WASTE STRATEGY AND OPERATIONAL DEVELOPMENT

1. Purpose of Report

To provide Members with an update on the integration of waste collection and disposal services following termination of the Waste PFI Contract and seek approval for investment and changes in the Waste Collection Service.

2. Recommendations

Members are asked to:

2.1 agree that the continued focus of the Project Team shall be the development of a legislative and code compliant waste collection service with development of waste disposal options being taken to future meetings of this Committee, as detailed in paragraph 3.2.5;

2.2 note the legislative background to the delivery of a waste collection and disposal service as detailed in section 3.3 and the proposed implementation of a Deposit Return Scheme as detailed in section 3.4;

2.3 note the benchmarking with other local authorities as detailed in section 3.7 and the review of the Wigtown collection methods as detailed in section 3.8;

2.4 agree that until such time as a new regionwide service is implemented, all properties in Wigtown shall be moved to a single collection system as detailed in section 3.8;

2.5 note the concerns regarding the health and safety issues with the waste collection service in the Wigtown area as detailed in sections 3.9, 3.10 and 3.11, further noting that it is the view of Officers that the collection methodology adopted in the Wigtown area cannot be rolled out across the remainder of the region on the grounds of both cost and health and safety;

2.6 agree that glass collection should be delivered through the provision of community bring-sites rather than at kerbside as detailed in section 3.13;

2.7 agree that food waste should be collected in the six regulated postcode areas only, namely Dumfries, Dalbeattie, Lockerbie, Annan, Gretna and Stranraer, with the service withdrawn from the remainder of the Wigtown area as detailed in section 3.14;

2.8 agree to the immediate purchase of two waste collection vehicles that will address all the health and safety issues associated with the current service operating in the Wigtown area as detailed in section 3.14 and to the advanced preparation for the purchase of a further three food waste vehicles following the approval of the details of Option 2 at the 2 July 2019 meeting of this Committee;

2.9 note that while Option 1 is the lowest cost for collection, it is not Code-compliant and the co-mingling of paper and card, metal and plastic increases costs for processing and further note that Options 3 and 4, while Code-compliant, are considerably more

expensive to deliver primarily due to the need for more complex refuse collection vehicles as detailed in section 3.15;

2.10 agree that Option 2 should be the option progressed for the reasons detailed in section 3.15 (as summarised in paragraph 3.15.14) and that further detail on cost and process of delivery will be presented to this Committee in July 2019;

2.11 note that to deliver an optimised collection service there is a need to end Task and Finish working arrangements and furthermore implement a 9-hour, 4-day week and negotiations with workforce and Joint Trade Unions will commence in early course, as detailed in section 3.17;

2.12 note the issues with the change in collection methodology meaning that some of the boxes currently stored will not be used as part of the new service and agree the issue of the 55 litre boxes to all properties for the storage of recyclable glass for disposal at community bring-sites as detailed in section 3.18;

2.13 agree to receive a report to a future Committee detailing options for managing trade waste to Household Waste Recycling Centres as detailed in section 3.21, including the potential of a trade waste officer to generate trade income through reducing the disposal of trade waste through Household Waste Recycling Centres and domestic collection services;

2.14 agree to the public consultation on the revised opening hours for the household waste recycling centres as detailed in Table 9 with the proviso that hours at the eight smaller sites do not exceed 5 hours and 45 minutes, with implementation to be progressed once public consultation has been completed and negotiations with staff have been finalised as detailed in section 3.21;

2.15 agree that engagement on the roll-out of waste collection service will build on existing material and the stakeholder Impact Assessment process and there will be a comprehensive Communication Plan, as detailed in section 3.26; and

2.16 note the issues with the age of the existing fleet of refuse collection vehicles as detailed in section 3.28 and agree to the advanced preparation for the acquisition of 11 new refuse collection vehicles following the approval of the details of Option 2 at the 2 July 2019 meeting of this Committee, noting that whether Option 2 is the preferred option taken forward or not, these vehicles are required to deliver the current and any future residual (black bag) waste collection service all as detailed in section 3.29.

3. Considerations

3.1 Background

3.1.1 At Full Council on 3 September 2018, Members received an exempt report on the Waste Management / Recycling (PFI) Contract. At this meeting, Members approved the termination of this Contract.

3.1.2 At this Committee on 23 November 2018, Members were advised of the transition of waste services to Dumfries and Galloway Council and the development of management arrangements, following the early termination of the Waste Private Finance Initiative (PFI)

Contract. Since 11 November 2018, the following is now under the ownership and management of Dumfries and Galloway Council:

- The Ecodeco Mechanical Biological Treatment (MBT) facility.
- Two waste transfer stations with household waste recycling centres (HWRCs).
- Eight stand-alone HWRCs.
- Five closed landfill sites.

These facilities now sit alongside the Stranraer Zero Waste Park incorporating an HWRC and the Newton Stewart HWRC.

3.1.3 The opportunity that is presented by the Council delivering both the collection and disposal service is one of a joined-up approach with the potential for efficiencies to be delivered. Furthermore, the challenge of the Change in Law Contract Variation that was required by the Waste PFI Contract to allow the roll-out of a source separated waste collection service is no longer an issue.

3.1.4 Feedback from the public through the 2018 Budget Simulator and Community Conversations exercises called for increased opportunities for recycling and confirmed the high degree of interest in how the council deals with waste. It was suggested that 'waste collections can be reduced for example to every second week, whilst at the same time increasing recycling options'. This is consistent with existing and emerging legislation and guidance, coupled with the Scottish Government's planned Deposit Return Scheme (see section 3.4).

3.1.5 This report has also been influenced by feedback received at the Members' Workshop that was held on 10 April 2019 in Dumfries. A copy of the presentation given is contained in **Appendix 1**.

3.2 Project Team

3.2.1 To maximise the benefits of this integration of waste collection and disposal and to meet requirements through legislation and public feedback for improvements to recycling within the region, a Waste Strategy Development Team was established in late January 2019. The Team is tasked to review all operations within waste collection and disposal, with producing a revised waste strategy and a model for a combined waste collection and disposal service for approval by Members.

3.2.2 The business case on the termination of the Waste PFI Contract reported to Full Council on 3 September 2018 included details on the requirement to develop the post of Waste Services Manager to lead the combined waste service. It is envisaged that this addition to the Project Team will now be progressed as part of the development of a new structure for the Waste Service. In addition, the 3 September 2018 report identified the need for a health and safety officer and a procurement officer. The work undertaken by these new posts were previously undertaken by Renewi resources that did not transfer in November 2018. The health and safety officer post is currently out to recruitment. The procurement officer post is necessary to deal with offtake contracts for waste outputs from the service and ensuring Duty of Care matters for collection and disposal are addressed.

3.2.3 The strategic objective of the Programme is:

> 'To review the Council's Waste Strategy and develop a new operating model of waste management to provide a single Waste Service beyond the recent Waste PFI Contract termination, service transition and service integration processes to ensure that the Council has an effective, efficient and economic Waste Service for collection, treatment, recycling and disposal. This has to be within available resources and if possible deliver revenue savings. This must meet statutory requirements and ensure that all aspects of the service optimise operational practice to ensure this is seamless, maximises use of investment in assets and reduces external costs to the Council and meets the needs of the customer'.

3.2.4 All options are being addressed and it has already become clear that the development of any waste collection and disposal strategy must be flexible. Members will be aware that constraints of the Waste PFI Contract prevented the implementation of a source separated waste collection service across the region, as required by the Waste (Scotland) Regulations 2012. But going forward, the potential for a Deposit Return Scheme (DRS) or the change in general public views on use and future disposal / recycling of certain materials e.g. single-use plastics, will greatly affect the way in which we collect and dispose of waste. Changes to market conditions continue to influence how waste is processed. For example, in 2015/16, Solid Recovered Fuels (the main offtake from the Ecodeco MBT plant) cost £18 per tonne for disposal (excluding transport); this increased to £80 per tonne by the following year.

3.2.5 The Team has thus far focussed on the waste collection service and consequently this forms the main content of this report for the following reasons:

- The development of improvements in the collection service have been the focus of the operational delivery team prior to the establishment of the Project Team and thus the options are further developed.
- The options for disposal, particularly around the use of the Ecodeco MBT require further consideration. This is as a consequence of full access to this facility only being available since the Waste PFI Contract was terminated. This report will present general principles that will be developed further and presented to Members for approval at later Committees.
- Need for compliance with the Code of Practice for Household Recycling in Scotland.
- Need for compliance with the Waste (Scotland) Regulations 2012 in relation to dry-recyclates and food waste.

3.3 Legislative background

3.3.1 The delivery of a waste collection and disposal service must meet with the requirements of the legislation, specifically The Waste (Scotland) Regulations 2012 (which amend the Environmental Protection Act 1990 and other legislation) and where possible comply with the 2016 Code of Practice for Household Recycling in Scotland. Compliance with the Code of Practice is critical given Dumfries and Galloway Council are the only authority in Scotland not to deliver a kerbside collection service for dry-recyclates and that Scottish Government provide funding to local authorities for waste collection.

3.3.2 The then Leader and the Chief Executive of Dumfries and Galloway Council have signed up to the Charter for Household Recycling in Scotland. A copy of the Charter is contained within **Appendix 2**. Compliance with the Charter includes implementing the Code of Practice.

3.3.3 In January 2021 in accordance with Waste (Scotland) Regulations 2012 a ban on the landfilling of biodegradable municipal waste will come into force. This is a significant challenge to all authorities across Scotland but one that we potentially have an opportunity, through the current strategy development, to address. The method of collection and the method of processing, through the Ecodeco Mechanical Biological Treatment (MBT) facility on the A709 at Lochar Moss, will have a significant influence over how we comply with this ban. This will be detailed in a subsequent report to this Committee in July 2019, but in the meantime, Members should note that following a recent procurement exercise, all offtakes from the Ecodeco MBT facility are sent for further processing and/or Energy from Waste facilities thus reducing disposal of residual (black bag) waste processed through the Ecodeco MBT facility to landfill to less than 10%.

3.4 Deposit Return Scheme

3.4.1 In 2018, the Scottish Government consulted on the implementation of a Deposit Return Scheme (DRS). DRS is popular across Europe and sees a charge being added to certain goods and a subsequent monetary payment being made following return of the packaging. Following this consultation, it is understood from engagement with Zero Waste Scotland that the Scottish Government intends to implement a DRS by May 2021 (subject to Ministerial approval and legislation).

3.4.2 If implemented, it will collect certain single-use plastic bottles, cans and glass containers across Scotland, with deposits of between 10p and 20p per item currently being considered. Inevitably this will have a significant impact on the dynamics and costs of waste services for the Council and on any proposals for kerbside recycling.

