

## **Cabinet**

**12 March 2024**

### **Gateway 1 Procurement Commencement: Replacement of the Medway Council Refuse Collection Vehicle (RCV) Fleet**

Portfolio Holder: Councillor Simon Curry, Portfolio Holder for Climate Change and Strategic Regeneration

Report from: Ruth Du-Lieu, Deputy Director of Place

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#### Procurement Overview

Total Contract Value (estimated): £17m.

Regulated Procurement: Yes

Proposed Contract Term: 30 weeks (lead time from purchase to delivery)

#### Summary

This report seeks permission to commence the procurement of the Replacement of the Medway Council Refuse Collection Vehicle (RCV) Fleet Contract.

#### 1. Recommendations

1.1. The Cabinet is asked to approve the procurement of the Refuse Collection Vehicle (RCV) fleet as per the preferred option identified in paragraph 7.2.1.3 of the report (option 3).

#### 2. Suggested Reasons for decisions

2.1. Approval of Option 3 (identified at paragraph 7.2.1.3 of the report) will deliver:

- Best possible buyers' terms and conditions to mitigate procurement bottlenecks as a result of increased RCV demand following October 2023 UK Government Simpler Recycling announcement.
- Reduced time to market ensuring quickest transition to a new fleet with associated operational, cost and climate benefits.
- Mitigation against any future inflationary pressures by locking in prices at time of order.

- Fleet homogeneity by direct award to an appropriate manufacturer ensured full flexibility to deliver the statutory waste collection service.

### 3. Budget and policy framework

- 3.1. An addition of £17m to the Capital programme was approved by Cabinet on 11 July 2023 (Decision number 106/2023) to fund the replacement of the RCV fleet.
- 3.2. In line with this decision officers were requested to assess the appropriateness of alternative leasing solutions.
- 3.3. Since funding approved within the Capital Programme cannot be used for such arrangements, this report assesses the appropriateness of outright purchase and phased procurement only.
- 3.4. On 9 January 2024 Medway Council was advised of £306,900 allocated in New Burdens Capital funding for flats food waste collection vehicles and spares for the future provision under the Environment Act for new statutory food waste collections from flats.
- 3.5. Soft market testing in August 2023 suggests that the fleet can be replaced within the £17m budget with the final figure being ascertained at Gateway 3 after procurement evaluation subject to market conditions at the time of ordering.
- 3.6. This procurement is timebound to the end of life of existing fleet (12-24 months) and therefore extended phasing is not appropriate at this time. However, a new fleet will enable Medway to control future procurement phasing.
- 3.7. It is necessary to treat this procurement with urgency due to the operational risk of the current fleet at the end of its operational life to discharge statutory duties.
- 3.8. The current fleet was purchased in 2013 and has surpassed average 7-9 year working life of RCVs and reduces the viability of a fully phased replacement at this time.
- 3.9. Independent assessments by Medway Norse's maintenance contractors estimated that the operational life of the majority of the fleet is now 12-24 months subject to current operational use providing the maximum period over which the procurement can be phased.
- 3.10. **Appendix 3** details an 11-month phased delivery of new vehicles enabling the capital cost to be spread over two financial years to mitigate the following risks within this time scale after an assumed 6 month lead time.
- 3.11. There are 7 additional vehicles on spot hire in order to deliver the service fulfilling around 30,000 collections per week mainly on the

refuse and organic services, as such raising the replacement priority of vehicles on these services to reduce service risk.

- 3.12. Any extended operational life of the 2013 fleet is subject to the likelihood of increased frequency and lengths of time that vehicles are off road due to reduced availability of spare parts and the increased risk of catastrophic vehicle failure. The risk of failure to deliver our statutory waste collection duties also increases exponentially. On 29 January 2024, 11 of the 46 fleet of 2013 were unavailable due to servicing and spares issues.
- 3.13. It is best practice for operators of specialist fleets to seek homogeneity in the types and manufacturers of vehicles to increase operational resilience.
- 3.14. With an estimated 30-week lead time for vehicle delivery, there is an increased risk of maintenance and leasing costs to cover any catastrophic vehicle failure during the procurement governance process and 30-week lead in time.

