

Executive

26 April 2018

Report of the Director of Economy and Place
Portfolio of the Executive Member for Environment

Allerton Waste Recovery Park

Summary

1. The purpose of this paper is to update the Executive on the progress of the Allerton Waste Recovery Park (AWRP) project. This is a 25 year project in Partnership with North Yorkshire County Council (NYCC) with the objective of delivering a sustainable alternative to landfill for the treatment of residual waste. A key element is updating the Executive on progress towards the strengthening of the partnership between City of York Council (CYC) and NYCC.

Recommendations

2. The Executive is asked to:
 - 1) Review and note progress on the Allerton Waste Recovery Park project
 - 2) Review and note progress on strengthening working arrangements with North Yorkshire County Council on the management of residual waste disposal.

Background

3. As a Unitary Authority, CYC has duties around the collection (Waste Collection Authority) and disposal (Waste Disposal Authority) of municipal waste as set out in the Environmental Protection Act 1990. In terms of North Yorkshire, the Districts and Boroughs act as the Waste collection authorities and NYCC acts as the Waste Disposal authority.
4. It is in the interests of the local area, both financially (landfill cost, landfill tax and haulage) and in terms of the environment, to ensure that as much

waste as possible is diverted from landfill and in York there is a history of successful campaigns and projects when it comes to waste prevention and reuse. CYC, as a collection authority, also provide kerbside recycling (including commissioning a City centre service to an environmentally focused community charity, St. Nicks), garden waste collection services and recycling facilities at the Hazel Court and Towthorpe Household Waste Recycling Centres (HWRC). There are also a number of bring banks provided by the Council, through charities and other entities located in supermarkets, on street and other locations.

5. In terms of the overall picture, as a City, and in the context of emerging local and national policy and desire, there will continue to be a drive to prevent, reuse and to increase the household recycling rates. It is assumed in the AWRP contract that recycling rates will be driven up and that the City will grow. It is still the priority to have recyclable material sorted at source in the household as the difference in value to us of sorted recyclable material is £10 of income for every tonne against mixed recycled material, which costs the council £65 cost for every tonne.
6. It is vital that this good work is continued and is placed at the heart of both regional waste strategies (York and North Yorkshire Waste Partnership “Let’s talk less rubbish” strategy) and local strategies (including One Planet York). In this very positive environment there still exists a significant tonnage of residual waste produced by households and businesses every year.
7. Historically, the approach to this, across the UK, has been to landfill residual waste. As well as this presenting environmental issues, it also presents a high cost to Local authorities and residents as there is a landfill tax that UK national government levies on Local Authorities. In the financial year 2016/17 the cost of sending waste to landfill for the authority was in the region of £5.7m

Allerton Waste Recovery Park project

8. In December 2010, CYC entered into a Joint Waste Management Agreement (JWMA) with NYCC. This supported NYCC entering into a contract with AmeyCespa (identified as preferred bidder in 2009) for the provision of a long term (25 year) Waste management service. The objective of this is to deliver a long term, sustainable alternative to landfill for the treatment of residual waste.

9. AmeyCespa were required to secure planning (February 2013) for a Waste recovery facility at Allerton quarry before confirming the final cost (June 2014). The final cost was presented and NYCC agreed to financial close in September 2014. CYC agreed to progress a JWMA with NYCC at the same time.
10. Key to CYC's ambitions for the contract around recycling, the mechanical treatment process will recover recyclable material (such as metals and plastics) and it is anticipated that it will increase by more than 1% on our reported recycling figures and work is ongoing to increase the amount further. This recycling figure doesn't factor in additional materials that are recovered and recycled, such as the bottom ash from the incinerator and bricks and rubble, which are recycled in road aggregate and in building materials and provides a further 12% (this is an estimated figure based on the typical performance of an EfW facility) to the material that is recovered and recycled. A minimum of 90% waste will be diverted from landfill.
11. The key benefits of the project are as below:
 - Taking control of our waste long term and de-risking cost;
 - Reliability and security of technologies;
 - 24MW per hour of electricity = 40,000 homes;
 - Additional separation of recyclable material that would have gone to landfill;
 - Gas emissions reduced – equivalent of taking 12,000 cars off the road;
 - Jobs 700 construction and 70 permanent;
 - Economy £220m GVA over the life of the contract;
 - Savings of £256m over life of the contract
12. It is estimated that the Waste management contract will cost CYC, £153m, over the 25 year contract length between NYCC with AmeyCespa. It is therefore the largest contractual collaboration that the council has ever entered into.
13. The largest element of the cost is the Unitary Charge which is primarily fixed for the period of the contract other than a small proportion which is index linked. There are however a number of risks that the council has accepted which may impact the overall cost to the council. These risks were highlighted as part of the report to Executive "Financial Close for the Long Term Waste Management Service Contract" (9th September 2014). Many of the financial risks were fixed at financial close including the level of interest rates, exchange rates and capital spend (see summary in **Risks** section).