3.4.3 The scheme is based on the principal of ‘extended producer responsibility’; meaning that businesses and manufacturers will be expected to meet the cost of recycling or disposing of the packaging they produce. It will be run by commercial enterprises rather than Local Authorities, although rural authorities such as Dumfries and Galloway Council may become involved in the collection of returns.

3.4.4 Attaching a relatively high value to items of ‘waste’ means that information management and security will be critical to avoiding fraud. There will be a whole supply chain behind the system, involving collectors, haulage, treatment and disposal. This may involve existing waste services but would run in parallel because of the value of the ‘products’ involved.

3.4.5 The DRS scheme aims to capture 95% of higher value or more easily recycled products, specifically single-use metal cans (aluminium and steel), glass bottles and at least one type of plastic, PET, a high-grade clear plastic used in e.g. drinks bottles. Potentially, HDPE; used in e.g. milk bottles may also be included, but this is yet to be confirmed. This has the following implications for the Council:

- In order to comply with the Waste Management Code of Practice for Household Recycling in Scotland, other plastic containers e.g. shampoo bottles, plus glass, cans, paper and card that are not within the scope of the scheme will still need to be recycled. This would require the Council to provide a source segregated system across Dumfries and Galloway.

- It could reduce the value for materials collected by the Council, therefore it will be essential that collection costs are kept to a minimum.
- It will significantly reduce the volume of material to be collected by the Council collection system. This could provide opportunities to reduce collection frequencies.
- The reduction in PET (and potentially HDPE) plastics entering the Council's collection and treatment system could affect the calorific value of RDF (Refuse Derived Fuel) and SRF (Solid Recovered Fuel) waste streams. In turn, this may reduce their attractiveness to an energy from waste facility. This needs further investigation as Energy from Waste (EfW) is an important alternative use of RDF and SRF to avoid landfill.

3.4.6 Members are asked to note that the benefits of the implementation of a Deposit Return Scheme by Scottish Government will have an impact upon any future waste collection service the Council will deliver. This will require a flexible approach to be taken in the design of the collection and disposal service.

3.5 Waste Collection – current service

3.5.1 The current waste collection service is different for Wigtown compared with the other three operational areas, Stewartry, Nithsdale and Annandale and Eskdale. While the latter three operational areas have a weekly, single 240 litre bin for all waste, with no kerbside recycling service, the Wigtown area receives the following service:

- Residual (black bag) waste – fortnightly collection. Processed at Ecodeco MBT facility.
- Dry recyclates – paper, card, glass, plastics and metals – fortnightly collection. Bulked and off-taken for recycling outwith the region.
- Food waste - weekly collection. Bulked and off-taken for anaerobic digestion outwith the region.

3.6 Development of a new Waste Collection Service for Dumfries and Galloway

3.6.1 The inability to roll-out the source-separated waste collection service across the region was due to constraints in varying the Waste PFI Contract to accommodate the Change in Law, namely the Waste (Scotland) Regulations 2012. With this contract having been terminated the opportunity to implement a recycling service in accordance with the regulations and in compliance with the Code of Practice for Household Recycling is now available. Furthermore, there is an expectation from Zero Waste Scotland and Scottish Government that such a service will be delivered without delay.

3.6.2 The 2012 Regulations require Local Authorities to collect dry recyclates. The Code of Practice for Household Recycling expands on this, providing detailed guidance on an appropriate kerbside collection service for dry-recyclates. In developing a legislative, code compliant, cost effective, waste collection service suitable for roll-out across the whole of the region, Officers within the Project Team have:

- Reviewed both the experiences of the source-separated collection service for dry recyclates and food waste in the Wigtown area.
- Undertaken an assessment of the approaches taken by other Scottish Local Authorities.

3.6.3 Details of these are presented in the following paragraphs which meets with a direction of travel that:

- Acknowledges the significant developments since 2012.
- Delivers a high quality, legislation and Code compliant service to the customer that encourages recycling.
- Is flexible to the changes in legislation and markets.
- Will address the health and safety issues identified in the collection method used in the Wigtown area.
- Should not be overly influenced by previous acquisition of containers and vehicles.
- Should support the end of the Task and Finish working arrangements.
- Acknowledges the need to acquire new equipment.

3.7 Other Local Authorities experience

3.7.1 A benchmarking exercise looking at other Scottish Local Authorities revealed the following information:

- Residual (black bag) waste collection:
    - 27 out of 32 Local Authorities use 240 litre bins.
    - 22 out of 32 collect on a fortnightly basis.
- For dry recyclate bin collection:
    - 28 out of 32 authorities use a wheelie bin (25 use 240 litre and 3 use 140 litre).
    - 24 out of 32 collect on a fortnightly basis.

3.7.2 The number of bins (or boxes) provided for dry recyclate collections are as follows:

- 9 out of 32 co-mingle in single bin (this is not ‘Code-compliant’).
- 7 out of 32 provide 2 bins.
- 12 out of 32 provide 3 bins.
- 4 out of 32 provide 4 bins.

3.7.3 For glass collection:

- 21 out of 32 collect glass from the kerbside,
- 11 out of 32 provide community bring-sites.

3.7.4 In designing any new collection service for Dumfries and Galloway, the experiences of other Scottish Local Authorities are beneficial in respect to finding an efficient and code compliant service. The above information has helped shape the proposals being put forward.

3.8 Review of the Wigtown area source-separated collection service for dry recyclates and food waste

3.8.1 The original Wigtown area source-separated collection service for dry recyclates and food waste exceeded the standards required for compliance with the Code of Practice as detailed in Table 1.

Waste stream	Code Compliance	Original Wigtown Model
Food	Stranraer only	All properties
Glass	Colour co-mingled	Colour separated
Metals and Plastics	Co-mingled	Separate stillages
Paper and card	Co-mingled	Separate stillages

Table 1 – Original Wigtown area collection service

3.8.2 The initial experience of this collection service was that it was slow and expensive to deliver. Consequently, following a recommendation from Zero Waste Scotland, changes were made to reduce the kerbside separation necessary by operatives, but still remaining Code compliant. This was to determine whether switching sorting methods alone would be sufficient to make the necessary savings. The changes, referred to as the Trial and Control methodologies were implemented in the Newton Stewart area as detailed in Table 2. The difference with the Control methodology compared with the Trial methodology was that food waste was not collected on the kerbside loader, but on a separate food waste vehicle, thus allowing the dry recyclates to remain on a fortnightly collection regime.

	Original 2014 Wigtown Model	**'Trial' Model** (implemented in Newton Stewart area)	**'Control' Model** (in operation in Wigtown area)
Residual Waste	Standard RCV	Standard RCV	Standard RCV
	Fortnightly	Fortnightly	Fortnightly
Food Waste	Food waste vehicle	Kerbside Loader	Food waste vehicle
	Weekly	Weekly	Weekly
Dry Recyclates	Kerbside Loader	Kerbside Loader	Kerbside Loader
	3 boxes - separated at the kerbside	3 boxes – no kerbside sorting	3 boxes – no kerbside sorting
	Fortnightly	Weekly	Fortnightly
Glass Collection	Kerbside Loader	Kerbside Loader	Kerbside Loader
	Fortnightly	Weekly	Fortnightly
Glass Sorted at kerbside?	Yes	No*	No*

Table 2 – Comparison Between Different Kerbside Collection Models used in the Wigtown Area

*Mixed glass is sold on and colour-separated using infra-red technology post-collection

3.8.3 At this Committee on 1 July 2016, Members agreed to expand the optimised Trial methodology across the remainder of the Wigtown area, acknowledging that the costs did not meet the original 2012 estimates. However, the Trial methodology has not been rolled-out, initially due to resource issues associated with movement of key staff. This delay in expanding the Trial across the Wigtown area has enabled further refinements to the collection methodology, such that the Control methodology now better delivers results for the public and the Council than the Trial methodology.

3.8.4 Presently in the Wigtown area there remains a mix of collection methodologies used by the general public, with the principle one being the original method that necessitates kerbside sorting by the operatives. Furthermore, a number of properties that were on a

trial methodology still receive a weekly collection of both food waste and dry recyclates. As Members will appreciate, the management of these different services are challenging and offer no benefit in terms of improved recycling rates and thus it is proposed that ahead of any new system being implemented in accordance with recommendations within this report, the Wigtown area is moved to one collection system.

3.8.5 The Control methodology, as detailed in Table 2, which remains Code compliant, is the safest system and offers the greatest efficiencies whilst still utilising the current boxes. Consequently, Members are recommended to approve that ahead of any new regionwide collection system being implemented, all residential properties in the Wigtown area are moved onto the Control methodology. Information leaflets will be issued to all properties in support of this change, which as will be seen in section 3.15, dovetails well with the preferred option being recommended for approval.

3.9 Health and Safety Concerns with the Wigtown area collection methodology

3.9.1 At the same time as the concerns were raised about the costs of the service delivery, issues were raised with respect to operator safety, resulting in an independent study by The Keil Centre into the ergonomics of the kerbside collection service. This was reported to this Committee on 28 September 2015 and included:

- The suitability, design and seating configuration of the new vehicles.
- Potentially unsafe working practices and concerns about manual handling.
- Suitability of boxes for recycling.
- Concerns relating to the presence of knives, needles and other dangerous items in recycling receptacles.

3.9.2 The decision taken at this Committee on 28 September 2015 focussed on ensuring detailed costings were fully considered before region wide roll-out, but there was a requirement to address the issues raised by the Keil Centre report. A further report to this Committee on 1 July 2016 set out the challenges and potential solutions, including the change in collection to the, now adopted, Control methodology. The challenges that remain were detailed in the updated Keil Report 2018. A summary of the Keil Centre report from 2015 was an appendix to the 28 September 2015 Committee report. A summary of the Keil Centre 2018 report reviewing the current Control methodology is contained within **Appendix 3**.

3.9.3 The following paragraphs detail the issues with the collection of dry recyclates and food waste in the Wigtown area.

3.10 Existing Food Waste Collection – health and safety issues

3.10.1 It has become apparent in the operation of the service in the Wigtown area that the food waste vehicles are not suitable and present a combination of health and safety issues to operatives and inefficiencies in operation. These are detailed further in the following paragraphs.

3.10.2 There are two loading methods for the food waste vehicles, namely tipping the caddies directly into the vehicles via side doors or using the nearside-mounted lifting device (scuttle) which can also be used to lift wheelie bins (used for communal / commercial waste collections). The scuttle is very slow and the custom and practice adopted has been to put the waste into the vehicle via the side doors.

3.10.3 Unfortunately, to utilise the side doors, the operatives currently have to reach above shoulder height to empty the caddies through side doors on the vehicle which could lead to musculoskeletal disorders or injuries (MSD). However, there is a further issue that makes the potential for MSD injuries even more significant. As a consequence of not having any facility for moving the load within the vehicle (no compactor), if operatives simply tip food waste into the side door it quickly reaches the lip of the opening and would fall out. Therefore, the operatives throw the contents of the caddies into the vehicle, which involves twisting their bodies and extending their arms, to propel the waste into the centre, which could lead to further MSD injuries.

