

Report to Cabinet

March 2022

Strategic Options for Processing of Separate Food Waste and Other Waste Disposal Services

Report by Steve Read, Assistant Director of Environment and Public Protection

Electoral division(s): All

Note: This report inevitably contains a number of technical terms and acronyms. A glossary of terms is included as an appendix for cross-referencing.

Summary

Under the new Environment Act 2021 waste collection authorities (WCAs) will be required to collect food waste separately. Under earlier legislation, it falls to the County Council as Waste Disposal Authority (WDA) to arrange for the disposal of the "controlled waste" collected in its area by the waste collection authorities.

The Government has yet to confirm the timing of and funding for implementation of the new duty. However, given the timeframes required to amend major contracts and implement new arrangements, the County Council needs to consider options for how to meet the obligation that will fall to it. In doing so, any proposal should reflect the priorities in *Our Council Plan 2021-25*, particularly the cross-cutting theme of tackling climate change and our priority of making best use of resources.

A detailed business case shows that the Council's mechanical biological treatment (MBT) facility could be converted to process food waste separately – providing a cost-effective solution to this new requirement. The programme of works would take 12 months. The modifications would have an estimated capital cost of just under £7.3m but, with reduced revenue payments under a varied contract, there is a strong business case to justify the proposal to do the work within the remaining term of the contract.

The financial, technical, environmental, legal and risk analysis concludes that modification of the existing facility is the option which enables the Council to meet the new statutory duty and the Council's strategic aims in the safest and most convenient way.

In considering the options to meet the new duties, officers have taken the opportunity to identify further changes that could be made to the current facilities and processes to improve or reduce the cost of the currently relatively expensive method of processing residual household waste in West Sussex and help our climate goals.

The proposal also includes providing transfer facilities for Horsham District Council's recyclable materials and for producing refuse derived fuel (RDF) in a form that opens up alternative end-disposal options.

The current contract for disposing of the RDF generated from the non-organic waste part of the process runs until March 2023. Having undertaken market consultation, it is proposed to start procurement of a new RDF offtake contract with the aim of reducing complexity, risks and costs, ideally through finding a UK end destination.

Recommendations

Cabinet is recommended to approve:

- (1) The variation of the Materials Resource Management Contract and associated capital investment to allow for:
 - a. processing of source-segregated food waste
 - b. production of loose Refuse Derived Fuel (RDF)
 - c. improvements for the capture, storage, and disposal of metal for recycling to achieve the income from metals
 - d. removal of redundant equipment
 - e. bulking of dry mixed recycling (DMR) for delivery to the materials recycling facility (MRF)
- (2) The commencement of a procurement for the disposal of refuse derived fuel until 2035 with a possible extension until 2040

Delegation of authority to commence (1) and (2) above to the Assistant Director of Environment and Public Protection at a time to be agreed in consultation with the Cabinet Member for Environment and Climate Change and the Directors of Finance and Legal Services. In the event that either or both (1) and (2) are not exercised prior to 31st March 2024, to bring a further report to Cabinet no later than 30th June 2024.

Proposal

1 Background and context

1.1 The Council, acting in its capacity as statutory waste disposal authority (WDA) is responsible under s51 of the Environmental Protection Act 1990 for the disposal of *controlled waste* collected by the district and borough (D&B) councils in West Sussex. This duty is supported by various national and local policies which seek to drive waste up the waste hierarchy, meet climate change objectives and provide value for money. To meet these objectives, the Council has commissioned three major contracts for the processing and/or disposal of waste:

- The Recycling and Waste Handling Contract (RWHC) commenced on 1 April 2004 for a 29-year period provides recycling centres and a materials recovery facility (MRF)

- The Materials Resource Management Contract (MRMC) commenced on 28 June 2010 for a 25-year period and a possible 5-year extension. This deals with residual waste via a mechanical biological treatment (MBT) facility and landfill disposal.
- The Refuse Derived Fuel (RDF) Offtake Contract was signed on 6 April 2018 for a 5-year period and a possible 5-year extension. This covers RDF haulage and disposal in Germany and Holland.

