

Report of the Strategic Director, Place to the meeting of Regeneration & Environment and Overview and Scrutiny Committee to be held on Monday 20 January 2020

BG

Subject:

The Management of Waste and Recycling Activities within the District

Summary statement:

This report provides a description of the current management of waste, and gives an update on the work programmes undertaken in 2019, and those planned for 2020, to improve the management of waste to more sustainable levels in line with the Waste Strategy (Municipal Waste Minimisation and Management Strategy 2015).

The report also provides performance details for the year 2018/2019

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Portfolio:

Healthy People and Places

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1. **SUMMARY**

This report provides details of the current management of waste by providing a description of waste service operations, and an update on the work projects undertaken in 2019, and those planned for 2020, to manage waste to more sustainable levels (e.g. minimise residual waste and increase recycling) in line with the Waste Strategy (Municipal Waste Minimisation and Management Strategy 2015) and the impending 2019 Government Waste Strategy implementations.

The report also provides relevant performance data for the year 18/19.

2. **BACKGROUND**

The Council has statutory responsibilities for the following waste streams which are currently managed by Waste Services:

- Kerbside Collections of recycling from residents;
- Kerbside Collections of residual household waste from residents;
- Bulky Waste collections upon request from residents (paid for service);
- Clinical Waste collections upon request;
- Provision of Household Waste Recycling Centres (HWRCs) across the district;
- Closed Landfill site monitoring;

In addition to the above, Waste Services also provide the following services:

- Kerbside Collection of Garden Waste (a non-statutory paid for service upon request);
- Trade Waste Services to commercial businesses (paid for service)
- Clinical Waste collections to commercial businesses (paid for service)
- Chemical Advisory services to residents

All the above services are provided by in house operations (described below), which are supported by several external contracts with the private sector for treatment of recyclates, residual waste and disposal services.

2.1 **CURRENT SERVICES (2019)**

2.1.1 **Kerbside Collections**

During 2017 the collection service moved from a weekly collection of residual waste and a fortnightly collection of recyclates requiring 28 residual rounds and 13 recycling rounds: a total of 41 collection rounds, to an Alternate Weekly Collection regime (AWC) where residual waste is collected on one week, and recycling the next, requiring only 34 rounds. As such the residual and recycling rounds mirror each other, meaning the same vehicle and crew collect both the residual and recyclates collections using the standard 3 axle 26 tonne gross weight refuse collection vehicles with a driver and two loaders.

The rural areas of the district also moved to Alternate Weekly Kerbside Collections with the introduction of Collections Points to enable access for the 26 tonne vehicles.

There are pressures on both the collection and disposal services due to the ever increasing number of new builds across the District.

Since the 2017 round restructure the growth of new properties being built has resulted in the need for a further District wide restructure of the collection rounds from 29 October 2019 to accommodate the new households. The outcome of this has meant that an additional round had to be added bringing the total number of rounds to 35.

Going forward property growth and the impact it has on the Service will be an on-going consideration as part of the budget setting process.

The typical receptacle for residual waste and recyclate is a standard 240L wheeled bin.

2.1.2 Kerbside Recycling

As part of the move to AWC, there was an increase in the types of recyclates collected at the kerbside, all the dry recycling is simply deposited by the householder into the grey coloured recycling bin. This makes our system one of the simplest systems in the country for the householder to use.

2.1.3 Garden Waste Collections

This is a non-statutory paid for service which commenced in June 2016, and has proved very popular, with over 34,000 customers signing up for the service in 2017, over 35,000 in 2018 and in 2019 to date this has risen to over 37,340. This service currently utilises 4 collection rounds using 26 tonne gross weight refuse collection vehicles. This provides a 12 x 4 weekly collection cycle, with no collections from early December to early January. The present annual charge for this service is £37 paid for up front.

An early bird discount scheme has been in place since the commencement of the chargeable service. In year one 20% was offered on the introductory price of £35, therefore £28 if it was paid before the 31 May 2016. In the subsequent three years a discount of £5 has been offered based on the annual subscription price of £35 for 2017, £36 for 2018 and £37 2019 (increase to cover inflation). The early bird discount has been very popular with residents and our full income target is being achieved within this time period.

2.1.4 Bulky Waste Collections

This service is provided to domestic residents via a request system, for which an up-front charge is levied. The scale of charges relates to the number of items requiring removal, and a collection date is now provided at the point of service request. Collections are provided by a single team working Tuesday to Friday, with demand for the service remaining fairly consistent at approximately 10,000 requests producing around 1,100 tonnes annually.

2.1.5 Clinical Waste Collections (domestic)

The Council has a duty to collect certain clinical waste free of charge from residents who are treating themselves at home. The service uses a single driver/operative and a specialised collection vehicle.

In addition to providing a clinical waste and offensive waste collection under section 22(3) of the Control of Pollution Act 1974 or section 89, 92(9), 92C(3) or 93 of the Act which is to be treated as household waste or commercial waste in accordance with entries 1 to 6, the service generates income by providing this service to other 3rd parties where we are not required under statutory provision to provide this.

Income generated for the last 3 financial years for this additional collection service is shown in Table A below;

Table A

| 2016/2017 | 2017/2018 | 2018/2019 |
|------------------|------------------|------------------|
| 108,181 | 105,343 | 115,434 |

2.1.6 Chemical Advisory Service

The Chemical Advisory Service runs via one operative and a van providing householders within the district an inspection, consignment, and transportation service to correctly collect and dispose of small quantities of unwanted hazardous wastes that may be found at domestic premises, such as:

- Chemicals;
- Pharmaceuticals;
- Herbicides;
- Poisons;
- Chemical reagents;
- Unidentified powders and liquids

This service also collects hazardous waste (as listed above) deposited by the public into special purpose containers located at the Household Waste Recycling Centres (see below). The service also undertakes some commercial collections to other establishments within the district, such as Schools and Hospitals. The service carries out some consultancy work for other Local Authorities and schools for which it levies a charge. Income generated over the last three years is shown in the table B below.

