

# North Yorkshire Council

## Transport, Economy, Environment and Enterprise Overview & Scrutiny Committee

19 October 2023

### Allerton Waste Recovery Park Performance Update

#### Report of the Corporate Director of Environment

#### **1.0 PURPOSE OF REPORT**

- 1.1 To provide members of the Transport, Economy, Environment and Enterprise Overview and Scrutiny Committee with an update on Allerton Waste Recovery Park (AWRP) contractual performance since services commenced in 2018.
- 1.2 To provide information about options being considered around how to decarbonise AWRP in the future.

#### **2.0 SUMMARY**

- 2.1 This report summarises the contractual performance of the Allerton Waste Recovery Park (AWRP) facility since services commenced on 1 March 2018 to the most recent contract year of 2022/23.
- 2.2 Having regard to the current legislative framework and the likely changes required by a number of Government consultations around Climate Change and Carbon, the report also outlines options being considered for utilisation of the asset and future decarbonisation of AWRP.

#### **3.0 BACKGROUND AND RECENT LEGISLATIVE CHANGES**

- 3.1 The long-term waste Public Private Partnership (PPP) contract was signed by North Yorkshire County Council and AmeyCespa (AWRP) SPV Limited (Amey) on 30 October 2014. Following contract completion, the development commenced on 5 January 2015 and Amey completed a three-year construction and commissioning programme.
- 3.2 AWRP has been operational since 1 March 2018 and consists of a Mechanical Treatment (MT) plant, an Anaerobic Digester (AD) and Energy from Waste (EfW) facility to receive and treat residual waste from across York and North Yorkshire.
- 3.3 The site also has a Visitor and Education Centre where members of the public and groups can visit the facility to learn about management of waste. AWRP has hosted over 6,500 tours either in person or virtually (which commenced during the COVID-19 pandemic). Between March 2018 and August 2023, online carbon pledges have offset 1,538kg of carbon.
- 3.4 Amey's parent company Ferrovial sold the Amey business at the end of 2022. The Amey waste treatment business unit was not part of this sale and this business unit, which operates the AWRP facility, was retained by Ferrovial. The waste treatment business unit has been renamed and re-branded as Thalia Waste Management. There was no change to the managerial or operational staff as part of this transfer.

- 3.5 At the end of 2022, HMT published draft legislation on the Electricity Generator Levy relating to a tax on exceptional profits to apply from 1 January 2023 – March 2028. The EfW sector has been included as an industry that would be in scope – which broadly speaking is a 45% tax on exceptional generation receipts (above a floor price of £75/MWh and a company/group has an allowance of £10m income prior to the tax being applied). Currently the legislation is still in draft, and the project revenues for 2022-23 may need to be revisited once the Bill has been published.
- 3.6 Following a consultation exercise in March 2022, on 3 July 2023, UK Government released a consultation response which looks to include Energy from Waste facilities in the UK Emissions Trading Scheme (UK ETS) from 2028  
<https://www.gov.uk/government/consultations/developing-the-uk-emissions-trading-scheme-uk-ets>.
- 3.7 This proposal could have potentially significant impacts on the contractual costs for the AWRP facility. The UK ETS places a tax on the amount of carbon produced which is derived from fossil<sup>1</sup> sources in the waste stream when waste is incinerated and incentivises decarbonisation measures which are further discussed in section 11.

#### 4.0 PERFORMANCE AGAINST CONTRACTUAL TARGETS

- 4.1 The AWRP contract contains two main targets relating to recycling and diversion from landfill. The table below sets out performance since the first full year of operations (2018/19).

	Target	2018-19	2019-20	2020-21	2021-22	2022-23
Recycling of Contract Waste	5%	1.16%	1.58%	1.08%	1.04%	2.02%
Diversion of Contract Waste from Landfill	70%	82.22%	82.82%	80.94%	89.40%	92.64%

Table 1 – Performance against Contractual Targets

#### 5.0 RECYCLING PERFORMANCE

- 5.1 The contractual target is to recycle or compost a minimum of 5% of Contract Waste annually. For material to count towards this target, any recyclates that are extracted from the processes at AWRP need to be placed into recycling markets. AWRP separates recyclables from residual waste meaning that the quality of the product is poorer than recyclables collected separately from households at the kerbside.
- 5.2 Since operations commenced, there have been several factors effecting recycling markets including the Covid - 19 pandemic, which saw an increased supply of clean material collected from the kerbside. Recycling re-processors choose higher quality materials over poorer quality ones meaning that despite the materials being separated at AWRP, there were times when they could not be placed into the market.
- 5.3 During 2022 and 2023, rising energy costs meant that a number of offtakers either slowed production or closed processing plants for periods of time. This impacted the contractor’s ability to access recycling markets resulting in lower annual recycling performance.