#### 4. Background Information and Procurement Deliverables

- 4.1. Medway Council has the duty to provide separate refuse and recycling collection services from residential premises in the area under Section 45 of the Environmental Protection Act 1990. A suitably configured fleet of RCVs is essential to discharging this duty to over 120k household premises in Medway.
- 4.2. Medway Council owns 46 RCVs which are operated by Medway Norse to deliver weekly kerbside refuse and recycling collections to Medway residents. This fleet is comprised of multiple configurations to collect waste in line with Medway's current service and container configuration as detailed in 6.1.2.
- 4.3. This report seeks permission to procure up to 47 vehicles.
- 4.4. Up to 3 additional specialist food waste vehicles are to be purchased in line with funding provided to extend food waste collections to flats in 2026 with the final number dependent upon the completion of future service modelling to be undertaken. This new service will follow constitutional due process with Councillors and residents advised of service improvements in good time.

#### 5. Parent Company Guarantee (PCG)/Performance Bond Required

- 5.1. This tender pertains to goods, which will only be fully paid for upon ownership. Therefore, as the only tangible risk associated to this would be a supplier ceasing trading during the lead in time, it is proposed that neither a PCG nor bond are sought.

## 6. Procurement Dependencies and Obligations

### 6.1. Project Dependency

6.1.1. Although the purchase of the RCV fleet is a standalone procurement, it is intrinsically linked with to the delivery of a number of Environmental Services contracts and will be a key consideration in any variations or future contract procurements.

6.1.2. Waste **collection and street cleansing** (Medway Norse exp 2023). The current fleet consists of 46 vehicles and is configured to deliver the kerbside waste collection method statements in the contract.

- 16x Split back vehicles for collection of paper & card in blue reusable bags and plastic, metal & glass in white reusable bags and clear sacks
- 17 x single chamber vehicles with trade bin lifts for collection of refuse in loose black sacks
- 13 x single chamber vehicles with wheeled bin lifts for collection of food & garden waste in brown wheeled bins

6.1.3. An additional 7 single chamber RCVs are on spot hire to cover vehicle off road incidences in the 2013 fleet making an average of 30,000 collections per week.

6.1.4. Up to 3 new specialist food waste vehicles will be procured once final DEFRA funding has been confirmed and service modelling undertaken.

6.1.5. The procurement of the new fleet supports the **Disposal of recyclate materials** (Veolia exp 2024); **Disposal of refuse materials** (Veolia exp 2035); **Disposal of organic waste** (Countrystyle exp 2025) contracts because:

- Configuration of the fleet to deliver the waste collection and street cleansing contract referenced above is essential to delivering the supply of contracted wastes to the specification of the three waste disposal contracts. The use of unsuitable vehicles can increase the likelihood of load contamination or the collection of non-target materials.
- Deteriorations in the quality of the composition of the materials delivered to the contractors for each disposal contact will increase disposal costs through the presence of non-target contaminants.
- Under the disposal of recyclate materials contract Medway Council currently receives an income for high quality paper and card that is collected in split back vehicles separately from other plastic, glass and metal packaging which could contain food residue which is processed at a cost. When these vehicles are not used to collect separate paper this income opportunity is lost.

6.1.6. The current Medway Norse waste depot at Pier Approach Road is optimised for the current configuration of the RCV fleet. The premises O Licence and utilities infrastructure in place determines both the

number of vehicles and the extent to which zero carbon technologies can be accommodated in the future fleet.