Table B

| 2016/2017 | 2017/2018 | 2018/2019 |
|------------------|------------------|------------------|
| 14,833 | 23,469 | 17,376 |

2.1.7 Household Waste Recycling Centres (HWRCs)

The Council currently provides household waste and recycling services to the district's residents at eight locations across the district, accepting waste, some of which is not normally collected from households by the refuse collection service. These sites are staffed and open 362 days per year, providing a wide range of containers to encourage recycling. A van permit scheme was introduced in 2006 to combat abuse of such sites by traders. In 2013 a residents' only permit scheme was introduced to control cross border activity.

In March 2017 every household in the district was issued with a permit as part of the annual council tax papers sent to all 225,000 households. This now makes HWRC permits universally available to all our residents, encourages responsible management of domestic wastes and promotes greater recycling. This initiative was also important in supporting the move to AWC in 2017.

Materials accepted at HWRCs include; residual waste, paper, cardboard, metal, glass, green waste, wood, plastics, cartons, tyres, shoes, textiles, books, oil (both engine oil and vegetable oil), paints, carpets, mattresses, plaster board, push bikes (which go to a reuse scheme) soil, bricks and rubble, polystyrene, batteries, light bulbs, florescent tubes, electrical equipment and unwanted household chemicals. Certain HWRCs with prior notice also accept tyres, gas bottles and bonded asbestos waste from residents.

These sites also provide a local outlet for some precinct sweepers to reduce their travel time to tip.

2.1.8 New to Me Shop

In December 2018 a 'New to me' Shop was opened at Bowling Back Lane HWRC on a trial basis; the shop proved so popular that it is now a permanent re-use facility.

The shop offers a collection of goods left at all our recycling centres which are still considered to be useful. Staff at all recycling centres in the district look out for items in good condition which have been left by customers.

All items collected are taken to the New to Me shop at Bowling Back Lane where people can take away any useful item for £1 per item. The majority of goods on offer include small items of furniture, kitchen utensils, crockery, pans, toys, books or other re-usable goods. Because of the possible danger, items such as children's car seats, prams, pushchairs, bikes, helmets or electrical goods are not included.

The New to Me Shop is open from 10am to 4pm, Monday to Friday. The shop has been a great success and is extremely popular with residents; the shop takes an average of £800 per week.

2.1.9 Transfer Loading Stations (TLS)

The service has two Transfer Loading Stations, one at Bradford, Bowling Back Lane and one at Keighley, Royd Ings Avenue. The TLS is where the waste collected is tipped off and weighed. The two loading stations receive approximately 230,000 tonnes of waste per year ranging from domestic, bulky, co-mingled, green, wood, sweepings and glass waste products.

The domestic, bulky, co-mingled and green waste are all moved by our own articulated vehicles, the Council has a fleet of 11 articulated units and 11 bulk ejection trailers, 5 loading shovels and 4 Rolonof vehicles, with a total of 25 staff managing the operation of both sites throughout the year. The recycling waste from Keighley TLS is transported to Bradford where it is processed through the MRF.

The other waste products glass, wood and sweepings are removed from our transfer stations by third party companies.

2.1.10 Nodes

2016 saw the first two Recycling Collection Nodes piloted in Bradford City Centre for residents living in multi occupancy accommodation, this was initially due to the number of large old office building being converted to apartments and not enough provision being made for the residents by the developers. There are now four Nodes within the City Centre placed strategically for residents and pedestrians to recycle, glass, cans, plastic bottles, paper and cardboard. They are located in Little Germany, outside Britannia House, Manor Row and Forster Square. Further nodes are being considered for the City Centre.

The Nodes are collected fortnightly by the Rear End Loader (REL) wagon and the Trade Waste Paper/Cardboard wagon. There have been some instances of contamination of non-recyclable material on occasions but it has not been a major problem. Consideration is currently underway to site two further nodes at newly refurbished Multi Occupancy buildings in Keighley.

2.1.11 Trade Waste Collections

The Council operates a Trade Waste collection service to local businesses which currently has approximately 3,200 customers, collecting around 19,500 tonnes per annum of waste plus around 1,000 tonnes of recyclates via 5 collection rounds using a range of receptacles from small blue coloured sacks, to wheeled bins of various sizes.

Following the restructure of Waste Services the contract side of Trade Waste was moved into the operational side of Waste Collections. The following process improvements to the future delivery of the service were identified to realise cashable savings.

1. Full automation of the administration procedures
2. Reduction of one round
3. Advance payment prior to service commencement to avoid the accumulation of bad debt

4. Integration of some of the domestic refuse collection and trade waste services to enable a more efficient collection service.
5. Including a recycling offer as part of the overall Trade Waste Service offer.
6. The introduction of a weight based charging system in April 2020.

Business and process changes have taken place over the last 12 months. The back office processes have been fully automated following the procurement of a new Trade Waste database which has eliminated back office paper processes. This new system allows the production and management of invoices and payments processes which alerts the service to stop collection if a payment has not been made thus ensuring that the Service does not incur any future bad debt.

The new Trade Waste database will allow customers to self-serve via a portal which also alerts customers when payments are due and if not paid will mean that their collection will not take place.

In addition to the above improvements, there is a more commercial and professional approach to the Service. Standard letters, a new commercial agreement, new vehicle signage, redesigned website and a more business centred focus has been adopted to increase revenue through expanding the customer base and reducing the number of customers that do not pay for the service they receive.

As part of the Trade Waste Service some “all in one recycling” is being offered to schools that have a Trade contract in place. Further recycling options are being considered but this will require a review of the charging policy which will be carried out in early 2020.

2.1.12 ShredCare

Bradford City Council is working in partnership with ShredCare. With the recent changes to data protection and increased penalties for failure to look after data under GDPR we have reviewed our current data disposal process. We will be providing specialised equipment disposal to residents at all Household Waste Recycling Centres for such as:

- Mobile telephones
- Electronic tablets
- Laptop, desk top computers
- Hard Drives
- Internet connected devices TV's and TV Boxes
- Games machines (Nintendo, X Box, PlayStation)

ShredCare will provide suitable locked receptacles where residents can dispose of the above items and ShredCare will issue the Council with a destruction certificate - proof of our data compliantly of the disposed items. Residents will be advised that Bradford Council and/or Bradford Councils partners cannot

guarantee the security of any personal data left on electronic devices disposed of at the sites. Customers are advised to remove and delete all personal data and personal accounts before disposing of the item(s); this statement has been agreed with Legal.

