CABINET

Tuesday, 05 July 2022

Subject	Acquisition of new Refuse Collection Vehicles
Report by	Councillor Stephen Burroughes Cabinet Member with responsibility for Customer Services, ICT and Commercial Partnerships Councillor James Mallinder Cabinet Member with responsibility for the Environment
Supporting Officer	Kerry Blair Head of Operations kerry.blair@eastsuffolk.gov.uk Rob Stammers Waste Strategy and Business Improvement Manager robert.stammers@eastsuffolk.gov.uk

Is the report Open or Exempt?	OPEN

Category of Exempt Information and reason why it is **NOT** in the public interest to disclose the exempt information.	Not applicable
Wards Affected:	All Wards

Purpose and high-level overview

Purpose of Report:

To highlight the need to replace 23 Refuse Collection Vehicles (RCV) which will reach the end of their working life by the end of 2023.

An average RCV has a working life of 7 years before being replaced. This is a balance between a reasonable time span to allow depreciation of the asset financially, against the realistic working life of the vehicle before maintenance costs and reliability issues start to outweigh operational viability.

In East Suffolk, due to the size of the district, RCV's we operate cover far higher mileage than is usual so the need for an established replacement programme is paramount.

We currently have 14 new Euro VI engine RCV's operating under a year long hire agreement that have been bought into to allow the use of HVO fuel as part of the Climate Strategy to reduce emissions. These vehicles have replaced RCV's that had old Euro V engines that aren't guaranteed for use with HVO fuel. Some of the fleet that was replaced dated from 2011 & 2012 so had been in operation for 10 years or so.

As hiring is more expensive than purchase these vehicles need to be replaced at the end of their hire term.

In addition to the 14 vehicles mentioned above, there are a further 9 vehicles that will be at least 7 years old by the end of 2023. Having had vehicle workshops conduct a condition survey they are all recommended for replacement due to high mileage and increasing maintenance costs.

As an example, a usual RCV at the end of a 7-year working cycle will have between 70 – 90,000 miles on the clock. Many of our vehicles currently have 130,000+ miles on them, with some 180,000+. They still have another year to work before any replacement even if this procurement proposal is approved.

There is also the formation of the new LATCo, East Suffolk Services, to consider. Does ESC want the new company to be operating vehicles that are at the end of their working life? What image of the new service does this present to residents?

Therefore, we ask for the authority to proceed with a procurement programme for 23 new RCV's.

Options:

There are two options to replace these vehicles, i.e. lease or purchase and depreciate over their working life.

ESC Finance Team have recommended that as these vehicles will be in service for longer than 3 years then purchase is the preferred option.

However, leasing is an option. This would smooth the financial burden by not having the upfront capital cost of purchase, though there would be no asset at the end of the lease purchase.

Both these options are explored further in the financial section.

Recommendation/s:

1. That a procurement process to purchase 23 vehicles be started.

2. That authority be given to the relevant Strategic Director, in consultation with both the Cabinet Member for Customer Services, ICT and Commercial Services and the Cabinet Member with responsibility for the Environment, to negotiate and award a contract on terms that best support the interests of East Suffolk Council.

Corporate Impact Assessment

Governance:

This proposal will be managed through existing procurement arrangements, and will include involvement by Procurement, Finance, Legal and Operations depts.

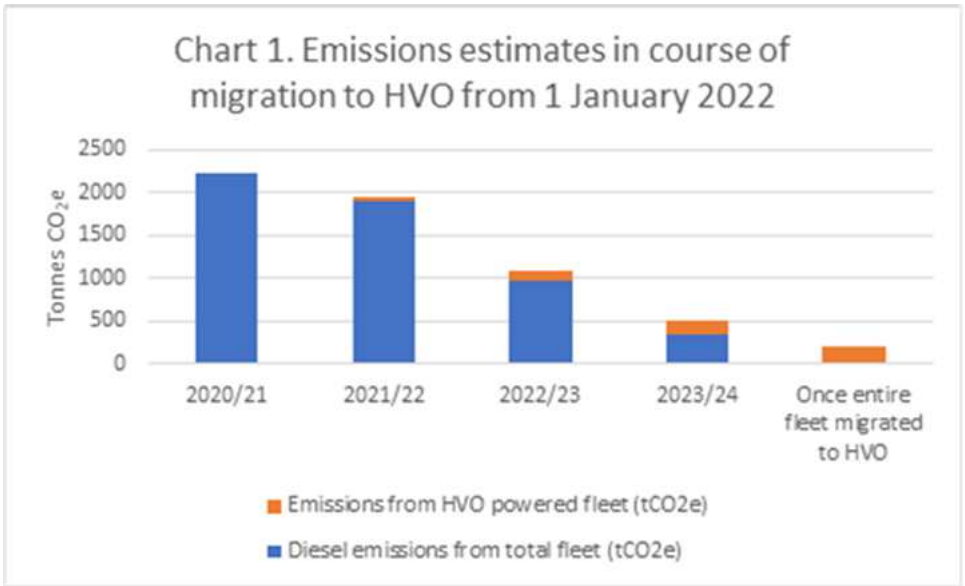
ESC policies and strategies that directly apply to the proposal:

- Strategic Plan 2020 – 2024
- Air Quality Survey 2021
- Strategic Plan Delivery Board 2021 – environmental theme

Environmental:

With an ageing fleet the resilience of the collection service is becoming compromised. This can lead to residual, recycling and garden waste bins being uncollected, leading to potential environmental issues around odour and vermin.