- 6.1.7. Currently a maximum of 65 vehicles over 7.5t can be operated out of the existing depot, as of January 2024 there are 59 registered vehicles on the O licence including the 7 spot hired RCVs.
  - 6.1.8. Due to the prohibitive cost and delivery timescales of both vehicles and infrastructure works required for the current depot facilities it is not feasible to pursue significant electrification of the RCV fleet at this phase of vehicle procurement.
  - 6.1.9. Officers recommend following an appraisal of technologies available that the best options for decarbonisation of the fleet pursuable in this procurement are:
    - use of latest Euro 6 diesel technology
    - use of electrically powered ancillaries (lifts and compactors) via solar panels to reduce need for vehicle idling.
  - 6.1.10. Outside the scope of this procurement, the new fleet will also be able to utilise lower emission 'drop in' fuels such as Hydrogenated Vegetable Oil (HVO) to further reduce its environmental impact. Any subsequent decision to use HVO would require a fully costed uplift in contract costs to cover the significant increase in unit price compared to diesel at present.
- 6.2. Statutory/Legal Obligations
- 6.2.1. Medway Council has the duty to provide separate refuse and recycling collection services from residential premises in the area under **Section 45 of the Environmental Protection Act 1990**.
  - 6.2.2. A suitably configured fleet of RCVs is essential to discharging this duty to over 120k household premises in Medway Council.
  - 6.2.3. The current methods of collection and disposal could be potentially subject to alteration to ensure compliance with future secondary legislation under **The Environment Act** by the UK Government which at the time of writing is currently under consultation.
  - 6.2.4. In September 2023 the UK Government published **Simpler Recycling** reforms, shifting the focus to quantity of material to achieve national recycling targets and formalising a new mandatory requirement for local authorities to collect food waste separately from all properties.
  - 6.2.5. Subject to confirmation via secondary legislation due in 2024, Medway provides a compliant commingled food and garden waste to kerbside properties accounting for over 70% of eligible households. The costs for extending separate food waste collections by 31 March 2026 will be subject to New Burdens funding from the UK Government.
  - 6.2.6. The introduction of the **HMRC Plastic Tax**, the imposition of modular fees to manufacturers of household packaging under the creation of a

new **Extended Producer Responsibility** scheme and the potential introduction of a **Deposit Return Scheme for metal and plastic beverage** containers (both scheduled for 2026) have the potential to reduce the amount of packaging collected at the kerbside which may alter the number and configuration of split back recycling vehicles as well as reducing the market desirability of collected materials, increasing the cost of their disposal.

6.2.7. Alternatively, these policies may result in perverse or unintended shifts in packaging design to harder to recycle materials reduce or avoid compliance. For example, the use of tetrapack or composite metal, plastic and paper flexible pouches may become widespread. Such packaging may be technically recyclable through chemical processes but not with the existing mechanical sorting technology present in UK Materials Recycling facilities (MRFs). This material then either contaminates current recycling material streams causing an increased processing fee by our contractor's MRF or increases the amount of packaging in black sack waste with resultant impacts upon the number and configuration of single chamber RCVs to collect refuse.

6.2.8. Results of Medway's Waste Composition Analysis of kerbside waste in 2021/22 suggests that a large proportion of waste collected will be subject to these reforms and potential composition changes described above. The impacts of policies outlined in 6.2.7 will be most significant in our kerbside recycling stream per the below table:

	White/Clear sack recycling	Blue sack recycling	Black Sack refuse	Proportion of Total waste
Materials potentially impacted by EPR	82.7%	66.7%	18.2%	28.4%
Materials potentially impacted by DRS	7.2%	0.6%	1.3%	2%

6.2.9. The reforms detailed in 6.2.1 through 6.2.7 may also lead to the creation of new, as yet unspecified, statutory service standards for collection frequency and container use with resultant impacts on fleet composition if different to our current service.

6.2.10. The outcomes of all these reforms are not expected until after the next UK General Election, dependent upon the priorities of the incumbent UK Prime Minister.