<sup>1</sup> Some waste materials, including plastics, are made from fossil fuels (such as oil) and the carbon stored in them is known as ‘fossil carbon’. It is important to understand if carbon in waste is biogenic or fossil in origin as they are accounted for differently in terms of their contribution to global emissions.

- 5.4 The majority of local Authority long-term energy from waste facilities are not able to extract any materials for recycling so all their waste is burnt, whereas AWRP has a Mechanical Treatment plant that recovers materials which contribute to the overall NYC recycling figures which are reported annually.
- 5.5 The recycling/composting performance for NYC for 2022-23 was 43.6% which is slightly above the mean derived from 26 other Waste Disposal Authorities. The Authority continues to work with Thalia to build upon the progress made in 2022-23, both in terms of recovering plastics from residual waste but also seeking behaviour change so that residents deposit plastic containers in their kerbside recycling container as opposed to the residual bin.

## 6.0 LANDFILL DIVERSION PERFORMANCE AND CONTRACT WASTE TONNAGES

- 6.1 Since operations commenced, landfill diversion performance has been higher than the contractual target and has improved year on year. 2022-23 saw the lowest amount of waste sent to landfill since service commencement. The planning permission for AWRP allows the facility to receive up to 320,000 tonnes of waste per annum.
- 6.2 The facility is sized to ensure there is sufficient capacity to treat NYC and CYC waste for the 25-year contract term. Thalia can accept and treat waste from third parties to maximise plant inputs and generate third party income.
- 6.3 AWRP has two planned maintenance shutdowns per year (Thalia are looking to move to annual shutdowns from 2025). During this time, some of the Contract Waste is diverted to Contingency Delivery Points. Historically, these have mainly been landfilling sites, however, work is ongoing to secure more treatment facilities when AWRP is undergoing planned maintenance.
- 6.4 There is a provision in the contract called Tonnage Not Accepted (TNA), where if the Contractor cannot accept Contract Waste at AWRP, the Authority can make disposal arrangements and re-charge the costs. There have been a small number of occasions where this has happened in prior years, however in 2022-23 there were no instances of either unplanned shutdowns or TNA.
- 6.5 The table below sets out the amount of Contract Waste treated at AWRP, sent to Contingency Delivery Points, or reported as TNA since 2018-19. Local Authority tonnages increased throughout the Covid-19 pandemic; however, these have now returned to pre-pandemic levels. The figures contained in the 'Tonnage origins' section of the table shows whether the Contract waste originated from NYC, CYC or Yorwaste commercial (which is classed as Contract Waste and enables the Authority to access the most cost-effective rates under the Contract).

<b>Total Contract Waste</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>
Treated at AWRP	216,295	221,566	221,615	253,097	245,593
Contingency tonnage	50,996	23,762	40,944	21,852	32,471
TNA tonnage	1,349	25,249	11,164	1,182	0
	<b>268,640</b>	<b>270,577</b>	<b>273,723</b>	<b>276,131</b>	<b>278,064</b>
<b>Tonnage origins</b>					
NYCC	167,006	165,995	168,551	174,609	166,261
CYC	51,951	50,731	52,031	52,556	49,252
Yorwaste Commercial	49,683	53,851	53,141	48,966	62,552
	<b>268,640</b>	<b>270,577</b>	<b>273,723</b>	<b>276,131</b>	<b>278,064</b>

Contract Waste to Landfill	47,529	45,698	49,059	22,645	17,749
Contract Waste to alternative Treatment	4,817	3,313	3,049	389	14,722

Table 2 – Contract Waste tonnages

## 7.0 ENERGY FROM WASTE PLANT PERFORMANCE

7.1 EfW plants are complex, and it is not uncommon to encounter technical issues in their early years of operation. AWRP is no exception, however, the plant has been performing more consistently and at a higher level over the last two years in terms availability and electricity production as issues have been addressed and resolved. As a result, the tonnage throughput of the EfW has increased since 2020-21 and the Contractor is working to optimise plant performance.

7.2 In 2020-21, Thalia began recording whether downtime of the EfW was as a result of planned or unplanned events. Unplanned downtime is categorised as ‘defects’ or ‘other’ (which includes any operational or system issues impacting the EfW availability). It is important to note that not all the unplanned downtime events resulted in diversions of waste, and time lost to unplanned downtime has reduced year on year.