Currently household food waste, which falls within the category of *controlled waste*, is disposed of via the residual or “black bag” waste stream, of which food waste constitutes around 40% by weight. Under the MRMC, residual waste is processed at a Mechanical Biological Treatment (MBT) facility at Brookhurst Wood near Warnham. The incoming waste is separated into two main streams. An organic fraction is biologically treated through Anaerobic Digestion (AD) on site. The remainder which is known as “refuse derived fuel” (RDF) is sent for energy recovery, currently to Holland and Germany.

- 1.2 The MBT facility shreds incoming waste separating biodegradable waste (mainly food and animal waste) from the remaining material (mostly paper and plastic). The biodegradable fraction is liquidised and passed through the AD process which generates methane and a compost like output (CLO). The methane is burned to produce electricity. The CLO can be used in land restoration projects. Most of the remaining fraction is used to produce RDF for energy from waste processes. Separated metals and grit are sent for recycling. A minority fraction (less than 10%) is unsuitable for energy recovery and is sent to landfill.
- 1.3 Collectively, West Sussex Councils achieved a recycling rate of 53.1% in both 2019/20 and 2020/21 but need to improve performance to meet a 2025 national target of 55% and a much more challenging target of 65% by 2035. More importantly, waste contributes significantly to household and county-wide carbon emissions. The collection and processing systems adopted, including vehicles and waste minimisation initiatives, therefore have significant potential to reduce carbon and wider environmental impacts.
- 1.4 The Government’s Resources and Waste Strategy (2018) indicated that it would compel WCAs to collect food waste separately. This duty is now set out in the Environment Act 2021. While detailed guidance on the implementation of the new duty is awaited, food waste falls within the definition of controlled household waste and therefore the County Council must provide the means to process it separately. The MBT as currently configured cannot process food waste separately.
- 1.5 We therefore need to review the services currently delivered under the MRMC to:
 - Deliver a processing system for food waste collected separately by the Ds&Bs
 - Continue to provide RDF of suitable composition for energy recovery, ideally reducing the distance the material has to be hauled
 - Keep overall emissions as low as practicable given current technology and waste composition

- As far as possible allow for flexibility to meet tighter future targets and the impact of carbon pricing which may apply before the end of the current contract in 2035
- Meet other service and *Our Council Plan 2021-25* objectives set out under 2.2 below

- 1.6 The proposals in this report for the most part do not affect the operation of the other main contract – the Resources and Waste Handling Contract (RWHC) which covers processing of dry recyclables at Ford MRF, operation of the transfer stations and recycling centres. Some modifications of the transfer stations to receive separate food waste will be required, but this would form a relatively minor variation of the RWHC.
- 1.7 At present there is no transfer facility for receiving and bulking kerbside recycling collected in the Horsham District. Such facilities exist for Chichester, Crawley, Mid Sussex, Adur and Worthing and this avoids refuse collection vehicles having to travel across the county to the Ford MRF. Bulked recycling is loaded onto larger payload, articulated vehicles. In the absence of such a facility, Horsham vehicles have to deliver directly to Ford, Burgess Hill and Crawley and we compensate HDC for “tipping away” to locations a significant distance outside its boundary. Providing a transfer facility at the MBT will result in an overall saving by eliminating the “tipping away payment” to HDC of £314,000 pa. It will also reduce overall vehicle miles and net emissions through more efficient fleet utilisation.
- 1.8 The present RDF contract was let in 2018 and runs until April 2023 extendable by up to 5 years (with 12 months’ notice). It was procured, after market consultation, on the basis that the material will be bailed for onward haulage. Bailing adds processing cost but was assumed to reduce haulage and handling costs for the off taker because conventional, non-specialist HGV trailers can be used, resulting in a more competitive overall price. Since the contract was let, more UK facilities have come on-line and these have a general preference for loose material. Market advice suggests letting a new contract for loose RDF is likely to result in a more cost-effective contract. It is therefore proposed that the existing contract is extended for just one year and a new procurement is undertaken in that period.
- 1.9 Once produced, there is little space for storage of RDF within the MBT. The solution has been to pre-load and park trailers prior to collection. Parking must be on a site with a suitable permit from the Environment Agency (EA). The Council owns a site adjacent to the MBT known as “Site Ha” and this site has been identified as suitable for development to a standard which will meet EA permit requirements. In the interim we have, by arrangement, been using the nearby BritaniaCrest site for trailer parking as an interim solution. This is not sustainable in the longer term due to BritaniaCrest’s intention to develop the site and it costs the Council £160,000 a year. The business case suggests that development of a hardstanding parking area will provide a cost-effective long-term solution.
- 1.10 Currently metals in the residual waste are extracted during the process. Income from the sale of this material is split between Biffa and the Council. The current equipment is not compatible with the revised processing equipment and will be replaced as part of the overall modifications. This should also improve the capture rate. On the basis that the Council will make the investment in the new