14. There are also potential opportunities across the life of the contract. It is in the interests of the Operator and the Local Authorities, to advance the use of the facility in terms of recycling and district heating and as the facility becomes more mature there will be a constant examination of getting the best from the investment and environmental outcomes. There is an opportunity for the councils to request the refinancing of the project should the funding terms in the market being more favourable than those within the Financing Agreements. This would usually be following a successful period of operation and electricity generation. The benefit of refinancing would be shared between the Operator and the Local Authorities.

Operations

15. AWRP is designed to treat waste through a series of processes including mechanical separation of recyclable materials (known as mechanical treatment or MT), anaerobic digestion (AD) and thermal treatment through incineration and generation of electricity (known as Energy from Waste or EfW). Incineration is standard practice across the continent as a solution for managing residual waste and has a positive environmental impact compared to landfilling waste.
16. In order to make the haulage of the Waste more efficient, a network of transfer stations across has been constructed across York and North Yorkshire. All residual waste in the City of York administrative area will go to the Harewood Whin transfer station that opened in the summer 2017.
17. The waste is then delivered from Harewood Whin to AWRP into the tipping hall where it is tipped into large bunkers. These are for Mechanical treatment or direct to Energy from Waste (EfW). Cranes then lift the waste from the bunkers to start the Mechanical Treatment process.
18. The Mechanical Treatment plant (MT) separates metals, plastics and paper and is capable of sorting up to 320,000 tonnes per year. The MT plant also separates approximately 40,000 tonnes per year of organic waste for treatment through the Anaerobic Digestion (AD) plant.
19. To give an example of the recovery of food waste, the material enters the MT plant into a tromell, which separates bags of waste. The bags are then shredded and pushed to another tromell, which separates items of under 7cm (included in this would be food waste – plate scrapings, mouldy cheese, etc). A magnet that takes out any pieces of metal (for

recycling), then there are further processes (including an x-ray machine that identifies and separates inert waste) that separate out the organic material and this is fed into the anaerobic digester. The mechanical treatment processes run at more than 90% efficiency, so there is a high level of confidence that any waste food a resident puts in their residual rubbish bin will be fed into the anaerobic digester and will be generating energy. So there is a definite message to residents to put plate scrapings and unwanted items from the fridge into their residual bin.

20. The Anaerobic Digestion (AD) plant uses microbes to break down the organic waste in the absence of air to produce a gas and compost like output known as digestate. This process will produce around 1mw per hour of energy.
21. The remaining waste is burnt in the Energy from Waste (EfW) incinerator. The heat from the EfW is used to produce steam and drive a turbine which produces electricity for export to the national grid. The capacity of the EfW is approximately 320,000 tonnes per year and it will produce around 24MW per hour of energy, which is enough to power around 40,000 homes.

Construction and commissioning

22. The commissioning period started in July 2017 and it tested the full operation of the facility over a 6 month period. A requirement of this was that during this period the volume of waste is built up to the volumes that will be delivered at service commencement. This gave the opportunity to test all elements of the facility individually and together.
23. The commissioning phase is now complete and full service commenced on the 1st March 2018. The Mechanical Treatment, Anaerobic Digester and Energy from Waste facilities demonstrated their capability over the required continuous days, with the required volumes of Waste in order to fulfil the requirements for the sign off for each of the components. During commissioning there was the expected process issues and equipment failure, but these were managed within the parameters of the project and the contract.
24. The commissioning process for the Anaerobic Digester involves the build up of material in the tank and the addition of micro organisms that break up the material as part of the Anaerobic Digestion process. During commissioning the levels of ammonia in the tank rose to levels where the micro organisms had not been at optimum health (this had been due to a

higher nitrogen to carbon ratio in the input material than envisaged, which in real terms meant there was too much meat and not enough vegetables in the food waste recovered from the commissioning waste).

25. Proactive mitigating measures were put in place to counteract the balance of input materials and it took time to for a balance to be achieved that allowed the required throughput to satisfy the takeover test (a 28 day process to test that the required volumes of waste can be processed by the AD). The consequence is that the take over test was delayed around a month, which then delayed full service commencement by a month. This was within the parameters of the project and it is estimated that most facilities of this nature have an extension of around 3 months to the commissioning period, so in context this can be viewed as very successful.
26. The transfer station at Harewood Whin has functioned well during the commissioning period and work is ongoing between the NYCC, CYC, Yorwaste and Amey to ensure that the waste delivered to AWRP can be processed as efficiently as possible. The commissioning period has required CYC refuse collection vehicles to tip at the transfer station and at the landfill site and an exercise is ongoing to ensure related performance data can be reconciled. Once full service commenced in February all waste was tipped at the transfer station for onward transport to Allerton Park.