6.2.11. Under the **Decarbonising transport: a better, greener Britain policy** (amended September 2023) all new petrol and diesel cars and vans will be phased out from 2035; all new cars, vans and heavy goods vehicles (HGVs) <26t must be zero emission from 2035; and all new HGVs >26t must be zero emission by 2040.

6.2.12. It is therefore essential that Medway Council are in possession of a fleet which can be refitted or reprocured at a suitable time to adapt to any future changes in legislation or the wider and cheaper availability of alternative fuel technologies thus enabling future fleet procurement to be fully phased as requested by Cabinet.

### 6.3. Procurement Project Management

6.3.1. The management of this procurement process will be the responsibility of the Category Management Team.

### 6.4. Post Procurement Contract Management

6.4.1. The management of any subsequent contract will be the responsibility of the Environmental Project Manager.

## 7. Market Conditions and Procurement Approach

### 7.1. Market Conditions

7.1.1. An established, open, dynamic and competitive global market exists for the supply of RCVs. Similar to other commercial vehicles, manufacture is dominated by multinational corporations such as Canter, DAF, Dennis Eagle, Geesinknorba, Mercedes, Mitsubishi & Scania with global component supply chains.

7.1.2. As such, the prices and lead times of vehicles are subject to factors beyond the control of Medway Council including but not limited to:

- global commodity markets for raw materials and components
- global energy markets for cost of transportation and manufacturing processes
- local labour markets and economic conditions at point of manufacture/assembly
- UK economic conditions such as the domestic energy market and inflation/interest rates

7.1.3. There are many different points of access to the UK market for local authorities, each with advantages and disadvantages based on the conditions of purchase, including but not limited to:

- direct ordering with authorised manufacturer dealerships
- indirect ordering through fleet management solutions companies
- the use of procurement frameworks to facilitate mini competitions across numerous suppliers and lots or direct awards based on specifications.
- lease/contract hire on an individual or fleet basis on a range of timescales.
- secondary retail of used, renewed and/or repowered vehicles.

7.1.4. UK demand for RCVs is constant with both commercial waste management companies and local authorities regularly replacing individual vehicles or undertaking large scale procurements, both competing for availability on manufacturer's order books to secure the lowest possible price and lead time.

7.1.5. Many local authorities are delaying the procurement of new vehicles pending any new statutory service requirements that may result in fleet size or configuration changes to reduce the likelihood of purchasing obsolete vehicles.

- 7.1.6. It is expected that once these statutory requirements are known, there will be a short-term increase in demand as local authorities commit to new or existing service plans and commence procurements en masse which could outstrip manufacturing capability leading to both increased unit prices and lead times and creating procurement bottlenecks. Feedback from across the waste vehicle industry in January 2023 indicates that the market is starting to experience bottleneck conditions.
- 7.1.7. This report notes that new income streams into local authority waste collection from the payments made by producers to contribute to the collection and disposal of packaging or from the UK Government New Burdens process may further inflate prices in the medium term. However, all financial processes are yet to be confirmed, prohibiting their inclusion in modelling and decision making for this procurement.
- 7.1.8. This report notes that both due to age and noncompliance for use in Ultra Low Emission Zones the existing fleet's potential resale value and possible market for secondary sales is significantly reduced and may not exceed nominal scrappage values.
- 7.1.9. Medway's access to the market is predicated by the specifications of vehicles required. Only one manufacturer provides the smaller than standard width, 'narrow track' chassis that are required to navigate the restrictive access issues experienced on streets across Medway, particularly in high density Victorian era housing areas and rural lanes.