equipment, Biffa have agreed the Council will keep all subsequent income from the sale of metals.

2 **Proposal details**

- 2.1 The aim is to provide the residents of West Sussex with a cost effective and carbon efficient recycling and waste service that will maximise the recovery of valuable natural resources. We will ensure our service is compliant with forthcoming national legislation and compatible with any new working arrangements for the West Sussex Waste Partnership (the joint working with the WCAs).
- 2.2 The main objectives to meet this ambition are set out in 1.5 above but also include:
- Maintain waste to landfill at 9% or less
 - Provide a transfer point for Horsham dry recyclables: - reduce HGV movements as explained in 1.7 above
 - Resolve future use of "Site Ha"; as explained in 1.9 above
 - Reduce the Council's cost of disposal
 - Reduce the amount of waste generated in West Sussex by residents (a corporate Key Performance Indicator)
- 2.3 The proposals can only be achieved through formal changes to the MRMC with Biffa. The MRMC contains a contract change process and this requires the Council to issue Biffa with an authority notice of change (ANC) document. This must clearly set out our requirements to allow the contractor to be able to respond as fully and realistically as possible.
- 2.4 In September 2020, and revised in September 2021, the Council issued Biffa with four ANCs to better understand the implications of the proposals set out in this report and to seek indicative costs of modifying the MBT to:
- Receive and process source segregated food waste
 - Receive and shred residual waste to produce loose RDF
 - Improve capture of metal for recycling with associated income from sale
 - Remove redundant equipment freeing up space
 - Receive, inspect and load HDC's dry recycling for back-haul to Ford MRF
 - Deliver annual operational savings over the remaining life of the contract
- 2.5 In issuing the ANCs, the Council determined that Biffa would, in full consultation with our project team, transparently commission third parties to price and, in due course, undertake the specified works on an open book basis. There are several reasons for this: Firstly, the Council does not have the in-house expertise to specify and procure the necessary technical modifications to the MBT. Secondly the number of companies able to provide the necessary modifications is limited. Through using, by agreement, the original suppliers/installers (Kiverco and Marches Biogas) the risk of system incompatibility is minimised. Thirdly, modifications will need to take place while the service continues to be provided. Therefore, risks of disruption to the service would be the technical and financial responsibility of Biffa.
- 2.6 Having evaluated alternatives (see section 3 below) alongside the ANC process and developed a Full Strategic Business Case, the preferred option is to vary the existing MRMC with Biffa to enable the acceptance and processing of

source-separated food waste and the continued production and offtake of RDF to an EfW (energy from waste) facility. This will also involve procurement of a new RDF contract as the existing contract (unless extended for up to 5 years) expires in March 2023. This forms part of the recommendation in this report.