Partnership with North Yorkshire County Council

27. A key point to note is that the AmeyCespa contract is a shared asset and liability with NYCC. The 2010 JWMA provides for sharing of costs between NYCC and CYC relating to the procurement of the long term service provided by AmeyCespa, but has not been renewed since NYCC let the Contract with Amey Cespa so does not reflect the final commercial position achieved nor does it extend to arrangements for formal management of that contract which if not included will entail a duplication of work by the Councils. In order that CYC and NYCC can fully exploit the Amey Cespa contract and optimise the management and auditing of both Councils waste disposal functions both Councils officers are recommending to formally collaborate in the management of contracted waste disposal services including AWRP but also for other waste disposal authority functions provided through Yorwaste and other third party contractors.

28. The objectives of further collaboration and joint management of contracted services are to:
- Minimise bureaucracy
 - Reduce duplication of effort
 - Improve decision making
 - Improve resilience
 - Share resources and assets
 - Improve capability to recognise and take advantage of opportunities
 - Strengthen team skills
 - Achieve optimum balance of waste movements to disposal facilities to ensure maximum joint financial benefit/ least cost to both parties
29. Work is currently ongoing between the teams at CYC and NYCC to agree the detail of the collaboration and it is expected that the final agreements will be ready for consideration Summer 2018.
30. The likely outcome to the work is a joint role that will be responsible for Waste disposal across the CYC and NYCC administrative areas. This will be designed in a similar way to the shared Health and Safety service that the Council operates with NYCC. With regard to the Health and Safety service, the Head of Service is shared between CYC and NYCC and a single team, funded by agreed proportions and with the capability and capacity to service the needs of both organisations, reports to the Head of Service and is managed through services agreements. The main difference with the shared Waste disposal arrangement will be that the AWRP contract is also treated as a shared resource with proportional liabilities arising from it. In this arrangement both Councils would retain their separate duties as Waste Disposal Authorities.
31. A further paper will be presented to the Executive in the summer detailing the proposals for joint working arrangements.

Council Plan

32. The Allerton Waste Recovery Park project delivers against the focus on frontline service council priority and also delivers on local and regional waste and sustainability strategies including One Planet York.

Implications

33.

- **Financial**
Financial implications are detailed in the body of the report
 - **Human Resources (HR)**
There are no HR implications
 - **One Planet Council / Equalities**
The AWRP project is managed by North Yorkshire County Council and relevant impact assessments are conducted by them. The AWRP project delivers against a number of One Planet objectives, including minimising Waste and sustainable energy.
- Legal**
Legal implications are detailed in the body of the report.
- **Crime and Disorder**
There are no crime and disorder implications
 - **Information Technology (IT)**
There are no IT implications
 - **Property**
There are no property implications
 - **Other**
None

Risk Management

34.

Risk area	Potential Impact
Waste composition	The contract states that through it an additional 5% recycling will be achieved. This is dependent on the composition of the materials being sent to AWRP reflect the compositions that were assumed when the requirements for AWRP for specified.
Waste Tonnages	The council has access to a range of tonnages from a minimum (Guaranteed Minimum Tonnage) to Maximum Threshold. Should the actual tonnages be outside this range there will potentially be costs to the council(s)
Change in Law	Should there be a legislative change that the Operator is able to claim a Qualifying Change in Law could increase costs to the council(s)

Inflation / Landfill Costs	Whilst inflation is only applied to a small proportion of the costs, the level will impact overall costs. There are also pass through costs such as landfill costs that are payable by the council(s) which will be at the prevailing rate.
Teckal Waste	The Council(s) have sought to optimise revenues by using Waste sourced by Yorwaste to be used in the facility. These revenues will be dependent on tonnages available and the prevailing market price for waste in the geographical area

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Wards Affected: List wards or tick box to indicate all **All**

For further information please contact the author of the report

Background Papers:

None.

Annexes

None

List of Abbreviations Used in this Report

AWRP – Allerton Waste Recovery Park

NYCC – North Yorkshire County Council

CYC – City of York Council

HWRC – Household Waste Recycling Centres

Bring bank – A bring bank is a recycling disposal point that can be situated in a number of locations commonly supermarket car parks

24MW – in the energy output, mw stands for mega watts

T PA – Tonnes per annum

Tromell – is a series of cylindrical drums that each have holes at a set size (with each drum having different sized holes), and the rotate and work together in order to separate material of different sizes.