	2018-19	2019-20	2020-21	2021-22	2022-23
EfW Availability %	81.13%	75.16%	77.82%	84.25%	84.87%
Planned downtime %			5.73%	7.64%	9.27%
Unplanned downtime %			16.45%	7.99%	5.80%
Tonnage throughput	231,774	230,054	227,653	256,728	262,400

Table 3 – EfW availability and throughput

7.3 Each year a consultancy company called TOLVIK produces a report on the UK Energy from Waste sector summarising information provided in annual reports submitted by Contractors. The weighted average availability information reflects the differing ages of facilities, input specifications for waste, approach to management and technical specifications. Historic reports up until 2021 listed individual operators weighted average availability performance. The 2021 report listed a range of plant availability between 79.9% – 94.3% with AWRP performing at 84.25% in 2021/22.

7.4 In 2022, the weighted average availability of all EfW plants included in TOLVIKs report was 87.7%. AWRP achieved 84.87% availability for 2022-23. Although AWRP is slightly behind the TOLVIK average, availability has improved over the last two years due to utilising planned down time to install a ‘best in class’ refractory lining. Unplanned downtime has reduced from 16.45% to 5.80%. In 2023-24 Thalia forecast both planned and unplanned down time of 6% each as the major refractory bullnose issues have now been resolved, which will bring plant availability in line with the TOLVIK average in the EfW market.

## 8.0 FINANCIAL IMPLICATIONS

8.1 This report is a factual summary of the information provided by AWRP SPV as part of the Annual reports required under the AWRP contract. There are no financial implications of this report.

## **9.0 LEGAL IMPLICATIONS**

9.1 This report is a factual summary of the information provided by AWRP SPV as part of the Annual reports required under the AWRP contract. There are no legal implications of this report.

## **10.0 EQUALITIES IMPLICATIONS**

10.1 There are no significant equalities implications arising from this report.

## **11.0 CLIMATE CHANGE IMPLICATIONS AND OPTIONS TO DECARBONISE AWRP**

11.1 A climate change impact assessment is attached at Appendix A of this report. No significant impacts have been identified relating to this report, which is a summary of contractual performance of AWRP since 2018.

11.2 The UK Government has committed to achieve net zero greenhouse gas emissions by 2050. Waste sector emissions accounted for c6% of the UK's greenhouse gas emissions in 2018. There are several government consultations and initiatives around carbon reduction and climate change that may impact on the AWRP facility over the life of the contract.

11.3 EfW's produce around 25 times less carbon than landfill sites, however, AWRP still emitted around 289,600 tonnes of carbon during 2022-23. UK Government plan to include EfW plants in the UK ETS from 2028 which is likely to affect the AWRP facility by taxing the amount of fossil derived carbon produced. Further consultation on the UK ETS is expected from Government later in 2023.

11.4 AWRP has been designed so that heat and/or electricity could be taken from the plant and utilised. There have been a number of discussions since operations began around maximising the asset at AWRP, however, no firm proposals have been put forward to date.

11.5 At the end of 2022, the waste team undertook some soft market testing to assess whether any companies could prepare a feasibility study identifying preferred options for the following decarbonisation projects:

- Heat/power offtake from AWRP for either domestic or commercial premises or a mixture of both.
- Production of green hydrogen utilising some of the electricity or waste heat produced at AWRP and options to deploy either commercially or for NYC/CYC/Yorwaste vehicles.
- Options for Carbon capture usage, storage, or transport from AWRP.

11.6 Five companies responded to the market testing exercise and in January 2023, the team applied for funding from the York and North Yorkshire Local Enterprise Partnership Devolution Deal Net Zero Fund to support preparation of feasibility study considering decarbonisation options for AWRP.

11.7 The NYC team are working closely with Thalia and hope to undertake a procurement exercise in the Autumn to appoint a consultant to prepare the feasibility study and options appraisal. It is anticipated that the study will be available in the summer of 2024. Once a preferred option has been identified, this will be brought to Members with a view to developing an investible Financial Business Case.

## **12.0 RECOMMENDATION**

12.1 To note the content of this report

**APPENDICES:**

Appendix A – Climate Change Impact Assessment

**BACKGROUND DOCUMENTS:**

Karl Battersby  
Corporate Director – Environment  
County Hall  
Northallerton  
19 October 2023

Report Author – Lisa Cooper – Commercial Manager, Waste  
Presenter of Report - Peter Jeffreys – Head of Waste (Contracts) and Lisa Cooper - Commercial  
Manager, Waste

Note: Members are invited to contact the author in advance of the meeting with any detailed  
queries or questions.