## 7.2. Procurement Options

- 7.2.1. The following is a detailed list of options considered and analysed for this report:
- 7.2.1.1. **Option 1 – Do nothing:** Not a relevant option. A fleet of RCVs is essential to discharge statutory waste collection duties. Not replacing the fleet will risk both the increase in maintenance and lease costs of replacing individual vehicles at the end of their life and risk regular serious disruption to services to residents and a failure to discharge our statutory duties if replacement vehicles cannot be sourced in other ways.
- 7.2.1.2. **Option 2 – Extend the current contract:** The current fleet was a one-off purchase in 2013 using the Procurement Partnership Fleet framework there is no provision to extend.
- 7.2.1.3. **Option 3 – Utilise a framework (recommended option):** The Procurement Partnership Fleet framework (Ref: NEPO224), whose predecessor was utilised for the 2013 fleet procurement and has relevant lots for all configurations of RCVs applicable to our service. It will secure competitive prices across bidders and provide enhanced protection for Medway Council via Framework terms and conditions. Due to the requirement for the majority of vehicles to be 'narrow



track' it will result in a direct award to the manufacturer that provides this requirement.

- 7.2.1.4. **Option 4 – Open market procurement:** It is not realistic to expect bids from multiple bidders in an open market procurement due to the requirement for the majority of vehicles to be 'narrow track' which is provided by a single manufacturer. Should we pursue this option, as frameworks exist with pre-agreed terms in favour of the buyer, it would yield little to no benefit over the framework option. Operating fleets from two or more suppliers can result in financial and service risks due to differing maintenance regimes and terms and conditions of sales and ultimately a reduction in fleet flexibility.

### 7.3. Advice and analysis

- 7.3.1. It is recommended that Medway Council use Option 3 above (the use of the Procurement Partnership's HGV and Specialist Vehicle framework (Ref: NEPO224)) to procure the replacement RCV fleet using a call off contract consisting of 4 lots:

- Lot 1: Organic Service Vehicles
- Lot 2: Refuse Service Vehicles
- Lot 3: Recycling Service Vehicles
- Lot 4: Food Waste Service Vehicles

- 7.3.2. Officer's rationale is that Option 3 delivers the following benefits in the most cost-effective way:

- Best possible buyers' terms and conditions to mitigate procurement bottlenecks as a result of increased RCV demand following October 2023 UK Government Simpler Recycling announcement.
- Reduced time to market ensuring quickest transition to a new fleet with associated operational, cost and climate benefits.
- Mitigation against any future inflationary pressures by locking in prices at time of order.
- Fleet homogeneity by direct award to an appropriate manufacturer ensured full flexibility to deliver the statutory waste collection service.

- 7.3.3. It is recommended that the contract length be of a suitable term to cover both vehicle production lead time and subsequent delivery with the option to extend as required by mutual agreement.

### 7.4. Evaluation Criteria

- 7.4.1. Officers propose a direct award to an appropriate manufacturer and therefore no comparable costs will be received with the decision to award made on 100% price.

- 7.4.2. As part of a direct award there will be no written responses to assess.

## 8. Risk Management

8.1. Risk management is an integral part of good governance. The Council has a responsibility to identify and manage threats and risks to achieve its strategic objectives and enhance the value of services it provides to the community.

Risk	Description	Action to avoid or mitigate risk	Risk rating
Service Delivery: Fleet unable to complete statutory waste collection	Unless the Council has a full complement of RCVs elements of the service may not be delivered	Where necessary use spot hire to supplement the 2013 fleet until 2024/25 fleet is fully operational  Phased delivery schedule devised to expedite fleet mobilisation	Diii
Market Availability: Availability of suitable vehicles at time of order	There are a finite number of suppliers of RCVs with limited build capacity	Use procurement frameworks to secure access to markets and value for money	Diii
Revenue budget: Exponential increase spot hire and maintenance cost and availability pressure	The aging fleet has a progressively increasing cost burden and scarcity of parts	Rotate 2013 fleet and prioritise replacement of most aged vehicles	Cii
Climate Change: Emissions to atmosphere and reduced recycling quality	The aged fleet Euro 5 is inefficient at combusting fossil fuel, longer operation of the fleet will increase atmospheric emissions.  Separated recycling must be co-collected when no twin pack recycling vehicles are available	A new Euro 6 fleet will be less polluting.  A fully functioning twin pack recycling fleet will allow separate collection of recyclables	Div
<b>Likelihood</b>		<b>Impact:</b>	
A Very likely B Likely C Unlikely D Rare		I Catastrophic II Major III Moderate IV Minor	

