championing standards, policy and landfill diversion”



In conclusion, so far as the baseline is concerned, it is reasonable to assume that residual waste managed at Canford EfW will substitute for the same residual waste being managed at other facilities, rather than being any net increase. At least so far as UK EfWs are concerned it can also be assumed that the capacity released will be at plants which are less efficient than Canford.