2.1.13 Clinical Waste Collections (commercial)

The Council offers trade waste collection contracts to collect clinical wastes from commercial establishments utilising spare capacity from the domestic clinical collections. The Council collects approximately 21 tonnes of clinical waste each year from both households and commercial establishments which require specialised treatment and disposal via a treatment contract.

2.1.14 Closed Landfill Sites

The Council currently manages five closed landfill sites at; Dean House Farm, Manywells, Odsal, Sugden End and Wilson Road. Closed landfill sites are governed by the Environmental Permitting (England and Wales) Regulations 2016.

These sites were previously used for the disposal of domestic and industrial waste generated by households and businesses from across the District. These sites are managed by our Specialised Waste Team.

Following closure of a landfill site it may require gas control measures to be installed. Manywells and Sugden End both have gas pumped out and burnt by a process known as 'flaring'

Flaring takes place in specially built flaring units which break down the main part of the gas (methane) into carbon dioxide and water. Methane is a potent greenhouse gas and burning it in this way greatly reduces its impact on Global Warming.

Bacteria in the buried waste cause it to decompose, producing landfill gas containing methane (CH₄) and carbon dioxide (CO₂). This process can last for more than 50 years. Methane has to be carefully disposed of as it is potentially flammable or explosive and is a potent greenhouse gas. It is one of the jobs of the Specialised Waste Team to ensure that landfill gas is safely managed.

All of our sites are monitored on a weekly basis and a report is sent to the Environment Agency with the data collected from the sites every three months. This is a statutory requirement.

2.1.15 Waste Treatment

There are several contracts in place for the treatment of recyclables and residual waste. During 2019 a number of the contracts with recycling merchants came to an end, and have or are currently been retendered, this included glass and cardboard.

The new waste treatment contract for the Council's residual waste commenced April 2018. This 12 year contract was awarded to Associated Waste Management. (AWM) At present the contract is working well and performance is reported to this committee within Section 3 of this report CONTRACTOR'S RESIDUAL WASTE TREATMENT PERFORMANCE.

2.1.16 MRF

2018/9 has seen further development of the Materials Reclamation Facility (MRF) located at the existing Bowling Back Lane site, in order to support the move to AWC and the co-mingling of recyclates from the kerbside. A mix of mechanical and manual picking separates out various recyclates and contamination, to produce mixed glass, cardboard, mixed papers, steel tins/can, alloy tins/cans and mixed plastics.

The levels of recycling contamination resulted in the requirement for a new trommel to take out the contamination at the front end of the MRF. The Council entered into procurement for such. The trommel sits at the front of the Materials Reclamation Facility (MRF) to remove the majority of contamination prior passing through the MRF to be sorted and 'polished' into a higher value/quality recyclate. It also enables the MRF to operate at a speed capable of handling all of the district's recyclate, i.e. 30-35,000 tonnes and thereby derive total value from the district's recyclates.

Further improvements to the MRF are planned to continually improve performance – we are soon going out to tender to procure an additional trommel which will sit at the end of the MRF to take out contamination left at the end of the MRF which will improve the quality of the recyclate produced and attract more income for the end product.

The working of the MRF has also been revised to enable it to operate at a higher speed and reduces the number of staff required. The Council secures value from the recyclates that it still removes at the MRF and is using third party contractors to further sort the recyclates. The arrangement reduces the amount of cost that the Council has to pay to dispose of contamination within the collected recyclate and is being trialled to determine the Councils longer term solution. Contamination of recyclates at the kerbside is a major concern and awareness and education campaigns continue alongside enforcement. Recycling Advisors are a crucial role as is the Recycling Champion programme, launched during National Recycling Week (September 2018) to supplement face to face contact in every ward.

2.2 WORK PROJECTS

2.2.1 Municipal Waste Minimisation and Management Strategy (MWMMS)

The Council's Municipal Waste Minimisation and Management Strategy was approved by the Executive in January 2015, and highlighted future waste policy development and the need to manage waste to more sustainable levels, by minimising waste, encouraging re-use and improving recycling at the kerbside

and reducing levels of residual waste. The Council's strategy will be revised when it is known what the implications of the Government's Waste & Resources Strategy released 18 December 2018 will be e.g. food waste collections and to take into account all the changes which have been introduced in the last three years and to inform on the current and proposed changes to ensure the Council achieves its statutory obligations and targets with the ever changing legislation on Waste Management.

2.2.2 **Alternate Weekly Collection**

The introduction of the Bin Policy in 2015 and AWC in 2017 were the biggest changes to the collection service since the introduction of a wheeled bin collection method 20 years ago. The changes have had an impact on the 226,000+ properties across the whole District.

All residents including rural now have the same collection day but on alternate weeks for both residual and recycling. The same crews and vehicles follow the same rounds each week just collecting a different bin which means we have a more consistent, efficient and cheaper waste collection service.

The service has been working hard to ensure residents have the means to recycle and since the implementation of the Bin Policy over 106,500 recycling bins have been delivered to residents across the District.

2.2.3 **Enforcement**

Enforcement of the Bin Policy is carried out in conjunction with proactive engagement and behavioural change activities with residents across the District as outlined below. The crews use In-Cab technology to log any property which does not comply with the Bin Policy or produces contaminated recycling. This information is then used to issue a Section 46 notice to the householders detailing what action they need to take to rectify this and prevent further action being taken. Where a householder continues to present uncontained waste (side waste) an overloaded bin or contaminated recycling the Council reserves the right to take appropriate enforcement action which can lead to a fine being imposed on the householder(s).