3 Other options considered (and reasons for not proposing)

3.1 Officers looked at 5 primary options:

- Option 1 – Do nothing – discounted due to the need to support the new duty and to reduce the cost of the existing process.
- Option 1A – An offer from Biffa to provide an “end to end” solution including RDF offtake to a SE Regional facility – discounted due to high risk of procurement challenge as this was not part of the original MRMC offered to the market. More detailed analysis of these risks has been undertaken.
- Option 2 – MRMC Variation & new RDF procurement along with contract variations to meet the objectives set out in sections 1 and 2 above. **This option is recommended** as it presents the most compelling case based on the evaluation undertaken and set out in this report
- Option 3 – Terminate the MRMC & procure new solutions for food waste and residual waste. This is discounted largely due to the high cost of termination (a consequence of the current contractual conditions) which would negate the expected lower per tonne price over the remaining contract period. Option 3 would also lock WSCC into a new, long-term contract (potentially to or beyond the mid 2040s). It may also provide less flexibility around future options to decarbonise the waste stream.
- Option 4 – Commission a new facility in West Sussex. This is discounted due to the time required to find a suitable site, seek consent, procure and build, the high capital cost (likely to exceed £0.5bn) and low appetite for the risks associated with committing the Council to a fixed scale of facility and technology which, to be economic, would be in operation until at least 2050.

4 Consultation, engagement and advice

4.1 External

The Council has worked with a number of external suppliers to produce the business case:

- Kiverco – Plant design/implementation
- Marches Biogas – Food waste design/implementation
- Tolvik – Carbon comparison
- AECOM – Site Ha design

4.2 Partners in the West Sussex Waste Partnership

We have been engaging with the Ds&Bs in West Sussex to explore the timeframe for introducing food waste collections and the Council has sponsored current trials in Arun and Mid Sussex, the latter to begin in mid-2022. The general consensus among Ds&Bs is that commitments cannot be made until the

Government has set out an “implement by” date and clarified the extent of new burdens funding available to support roll out and ongoing delivery. Following debate of a Motion at Full Council on 17th December 2021, with unanimous support, the Cabinet Member for Environment and Climate Change wrote to – and recently followed up again with - the Secretary of State and Minister of State at Defra seeking clarification on these points.

The proposal allows us to plan an approach with certainty and be in a position to deliver to an agreed timeframe with the Ds&Bs without undue delay once the statutory timetable and funding arrangements become clear. The recommendation is therefore to agree the approach and delegate authority to the Assistant Director of Environment and Public Protection to determine the optimum time to implement it, allowing for further review by Cabinet within two years should there be continuing lack of clarity at the end of March 2024.

4.3 Councillors

In 2019 The Cabinet Member for Environment and Climate Change set up an informal, non-decision-making member advisory group to hear on an occasional basis from officers on how strategic options were being identified and explored. This provided an opportunity for the Cabinet Member to ask questions of the officers and be reassured around progress with the project prior to the point a decision is required.

The Communities, Highways and Environment Scrutiny Committee considered the strategic options at its meeting on 2nd March 2022. The Minutes of the meeting will reflect that the Committee

- Accepted the premise of the report and understood and supports the adoption of Option 2 – variation of the MRMC and modification of the site at Warnham.
- Noting that the new duty to collect food waste falls to Waste Collection Authorities, stressed the importance of residents’ perceptions, and of making residents aware of the need for, and benefits of, separate food waste collection, prior to its introduction.
- Acknowledged that recycling rates improve in areas where separate food waste collection has been implemented, and that food waste tends to reduce over time in such areas.
- Encouraged the Cabinet Member to keep pressure on Government to confirm the timing of, and funding for, implementation of the new duties arising under the Environment Act 2021.

5 Finance

5.1 Revenue consequences

The table below shows the budget position following the introduction of separate food waste collections that will enable 25,000 tonnes of food waste to be processed through the reconfigured plant saving on RDF contract costs. No account is taken of any impact on residual waste tonnages as a result of the move to separate food waste collections, it is possible that this will generate further savings. The provision of the DMR transfer facility will save £314,000 pa by removing the need to make ‘tipping away’ payments to Horsham District Council.