3.10.4 The scuttle on the vehicle, with which the operatives could load the contents of the caddies, takes considerably more time as the lifter is very slow and, as it is located on the nearside of the vehicle, operatives collecting caddies from the offside of the vehicle have to walk round the vehicle and then walk back to return the caddie. In addition, the side lift container has to be manually removed from and the returned to the vehicle whenever a commercial or communal bin has to be lifted.

3.10.5 Given the MSD issues identified with the manual discharge into the side doors of the vehicle, Members should note that the collection service has instructed all operatives to use the scuttle. The impacts of this are to increase collection costs and this must be addressed in the delivery of a new service.

3.10.6 In addition there is a problem discharging the food waste from the collection vehicles. The process for emptying the vehicle involves an operative opening the rear doors and fastening them to the sides of the vehicle before the vehicle body is hydraulically raised at the front, to allow the contents to slide out onto the floor of the transfer station. Unfortunately, all the food waste does not come out of the body as the tipping mechanism does not tilt the body sufficiently. Therefore, the transfer station operative has to put on waterproof clothing and scrape the remaining food waste out of the vehicle on to the floor around themselves.

3.10.7 Once this is completed the operative has to disinfect the vehicle before it leaves the transfer station building. When the vehicle has left the building the operative scrapes the food waste from the floor into a skip using a mechanical loading vehicle. The operative then has to clean and disinfect the floor, mechanical loading vehicle and themselves. The mechanical loading vehicle remains in that part of the building to minimise the chances of infection from the food waste. This is very time consuming and unpleasant for the operative.

3.10.8 Members should note that the issues identified by operatives and detailed within the Keil Centre report 2015 with the third seat within the vehicle not being ideal for anything more than short, low-speed journeys has been addressed within the food waste collection service by reducing the crewing levels from driver plus two to driver plus one.

3.11 Existing Dry Recyclates Collection – health and safety issues

3.11.1 As with the food waste collection service, the Keil Centre report 2015 identified concerns with the collection of dry recyclates. A number of these issues have been addressed by changing the work undertaken by operatives on the kerbside loader to the

Control methodology. This includes the removal of the risk associated with encountering sharps within the boxes when placing hands into boxes to sort dry recyclates prior to placing into specific stillages. Unfortunately, the Control methodology has not addressed the following issues with the service:

- Bending, lifting and walking with (heavy) boxes.
- The handles of the smaller 44 litre boxes are too small for gloved hands necessitating balancing on finger-tips.
- Walking and working between parked cars – with stillages being on the side of the kerbside loader (as opposed to the loading area on an RCV being at the rear) space between parked cars and the vehicle can often be tight.
- When stillages are nearly full then:
    - Placing recyclates into openings above shoulder height.
    - Discharging boxes above shoulder height / holding box with one hand and twisting wrist to empty box into stillage.
    - General twisting and pushing to empty boxes.
- Central (3rd) seat in vehicle not suitable for anything more than short, low-speed journeys.
- Boxes placed at kerbside are lightweight and during windy weather they are subject to being blown over leading to waste scattered on the streets.

3.11.2 The design of the Kerbside Loaders saw the benefits achieved in part through highly segregated waste streams, necessitating little sorting once discharged at the disposal point (Stranraer ZWP), and thus improved market values for onward transfer. The change to the Control methodology has lost an element of that advantage by co-mingling glass colour and co-mingling metals and plastics, but still requiring individual stillages to be lifted from the vehicle with forklift trucks; a time-consuming process.

3.11.3 In summary, both the food waste collection service and the dry recyclates collection service in the Wigtown Area present a number of issues which, in the view of Officers involved in the delivery of the new strategy, and in the view of Officers currently delivering the service, are such that this methodology cannot be rolled-out across the remainder of the region. This is both on the grounds of cost and health and safety.

3.12 Delivery of a new waste collection service for Dumfries and Galloway

3.12.1 It is critical that a legislative, code compliant, cost effective, waste collection service is rolled-out across the region without further delay. This must build upon the findings of the service currently being delivered in the Wigtown area along with the experiences of other Scottish Local Authorities. It must take into account the proposed changes in the legislation specifically the proposed Deposit Return Scheme (DRS). Finally, it must be simple to understand and encourage recycling participation.

3.12.2 The following sections address the options available and present recommendations. This will cover the collection of food waste, the collection of dry recyclates, with the specific option available for glass collection, and the collection of residual (black bag) waste.

3.13 Delivery of a new waste collection service for Dumfries and Galloway – Glass

3.13.1 There are two options for developing a collection service for glass that complies with the Code of Practice for Household Recycling:

- Collecting from individual properties (segregated from other recyclates).
- Providing suitable community bring-sites ('bottle banks').

3.13.2 As detailed earlier, benchmarking with other Scottish local authorities indicates that 21 out of 32 collect from properties and 11 provide communal bring-sites. The introduction of the Deposit Return Scheme (DRS) scheduled for Q2 2021 will have a significant impact upon the quantity of glass likely to be collected by a Local Authority (either at kerbside or at community bring-sites), so it is crucial that any method developed minimises costs. Once the DRS takes effect, community bring-sites are likely to offer lower costs and greater flexibility in comparison to kerbside collection of much smaller quantities of presented glass.

3.13.3 There is a critical need to develop a flexible collection service, able to cope with future changes in the market, whether legislative or market/consumer-driven. In moving forward with collection of glass as part of the dry recyclate waste stream, the development of community bring-sites must be considered in addition to a kerbside collection service.

3.13.4 In the Wigtown operational area, glass is collected at the kerbside in one of three dry recyclate containers provided to each household. Initially this was sorted into separate colours at kerbside, but this no longer happens, and all glass collected at kerbside is now mixed and sent for processing at a national facility capable of separating colours using infra-red technology. This meets with the requirements of the Code and ensures different colours of glass are recycled. It also avoids the need for multiple collection stillages with associated multiple waste streams through the bulking stations and disposal routes, saving cost and time.

3.13.5 Community bring-sites have a number of benefits for customers and for service delivery:

- Avoids the need for a fourth bin at individual properties for kerbside collection.
- Lower cost than kerbside collection.
- More flexible to changes in quantities due to the DRS.
- 1,280 litre bins can be used at bring-sites (as used for commercial waste) and collected by a standard RCV, leading to flexible and cost-effective collection patterns.
- Bring-sites can be located near main DRS return facilities (e.g. supermarkets), meaning users could drop off DRS bottles and residual glass (jam jars, etc.) at the same time.
- Emptying of bring-sites could be integrated with current commercial glass collection.

3.13.6 In order to comply with the Code of Practice, community bring-sites are expected to be within 1km of all dwellings within urban areas (no distance is quoted for rural areas). The Council will need to demonstrate the effectiveness of collection via communal bring-sites in comparison to kerbside collection through benchmarking with other councils, comparing with historical data or monitoring waste composition.

3.13.7 In addition to glass collection points at Household Waste Recycling Centres, there are 41 existing community bring-sites across the region. This provides coverage within 1km for approximately 40% of the population. The current range of existing containers at

these facilities would be replaced by 1,280 litre collection bins, with additional sites added to ensure full compliance with the Code. Based on 74,000 properties and minimum capacity of 10 litres per property per week, in the order of 580 number 1,260 litre bins would be required. Current work shows and initial requirement of providing bins at 150-200 locations across the region. This is in comparison to providing 74,000 extra wheelie bins for glass collection at individual households and providing a regular collection service.

3.13.8 Initial research as summarised above, indicates that the provision of new communal bring-sites is one of the least expensive options, offers the most flexibility and is likely to be by far the best option. Members are therefore asked to agree that glass collection should be based on community bring-sites rather than kerbside collection. A separate report detailing the requirements for rolling out this system will be brought to a future meeting of this Committee.

3.14 Delivery of a new waste collection service for Dumfries and Galloway – Food

3.14.1 In developing a Code compliant food waste collection service to be rolled-out across the region two areas need to be addressed:

- Addressing the significant cost and health and safety issues of using the current fleet of vehicles.
- Considering the option to restrict the service delivery to the six regulated postcode areas only, namely Dumfries, Stranraer, Dalbeattie, Annan, Lockerbie and Gretna

3.14.2 Following the need to restrict the loading of the current food waste vehicles operating in the Wigtown area to be via the nearside-mounted scuttle, it has been necessary to utilise additional vehicles and operatives to deliver the service and/or pay overtime. While dealing with the health and safety issues associated with loading, this has not addressed the issues of discharge at the Stranraer ZWP, nor the failings with the vehicle to be able to compact the waste.

3.14.3 As an alternative, it is proposed new food waste vehicles are acquired, based on experience of a neighbouring Local Authority. Not only does this address all the health and safety concerns associated with the current fleet, it also deals with the cost issues as it is more cost effective, including the capital borrowing, than continuing to use the existing fleet.

3.14.4 Scottish Borders Council currently collects food waste using Farid Micro food collection vehicles, but only collect from their designated postcode areas. These vehicles have a bin lifting mechanism that tips into the top of the body. Secured to the bin lifter is a detachable stainless-steel container, which allows the operative to tip the contents of the food caddies at waist height, which significantly reduces the current MSD risks as shown in Photo 1.

Photo 1 – Food waste collection vehicle used by Scottish Borders Council

3.14.5 Periodically the operative empties the contents of the attached bin into the body using the lifter. The bin lifter is also wide enough to accommodate wheeled bins without having to detach the container. As can be seen the detachable container is located at the rear of the vehicle, enabling access from both sides of the road. The bin lifter is also significantly faster than those fitted to this Council's current vehicles, which coupled with not having to remove the container each time a wheeled bin has to be lifted, increases efficiency considerably. In addition, it is also capable of lifting more than 150kg which the current food waste vehicle is limited too, therefore allowing the use of larger wheeled bins for commercial and communal food waste. The vehicle also has a compactor allowing the full volume of the vehicle to be utilised before returning to tip.

3.14.6 The detachable container is only removed to facilitate the tipping of the body when it is emptied. The ability to raise the body of the vehicle to an angle that allows full discharge without manual intervention at a height that can discharge directly to a skip for onward disposal (to anaerobic digestion facilities outwith the region) avoids the need for any manual intervention or subsequent cleaning of the floor or vehicle, vastly reducing disposal times and avoiding the unpleasant task of an operative standing within food waste.

3.14.7 The 2012 Regulations and the Code of Practice for Household Recycling in Scotland requires food waste to be collected separately. The Code requires that this must be collected from certain postcode areas only but the delivery of a service from all residential properties is only desirable.

3.14.8 In the Wigtown area, food waste is collected on a weekly basis from all residential properties. The postcode requirement would limit this to Stranraer. Food waste is not separated from residual waste in other parts of Dumfries and Galloway. Rolling out a separated food waste collection service based on specific postcode areas to comply with the Code of Practice would involve Dumfries, Dalbeattie, Annan, Lockerbie and Gretna as well as Stranraer.