## Climate change impact assessment

The purpose of this assessment is to help us understand the likely impacts of our decisions on the environment of North Yorkshire and on our aspiration to achieve net carbon neutrality by 2030, or as close to that date as possible. The intention is to mitigate negative effects and identify projects which will have positive effects.

This document should be completed in consultation with the supporting guidance. The final document will be published as part of the decision-making process and should be written in Plain English.

If you have any additional queries which are not covered by the guidance please email [climatechange@northyorks.gov.uk](mailto:climatechange@northyorks.gov.uk)

### Version 2: amended 11 August 2021

**Please note: You may not need to undertake this assessment if your proposal will be subject to any of the following:**

Planning Permission  
Environmental Impact Assessment  
Strategic Environmental Assessment

However, you will still need to summarise your findings in the summary section of the form below.

Please contact [climatechange@northyorks.gov.uk](mailto:climatechange@northyorks.gov.uk) for advice.

<b>Title of proposal</b>	Allerton Waste Recovery Park performance update
<b>Brief description of proposal</b>	Performance report summarising contractual performance since operations began (2018-19) and options for decarbonising AWRP in the future.
<b>Directorate</b>	Environment
<b>Service area</b>	Environmental Services and Climate Change
<b>Lead officer</b>	Lisa Cooper
<b>Names and roles of other people involved in carrying out the impact assessment</b>	Jos Holmes Climate Change Policy Officer
<b>Date impact assessment started</b>	11 Aug 2023

Options appraisal

Were any other options considered in trying to achieve the aim of this project? If so, please give brief details and explain why alternative options were not progressed.

N/A

**What impact will this proposal have on council budgets? Will it be cost neutral, have increased cost or reduce costs?**

Please explain briefly why this will be the result, detailing estimated savings or costs where this is possible.

Contractual payments are part of the waste management budget.

<p><b>How will this proposal impact on the environment?</b></p> <p><b>N.B. There may be short term negative impact and longer term positive impact. Please include all potential impacts over the lifetime of a project and provide an explanation.</b></p>	<p><b>Positive impact</b> (Place a X in the box below where</p>	<p><b>No impact</b> (Place a X in the box below where</p>	<p><b>Negative impact</b> (Place a X in the box below where</p>	<p><b>Explain why will it have this effect and over what timescale?</b></p> <p><b>Where possible/relevant please include:</b></p> <ul style="list-style-type: none"> <li>Changes over and above business as usual</li> <li>Evidence or measurement of effect</li> <li>Figures for CO<sub>2</sub>e</li> <li>Links to relevant documents</li> </ul>	<p><b>Explain how you plan to mitigate any negative impacts.</b></p>	<p><b>Explain how you plan to improve any positive outcomes as far as possible.</b></p>	
<p>Minimise <b>greenhouse gas emissions</b> e.g. reducing emissions from travel, increasing energy efficiencies etc.</p>	<p>Emissions from travel</p>	x			<p>Although the feasibility study has not yet been completed, one of the deliverables is to identify options to decarbonise the waste vehicle fleet using green hydrogen as a fuel.</p>		
	<p>Emissions from construction</p>		x				



APPENDIX A

<p>How will this proposal impact on the environment?</p> <p>N.B. There may be short term negative impact and longer term positive impact. Please include all potential impacts over the lifetime of a project and provide an explanation.</p>	<p><b>Positive impact</b> (Place a X in the box below where</p>	<p><b>No impact</b> (Place a X in the box below where</p>	<p><b>Negative impact</b> (Place a X in the box below where</p>	<p>Explain why will it have this effect and over what timescale?</p> <p>Where possible/relevant please include:</p> <ul style="list-style-type: none"> <li>• Changes over and above business as usual</li> <li>• Evidence or measurement of effect</li> <li>• Figures for CO<sub>2</sub>e</li> <li>• Links to relevant documents</li> </ul>	<p>Explain how you plan to mitigate any negative impacts.</p>	<p>Explain how you plan to improve any positive outcomes as far as possible.</p>	
	Emissions from running of buildings	x			The feasibility study will investigate options to decarbonise the operations of AWRP by utilising waste heat and renewable energy generation		
	Emissions from data storage		x				
	Other	x			Since operations commenced, AWRP has treated over 1.5m tonnes of waste and saved over 330,000 tonnes of carbon emissions.		
<p>Minimise <b>waste</b>: Reduce, reuse, recycle and compost e.g. reducing use of single use plastic</p>		x			<p>Allerton Waste Recovery Park (AWRP) processes residual waste from across York and North Yorkshire. The facility extracts recycles from the black bag waste and treats organic material through an anaerobic digestion process.</p> <p>AWRP uses Energy from Waste technology to process waste and divert material away from</p>		