Revenue position following the introduction of food waste collections

	20/21 Budget	Operational Saving	Tonnage Saving	WSSC Saving tipping away	Revised Budget
	£'000s	£'000s	£'000s	£'000s	£'000s
MBT Running Costs	16,877	-2,450			14,427
Disposal Costs (RDF)	14,995		2,516		17,511
Landfill Costs	5,346		-3,585		1,760
Total MBT & RDF Costs	37,219	-2,450	-1,070	0	33,698
Other Disposal Costs	584			-314	270
Total Budget	37,803	-2,450	-1,070	-314	33,968
Overall Saving					-3,834

5.2 Capital consequences

Current estimates suggest that the capital cost will be £7.292m, based on quotes received as of 1st November 2021. Allowance for the project has been made in the 2022-23 capital programme and will be met from within the Capital Improvement Programme budget. The profile of spend below assumes that the facility will be ready for accepting food waste by 2025 although the precise profiling of the expenditure will be known only when the variation of the MBT is agreed with Biffa.

	2022/23	2023/24	2024/25	Beyond	Total
	£000's	£000's	£000's	£000's	£000's
Capital Improvement Programme	475	2,685	9,674	19,900	32,734
Project requirement	0	1,000	6,292	0	7,292
Remaining Budget	475	1,685	3,382	19,900	25,442

The Government has indicated WCAs may be eligible for assistance with transitional costs to collect separate food waste but have been less clear about whether WDAs could also receive transitional funding. This issue is being explored following an approach for information from Defra officials.

The effect of the proposal:

(a) **How the cost represents good value**

The investment in the facility will allow for the provision of food waste and a DMR facility for Horsham District Council. In addition to any cashable savings realised, the reconfiguration could avoid additional costs incurred if food waste requires transfer to an out-of-county facility.

(b) **Future savings/efficiencies being delivered**

The reconfigured facility will allow the service to fully benefit from savings in reduced residual waste tonnages as the D&Bs move across to food waste collection and potentially introduce changes to collection frequencies

If total waste is reduced, it would further reduce the cost of the RDF contract.

(c) **Human Resources and IT**

No Human Resources or IT impact.

(d) **Asset Impact**

This proposal makes use of land known as Site Ha which is owned by the Council and earmarked for this purpose. It will also ensure that the MRMC, and use of the MBT Facility, will continue for the foreseeable future. Focusing Horsham's delivery of DMR into the new facility will also reduce impact on the Council's existing transfer stations currently used by Horsham DC.

6 Risk implications and mitigations

- 6.1 A summary of the risk implications around procurement is provided in section 7 below
- 6.2 There is a financial risk relating to re-procurement of the RDF contract and the gate fee achieved. However, this risk exists irrespective of the work to reconfigure the plant. A market engagement exercise has given reasonable confidence that the price assumed within the business case is achievable. It is also assumed, on the basis of market evidence that there would be no major differential in price per tonne gate fee for taking either RDF (option2) or residual waste (option 3) to an EfW facility.
- 6.3 As mentioned at 1.4 above, a risk exists around timing of roll out of separate food waste collections across West Sussex as the Government has not yet clarified its expectations around when the new duty must be met by collection authorities nor the level of new burdens or transition funding that may be available. A review date is proposed in the recommendation in the event that this uncertainty persists. However, the County Council is keen to work with our D&B partners to develop a new Joint Waste Strategy and delivery plan to co-ordinate timing, and this approach has received in principle support. In the meantime, it is important for the County Council to demonstrate it has lined up a solution to process food waste, addressing an issue of concern to partners that there should be a local facility ready for the material when they do roll out the service.

7 Policy alignment and compliance

7.1 Legal implications

The Council needs to carefully consider the contractual arrangements through which the proposals can be achieved and the requirements of the Public Contract Regulations 2015.

The Council has undertaken a careful and considered analysis of the impact of the regulatory and legal framework for public procurement in relation to the proposed recommended option for the strategic solution and has taken external expert procurement advice to seek confirmation of the position. The conclusion is that the proposed variations to the MRMC would be in accordance with the PCR 2015

In relation to the additional operational improvements, similar consideration needs to be given to the impact of the Regulations and this has been subject to the same process noted above.