3.14.9 The differences between collecting from all properties and only from post-code towns as required in the 2012 Regulations and the Code are set out in Table 3, which shows an estimated cost avoidance of £0.8M.

Collect from all properties	**Only Collect from the six regulated postcode areas** (Dumfries, Stranraer, Annan, Dalbeattie, Lockerbie, Gretna)
• Number of routes: 54 • Estimated cost for collection and disposal: £1.16million • Estimated cost per tonne collected: £360 per tonne • Distance: 300,000 miles • CO_2 emissions: 500 tonnes	• Number of routes: 15 • Estimated cost for collection and disposal: £0.348million • Estimated cost per tonne collected: £224 per tonne • Distance: 48,000 miles • CO_2 emissions: 80 tonnes

Table 3 – Options for a Code-Compliant Food Waste Collection System

3.14.10 Members are asked to agree to the food waste collection service for Dumfries and Galloway being limited to the six regulated postcode areas; namely Dumfries, Stranraer, Dalbeattie, Annan, Lockerbie and Gretna and consequently the existing food waste collection service being withdrawn from the remainder of the Wigtown area, noting that this provides the service to approximately 50% of properties in the region.

3.14.11 To deliver a food waste collection service to the six regulated postcode areas, it is recommended that Members agree to the advanced preparation for the purchase of five food waste vehicles at a capital cost of £75K per vehicle following the approval of the details of Option 2 at the 2 July 2019 meeting of this Committee. Initially two vehicles will be purchased to undertake the Wigtown area collection service henceforth (acknowledging delivery time for vehicles). The remaining three vehicles will be purchased to coincide with the agreed start date of a regionwide source-separated Code-compliant kerbside waste collection service.

3.14.12 Therefore, the total estimated cost of the 5 new vehicles would be around £335K, which paid for by prudential borrowing over 5 years would be £86.6K per year. The use of scuttle only to collect food waste in Wigtown has increased cost by around 43%, therefore if the existing food collection vehicles were used for all the postcode areas it would increase the cost by around £165K per year. Therefore purchasing a new fleet is more cost effective.

3.14.13 With respect to food waste collection there will be questions from the public, specifically those in the Wigtown area, as to the provision of a service that will be withdrawn and whether there can be any extension of the six regulated postcode areas to include, for example, Newton Stewart, Moffat or Castle Douglas. However, Members should note that:

- There is no legislative or Code requirement to do this.
- It will set a precedent which will make refusing requests from other smaller settlements almost impossible to refuse.
- Collecting food waste costs the authority but offers no direct benefit as the Ecodeco MBT facility actually benefits from the presence of food waste.

3.15 Delivery of a new waste collection service for Dumfries and Galloway – Dry Recyclates

3.15.1 The following paragraphs detailing the development of a dry recyclates collection service for the region, including options for Members' consideration, is based on the all that has preceded this point in the report on options advice and recommendations. In summary:

- Glass will not be collected kerbside, but instead community bring-sites will be provided in accordance with the Code of Practice.
- The existing containers present too many issues with respect to health and safety and instead wheelie bins will be used for dry recyclates, as is the case in the majority of local authorities in Scotland.
- This allows the use of refuse collection vehicles with lifts avoiding any need to manually tip dry recyclates into stillages.
- There will be a reduced frequency of residual (black bag) waste collection reflecting the reduced volumes that will be presented given the removal of recyclates within the waste stream (the approach of all other authorities in Scotland).
- While not directly affecting the collection of dry recyclates, it should be noted that food waste will be collected separately from other waste, in specialist vehicles, on a weekly basis and from six regulated postcode areas only.

3.15.2 Having removed glass from the kerbside collection service, for Code compliance there is a need to provide the following disposal facilities at each property:

- A residual (black bag) waste bin. This is already provided as a 240-litre wheelie bin at most properties (except those that cannot accommodate and are instead provided with free-issue bags).
- A bin for metals and plastics.
- A bin for paper and card.
- Two caddies for food waste – 5 litre for inside property and 23 litre for outside (only required at properties within the six regulated postcode areas).

3.15.3 The following four options allow a comparison of different collection methods that all utilise wheelie bins and refuse collection vehicles. Option 1 is not Code compliant but is included for comparison purposes and while it is an approach taken by some local authorities it is not recommended to be adopted by Dumfries and Galloway Council. Option 4 is included to show that glass could be collected at kerbside.

- Option 1 – Standard RCV only (not code compliant).
    - Standard RCV for Residual fortnightly.
    - Standard RCV for one 240 litre bin for all recyclate (paper, card, cans, and plastics) co-mingled fortnightly.
    - Glass at Community bring-sites.
- Option 2 – Standard RCV only (code compliant).
    - Standard RCV for Residual fortnightly.
    - Standard RCV for one 240 litre bin for paper and card monthly.
    - Standard RCV for one 240 litre bin for cans and plastics monthly.
    - Glass at Community bring-sites.
- Option 3 – Standard RCV and 2 Compartment RCV (code compliant).

- Standard RCV for Residual fortnightly.
- Two compartment RCV for
  - one 140 litre bin for paper and card fortnightly.
  - one 140 litre bin for cans and plastics fortnightly.
- Glass at Community bring-sites.

- Option 4 – Standard RCV and 3 Compartment RCV (code compliant).
  - Standard RCV for Residual fortnightly.
  - Three compartment RCV for
    - one 140 litre bin for paper and card fortnightly.
    - one 140 litre bin for cans and plastics fortnightly.
    - one 140 litre bin for mixed glass fortnightly

3.15.4 In terms of frequency, the collection methods would see the residual (black bag) waste on weeks 1 and 3 alternating with the collection of the dry recyclates as detailed in Table 4.

Option	Week 1	Week 2	Week 3	Week 4
1. Co-mingled Recyclates				
2. Separate Recyclates				
3. Two Vehicles				
4. Two vehicles with glass				

Table 4 – comparison of options showing bins and vehicle types

3.15.5 As discussed above, Option 1 is not Code compliant and is for comparison purposes only. While it is an option that is used by other Scottish Local Authorities, taking forward this option would be in direct conflict with the recommendations from Zero Waste Scotland and would impact upon relationships with them and in turn Scottish Government. Zero Waste Scotland also advised that collection methodology that adopts a single bin for dry recyclate was most likely to suffer from contamination.

3.15.6 Options 2, 3 and 4 are all code compliant but Option 2 offers a significant advantage in terms of flexibility over the other two options in that it only requires one type of collection vehicle to undertake both the residual (black bag) waste collection service and the alternating dry recyclates collection service. Apart from the lower cost of the vehicles, the fact that they are interchangeable means that maintaining spare vehicles to deal with breakdowns is simpler, as is general maintenance. Under Option 2, the service would utilise the full fleet of vehicles to undertake all collection, with washout following a residual (black bag) waste collection, the only requirement.

3.15.7 The additional lifts and mechanisms required within the vehicles necessary to deliver Options 3 and 4 would reduce the capacity thus increasing the return to tip.

Furthermore, the filling of one compartment e.g. the metals and plastics before the other compartment e.g. the paper and card further reduces efficiency in that the vehicle is returning to tip only partially full.

3.15.8 Option 1 only requires the provision of one additional 240 litre wheelie bin, whereas Option 2 requires the provision of two additional 240 litre wheelie bins. Options 3 and 4 require the provision of an additional two or three 140 litre wheelie bins respectively. Properties that could not accommodate the additional bins would be provided with bags for dry recyclates. Wheelie bins would be a standard colour allowing interchangeability but would have colour-coded lids for ease of use by householders.

3.15.9 Costs for collection for each of the four options can be compared quite simply. As can be seen in Table 4, all four options have each residential property in the region visited on a weekly basis. Therefore, all vehicle and crew revenue costs are the same and thus the only difference is in the cost of the equipment (vehicles and bins) being purchased, as detailed in Table 5.

Option	Equipment required
Option 1	• 24 single compartment RCVs required • 75,000 additional 240 litre wheelie bins required • Community bring-sites for glass
Option 2	• 24 single compartment RCVs required • 150,000 additional 240 litre wheelie bins required • Community bring-sites for glass
Option 3	• 14 single compartment RCVs required • 14 twin compartment RCVs required • 150,000 additional 120 litre wheelie bins required • Community bring-sites for glass
Option 4	• 14 single compartment RCVs required • 14 triple compartment RCVs required • 225,000 additional 120 litre wheelie bins required

Table 5 – Comparison of equipment required for four collection options

3.15.10 It can be seen in Table 6 that the non-Code-compliant Option 1 is the lowest cost, although for reasons detailed in paragraph 3.15.5, this Option has only been provided for comparison purposes and should not be considered further.

Option	Annual Cost	Cost above lowest	Cost above lowest Code-compliant option
Option 1	£3,893,935		Not applicable
Option 2	£4,031,223	£137,288	-
Option 3	£4,583,133	£689,198	£551,910
Option 4	£4,588,627	£694,692	£557,404

Table 6 – Estimated cost of waste collection service (excluding disposal)*

Costs in Table 6 based on the following:

- Does not include the cost of food waste collection (see section 3.14)
- Capital borrowing costs for RCVs over 5 years[1].
- Capital borrowing costs for bins (including community bring-sites for glass collection) over 15 years.
- Current staff, fuel and maintenance costs.
- Based on a 9-hour, 4-day week and cessation of Task and Finish working arrangements (see section 3.17).

3.15.11 However, the selection of a method of waste collection cannot be solely based upon the cost of collection. As detailed in paragraph 3.15.3, Option 1 requires householders to place all recyclable paper, card, metal and plastic in one bin, whereas Options 2, 3 and 4 separate these dry recyclates into Code-compliant streams.

3.15.12 The consequences of any co-mingling of recyclates reduces the value / increases the cost of processing and onward transfer. While Option 1 is not Code-compliant and is discounted on that basis, even if it were to be considered further, the consequences for processing and onward transfer make it an option that should be rejected anyway. Co-mingled paper and card continues to have a value so keeping it separate from metals and plastics reduces the cost of service delivery through the generation of an income. While there is a cost for disposal of co-mingled plastics and metals, their partial separation is achievable (ferrous metals removed with a magnet) resulting in an income for the metal fraction. This is achieved at Stranraer ZWP and is being proposed as part of the facilities at Dumfries ZWP. Furthermore, the inclusion of an Eddy-current separator, capable of removing non-ferrous metals would generate an income from aluminium and again this is being considered for Dumfries ZWP. This makes Option 2 a better option than Option 1 despite lower collection costs for the latter.

3.15.13 Options 2, 3 and 4 result in three identical waste streams of paper and card, metals and plastics and glass, so there are no benefits from processing and onward transfer costs/income. However, as can be seen in Table 6, Options 3 and 4 are considerably more expensive to deliver primarily because of the increased costs of the more complex vehicles.