The current number of Enforcement notices which have been issued 1 December 2018 to 1 December 2019 is shown in the table below:

| Bin Policy - Additional Bin / Side Waste | |
|---|----------------|
| Bradford Area | Stage 1 = 6905 |
| | Stage 2 = 365 |
| | Stage 3 = 0 |
| Keighley Area | Stage 1 = 415 |
| | Stage 2 = 93 |
| | Stage 3 = 0 |

| Recycling Contamination | |
|--------------------------------|----------------|
| Bradford Area | Stage 1 = 6538 |
| | Stage 2 = 24 |
| | Stage 3 = 0 |
| Keighley Area | Stage 1 = 1380 |
| | Stage 2 = 10 |
| | Stage 3 = 0 |

2.2.4 Engagement & Behavioural Change

Changing behaviours through education, engagement and enforcement is key, as is improving and introducing a systematic and consistent approach to communications across the district in respect to waste and waste management. This is achieved through a wide range of formats i.e. leaflets/posters/letters/stickers/website/press/radio/Council APP/Facebook/Twitter/Stay-Connected and Roadshows held at events and throughout the communities.

A programme of intense and targeted marketing communications work focusses on specific areas which have been highlighted as having high levels of contamination of recycling bins by staff at the MRF.

We have introduced 'Operation Contamination' to combat recycling contamination: our Recycling Advisors accompany the crews and check recycling bins, placing contaminated bin hangers on any bins which contain contamination advising the residents this will not be emptied until the next scheduled collection and only if the contamination has been removed. A record is made of the addresses for enforcement in the future if necessary.

Recycling Advisors then re-visit the area to post through a letter and leaflet explaining that there are issues with contaminated bins and highlighting what can go in each bin (in simple pictorial form). Monitoring then takes place for the next few weeks, combined with door knocking at properties that may not be recycling as much as they can, or are confused about what goes in which bin. Enforcement letters are sent if the householder persistently contaminates their bin or places more than one bin out for emptying.

Results from this initiative have been very encouraging, with both crews and staff at the MRF noticing that recycling bins are not as contaminated and are generally fuller as a result of the campaign.

Information and demonstration bins are also placed in local public buildings, such as community centres and libraries to reinforce recycling messages in the target areas.

2.2.5 Procurement and Contract Management

Significant reductions in commodity prices across the waste sector have resulted in a 'cost' being incurred through the 3rd party supplier. In 2018-19, this waste

was effectively processed at zero cost to the council (income gain shares from the third party slightly exceeded processing costs), but latterly, due to a downturn in the recycling commodities market, income has reduced, therefore the gain share has also reduced. We now need to consider what course of action to take; we will be looking to find a short term solution (6 months) to see whether the markets recover. We are not able to commit to a long term solution that would see a significant increase in the cost to process our recyclates.

Garden Waste Disposal Contract: Out for tender however no financially suitable bids have been received – the closest was £187k per year above current price. Meeting arranged with Leeds Council to discuss a joint venture and also with a potential contractor who is looking to take on the Esholt site.

Inert Waste – This was awarded to AWM at cost of approximately £77k per year. This potentially saves £40k per year by diverting ceramics and tiles from landfill.

Sweepings Waste – This was awarded to Acumen Waste Services with no additional cost based on the current contract.

Textiles – no bids have been received due to the current market.

Co-mingled DMR – Tender

Due to the significant reduction in commodity prices we were unable to award the co-mingled contract. Our current contractor has agreed to continue with the current DMR agreement for at least 12 months, hopefully commodity prices will stabilise to enable a contract to be awarded in 2021.

Gas bottles – Will cost approximately £10k per month for collection based on current volumes – these were previously collected at no cost.

Oils – this is no longer free collection so we will be issuing a tender in the next couple of weeks.

Cardboard, paper and glass prices are still falling these are being closely monitored and we will have further updates on these in January 2020.

2.2.6 Recycling Advisors

The promotion of recycling is a vital part of reducing the amount of residual waste the Bradford District needs to dispose of. We have six Recycling Advisors who work across the District visiting households and advising them of how to manage their waste in line with the Bin Policy. This has proved to be an invaluable way of engaging with residents.

The advisors look at the households needs and advise them on how they can reduce the amount of residual waste they produce by simply recycling. They also advise on what items can be recycled and will order as many recycling bins as the residents need to manage their waste effectively. The recycling advisors also visit residents who have requested a larger 360L residual bin to ensure the household meets the criteria of 7 or more residents in the property.

2.2.7 Recycling Champions

As a further recycling initiative we asked for residents of the District who are interested in becoming volunteer Recycling Champions and willing to provide advice and guidance to other residents on a voluntary basis to help others to recycle more and waste less. We currently have 240 Recycling Champions signed up across the District.

Anyone who is over 18 and is interested in recycling and environmental issues can become a recycling champion – they don't need any specialist knowledge, just be enthusiastic and willing to speak to other people, put large stickers on the side of their bins which say 'Ask me about recycling', be prepared to answer any queries their neighbours may have or get in touch with the Council on their behalf to find out more. They receive:

- Training
- Bin stickers to put on the side of their recycling wheelie bin
- Annual thank you event
- Stay connected monthly newsletter
- Access to extra information or promotions
- Up-to-date information before anyone else

At the training session the champions are asked to let us know if they are also prepared to:

- Share information with any groups they are involved in e.g. faith organisations, voluntary groups, parish councils
- Give talks to local groups
- Proactively distribute information in their local area
- Assist at local events/road shows
- Give feedback about what is working well or not

2.2.8 Waste Service Infrastructure

This project is improving efficiencies within waste management through better ways of communicating, data collection and improved service delivery both internal and externally including routing systems and back office integration with oracle/arc GIS. This has replaced previous ad hoc systems with supported solutions. The routing of the residual and recycling rounds, rural rounds and garden waste has been completed and we are currently working on the trade waste rounds which will be followed by the bin delivery rounds.

The service determines information via GIS mapping that will support the further development of work organisation by understanding the location of;

1. The mapping and location of collection points across the District
2. Alternative solutions to the collections points
3. Problem collections points
4. Contamination at collection points
5. Rural Garden Waste collection points and the possibility of increased income

2.3 SERVICE PERFORMANCE

Local Authority Collected Waste (LACW), formerly known as Municipal Waste, is the total amount of waste that Waste Services handles; this includes waste from domestic collections, Household Waste Recycling Centres (HWRC), street cleaning operations and trade waste collections.