The changes to site Ha need to be considered separately and a similar assessment of procurement options within the legal framework has been completed to provide assurance for the option being recommended.

Further detailed advice has been provided on the processes required for the settling of the contractual variations and the effective assessment and mitigation of any risk of challenge to the procurement process. This will be available for the decision makers and for all members for further information and advice.

7.2 Equality duty and human rights assessment

The project aims to improve the delivery of public services and has no foreseen equality impact implications. Any relevant equality duty implications will be covered through current or revised contractual arrangements and through the arrangements agreed with the WCAs.

7.3 Climate Change

Climate Change underpins all other objectives and priorities within *Our Council Plan 2021-25*. The Council has committed to being carbon neutral by 2030 for "scope 1" emissions arising from its own operations. Emissions associated with household waste processing / disposal largely fall within supply chain emissions known as "scope 3" and this is mainly determined by how much waste householders produce and the extent to which they separate it for recycling. Known "scope 1" emissions for the council, including maintained schools, are in the region of 33,000t CO₂-eq per annum, whereas processing residual waste alone accounts for around 45,000t CO₂-eq per annum.

Nevertheless, the Council can have some control over waste emissions through specification of how and where waste is processed.

The Council commissioned a short study from Tolvik Consulting to compare carbon emissions from the principal options 2 and 3. A summary of the report is included in Appendix B

The study concludes that emissions from options 2 and 3 are broadly comparable and that the impact of emissions under the proposed option can be further mitigated through specifying minimum EfW plant efficiency when procuring a new RDF contract.

In terms of longer-term carbon reduction opportunities, option 2 is compelling as it would retain the capacity within the MBT facility in the future to remove low grade waste plastic. This constitutes the greater part of the anthropogenic (fossil based) carbon content of waste which could potentially be removed prior to sending the remainder for energy recovery. Currently there are no economic outlets for this material to be recycled but they could emerge – driven by carbon taxation – prior to the end of the contract.

7.4 Crime and Disorder

No crime and disorder implications are identified as a result of this proposal.

7.5 Public Health

No direct public health implications are identified as a result of this proposal.

7.6 Social Value

Many residents derive social value from the opportunity to recycle more and mitigate their personal carbon footprint. Studies by WRAP have shown that the average household wastes more than £500 worth of food each year (in excess of £700 on average for households with children) and that separate food waste collection provides more visibility of wastage resulting in behavioural change.

Separate food waste collections is expected to be largely neutral with respect to the number of jobs associated with collection and processing household waste across the County as a whole.

7.7 Our Council Plan 2021-25 Priorities

The recommendation supports Our Council Plan 2021-2025 priorities by:

- making the best use of resources
- supporting a sustainable and prosperous economy
- assisting with the underpinning theme of Tackling Climate Change
- supporting Key Performance Indicator 23: The percentage of Household waste recycled, reused or composted.

The proposal also helps to support the following outcomes:

- Outcome 3 - Maximising the productivity of our assets
- Outcome 4 – Value for money
- Outcome 5 – A sustainable economy that adapts to climate change
- Outcome 6 - Working in Partnership

Maximising the productivity of the MBT will, through optimising the use of our asset, provide value for money and support meeting our statutory duties.

Working collaboratively with District and Borough partners through the West Sussex Waste Partnership is crucial to reducing waste and increasing recycling.

The proposals will support the partners to meet the new duties under the Environment Act 2021 and residents' growing aspirations to recycle more in general and food waste in particular.

The biggest carbon benefit in any waste management system comes through waste reduction. The proposals will assist this objective and help to reduce the overall carbon impact of waste services in the county.

The proposals will enable our D&B Partners to introduce separate food waste collections with confidence that an in-county facility will be able to receive and generate clean energy from separately collected food waste. Confidence that

we have clear and deliverable plans for a processing system will also hopefully encourage early introduction of the service to residents. The investment into the MRMC alongside works to the network of transfer stations will therefore support investment by the WCAs in their collection fleets.

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Appendices

Appendix A: Glossary of Terms

Appendix B: Carbon Comparison

Background papers

None