3.15.14 In summary, when making a determination on which collection method should be delivered, Members should note the following:

[1] The existing fleet of Refuse Collection Vehicles is beyond serviceable life and could not be used to deliver this proposed service. Further details of the existing fleet are presented in the sections 3.28 and 3.29.

- Option 1 is not Code-compliant and should be discounted. While the savings of £137K (Table 6) cannot be ignored, nor can maintaining a good working relationship with Scottish Government and Zero Waste Scotland (see paragraph 3.15.5).
- The separation of paper and card from metal and plastic offered by option two increases income from the former and the metal and plastic costs can be reduced through simple processes achieved at Stranraer ZWP and proposed for Dumfries ZWP (see paragraph 3.15.12)
- The additional cost of Option 2 over Option 1 is simply the borrowing costs, over 15 years, of the additional wheelie bin required.
- Option 1 and 2 only require one type of refuse collection vehicle for all simplifying interchangeability and maintenance regimes (see paragraph 3.15.6).
- Option 3 and Option 4 require more expensive two and three compartment RCVs for dry recyclate collection. The two and three compartment vehicles have smaller payloads and can suffer from premature filling of one compartment both of which increase return to tip frequency (see paragraph 3.15.7).
- Option 4 has the advantage of providing a glass collection service, but as detailed in section 3.13, costs for community bring-points are more cost effective and considerably simpler to manage with changes likely to occur when DRS is implemented.
- It should also be noted that whatever option is chosen for collection of dry recyclates, there remains the collection and disposal of approximately 42,000 tonnes of residual (black bag) waste. The cost will be the same for all waste collection options and the options for this are part of future considerations on the Ecodeco MBT facility as detailed in sections 3.23, 3.24 and 3.25, to be reported to this Committee at a future date.

3.15.15 Consequently, Members are recommended to agree to Option 2 as the preferred option and for Officers to bring forward more detailed proposals for final agreement at this Committee in July 2019.

3.16 Route optimisation

3.16.1 In route planning there remains a number of factors that will be considered in endeavouring to achieve the most efficient routes. This includes starting routes from locations remote from the Dumfries ZWP and using waste transfer stations at Stranraer ZWP, Corsehill, Annan and Abercrombie Road, Castle Douglas to bulk the waste before transport to the Ecodeco MBT facility.

3.16.2 In order to successfully roll-out a source separated waste collection service across the whole region requires a significant resource to fully model the variables for many options. This route optimisation is being undertaken using the software provider that undertook the work in the Wigtown area, Webaspx, in conjunction with Officers from Roads and Infrastructure.

3.16.3 The roll-out of this source separated waste collection service will require the development of elements of the Dumfries Zero Waste Park (ZWP) and alterations to the transfer stations at Abercrombie Road, Castle Douglas and Corsehill, Annan at which kerbside dry recyclates will be bulked for onward transfer to Dumfries ZWP. The approval

for the recommencement of these works will be the subject of a separate report to this Committee at a later date.

3.17 Future work patterns for waste collection service

3.17.1 As part of the work to be presented to this Committee in July 2019 in support of Option 2 a proposed change to the waste collection will be recommended. The work to date has shown that efficiencies in operation can be achieved through the cessation of the work methodology known as Task and Finish and moving the service from a 7.12 hour 5-day week to a 9-hour 4-day week.

3.17.2 Task and Finish working arrangements sees crews finish work once they have completed their allotted work, in this case the completion of a route. While often seen as a benefit to staff, it does present issues and is something that the Waste Collection Service has been keen to end for a number of years. The Task and Finish approach:

- Can encourage unsafe working practices through the incentive of an "early finish" and consequently, is not favoured for health and safety reasons.
- Is a demotivator to other operational staff e.g. street cleansing operatives who see waste collection colleagues finishing work much earlier than they can and the lack of equity in employment terms.

3.17.3 To date, limited discussions have been held with the Joint Trade Unions about the cessation of Task and Finish although they are aware of the wish to engage with the Council in the matter. The potential of a four-day week may be an incentive that will assist in negotiations, but Officers are aware that there may be resistance to the proposals.

3.17.4 With respect to the change in working patterns, a number of options have been considered:

- Seven day working – Four 9-hour days on followed by four days off.
- Operating a four-day week with 9-hour shifts Tuesday to Friday.
- Operating a four-day week with 9-hour shifts on 4 days out of 5.
- Two shifts per day.

3.17.5 Analysis suggests that operating a four-day week with 9-hour shifts Tuesday to Friday would be the optimum solution. However, there is a considerable amount of work that would be required to deliver on this option, including development of a model to change the terms and conditions for the staff, Joint Trade Union consultation and detailed route optimisation and it would potentially take six months to fully develop and implement. There would also need to be some development costs, particularly around route optimisation, that would need to be factored in.

3.17.6 The delivery of any new service that sees longer working days will require a new fleet to deliver; as the existing aged fleet is not suitable. The move to a new RCV fleet, as per Option 2, would potentially be a further incentive to the crews to accept the end of Task and Finish.

3.17.7 Finally, there would also be the need for changes within the Vehicle Maintenance Team and their working patterns to deliver daily maintenance and servicing based around a 9-hour working pattern that complements the waste collection service, but this work

pattern would allow major maintenance to be undertaken on Mondays. However, supervision costs would not need to be increased.

3.17.8 Therefore given the advantages as detailed above, Members are asked to note that discussions with workforce and Joint Trade Unions will be progressed to consider:

- The cessation of Task and Finish working arrangements.
- The implementation of operating a four-day week with 9-hour shifts, Tuesday to Friday.

and agree to receive a report on progress toward detailing these discussions and the associated route optimisation work being taken to a future meeting of this Committee.

3.18 Use of existing containers purchased for previous collection methodology

3.18.1 The funding for the existing containers saw these being purchased before the roll-out of the service across the region was implemented. As has been reported to this Committee on 20 June 2017 these bins have been stored since their purchase in 2012. The bins remain in storage on Council premises and on the basis of earlier recommendations in this report, with the exception of around 50% of the food waste caddies, will not be utilised as part of the collection service. The bins are branded with Dumfries and Galloway Council logos and could not be sold onto other authorities utilising such a system (although as only two others in Scotland use containers rather than wheelie bins there is a limited market in this country).

3.18.2 Rather than simply scrap all these boxes e.g. chip and recycle the plastic, it is proposed that each property is provided with one of the 55 litre boxes for the storage of glass for disposal at community bring-sites and, in future, additionally the disposal of single-use drinks bottles at Deposit Return Scheme retailers. The aforementioned co-locating of community bring-sites within the locales of retailers offering this service would allow for ease of disposal of glass not eligible for DRS to be recycled through Council-provided facilities.

3.18.3 Members are recommended to agree to the issue of 55 litre boxes to all properties, complete with labelling to identify them as for the storage and individual transfer of glass to community bring-sites and/or Deposit Return Scheme retailers, once a new collection service is rolled-out. Options for the sale or disposal for recycling of the 44 litre boxes will be reviewed and reported back to a future meeting of this Committee.

3.19 Use of existing kerbside loaders and food waste vehicles

3.19.1 Existing vehicles (both kerbside loaders and food waste vehicles) were purchased with grant monies from Zero Waste Scotland in 2012/13. Despite not being fully utilised across the region, these vehicles have all been used to some extent within the Wigtown area, because moth-balling them in storage is not efficient or good for their lifespan. Unfortunately, since these vehicles are now 5-6 years old they are reaching the end of their serviceable life and have limited resale value.

3.19.2 Notwithstanding the limited value of these vehicles, the Fleet Manager has been successful in renting out a number of these vehicles to an English Local Authority. Furthermore, the Fleet Manager will, upon agreement from Members to the use of RCVs to deliver all of the waste collection service, look to dispose of the fleet of kerbside loaders and food waste vehicles on the open market. Zero Waste Scotland have not indicated that

they wish this capital grant money repaid but have sought to be kept advised of all details of maximising resale and assurances that any income generated is invested in the delivery of a Code-compliant waste collection service for Dumfries and Galloway.

3.19.3 Members are recommended to note following the approval of the details of Option 2 at the 2 July 2019 meeting of this Committee Officers will seek Members' agreement to maximising the income that can be achieved from the onward sale of the kerbside loaders and food waste vehicles and using this to contribute to the purchase of a new RCV fleet as part of the new collection service.

3.20 Development of the Dumfries Zero Waste Park and Household Waste Recycling Centre

3.20.1 Members approved the allocation of £50K from the Infrastructure Asset Class Capital Programme for design works associated with reviewing opportunities for the re-engineering of the Dumfries ZWP and Ecodeco sites located on the A709 at Dargavel, at this Committee 12 March 2019. This is being used to inform the options being considered by the Project Team and in progressing early design development of the Dumfries HWRC, to provide a safe and modern facility.

3.20.2 Members will be aware that in order to deliver a source-separated waste collection service for the whole of the region, there is a need to provide facilities at Dumfries to receive vehicles and process the dry recyclates. Furthermore, there is also a need to develop a new household waste recycling centre to replace the existing facility at Lochar Moss which is recognised as being too small to use and manage.

3.20.3 At the Planning, Housing and Environment Services (PHES) Committee on 13 November 2012, Members received four reports pertaining to Zero Waste. The fourth of these reports addressed the issue of Infrastructure at the proposed Zero Waste Parks (ZWP) in Stranraer and Dumfries. Members agreed to the funding of the development of the both Stranraer ZWP and Dumfries ZWP, the former of which has been completed.

3.20.4 The Dumfries ZWP received Planning Permission in 2012 (Reference 12/P/3/0395) following which some enabling works have been progressed with Enterprising DG as the main management contractor and the design being led by Property and Architectural Services; an approach successfully used at Stranraer ZWP. The enabling works that have been completed at Dumfries ZWP include the widening of the A709 to accommodate a right-turn lane, secure site boundary, spine road through the site, weighbridge construction and installation of SuDS features.

3.20.5 Since 2012 it has been necessary to make several changes to the layout and consequently a new planning application was submitted. Planning application 17/0479/FUL was submitted on 9 March 2017 and validated on 16 March 2017. Formal Notice of Approval was received from the Planning Authority on 12 September 2017. In addition to the enabling works, significant design work has been completed and the majority of the buildings have been partially designed.

3.20.6 The delay to the delivery of the Dumfries ZWP was predominantly associated with the challenges faced in respect of the need to vary the Waste PFI Contract following the implementation of the Waste (Scotland) Regulations 2012. The completion of a number of

elements of the Dumfries ZWP are critical to the roll-out of the source-separated waste collection service to Stewartry, Nithsdale and Annandale & Eskdale. With the termination of the Waste PFI Contract there is now the opportunity to undertake the design development of the facility.