Household Waste (HW) which forms the majority of LACW, is that waste which arises from domestic situations, and includes kerbside collections of residual waste and recyclates, green waste collections, bulky waste collections, and waste and recyclates delivered by residents to HWRCs. It also includes street litter collected from around the district which under Waste Data Flow is classed as household waste.

Table 1 shows the overall results from 2014/15 to 2018/19 for LACW and HW.

Table 1 Waste Arising's

| | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 |
|---------------|----------------|----------------|----------------|----------------|----------------|
| LACW (tonnes) | 225,645 | 233,323 | 231,453 | 222,002 | 227,350 |
| HW (tonnes) | 197,455 | 204,418 | 201,190 | 191,681 | 194,900 |

The increase in tonnages from 2017/18 can be directly attributed to the increased level of property growth and population within the District as shown in table 2 below.

Table 2 Bradford Infrastructure

| | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 |
|-------------------------------|----------------|----------------|----------------|----------------|----------------|
| Number of Domestic Properties | 213,915 | 215,369 | 222,696 | 224,915 | 226,425 |
| Population | 527,600 | 529,900 | 532,500 | 534,800 | 537,173 |

Further analysis of 2018/19 results for kerbside collected waste tonnes are quite interesting (as shown later in Table 4), and show a reduction of 4,056 tonnes in kerbside collected waste compared to 2017/18. This larger reduction (than shown in Table 1) can be explained by the tonnes of dry recyclates collected at the kerbside, which show an increase of 8,933 tonnes compared to 2017/18, clearly there has been a "win" of recyclates from the residual waste stream, which again is to be welcomed, and illustrates that the policy changes are having the desired effect.

The reduction in waste arising is shown in a different way in Table 3 below. The continuation of the bin policy and the full year effect of Alternate Weekly Collections (AWC) in 2018/19 should continue to bring about an improvement in these indicators over the next few years however property and population growth will also have an impact. Unfortunately the NI 191 total doesn't reflect this although this has reduced, the reasons are due to the definition of NI 191 and how it is calculated, and this is explained further in key performance indicators section.

Table 3 Kilos per Property/Person

| | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 |
|---|----------------|----------------|----------------|----------------|----------------|
| Total Kilos of Household Waste per property | 923 | 949 | 903 | 852 | 857 |
| Kilos of Household Waste per person | 374 | 386 | 378 | 358 | 362 |
| Kilos of residual Household Waste per Household (NI 191) | 447 | 563 | 569 | 563 | 544 |

2.4 **WASTE SERVICES OPERATIONAL PERFORMANCE**

Residual kerbside waste has reduced again compared to 2017/2018 by 4,056 tonnes. Kerbside recycling has increased against the previous year by 4,962 tonnes. Garden waste kerbside has fallen by 1,154 tonnes despite an increase in customers subscribing to the service.

Table 4 Kerbside Collection Performances

| | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 |
|--|----------------|----------------|----------------|----------------|----------------|
| All tonnes Collected at Kerbside | 156,844 | 161,373 | 157,292 | 146,636 | 145,388 |
| Residual tonnes at the kerbside | 130,072 | 132,497 | 127,437 | 108,117 | 104,061 |
| Recycled tonnes at the Kerbside | | | | | |
| Paper & Card tonnes | 8,960 | 9,106 | 9,997 | 29,536 | 34,498 |
| Glass, Cans & Plastic tonnes | 8,332 | 8,871 | 10,606 | | |
| Garden Waste tonnes | 9,480 | 10,899 | 8,085 | 7,983 | 6,829 |
| Number of Properties Collected per day per round (average) | 1,935 | 1,990 | 1,982 | 1,727 | 1,746 |
| % rate of missed bins | | 0.135% | 0.133% | 0.31% | 0.24% |

Garden waste tonnages collected at the kerbside have reduced owing to this now being a chargeable service (see also comments in item 6 below).

The bottom line in Table 4 (which was a new addition from 2015/16) is an attempt to measure the quality of the service, whose main aim is to empty bins; therefore a measure of the level of quality could be regarded as the % of missed bins, i.e. service failure, however it is recognised that not all reported missed bins are confirmed missed bins – with the continued use of In-Cab technology the true figures will be more accurate.

2.5 BULKY WASTE COLLECTIONS

The bulky waste collection service continues to collect between 1,000 – 1,200 tonnes per year. The introduction of a charge for bulk waste collections during September 2013, has not affected the overall tonnages collected.

Table 5 Bulk Collections

| | 2015/16 | 2016/17 | 2017/18 | 2018/19 |
|-------------------------|---------|---------|---------|---------|
| Bulk Collection Tonnage | 1,021 | 1,167 | 1108 | 1,139 |

2.6 HOUSEHOLD WASTE RECYCLING CENTRES (HWRC)

Use of HWRCs remains high as shown in Table 6 post introduction of the resident only permit scheme in 2013.

Dry recycling shows a slight decrease however HWRC continue to show excellent levels of waste diversion before treatment.

Table 6 Household Waste Recycling Centres

| | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 |
|--|---------|---------|---------|---------|---------|
| Total Waste arising at HWRCs (tonnes) | 31,800 | 35,088 | 39,246 | 43,450 | 47,132 |
| Residual waste - sent to landfill/treatment (tonnes) | 9,111 | 10,349 | 10,691 | 13,571 | 16,799 |
| Waste Recycled (tonnes) | | | | | |
| Garden Waste (tonnes) | 8,169 | 7,689 | 8,739 | 8,256 | 8,404 |
| Dry Recycling (tonnes) | 10,883 | 12,836 | 15,010 | 16,184 | 15,801 |
| Soil/Rubble (tonnes) | 3,638 | 4,214 | 4,806 | 5,439 | 6,128 |

3. **CONTRACTOR'S RESIDUAL WASTE TREATMENT PERFORMANCE**

Associated Waste Management Ltd – Bradford Waste Treatment Project - Executive Summary

Associated Waste Management Ltd (AWM) is pleased to submit its report for the City of Bradford Metropolitan District Council's (Council) Waste Treatment and Disposal Project (Project). AWM believes it has been well placed to meet all of the Council's objectives for the Project and alongside the previously detailed Technical and Financial submissions.