## 9. Consultation

- 9.1. An ongoing working group comprising of officers from Finance, Category Management, Environmental Services and Medway Norse has been established to oversee the replacement RCV fleet.
- 9.2. Soft market testing has been undertaken by the Environmental Services Project Team, engaging with fleet industry experts; manufacturers of diesel, electric and hydrogen fuelled vehicles, providers of procurement frameworks as well as other local authorities who are already using these solutions to assess the viability of options suitable for this procurement.

## 10. Service Implications

### 10.1. Financial Implications

- 10.1.1. The 2013 fleet was purchased with a UK Government DCLG grant. As such Medway Council have not been required to service a loan against it's procurement. The capital purchase of a new fleet will create new revenue pressure for the service.
- 10.1.2. An addition of £17m to the Capital Programme was approved by Cabinet 11th July 2023 (Decision number 106/2023) to fund the replacement of the RCV fleet.
- 10.1.3. In line with this decision officers were requested to assess the appropriateness of alternative leasing solutions. However, funding approved within the Capital Programme cannot be used for such arrangements.
- 10.1.4. On 9 January 2024 Medway Council has been advised of £306,900 allocated in New Burdens Capital funding for flats food waste collection vehicles and spares for the future provision under the Environment Act for new statutory food waste collections from flats.
- 10.1.5. Soft market testing in August 2023 suggests that the fleet can be replaced within the £17m budget with the final figure being ascertained at Gateway 3 after procurement evaluation subject to market conditions at the time of ordering.
- 10.1.6. **Appendix 3** details an 11-month phased delivery of new vehicles enabling the capital cost to be spread over two financial years.
- 10.1.7. The cost of any interest for borrowing associated with this procurement would be met from the Interest & Financing budget and would be dependent on the timing and value of any borrowing.
- 10.1.8. This procurement is not a spend to save process and primarily addresses service risks attributable to the end of life of the assets. There are no cashable capital or revenue savings.

10.1.9. Due to age and noncompliance for use in Ultra Low Emission Zones the existing fleet's potential resale value and possible market for secondary sales is significantly reduced and may not exceed nominal scrappage values.

## 10.2. Legal Implications

10.2.1. Medway Council has the duty to provide separate refuse and recycling collection services from residential premises in the area under Section 45 of the Environmental Protection Act 1990.

10.2.2. From 31 March 2026 Medway Council will have a new statutory duty under the Environment Act 2021 to collect food waste from all properties that do not currently receive them.

10.2.3. Under the Council's Contract Procedure Rules, the proposed procurement is a high-risk procurement, and the process set out in this report meets the requirements for such procurements.

10.2.4. The process described in this report complies with the Public Contracts Regulations 2015 and Medway Council's Contract Procedure Rules.

10.2.5. All tender documentation relating to the award of these services should be sent to Legal Services in a timely manner to ensure that the contract can be prepared.

## 10.3. TUPE Implications

10.3.1. TUPE is not applicable to this procurement.

## 10.4. Procurement Implications

10.4.1. With a limited number of manufacturers of RCVs, utilising a well-established framework to meet this need facilitates the best use of Medway Council's officers time as well as making the offer more lucrative to existing framework members. This will put a greater emphasis on the outputs and should drive competition.

## 10.5. ICT Implications

10.5.1. Pothole monitoring cameras, property of Medway Council Highways Department, are installed on three RCVs vehicles which will need to be transferred as these vehicles are replaced. It has been confirmed that this operation will be carried out free of charge by the provider. This equipment was evaluated under one of the pilot smart city programs.

10.5.2. All tracking and telematics software are to be provided by Medway Norse as operators of the vehicles. Should the software be required to be installed on Medway Corporate ICT equipment it would need to meet the ICT minimum requirements to ensure that it does not pose a cyber risk to the organisation.