3.20.7 Furthermore, the opportunity that is presented by the delivery of the waste disposal service in-house and consequently the full control of the Ecodeco site, immediately adjacent to the Dumfries ZWP site is extremely beneficial. Whereas before the Dumfries ZWP was effectively being delivered in isolation from the Ecodeco site, there is now an opportunity to look at both sites holistically. This includes the opportunity to provide a road connection between the sites, allowing all site access to be taken via the new junction and closure of the existing junction. It allows consideration of shared facilities including a single weighbridge and office accommodation. These ideas along with other improvements are currently being led by colleagues from Property and Architectural Services and Engineering Design with input from the Project Team.

3.20.8 In terms of the facilities proposed for the site, post-processing of waste streams from the Ecodeco MBT facility was agreed by Planning, Housing and Environmental Services Committee on 13 November 2012. This would principally be provided through the construction of the small and large particle treatment facilities. Given that the outputs from the Ecodeco MBT facility are currently being treated by others in a manner that reduces this disposal to landfill to less than 10%, and that a final decision has not been reached on the long-term future of the Ecodeco MBT facility, development of these facilities has been placed on hold.

3.21 Future Operation of Household Waste Recycling Centres

3.21.1 There are two current issues with management of the Household Waste Recycling centres; dealing with commercial waste and the opening hours.

3.21.2 The HWRCs are licensed to accept household waste but not commercial or industrial waste. However, it can be difficult for operatives to distinguish for example between an unmarked trade vehicle and a householder using a van or trailer. The Project Team is reviewing options for dealing with trade waste disposal at HWRCs and this includes the option of restricting trade vehicles and larger trailers in line with some other Scottish Local Authorities. However, this requires further review and consideration of options that would still provide a service but avoid an increase in fly-tipping and, for example, by setting up commercial waste disposal via sites with a weighbridge (Stranraer ZWP; Corsehill Transfer Station, Annan; Abercrombie Road Transfer Station, Castle Douglas and, in future Dumfries ZWP).

3.21.3 An alternative option to addressing commercial / trade waste being presented at HWRCs is through ensuring that all businesses have appropriate waste transfer notices. As a waste collection authority, we have the authorisation to seek that information from businesses within Dumfries and Galloway. Options for managing commercial waste being delivered to the HWRCs will presented to a future meeting of this Committee. This will include considering the employment of a trade waste officer, responsible for ensuring that all businesses within the region comply with regulations thus avoiding the disposal of trade waste either through the HWRC or through domestic refuse collection service. The

Council can legitimately impose a charge for the collection of trade waste and presently makes an income in that regard.

3.21.4 Following the termination of the Waste PFI Contract all household waste recycling centres (HWRC) are now operated by Dumfries and Galloway Council staff on the opening hours detailed in Table 7. On 14 February 2013, Members had agreed to opening times for HWRCs being varied to reflect usage and become standardised as detailed in Table 8. This was implemented under the PFI Contract but only on a trial basis and on 1 April 2016, the sites reverted to the original opening hours, which are still in operation today.

Household Waste Recycling Centre	Current Opening Hours	Hours
Annan	Mon to Thurs 08:15 to 16:45, Fri 08:00 to 16:45, Sat & Sun 10:00 to 16:45	56.25
Beattock	Seven Days 12:00 to 16:00	28
Castle Douglas	Mon to Fri 08:00 to 18:00 Sat & Sun 10:00 to 18:00	66
Dalbeattie	Sat-Sun 12:00 to 16:00	8
Lincluden (Dumfries)	Mon to Fri 08:00 to 18:00, Sat & Sun 10:00 to 18:00	66
Lochar Moss (Dumfries)	Mon to Sat 08:00 to 22:00, Sunday 09:00 to 22:00	110
Lockerbie	Seven Days 12:00 to 16:00	28
Newton Stewart	Thu to Mon – 12:00 to 18:00 Tue and Wed – Closed	30
Sanquhar	Seven Days 10:00 to 18:00	56
Stranraer	Seven Days 09:00 to 18:00	63
Thornhill	Seven Days 12:00 to 16:00	28
Whithorn	Mon to Fri 08:00 to 16:00, Sat and Sun 12:00 to 16:00	48
	Total	**587.25**

Table 7 – Household Waste Recycling Centres – Current Opening Hours

Household Waste Recycling Centre	Opening Hours agreed 14 Feb 2013	Hours
Larger sites		
Annan	Seven Days 09:00 to 18:00 (20:00 at Dumfries)	63
Castle Douglas		63
Lochar Moss (Dumfries)		77
Stranraer		63
Smaller sites		
Beattock	Thursday to Monday 11:45 to 18:00 Closed Tuesday and Wednesday	31.25
Dalbeattie		31.25
Lincluden (Dumfries)		31.25
Lockerbie		31.25
Newton Stewart		31.25
Sanquhar		31.25
Thornhill		31.25
Whithorn		31.25
	Total	**516**

Table 8 – Household Waste Recycling Centres – Opening Hours agreed 14 Feb 2013

3.21.5 At the time there were restrictions placed upon the opening hours by the Waste PFI Contract which limited the total hours available to 516.5 hours per week. This restriction no longer applies. There is however a need to consider the benefits and costs of increasing hours. Of particular concern, are the implications of opening smaller sites for more than 6 hours. To exceed 6 hours operation requires two members of staff as an individual cannot work for a period of greater than six hours without a break.

3.21.6 There are advantages in reviewing the opening hours for the HWRCs to better reflect the usage and provide a more consistent service across the region. Furthermore, there is an opportunity through the reduction in hours at smaller sites to move fully to single-operative operation. Finally, Renewi experience from operating the Locharmoss facility in Dumfries has shown that the late hours, after 20:00 are not used extensively but the darker hours do see the opportunity for waste disposal of a non-domestic content. Changing to closing at 19:00 would reduce this potential. Opening before 09:00 has also been found to be unnecessary, with little usage at this time.

3.21.7 The proposed operating hours for the sites are detailed in Table 9. It can be seen that the four larger sites are open 7 days per week until 18:00 and the 8 smaller sites are open consistently from 12:00 until 17:45. This closing time 15 minutes before the six-hour shift is complete allows the single operative to tidy the site and complete any paperwork within the maximum working period. It should also be noted that as is currently the situation, the closing times detailed in Table 9 are the time at which the site will shut, but that the gates will be managed 15 minutes prior to that time to ensure that larger loads are not arriving at closing time. This is particularly important in the single-operator sites where hours cannot exceed six.

Household Waste Recycling Centre	Proposed Opening Hours	Hours	Current hours
Larger sites			
Annan	Seven Days 09:00 to 18:00 (19:00 at Dumfries*)	63	56.25
Castle Douglas		63	66
Lochar Moss (Dumfries)		70	110
Stranraer		63	63
Smaller sites			
Beattock	Thursday to Monday 12:00 to 17:45 Closed Tuesday and Wednesday	28.75	28
Dalbeattie		28.75	8
Lincluden (Dumfries)		28.75	66
Lockerbie		28.75	28
Newton Stewart		28.75	30
Sanquhar		28.75	56
Thornhill		28.75	28
Whithorn		28.75	48
	Total	**489**	**587.25**

Table 9 – Household Waste Recycling Centres – Proposed Opening Hours (compared with current opening hours)

*Lochar Moss site hours were recommended to be extended until 20:00hours by Planning, Housing and Environment Services Committee on 14 February 2014.

3.21.8 The proposed operations see an overall reduction in hours for the service. The current total hours of operation across the 12 sites is 587.25 hours. The proposals in 2013 saw this reduced to 516 hours and the revised proposal sees this reduce further to 489 hours per week. This reduction in hours combined with moving the eight smaller sites to single-person operation offers financial savings, an equity across the region and times that are more practical for the majority of users. With respect to engagement with staff, this is still to be undertaken, but staff are aware of the proposals, with many having been involved with the changes that were implemented in 2013 and new hours will only be implemented once staff engagement has been completed.

3.21.9 The operating hours proposed in Table 9 are, as detailed above, based on previous reviews of usage but updated to reflect the need to reduce costs through the management of hours at the smaller sites to allow single person operation. There is a likelihood that the public will wish to see different hours, and before any implementation, Members are recommended to agree to consultation on the proviso that the eight smaller sites do not exceed the opening for 5 hours 45 minutes to allow efficiencies of single person operation to be maintained. A future report to this Committee will detail consultation feedback, financial benefits and seek approval for revised opening hours.

3.21.10 Finally, Members should note that there was an action from 14 February 2013 Committee to consider an HWRC at Langholm as the nearest facilities are Lockerbie or Annan. This option was not pursued during the tenure of the Waste PFI Contract but could now be considered, although a source of capital funding would need to be identified. However, to avoid increasing revenue costs, opportunities for closing existing facilities will be reviewed. This would include Jock's Loaning, Dumfries once the new HWRC at the

Dumfries ZWP is opened and Whithorn, given the new facilities constructed at Newton Stewart. This will be the subject of a future report to this Committee.

3.22 Landfill sites

3.22.1 Landfill sites that previously belonged to Dumfries and Galloway Council at Galdenoch near Stranraer and Aucheninnes near Dalbeattie remained with Shanks/Renewi as part of the negotiated termination deal. However, the Council has responsibility for five closed landfills that remain under Waste Management Licences (WMLs) as follows:

- Lochar Moss near Dumfries.
- Corsehill near Annan.
- Gatelawbridge near Thornhill.
- St. Mary's Street, Sanquhar.
- Black's Plantation near Whithorn.

3.22.2 Under the Waste and Recycling PFI contract, terminated 11 years early in November 2018, all five of these landfills remained under Council ownership and were licenced by the Council with SEPA. During the PFI Contract some Waste Management Licence Conditions were undertaken by Shanks/Renewi as a contractual requirement. This included:

- Maintaining vegetation and cut grass.
- Maintaining boundary fencing.
- Maintaining monitoring points.
- Environmental monitoring.

3.22.3 The PFI contract also required Shanks/Renewi to complete the restoration of the sites under the following timescales:

- Lochar Moss by November 2010;
- Corsehill by November 2007;
- Gatelawbridge by November 2019;
- Sanquhar by November 2019; and
- Black's Plantation by November 2019.

Any restoration works still outstanding following the ending of the contract reverts back to the Council as the site owner and holders of the WMLs.

3.22.4 Since termination, an initial meeting has been held with SEPA to establish their view on what further restoration works may be required. The provisional indications are:

- Annual topographical surveys are required at all five sites to track the settlement of the waste mass and help identify potential issues with the capping layer.
- Ongoing environmental monitoring in accordance with WML conditions remains a requirement.
- All sites will remain under licence conditions until their licence can be surrendered. A Completion Report must be produced in order to surrender a WML. Such a report must demonstrate that the site has stabilised, and that biodegradation is essentially complete. It is anticipated that it will take one or two decades (perhaps more) before any of the sites meet the criteria for licence surrender.