CONTRACTOR'S RESIDUAL WASTE TREATMENT PERFORMANCE

The table below reflects the performance by the waste treatment contractor in treating and disposing of the Council's residual waste.

Treatment/Disposal Performance (in tonnes)

| | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 |
|---|----------------|----------------|----------------|----------------|----------------|
| Waste direct to landfill | 161 | 1,477 | 135 | 179 | 261 |
| Waste to treatment | 164,951 | 167,136 | 163,762 | 154,046 | 155,383 |
| Waste recycled or composted via treatment | 57,014 | 24,822 | 26,075 | 17,657 | 18,850 |
| Waste to Energy Recovery | 66,483 | 94,506 | 119,976 | 126,768 | 130,620 |
| Total waste to Landfill (NI 193) | 43,139 | 39,510 | 17,711 | 9,621 | 6,048 |

Waste direct to landfill

Waste sent direct to landfill decreased in 2018/2019 owing to improved availability of waste treatment facilities operated by the waste treatment contractor compared to last year. Note disposal of residual waste to landfill is always a last resort.

Waste to treatment

This has remained fairly constant during 2018/19 owing to reductions in residual waste tonnages requiring treatment through improved kerbside DMR collections.

Waste recycled/composted

There has been an increase in recycling at 1,193t over the previous year via the waste treatment contract due to more recycling of the residual waste under the new contract with AWM. Whilst the market has seen lower prices in commodities generally we have maintained our production through improvements to quality and reliable off takers through AWM.

The overall tonnage remains lower than in previous years as can be seen in the table above. This was mainly due to certain compost like outputs which were previously allowed as composting, no longer being so allowed by the Environment Agency. This situation was detailed in last year's report, and continues to apply.

Waste to energy

This has continued to increase, and again is welcomed as the waste is used to produce energy. As reported last year those tonnages which previously were composted have been diverted to energy from waste, and this has been maintained in 2018/19. However further tonnes have been put to waste to energy at the expense of landfill tonnages, resulting in a significant reduction in waste sent to landfill of some 6,048t compared to the previous year. This continued reduction in waste sent to landfill is again is to be welcomed.

The % of our waste sent to landfill was 3.89% well within our targets set to AWM under the contract.

Background and Efw update:

AWM contracted with Ferrybridge Multifuel Energy 2 Ltd (FMFE2L) who have built and now operate a 560,000 RDF processing facility (FM2) at Ferrybridge power station in West Yorkshire. FMFE2L is a joint venture organisation ultimately controlled by SSE plc and Wheelabrator Technologies Inc, two multinational companies with extensive expertise in the fields of waste management and power generation. These same two companies also own Ferrybridge Multifuel Energy Ltd (FMFEL) which operates the 'sister' plant (FM1) alongside which FM2 is being built at Ferrybridge. FM1 has been operational since July 2015.

Secondarily, in advance of FM2 being available and as a long term contingency solution, we are contracted with three experts in RDF processing/export in Europe. The contracts with AVR, Andusia and N&P guarantee access for the full volume of RDF to be produced from Contract Waste to large CHP plants in cities such as Rotterdam, Amsterdam and Essen.

As a result of this structure AWM is in a position to offer the Council a solution that treats Contract Waste in an effective, efficient, economic and environmentally sustainable manner which meets and exceeds the Councils output specification and objectives. Specifically to:

Commit to the Council's turnaround targets as set out in the Performance Framework Guarantee diversion of Contract Waste from landfill by more than 90% with a forecast performance in excess of 95%

Guarantee more than 6.0 % recycling rate for the Council from Contract Waste
 Guarantee a recovery rate of more than 95% with all our proposed RDF processing outlets being R1 compliant

Continue to offer substantial added value with regards to environmental, economic and social benefits, to the district of Bradford and the Yorkshire region

AWM continues to offer a two site waste reception and processing solution both of which are fully controlled by AWM. Details of the sites and the individual technologies proposed are outlined in the table below.

| Facilities | Use | Treatment Technology | Permitted Tonnage | Turnaround Times |
|---------------------------------------|---|---|--------------------------|--------------------------------------|
| Valley Farm Road MRF, Stourton, Leeds | Primary facility for receipt and processing Contract Waste | Mechanical reclamation & automated separation | 450,000 tonnes | 20 minutes bulk & 15 mins RCV direct |
| Gelderd Road, Leeds | Contingent facility for receipt and processing Contract Waste | | 200,000 tonnes | |

Valley Farm Road operates as a 'super MRF' and has the capacity of 450,000 tonnes per annum of mixed waste streams including Municipal Solid Waste. Like all AWM MRF plants the front end technology copes with a high throughput of materials typically running at between 45-55 tonnes per hour.

All processing post receipt of waste into the reception area is checked by a manual handling process to ensure the principal waste acceptance criteria are met. Waste is then loaded into the reception shredder and cut to a fraction size of between 270-300mm.

All waste is then subjected to a screening process to separate 2D and 3D materials and to separate small fine and organic materials from added value materials such as commodities including metals, plastics, paper fibre and inerts.

In order to process and capture materials we use a combination of screening technologies to prepare the waste streams prior to market.

The Valley Farm Road MRF plant recovers the specified materials in our solution by using the plant shown below. The other AWM MRF facilities also have installed equipment very similar to this but utilise the principle methodology of magnetic fields, high and low pressure environments with sieve screening throughout the processes.

| Guaranteed (Bid Back) Performance Category | Guaranteed (Bid Back) Performance Levels (%) |
|---|---|
| Guaranteed Contract Waste Landfill Diversion Rate | 90.01% |

The actual diversion rate was 96.11%

AWM facilities have developed significantly over the past 10 years from simple transfer stations operating a range of recycling equipment to the introduction of bespoke and complex Material Reclamation Facilities treating a range of mixed and single stream waste streams. AWM have permits and manage planning regulations on more than 5 locations across West Yorkshire receiving more than 600,000 tonnes of mixed waste streams including MSW, C & I and C & D. Total direct landfill as a consequence of all treatment plants operated by AWM mean that less than 20,000 tonnes per annum have historically been landfilled from all incoming waste streams. Today AWM can report that the landfill diversion for MSW and LA waste inputs is over 90% landfill diversion.