- 10.5.3. In-cab technology to be fitted universally enabling full operational oversight currently not possible due to the use of spot hired fleet vehicles without integrated technology.
- 10.5.4. There are no wider ICT implications that ICT are aware of at the time of writing this report.
- 10.6. Climate Change implications
- 10.6.1. In keeping with Medway's ambition under the Climate Action Plan officers have researched available technologies and configurations that can be incorporated into this procurement to help increase air quality and reduce carbon dioxide emissions resulting from fleet operation.
- 10.6.2. Officers have sought to incorporate the best available vehicle technology to provide social value to both residents and council crews in respect to air quality and carbon emissions.
- 10.6.3. **Appendix 1 – Available zero emission technology research and recommendations** summarises zero emissions technologies available and assess their social and environmental value and appropriateness to this procurement. The following technologies were reviewed:
- use of latest Euro 6 diesel technology
  - use of electrically powered ancillaries (lifts and compactors) via solar panels to reduce need for vehicle idling.
  - use of drop in fuels to diesel vehicles where zero emission alternatives not viable (Hydrogenated Vegetable Oil)
  - zero emission alternatively fuelled vehicles and related refuelling infrastructure (electricity battery & hydrogen fuel cells)
- 10.6.4. Officers recommend that the best available options for decarbonisation of the fleet pursuable in this procurement as being:
- use of latest Euro 6 diesel technology
  - use of electrically powered ancillaries
- 10.6.5. **Appendix 2** details the cost benefit analysis of estimated carbon reduction possible with this technology.
- 10.6.6. Currently there is no off the forecourt zero emission option for the split back vehicles that currently collect kerbside recycling which would require either the continued use of diesel powered vehicles or total refitting and repowering of the existing chassis at prohibitive costs.
- 10.6.7. After a successful trial of a Dennis Connect electric RCV (eRCV), independent assessment of the electrical capacity and infrastructure at Pier Approach Road in November 2021 concluded that for eRCVs to be used, significant upgrade works will be needed at the local substation at an estimated cost in excess of £1.4m, with the utilities company not recommending to perform the work due to the thresholds for return on investment not being met.

- 10.6.8. The cost of eRCVs and infrastructure works would exceed the £17m budget allocated for this procurement prohibiting a full transition to a zero emission RCV fleet at this time.
- 10.6.9. Outside the scope of this procurement, this report notes:
- the new fleet can run on lower emission 'drop in' fuels such as Hydrogenated Vegetable Oil (HVO) to further reduce its environmental impact.
  - Any subsequent decision to use HVO would require a fully costed uplift in contract costs to cover the significant increase in unit price compared to diesel at present.
  - any alternative future waste depot provision may offer the opportunity to review both the fleet size and infrastructure available to adopt alternative technologies within the fleet as they become cheaper and more widely available.
- 10.6.10. Medway Council's Climate Change team are in agreement with the proposed replacement which they acknowledge to be a sensible approach at this time whilst supporting the ambition of the Climate Change Action Plan.

## 11. Social, Economic & Environmental Considerations

- 11.1. **Appendix 1** shows the decarbonisation options reviewed as part of soft market testing.
- 11.2. It is estimated that the recommended options in 7.3 will provide a social value equivalent to £24k per annum attributable to reduced fuel usage and associated carbon emissions, increased air quality through the reduction of NOx tailpipe emissions and associated health benefits to crews working at the rear of the vehicle.
- 11.3. Over the 8 year term of the prudential borrowing it is estimated that the social value of these technologies will be £192k.