3.22.5 In terms of landfill restoration, the current status is:

- Lochar Moss – complete but the glass bays need to be removed.
- Corsehill – capping complete but 15 sealed 'in-waste' gas wells to be installed and possible landfill gas pumping trial.
- Gatelawbridge – complete.
- Sanquhar – further ground investigation work to establish the depth of the cap may be required here, addition capping material may be required, 10 sealed 'in-waste' gas wells to be installed and possible landfill gas pumping trial.
- Black's Plantation – depth of capping on site to be established following recent ground investigation work, repair or mitigate the leachate breakout evident at this site.

3.22.6 Work to definitively establish the outstanding liabilities and confirm the cost of remediation is in progress and this Committee will be updated on progress at future meetings.

3.23 Ecodeco Mechanical Biological Treatment facility

3.23.1 The Ecodeco Mechanical Biological Treatment (MBT) facility on the A709 at Lochar Moss was commissioned in 2007 and opened by HRH Princess Alexandra on 28 December 2007. It has been extremely effective at diverting waste from landfill over the last 11 years. Following termination of the Waste PFI Contract, the Ecodeco MBT facility became the direct responsibility of Dumfries and Galloway Council.

3.23.2 The MBT receives waste from domestic collection across the region, either directly from RCVs or via articulated wagons that transport bulked waste from one of two transfer stations, at Corsehill, Annan and Abercrombie Road, Castle Douglas and the waste from the Wigtown area which is bulked at the Stranraer ZWP.

3.23.3 The MBT shreds the waste and, over a period of 28 days, dries the waste reducing the quantity in the order of 30% by weight. Following the drying process, waste is further treated with the main outputs being a Solid Recovered Fuel (SRF) or a Refuse Derived Fuel (RDF), the former being finer than the latter, necessitating greater processing to produce. At the Ecodeco MBT, current daily production is approximately 100 tonnes of SRF and 20 tonnes of RDF. Ferrous metals are also taken off the waste stream as is a glass/stone portion. Dust and fines are the remaining waste streams.

3.23.4 Recent works to tender the offtakes from the facility, following termination of the Waste PFI Contract, have seen markets for the RDF and SRF move to the north of England for further processing ahead of use as a fuel within the Energy from Waste sector in Europe for RDF and for cement kilns for SRF. All other waste streams are also sent for further processing under the current off-take contracts and consequently, as detailed in paragraph 3.3.3, only a small percentage will of output from the Ecodeco MBT facility will go to landfill.

3.24 The Future of the Ecodeco MBT and Energy from Waste

3.24.1 In developing any strategy, for future waste collection and disposal, the need to consider the role of the Ecodeco MBT facility must be given significant consideration. The plant was developed at a time when its purpose was principally to reduce material to landfill through the reduction in weight achieved by drying (approximately 30%), a cost-effective diversion from landfill. This is still a significant benefit because of the reduction in transportation costs and gate fees for disposal of RDF and/or SRF.

3.24.2 However, there is a need to develop markets for the outputs, particularly given the ban on disposal of biodegradable municipal waste to landfill in January 2021. One option that does present opportunity is the sale of material to a local Energy from Waste (EfW) facility, thus significantly reducing transport costs.

3.24.3 Members are asked to note that as part of the strategy development, Officers are currently reviewing options for the disposal of Refuse Derived Fuel or Solid Recovered Fuel. A developer is currently looking to refurbish the former Scotgen plant located at the rear of the Dumfries ZWP site. The opportunity here is clear; a site adjacent to the MBT would provide an ideal offtake location for RDF/SRF reducing transport costs to a negligible amount.

3.24.4 Signing-up to a contract for one EfW plant to take the SRF/RDF outputs from the MBT has many advantages, but also potential disadvantages including agreeing a price / gate fee for a product for a period time with no guarantee that there will not be legislation changes or other offtake opportunities that make the agreed contract expensive or unviable. At present some Scottish Local Authorities have a derogation that allows the direct disposal of residual waste (the material that remains at kerbside following the collection of dry recyclates) into EfW facilities. This might be an alternative to processing residual waste through the Ecodeco, potentially saving on running costs for the plant. However, this depends on finding an EfW plant that would be prepared to take residual waste with a lower calorific value than the dried RDF or SRF and the cost would depend on the gate fees involved.

3.24.5 Finding the optimum solution for waste disposal is complex and varies with market conditions; these in turn vary in relation to legislation and demand. This further emphasises the need for flexibility in any options taken forward for the offtake of waste streams. To this end staff in Procurement have issued a Prior Information Notice (PIN) seeking notes of interest from companies able to offer the processing of offtakes from the Ecodeco MBT facility, including, but not limited to, RDF/SRF.

3.25 Other considerations for the operation of the Ecodeco MBT facility

3.25.1 At the Members' workshop on the 10 April 2019, the presentation included details of other issues and potential options being considered for the future operation of the Ecodeco MBT facility. **Appendix 1** contains brief details of the options presented.

3.25.2 The following issues and options require considerably more investigation and appraisal before being brought to this Committee, but Members should be aware that the following ideas are being developed:

- A review of the Ecodeco MBT facility was undertaken in March 2019 by the designers A2A as part of the handover following Waste PFI Contract termination.

Amongst a number of things being considered is cost-saving refinements in the process that would better suit the off-take market including a change from producing SRF and RDF to only producing RDF. RDF production is simpler and for EfW sector is preferred to SRF.

- A review of the need for upgraded fire suppression systems and the impacts upon levels of insurance provided compared with costs to upgrade.
- Consideration of solar energy production on the adjacent capped landfill site to provide power for operating the Ecodeco MBT facility.
- Use of heat generated by the drying process being used to improve the drying process or for heating future buildings on the adjacent Dumfries ZWP site.
- Considering the use of the spare capacity within the Ecodeco MBT facility. At present the site is licenced to take 70,000 tonnes annually, but last year only took in 54,000 tonnes. With a kerbside collection service for dry recyclates and food waste to be rolled-out, this will drop to around 42-44,000 tonnes annually. Officers are considering how this capacity could be best utilised e.g. by selling to commercial entities or other Local Authorities.

3.25.3 Further work will be progressed on these matters and the associated matter of disposal of SRF/RDF to a potential adjacent Energy from Waste facility and presented to this Committee at a future date.

3.26 Community Engagement on Proposals

3.26.1 The 2018 Budget Simulator and Community Conversations exercises have already provided valuable feedback and it was suggested that “waste collections can be reduced for example to every second week, whilst at the same time increasing recycling opportunities”. Furthermore, Officers regularly receive comments and feedback from the public on various aspects of the waste service, particularly on opportunities for recycling.

3.26.2 Direct engagement during the time that the Project Team has been developing this strategy, has seen team members meeting with local groups interested in recycling, including D&G EcoWarriers and Dumfries and Galloway Friends of the Earth. They have been supportive of proposals for improving recycling through implementation of a kerbside collection service and following site visits to the Ecodeco MBT facility, have a good understanding of how residual (black bag) waste is currently processed and what could be achieved in future. In addition, feedback on a Ward Event held in Newton Stewart on 7 May 2019, which discussed the feedback from the Wigtown Pilot will be available.

3.26.3 In feedback from the Members’ Workshop on 10 April 2019, several Councillors stated that only viable / affordable options should be presented for consideration. Although the Scottish Government have not set a strict timescale for complying with the 2012 Regulations, there are clearly time pressures to delivering an effective and affordable household recycling service across the region. We are already more than 5 years late in complying with the 2012 Regulations.

3.26.4 An initial Impact Assessment has been undertaken by officers involved in the delivery of the project and this is contained within **Appendix 5**. This information, in conjunction with the information presented in this report is designed to allow Members to make a recommendation for Option 2, while acknowledging that further engagement is required before the final decision is taken.

3.26.5 This further engagement will be through a stakeholder impact assessment process which will involve key partners and identify mitigating measures for any negative impacts.

3.26.6 With these factors in mind, Members are also recommended to agree that a Communications Plan will be presented to this Committee in July.

3.26.7 With respect to the Household Waste Recycling Centres, as discussed in section 3.21, consultation will be undertaken with respect to options for opening hours and addressing issues of commercial waste disposal – a Consultation Mandate for this will be brought to the July Committee for approval, in line with our Council's agreed Participation and Engagement Strategy.

3.27 White bag sales - update

3.27.1 At this Committee on 23 November 2018, Members agreed to the cessation of the sale and collection of white bags and further agreed that an update be brought back to this Committee of the impacts of this change. Members also agreed to the removal of multiple bins at properties where there is no justification and the rationalisation of the assisted collection service. These changes are a step towards compliance with the Code of Practice for Household Recycling in Scotland. An update on the removal of white bag sales is provided in the following paragraphs.

3.27.2 Members agreed to the price of white bags increasing from 54p to £1.00 from the 1 December 2018, the cessation of their sale from 31 March 2019 and the cessation of the collection of white bags as side waste from 31 July 2019. As can be seen in Table 10, sales of white bags have dropped significantly since December 2018. The drop-off in January 2019 will be associated with the agreement that side waste could be presented in any colour of bag as the "3-free white bags" Christmas service was also ceased by this Committee on 23 November 2018.

	Number of White Sacks Sold		
Month	**2017/18**	**2018/19**	**Difference**
April	9,867	10,672	805
May	9,935	12,976	3,041
June	11,465	12,550	1,085
July	11,338	12,337	999
August	12,532	13,059	527
September	9,943	10,830	887
October	10,284	11,911	1,627
November	9,848	12,122	2,274
December	11,914	6,394	-5,520
January	12,714	424	-12,290
February	8,409	3,237	-5,172
March	9,879	4,606	-5,273
	128,128	**111,118**	**-17,010**

Table 10 – white bag sales 2017/18 and 2018/19

3.27.3 At this stage it is too early to report on the impacts of this change upon set out and the participation and set out rates[2] for recycling in the Wigtown area but this will form part of a future report to this Committee.

3.28 Existing Refuse Collection Vehicle Fleet

3.28.1 Notwithstanding the development of the preferred option for the delivery of a Code-compliant waste collection service across the region, namely Option 2, there is an immediate need to replace a number of existing RCVs to ensure that the collection of residual (black bag) waste continues. This next section discusses the need for investment in 11 RCVs that, no matter what dry recyclate collection service is delivered, will be required to deliver the current and any future residual (black bag) waste collection service.

3.28.2 Dumfries and Galloway Council operate 28 RCVs used for the collection of domestic and commercial waste. The age profile of these vehicles are as follows:

- 17 are seven years old (2012).
- 5 are nine years old (2010).
- 2 are eleven years old (2008).
- 2 are fourteen years old (2005).
- 2 are fifteen years old (2004).