AWM have historically reported continuous landfill diversion on behalf of Bradford Council up until 2015 at 76%. Since April 2016 the diversion has increased to over 95% as reported monthly as part of Defra Waste Data Flow.

AWM can boast in 2007 the first installed combination of technology offered and used by BradMet provided in part from Holland, Germany and the UK. During the past 10 years AWM management have seen huge advances both in technology and also Environmental Permitting, including waste management licences and risk assessments including Health and Safety, Environmental, Odour and nuisance management. The most significant aspects being the H4 Odour management protocols issued for consultation in 2011/12 requiring operators to formulate operate and correctly manage control measures for air pollution and odour migration emanating from more difficult and organic waste streams such as MSW.

| Guaranteed (Bid Back) Performance Category | Guaranteed (Bid Back) Performance Levels (%) |
|---|---|
| Guaranteed Recycling Rate | 6.01% |

The actual performance during 2018/19 was 12.1%

The MRF technology provided by AWM has been designed to recover the following key commodities;

1. Paper and Card
2. Plastic films and Rigid plastic
3. Inerts and glass
4. Ferrous Metals and Non Ferrous Metals
5. Wood

With the exceptions of Metals and Inerts the other commodities are recovered through use of mechanical and manual means. Metal recovery is achieved by way of automated and mechanical systems involving electromagnetic fields and eddy current separators using opposing fields. We have summarised the flow diagram below illustrating the component parts and capture and exit points for recovered materials.

| Guaranteed (Bid Back) Performance Category | Guaranteed (Bid Back) Performance Levels (%) |
|---|---|
| Guaranteed Contract Waste Recovery Rate | 95.01% |

The actual recovery rate excluding landfill and recycling / compost was 99.8%

Since 2010 AWM has pioneered the export and preparation of RDF from the treatment of MSW, supplying quality CHP plants throughout Northern Europe. The plants supplied include those operated by local municipalities, state utilities and merchant plant operators.

AWM holds term contracts with several outlet companies / operators and are listed beneath.

| Company | Plant | Contracted tonnage | CHP Rating | Term | |
|----------------|--------------|---------------------------|-------------------|-------------|-----------|
| AVR | Rotterdam | 50,000 tpa | R1 | 2011-2032 | |
| | Dordrecht | | | | |
| Andusia | Amsterdam | 80,000 tpa | | R1 | 2015-2032 |
| | Oslo | | | | |
| N&P | RWE Essen | 40,000 tpa | R1 | | 2015-2032 |

The primary RDF offtake solution offered by AWM was delivery of RDF to the FM2 facility to be operated by FMFE2L who are supporting AWM on the Council Bid on an exclusive basis. The FM2 facility offers the following:

- Permitted to a volume of 675,000 tpa
- Fully financed on a corporate basis through the joint venture between SSE plc and WTI.

- In construction through an EPC contract with Hitachi Zosen Inova, who successfully delivered the sister FM1 plant at Ferrybridge, on time and to budget
- Operational in Q1 2019 with a contractual longstop date of 30/9/2019
- Will be R1 compliant as proved by the certification of FM1

AWM is contracted to supply 150,000 tpa of RDF to FM2 and has signed a signed contract to extend that volume until 2029 (with 3 year extension option).

Key operational features of FM1 which will carry forward in the FM2 design include:

- 3 weighbridges giving significant redundancy and up to 9 operational tipping bays
- Large fuel bunker (pictured) holding c30,000 tonnes of RDF allowing short term unplanned outages to be managed
- Ability to run close to full boiler load with the steam turbine offline
- Large automated ash bunker (pictured) minimum capacity 7 days production
- 3 large APCR residue silos providing a minimum of 7 days storage.

FM1 has an industry leading high efficiency of 31% net/thermal efficiency, scoring 86% R1 assessment using first 6 months operational data.

Safety management is central to everything at FM1 and FM2. The sites operate a standard industry Permit to Work system and for lorry drivers operate a yellow/red card system ensuring behaviour meets site requirements. SSE provides strong safety support and regular audits.

Bottom ash is currently contracted to Ballast Phoenix at their Sheffield site where they extract any residual metal and recycle the aggregates generated by grading the ash. This provides a valuable resource for local projects in the South Yorkshire area. Ballast has signed a letter of intent (see Appendix 33) with Multifuel Energy Ltd (MEL), the direct parent of FMFE2L and FMFEL, to develop a bottom ash processing plant at the Ferrybridge site. Where markets allow, FM1 operates magnets on the ash system to extract ferrous metal which is recycled locally. APCR is managed by Castle Environmental, who treat the residue with waste acids before landfilling as a non-hazardous waste. Two recycling options are under negotiation for the long term. AWM currently employ 365 people company wide. Of this, 153 live within the District of Bradford and 62 within the District of Leeds. Essentially, since 2013 providing the region with salaried revenue of £23.96 million, of which £3.5 million is attributed directly to the Canal Road site, which has now been redistributed to Barnard Road and Neville Road in Bradford.

The AWM staffing figure has grown significantly (530%) since the Company formed in 2000, with the need for a more diverse, adaptable and skilled workforce.

The breakdown of our entire workforce is as follows:

28% administration & management
 37% drivers
 12% engineering
 23% industrial pick-pack

AWM commenced a Corporate Social Responsibility (CSR) programme in 2012 that was designed and developed with sustainability in mind. To address the needs of the Social Value Act our CSR policy was developed to address three main focus areas:

- Community
- Environment
- Economic Growth

One key initiative to benefit the business and local community was a drive for each site to recruit from their local community. Our data shows that with this principle in place, 85 jobs have been created and satisfied by people from Bradford; in turn this created an additional 'local' salary growth of £250,000 during 2015 alone.

Not only does this increase local peoples' work prospects but by recruiting people that live within a short distance to the facility they will be working, the carbon impact of their journey to work will also be minimised.

Once recruited, AWM then use third party training companies to enhance the transferrable skill base of our workforce to meet the needs and demands of the business. In addition to creating main stream career opportunities, AWM have also engaged in the delivery of Apprenticeships within our Engineering division. Providing young people with prospects within vocational roles not only gives us the chance to close skills gaps but also utilise local communities as a source of labour; enhancing local peoples earning & prospect potentials.