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### Appendices

Appendix 1 - Climate Change Technology Assessment  
Appendix 2 - Carbon cost benefit analysis  
Appendix 3 - Proposed Phased Mobilisation Implementation  
Exempt Appendix – Financial Analysis

### Background Papers

[Capital Additions Request - Waste Fleet Replacement Scheme, Cabinet report 11 July 2023 \(Decision no. 106/2023 refers\)](#)

## Appendix 1 Climate Change Technology Assessment

Technology	Benefits	Estimated Adoption Cost (47 RCVs)	Estimated CO2 Reduction Social Value (47 RCVs)	Barriers to adoption	Recommendations
<b>Euro 6 diesel technology with electric compaction and bin lifts</b>	7% fuel efficiency, increasing to 20% with electric lifts (less idling) Up to 80% reduction in NOx emissions Health benefits for loaders working at tailpipe	<b>£15k per vehicle</b>	<b>£24k per year</b>	Likely to add additional cost to basic model configuration	Officers to explore individual specifications and adopt any carbon reduction or offset technology options available directly from vehicle manufacturer. See Appendix 1a
<b>Operation of all 46 vehicles on Hydrogenated Vegetable Oil (HVO) rather than diesel</b>	Up to 90% reduction in CO2 Additional 28-69% reduction in NOx dependent upon vehicle Health benefits for loaders working at tailpipe	<b>£150K pressure ongoing</b>	<b>£53k per year</b>	More expensive than current diesel fuel, cost tracking £0.20 per litre above (£80k annual revenue pressure based on May 2022 prices). 6 Month trial in 2022 cost considerably more than expected due to increased prices at pump	Out of scope for this procurement: Merits of adopting HVO on a permanent basis to be explored separately in line with budget setting
<b>Electric RCV + charging infrastructure</b>	Zero tailpipe emissions Health benefits for loaders working at tailpipe	<b>up to £20m</b>	<b>£60k per year</b>	Cost of up to £400k per vehicle (25% more than diesel cost) with up to £1.5m infrastructure costs Twin pack vehicles not currently available from manufacturers	Out of scope for this procurement: Once assessed as viable, single vehicle for trial use on rounds with high air quality issues using existing infrastructure with further adoption following any future changes to waste depot provision
<b>Hydrogen Fuel Cell RCV + fuelling infrastructure</b>	Zero tailpipe emissions Health benefits for loaders working at tailpipe	<b>up to £28m</b>	<b>£60k per year</b>	Cost of up to £600k per vehicle (more than double diesel cost) with additional £600K infrastructure costs Space and environmental permit limitations for refuelling infrastructure	Out of scope for this procurement: Once assessed as viable, single vehicle for trial or use on rounds with high air quality issues once cost technology reduces

## Appendix 2 Carbon cost benefit analysis

Eco Configuration option	Number of applicable vehicles	Estimated cost	Estimated Co2 savings	Estimated Social Value at £69.35 per tonne CO2 reduction	Estimated cost per tonne CO2 reduction	Notes
Euro 6 Diesel Engines	47	£ 11,000,000.00	186	£12,899.10 per year	£ 59,139.78	4.5 mpg new (Manufacturer Spec) vs 3.76mpg 21/22
Electric Lifts	46	£ 430,400.00	161	£11,165.35 per year	£ 2,673.29	Not available on 7.5t, based on Manufacturer study
Eco Pack	47	£ 7,520.00			Unknown	No data available but designed to reduce fuel usage
Solar Panels	44	£ 167,156.00			Unknown	No data available but designed to reduce fuel usage, not available on vehicles under 26t

## Appendix 3: Proposed Phased Mobilisation Implementation

	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25	Aug-25	Sep-25	Oct-25	Nov-25	Dec-25	Total
Lot 1: Full lift (organic)	5	5	3	0											13
Lot 2: Trade back (residual)			2	5	5	5	0								17
Lot 3: Twin Pack (recycling)							5	5	5	2	0				17
Lot 4: DEFRA flats food														3	3
Vehicles Delivered	5	5	5	5	5	5	5	5	5	2	0				50
2013 fleet scrappage		5	5	5	5	5	4	5	5	5	2	0			46
TOTAL 2013 fleet	46	41	36	31	26	21	17	12	7	2	0				-46