APPENDIX A

<p>How will this proposal impact on the environment?</p> <p>N.B. There may be short term negative impact and longer term positive impact. Please include all potential impacts over the lifetime of a project and provide an explanation.</p>	<p><b>Positive impact</b> (Place a X in the box below where</p>	<p><b>No impact</b> (Place a X in the box below where</p>	<p><b>Negative impact</b> (Place a X in the box below where</p>	<p>Explain why will it have this effect and over what timescale?</p> <p>Where possible/relevant please include:</p> <ul style="list-style-type: none"> <li>• Changes over and above business as usual</li> <li>• Evidence or measurement of effect</li> <li>• Figures for CO<sub>2</sub>e</li> <li>• Links to relevant documents</li> </ul>	<p>Explain how you plan to mitigate any negative impacts.</p>	<p>Explain how you plan to improve any positive outcomes as far as possible.</p>
				<p>landfill. Whilst the process does generate carbon emissions, EfW produces 25% less greenhouse gas emissions than landfill.</p> <p>We are waiting for consultation responses from Government on the Resources and Waste Strategy which will change the composition of waste particularly looking to reduce plastics and ensure producers are responsible for using more recyclable materials in packaging.</p> <p>The feasibility study will consider options to utilise waste heat from the processes used at AWRP.</p>		
Reduce <b>water</b> consumption		x				
Minimise <b>pollution</b> (including air, land, water, light and noise)		x				

APPENDIX A

<p>How will this proposal impact on the environment?</p> <p>N.B. There may be short term negative impact and longer term positive impact. Please include all potential impacts over the lifetime of a project and provide an explanation.</p>	<p><b>Positive impact</b> (Place a X in the box below where</p>	<p><b>No impact</b> (Place a X in the box below where</p>	<p><b>Negative impact</b> (Place a X in the box below where</p>	<p>Explain why will it have this effect and over what timescale?</p> <p>Where possible/relevant please include:</p> <ul style="list-style-type: none"> <li>• Changes over and above business as usual</li> <li>• Evidence or measurement of effect</li> <li>• Figures for CO<sub>2</sub>e</li> <li>• Links to relevant documents</li> </ul>	<p>Explain how you plan to mitigate any negative impacts.</p>	<p>Explain how you plan to improve any positive outcomes as far as possible.</p>
<p>Ensure <b>resilience</b> to the effects of climate change e.g. reducing flood risk, mitigating effects of drier, hotter summers</p>		<p><b>x</b></p>		<p>Contract management will consider the risks associated with climate change such as extreme heat / intense storms as part of risk management protocols</p>		
<p>Enhance <b>conservation</b> and wildlife</p>		<p><b>x</b></p>				
<p>Safeguard the distinctive characteristics, features and special qualities of <b>North Yorkshire's landscape</b></p>		<p><b>x</b></p>				
<p>Other (please state below)</p>		<p><b>x</b></p>		<p>AWRP has a Visitor and Education Centre where members of the public and groups can visit the facility to learn about management of waste. AWRP has hosted over 6,500 tours either in person or virtually (which commenced during the COVID-19 pandemic). Between March 2018 and August 2023, online carbon pledges have offset 1,538kg of carbon.</p>		

**Are there any recognised good practice environmental standards in relation to this proposal?** If so, please detail how this proposal meets those standards.

The waste team are working with the contractor at AWRP and have submitted a bid to the net zero fund to support a feasibility study to consider options for decarbonising AWRP. Options to be considered will include heat and power offtake, production of green hydrogen and Carbon Capture. Once the feasibility study had been completed, a preferred option will be developed into an investible business case.

**Summary** Summarise the findings of your impact assessment, including impacts, the recommendation in relation to addressing impacts, including any legal advice, and next steps. This summary should be used as part of the report to the decision maker.

To note the contents of the performance report.

**Sign off section**

This climate change impact assessment was completed by:

<b>Name</b>	<b>Lisa Cooper</b>
<b>Job title</b>	<b>Commercial Manager (Waste)</b>
<b>Service area</b>	<b>Central Waste Management Team</b>
<b>Directorate</b>	<b>Environment</b>
<b>Signature</b>	<b>Lisa Cooper</b>
<b>Completion date</b>	

**Authorised by relevant Assistant Director (signature): Michael Leah**

**Date: 14.8.2023**