AWM is committed to providing a quality service which supports the Council in a variety of key areas, as well as adding value to, and having a positive impact on the local communities and environment within which it operates. As an example AWM and FMFE2L have proposed two sharing mechanisms to the benefit of the Council as part of our Bid:

- AWM have guaranteed a substantial volume of income from recyclates in the financial model and this is helping to subsidise the guaranteed Waste Treatment Rate being proposed. In addition to this guaranteed subsidy AWM will share upside in excess of the guaranteed levels. The mechanism is detailed in our Financial Schedule 5 (Payment Mechanism) response but in simple terms it offers the Council the opportunity to share in upside generated either as a result of rising commodity prices and/or increased performance by AWM with regards to recycle capture from Contract Waste.
- The gate fee incurred by AWM for RDF processing at FM2 is already substantially subsidised by guaranteed levels of power income. In addition FMFE2L have proposed a sharing mechanism which offers the Council the opportunity to benefit from the impact of electricity prices being above specified 'strike' prices in the future. The mechanism is detailed in our Financial Schedule 5 (Payment Mechanism) response. The mechanism is detailed in our Financial Schedule 5 (Payment Mechanism) response.

4. KEY PERFORMANCE INDICATORS (KPI)

Table 8 below shows the KPIs.

| | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 |
|---|---------|---------|---------|---------|---------|
| Kilos of residual Household Waste per Household (NI 191) | 447 | 563 | 569 | 563 | 543 |
| Total %waste recycled/composted including contribution from waste treatment (NI 192) | 51.6% | 40% | 37% | 35% | 39.8% |
| Total tonnes of waste to Landfill (NI 193) | 43,139 | 39,510 | 17,711 | 10,095 | 7,789 |
| Kerbside recycling % | 17.1% | 18.2% | 18.24% | 26% | 33% |
| HWRC recycling % | 71.3% | 70.5% | 72.76% | 69% | 64% |
| Total waste to Energy Recovery % | 29.5% | 40.5% | 52% | 60% | 58% |
| Total waste to landfill % | 19.13% | 18% | 7.7% | 4.5% | 3.4% |

NI 191 figures for 2016/17 and 2017/2018 seem at odds with the overall position that residual waste is reducing as shown in Table 4. Under waste data flow NI 191 is defined as household waste that is not sent for recycling, reuse or **composting**, in other words residual waste. Unfortunately as reported in the performance report for 2015/16, apart from quarter 1 of 2015/16 amounting to 6,807t of composting, the ability to claim further tonnes of composting has been disallowed by the EA. In 2014/15 we claimed 23,391 tonnes of composting. The net result is that NI 191 has increased because we have not been able to claim any composting as can be seen for the last 3 years compared to previous years.

This situation has also negatively impacted on **NI 192** for the same reasons as described above, added again to a difficult year on the commodity markets, resulting in an NI 192 value of 35% for 2017/18. The recycling performance in 15/16 and 16/17 remained below previous years despite improved recycling tonnes collected at both kerbside and via Household Waste Recycling Centres (HWRC). This was due to previous compostable material extracted from our residual waste being disallowed after the first quarter of 15/16 and for all of 16/17. In addition, the

waste contractor chose to focus on creating refuse derived fuel (RDF) instead of recycling low quality recyclates extracted from our waste due to depressed commodity prices. RDF does not count towards recycling performance.

The further 2% reduction in recycling performance in 17/18 was due to contamination levels of recyclates running at 40% and the impact of the “beast from the East” storm in early 2018 which saw three weeks’ worth of recyclates having to be disposed of as residual waste in order to catch up on whole district collections. The new residual waste treatment contract will guarantee a 6% contribution to this target due to performance standards built into the contract which when added to our upstream performance at kerbside and HWRC’s, is expected to see the indicator exceed 40% at current performance levels.

In addition, alternative working arrangements and planned improvements at the Material Recycling Facility (MRF) should also see improved recycling rates.

NI 193 Waste sent to landfill decreased in 2018/2019 to 4.5%.

The Council’s upstream kerbside recycling performance as shown on line 4 has increased significantly.

HWRC recycling and diversion performance continues to remain high at 69% as shown in line 3.

In line 6 waste to energy has risen significantly owing to more waste being placed to waste for energy and thus less tonnes landfilled as noted above.

5. OTHER CONSIDERATIONS

This report is for information and discussion only.

6. FINANCIAL & RESOURCE APPRAISAL

Volatility of residual and recycling tonnages have financial impacts on the service budget which requires constant monitoring and management.

7. RISK MANAGEMENT AND GOVERNANCE ISSUES

This report is for information and discussion only.

8. LEGAL APPRAISAL

There are no legal issues arising from this report however care has been taken to ensure that no commercial sensitivities are divulged.

9. OTHER IMPLICATIONS

None

9.1 EQUALITY & DIVERSITY

N/A

9.2 SUSTAINABILITY IMPLICATIONS

The continued increases in recyclates collected and reductions in waste to landfill contribute positively towards national and EU targets.

9.3 GREENHOUSE GAS EMISSIONS IMPACTS

Increased recycling and continued diversion from landfill contribute positively to climate change and reduction in greenhouse gases.

9.4 COMMUNITY SAFETY IMPLICATIONS

There are no community safety implications

9.5 HUMAN RIGHTS ACT

There are no known Human Rights Act implications

9.6 TRADE UNION

There are no staffing implications arising from this report

9.7 WARD IMPLICATIONS

There are differential levels of recycling by collection round and hence ward.

9.8 IMPLICATIONS FOR CORPORATE PARENTING

N/A

9.8 ISSUES ARISING FROM PRIVACY IMPACT ASSESMENT

N/A

10. NOT FOR PUBLICATION DOCUMENTS

None

11. OPTIONS

N/A

12. RECOMMENDATIONS

That Regeneration and Environment Overview & Scrutiny Committee consider the information presented in this report and request a further progress report in twelve months.

13. BACKGROUND DOCUMENTS

Municipal Waste Minimisation and Management Strategy (Executive Report
13th January 2015)