3.28.3 The lifespan of an RCV is estimated at 5-7 years, after which their value is classed as “scrap”. There is no doubt that Fleet Services have done extremely well in maintaining this elderly fleet in a roadworthy condition. However, it has now reached the point where significant mechanical breakdowns are impacting upon the delivery of the waste collection service and there is a need to replace all the vehicles, although some more urgently than others. In the preceding 3 months, breakdowns on nine separate days have resulted in collections being missed for more than 4,700 households. Furthermore, efficiencies in newer vehicles, along with many other comfort, technological and safety features will offer greater efficiency of service delivery.

3.28.4 The main benefits of replacing the vehicles with new are as follows:

- Reduced breakdowns and therefore on-going maintenance operations.
- Reduced breakdowns avoiding the need to hire vehicles or to double-shift crews, paying overtime to complete routes.
- Significantly improved fuel efficiency. The existing vehicles achieve 3mpg whereas new vehicles achieve 4mpg through improvements in engine technology and telematics that monitor and feedback on driver performance. Each vehicle covers 24,000 miles per year, so at a cost saving of £0.40/mile, the annual saving per vehicle on fuel alone is £9,100.
- Electric bin lifts, rather than hydraulic facilities in use on current fleet, offer significant fuel savings and will be included in the new vehicle specification.
- Health and Safety improvements include the provision of 360-degree cameras on all vehicles as standard. Provision of an emergency stop button in the cab for crew to

[2] Participation Rate is the number of households that are taking part in the scheme and present at least one container during the period of the survey. Set out rate is the number of households that are presenting at least one container on each individual week of the survey period.

halt vehicle should driver collapse. Provision of reversing control mechanisms that prevent reversing unless a banks-person is present.

- Provision of in-cab systems and 360-degree CCTV also provides evidence in respect of claims that bins were presented but not collected. Currently this represents a significant cost to the Council in returning to collect missed bins with no way of proving bins were not present. Furthermore, the in-cab technology allows a driver to log a property where a bin has not been presented which will automatically be relayed to customer services. The provision of 360-degree cameras will also be beneficial in the potential avoidance of insurance claims where presently there is no evidence to refute claims, which average around £40k per annum.
- In-cab technology allows for information on routes (GPS satellite navigation for efficient routing) that includes where assisted pull-outs are required and where larger capacity bins / multiple bins are legitimately presented.

3.28.5 The vehicles being considered as potential replacements are single-compartment RCVs. Market research has indicated that there are vehicles that offer increased payload over current fleet. This increased capacity reduces the frequency that a vehicle needs to return to tip, which on some routes could see significant savings in time and fuel. Furthermore, there is also the opportunity to acquire vehicles that are narrower than the current fleet, making them more suitable in restricted roads. This reduces (although not eliminates) the need to run separate small vehicles to service these locations.

3.29 Acquiring New Vehicles

3.29.1 Final prices for vehicles will only be determined through a competitive tendering process once full specifications have been agreed. However, the purchase cost of a single-compartment RCV including the in-cab technology and 360-degree camera is in the order of £184K. Lead-in times for delivery of replacement vehicles are 6-9 months.

3.29.2 In addition to the costs for purchase of new equipment, the savings / cost avoidance to be made from these vehicles must be taken into account. Fuel savings and maintenance and warranty savings are the main savings. The Council's current vehicle supplier has also indicated that if vehicles were replaced on a 5-year basis they would buy back the vehicles for around 30% of their original purchase price. At 7 years the vehicles would not be of interest and therefore would only be worth their value as scrap. Full details can be found in **Appendix 4**.

3.29.3 Although there is a need to replace all of the RCVs as part of an ongoing asset management process, the proposal is to replace the eleven vehicles that are older than 7 years old at this stage. This is because it would not be prudent to change the entire fleet until a decision is made on the method of collection for dry recyclates that will be undertaken across Dumfries and Galloway. Regardless of the recycling scheme chosen, at least 11 new RCVs are needed to replace the oldest vehicles in order to maintain the collection of residual and commercial waste.

3.29.4 Members are asked to agree to the advanced preparation for the acquisition of 11 single-compartment refuse collection vehicles at an estimated capital cost of £2,024,000 following the approval of the details of Option 2 at the 2 July 2019 meeting of this Committee . This would be paid over 5 years. Prudential borrowing at 5% would cost

around £476K per year (five years is recommended as beyond that point maintenance costs are known to rise dramatically and scheduled replacement should be considered) but noting that estimated savings / cost avoidance, as detailed in Table 11 and more fully in **Appendix 4,** mean that actual costs are around £172K average for years 1-3 increasing to £218K in years 4-5.

Year	2019/20	2020/21	2021/22	2022/23	2023/24
Projected cost avoidance from					
The reduction of vehicle maintenance costs	£70,000	£70,000	£70,000	£70,000	£70,000
Maintenance costs avoided through 3-year vehicle warranty	£50,000	£50,000	£50,000	0	0
Increased mpg from new vehicles and improved driving	£100,100	£100,100	£100,100	£100,100	£100,100
Increased mpg from electric bin lifters	£29,500	£29,500	£29,500	£29,500	£29,500
Not collecting alleged missed bins	£21,500	£21,500	£21,500	£21,500	£21,500
Not collecting unauthorised additional bins	£5,000	£5,000	£5,000	£5,000	£5,000
Not collecting alleged missed commercial bins	£5,000	£5,000	£5,000	£5,000	£5,000
Automatic production of labels	£500	£500	£500	£500	£500
Automatic production of Contracts and Waste Transfer Notices (staff time)	£6,600	£6,600	£6,600	£6,600	£6,600
Insurance claims	£11,000	£11,000	£11,000	£11,000	£11,000
Total cost avoidance	**£299,200**	**£299,200**	**£299,200**	**£249,200**	**£249,200**
Projected Expenditure					
Repayment of prudential borrowing for vehicles, back office and telematics system and electric bin lift (5 years repayment)	£467,500	£467,500	£467,500	£467,500	£467,500
One off cost of 3,000 x microchips	£5,250				
One off cost of fitting microchips	£5,000				
One off cost of hand held microchip readers	£250				
Total projected expenditure	**£478,000**	**£467,500**	**£467,500**	**£467,500**	**£467,500**
Overall cost of project	**£178,800**	**£168,300**	**£168,300**	**£218,300**	**£218,300**

Table 11 – Costs and savings for purchase of 11 refuse collection vehicles over 5 years

3.30 Waste Collection Service Implementation Timescale

3.30.1 It is anticipated that following appropriate approvals being obtained at this and the 2 July 2019 meeting of this Committee that the timescale for the implementation of the proposed waste collection service will have the following major milestones:

- Agreement in principle to purchase 11 RCVs – 14 May 2019.
- Agreement to purchase 2 food waste vehicles – 14 May 2019.
- Commence negotiations with staff and Joint Trade Unions on end to Task and Finish working arrangements and implement 9-hour, 4-day working week immediately and formal 90-day consultation to be completed by 31 December 2019.
- Agreement to Option 2 Waste collection service at this Committee on 2 July 2019.

- Agreement to purchase 150,000 wheelie bins and 13 additional single compartment RCVs for service delivery and three food waste vehicles at this Committee on 2 July 2019.
- Roll out Option 2 waste collection service from 1 July 2020 in a phased manner across 4 operational areas.
- Complete Dumfries ZWP facilities to accept dry recyclates for bulking by 31 December 2020 and in meantime have offtake arrangements in place for receiving and processing dry recyclates from 1 July 2020 on a nine-month term.
- Undertake public consultation and staff engagement on HWRC hours and implement new arrangements by 1 November 2019.
- Progress landfill survey work and complete by 31 December 2019.
- Progress landfill gas investigations and site investigations and other works detailed in paragraph 3.22.5 by 31 July 2020.

4. Governance Assurance

The Corporate Management Team have been consulted and are in agreement with the terms of the report.

5. Impact Assessment

The policy/strategy/plan/project presented in this report has been considered using the Council's Impact Assessment Toolkit. Three positive impacts and no negative impacts have been identified. A copy of the Impact Assessment summary sheet is available in **Appendix 5** and the Full Impact Assessment will be published on the Councils website at https://www.dumgal.gov.uk/article/16224/Impact-assessments.

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Appendices - 5
Appendix 1 – Slides from Members Workshop held on 10 April 2019.
Appendix 2 – Charter for Household Recycling in Scotland.
Appendix 3 – Keil Report 2018 – Executive Summary.
Appendix 4 – Purchase Costs for the replacement of eleven Refuse Collection Vehicles.
Appendix 5 – Summary of Impact Assessment Toolkit.

Background Papers

Planning, Housing and Environment Services Committee – 13 November 2012 – Item 5 – Zero Waste – Necessary Changes to the Waste Collection Service
https://dumfriesgalloway.moderngov.co.uk/CeListDocuments.aspx?CommitteeId=504&MeetingId=3137&DF=13%2f11%2f2012&Ver=2

Economy, Environment and Infrastructure Committee – 28 September 2015 – Item 3 – Zero Waste: Source Segregated Collection Service – Wigtown
https://dumfriesgalloway.moderngov.co.uk/CeListDocuments.aspx?CommitteeId=151&MeetingId=1562&DF=28%2f09%2f2015&Ver=2

Economy, Environment and Infrastructure Committee – 1 July 2016 – Item 11 – Review of the Wigtown Source Separated Collection Service
https://dumfriesgalloway.moderngov.co.uk/CeListDocuments.aspx?CommitteeId=151&MeetingId=1568&DF=01%2f07%2f2016&Ver=2

Economy, Environment and Infrastructure Committee – 20 June 2017 – Item 19 – Source Separated Waste Collection Service Proposal for Continued Storage of Containers
https://dumfriesgalloway.moderngov.co.uk/CeListDocuments.aspx?CommitteeId=151&MeetingId=1574&DF=20%2f06%2f2017&Ver=2

Dumfries and Galloway Council – 3 September 2018 – Item 6 – Waste Management / Recycling PFI Contract
https://dumfriesgalloway.moderngov.co.uk/ieListDocuments.aspx?CId=137&MId=184&Ver=4

Economy, Environment and Infrastructure Committee – 23 November 2018 – Item 14 - Waste Collection Service - Changes to Improve Efficiencies, Encourage Recycling and Reduce CO_2 Emissions
https://dumfriesgalloway.moderngov.co.uk/ieListDocuments.aspx?CId=151&MId=290&Ver=4

Economy, Environment and Infrastructure Committee – 12 March 2019 – Item 6 – Infrastructure Capital Programme 2019/20
https://dumfriesgalloway.moderngov.co.uk/ieListDocuments.aspx?CId=151&MId=4472&Ver=4

Code of Practice for Household Recycling in Scotland Version 2 March 2016 -
https://www.zerowastescotland.org.uk/sites/default/files/Household%20Recycling%20COP%20v2.pdf

Waste (Scotland) Regulation 2012 -
https://www.legislation.gov.uk/sdsi/2012/9780111016657/contents