Having delayed fleet replacement to allow an assessment of both alternative fuels and RAWS (Resources and Waste Strategy paper), ESC have hired 14 RCV's to replace older vehicles with Euro V engines, thus allowing all the RCV fleet to run on HVO fuel, significantly contributing to reducing CO_2 emissions by approximately 2000t p.a.



Switching from fossil-fuel diesel to an alternative low carbon fuel has the potential to ultimately (once the entire fleet has been migrated) reduce annual emissions by approximately 2023tCO_2e.*

As such, the action proposed has the potential to deliver, and embed, an immediate and significant contribution to the Council's target to become carbon-neutral by 2030. The

action will also contribute towards the Authority's aim of Leading by Example under the Strategic Plan theme of Caring for our Environment.

Hiring the 14 RCV's is a short-term solution to allow the whole fleet to use HVO fuel, but is more expensive than either purchase or long-term lease. Therefore, ESC needs to look at replacing the existing 14 hire vehicles, along with another 9 that will have reached the end of their working life in 2023.

All the new vehicles will have the latest Euro VI engines, which are more fuel efficient as well as using HVO fuel, reducing our carbon footprint further.

Equalities and Diversity:

Not applicable.

Financial:

There are two options available which are to purchase the Refuse Freighters or to enter into a hire arrangement.

Purchase cost:
Current purchase costs per refuse freighter are £190,000 (excluding VAT), therefore the budget required to purchase would be £4,370,000.

Hire Cost:
Based on current rates a refuse freighter costs £875 per week to hire, this would therefore equate to £46,540 per freighter per year. A total of 23 freighters per year would cost £1,070,420.

Cost Comparison:
As the table below shows using an estimated life of 7 years for Refuse freighters the Hire cost would be substantially more at £7.49m compared to the purchasing cost of £4.37m being an increase of 58%.

	Refuse Vehicle Purchase	Net Cost	Leasing	Current cost per vehicle per week	Total Annual Cost
Year 1	23	4,370,000.00	23	895	1,070,420
Year 2			23	895	1,070,420
Year 3			23	895	1,070,420
Year 4			23	895	1,070,420
Year 5			23	895	1,070,420
Year 6			23	895	1,070,420
Year 7			23	895	1,070,420
		4,370,000.00			**7,492,940.00**

Purchase cost v Hire cost	**3,122,940.00**	**58%**

In conclusion the preferred method of replacement would be to purchase, this provides better value for money, however it would require a comprehensive vehicle replacement

programme to be worked up to ensure that peak levels of future replacement are avoided.

Human Resources:

Not applicable.

ICT:

All new vehicles will be fitted with Bartec, the new operations management software that ESC is adopting to allow us and the LATCo to manage operations, from collections to cleansing and grounds etc. Aside from allowing real time operational monitoring and oversight, it will allow ESC and the LATCo to plan work packages and routing more efficiently, reducing impact on the environment.

Legal:

None

Risk:

The table below details the current fleet profile, and a proposed replacement schedule, using an industry standard 7 year working life for a vehicle:

Vehicle replacement schedule

	Ufford					Rotterdam road					
REFUSE	DENNIS EAGLE	ELITE PLUS	VX22 ZFO	Euro 6		REFUSE	DENNIS EAGLE	ELITE PLUS	VX22 ZFN	Euro 6	
REFUSE	DENNIS EAGLE	ELITE PLUS	VX22 ZFC	Euro 6		REFUSE	DENNIS EAGLE	ELITE PLUS	VX22 ZFM	Euro 6	
REFUSE	DENNIS EAGLE	ELITE PLUS	VX22 ZFD	Euro 6		REFUSE	DENNIS EAGLE	ELITE PLUS	VX22 ZPG	Euro 6	
REFUSE	DENNIS EAGLE	ELITE PLUS	VX22 ZPJ	Euro 6		REFUSE	DENNIS EAGLE	ELITE PLUS	VX22 ZPH	Euro 6	Hire vehicles
REFUSE	DENNIS EAGLE	ELITE PLUS	VX22 ZPK	Euro 6		REFUSE	DENNIS EAGLE	ELITE PLUS	VX22 ZHU	Euro 6	Replace in 2022
REFUSE	DENNIS EAGLE	ELITE PLUS	VX22 ZPL	Euro 6		REFUSE	DENNIS EAGLE	ELITE PLUS	VX22 ZHV	Euro 6	Replace in 2023
REFUSE	DENNIS EAGLE	ELITE	VO15 KZV	Euro 6		REFUSE	DENNIS EAGLE	ELITE PLUS	VX22 BYU	Euro 6	Replace in 2024
REFUSE	DENNIS EAGLE	ELITE	VO15 KZW	Euro 6		REFUSE	DENNIS EAGLE	ELITE PLUS	VK22 BXV	Euro 6	Replace in 2025
REFUSE	DENNIS EAGLE	ELITE 6	VU65 FBN	Euro 6		REFUSE	DENNIS EAGLE	ELITE 6	VU65 FBJ	Euro 6	Replace in 2026
REFUSE	DENNIS EAGLE	ELITE 6	VN16 PGU	Euro 6		REFUSE	DENNIS EAGLE	ELITE 6	VU65 FBK	Euro 6	
REFUSE	DENNIS EAGLE	ELITE 6	VN16 PGV	Euro 6		REFUSE	DENNIS EAGLE	ELITE 6	VN16 PGX	Euro 6	
REFUSE	VOLVO	REL DUSTCART	AU67 HZH	Euro 6		REFUSE	DENNIS EAGLE	ELITE 6	VN16 PGY	Euro 6	
REFUSE	DENNIS EAGLE	ELITE 6	VU67 JDX	Euro 6		REFUSE	DENNIS EAGLE	ELITE 6	VN67 LEJ	Euro 6	
REFUSE	DENNIS EAGLE	ELITE 6	VU67 JDZ	Euro 6		REFUSE	DENNIS EAGLE	ELITE 6	VN68 RYB	Euro 6	
REFUSE	DENNIS EAGLE	ELITE 6	VU67 JFA	Euro 6		REFUSE	DENNIS EAGLE	ELITE 6	VN68 RYC	Euro 6	
REFUSE	DENNIS EAGLE	ELITE 6	VU67 JEJ	Euro 6		REFUSE	DENNIS EAGLE	ELITE 6	VE69 CVF	Euro 6	
REFUSE	DENNIS EAGLE	ELITE 6	VU67 JEO	Euro 6		REFUSE	DENNIS EAGLE	Mac Pac	LO69 ZZJ	Euro 6	
REFUSE	DAF	LF GLASS LORRY	DK18 HLM	Euro 6							
REFUSE	DENNIS EAGLE	ELITE - EURO 6	VN68 RYA	Euro 6							
REFUSE	DENNIS EAGLE	ELITE - EURO 6	VN68 RXZ	Euro 6							
REFUSE	DENNIS EAGLE	ELITE - EURO 6	VT19 WHA	Euro 6							
REFUSE	DENNIS EAGLE	ELITE - EURO 6	VT19 WHB	Euro 6							
REFUSE	DENNIS EAGLE	ELITE - EURO 6	VT19 WHC	Euro 6							
REFUSE	DENNIS EAGLE	ELITE	VU62 HPE	Euro 5		Food trial	Mercedes	Atego	AY13 NTJ	Euro 6	
REFUSE	DENNIS EAGLE	ELITE	VU62 HPJ	Euro 5							

To benchmark our fleet against industry norms, an average RCV working on a standard municipal contract will last for 7 years before being replaced. During this time the mileage covered will be between 65,000 – 90,000 miles.

We currently have several vehicles that have already covered more than 120,000 miles, with some over 200,000 miles – this is with at least another year in service. This is due to the large geographic area we cover.

By having a rolling replacement programme we can look at new technologies as they are developed, e.g. electric vehicles, hydrogen fuel etc. Currently these technologies aren't

advanced enough for our situation, i.e. range issues in our district, but this will change and by introducing a few vehicles each year it will allow us to introduce and assess any new technologies without committing to replacing an entire fleet.

External Consultees:	We have consulted with the Transport and Fleet Managers at Norse Commercial Services.

Strategic Plan Priorities

Select the priorities of the Strategic Plan which are supported by this proposal: *(Select only one primary and as many secondary as appropriate)*		**Primary priority**	**Secondary priorities**
T01	**Growing our Economy**		
P01	Build the right environment for East Suffolk	☐	☐
P02	Attract and stimulate inward investment	☐	☐
P03	Maximise and grow the unique selling points of East Suffolk	☐	☐
P04	Business partnerships	☐	☐
P05	Support and deliver infrastructure	☐	☒
T02	**Enabling our Communities**		
P06	Community Partnerships	☐	☐
P07	Taking positive action on what matters most	☐	☒
P08	Maximising health, well-being and safety in our District	☐	☒
P09	Community Pride	☐	☒
T03	**Maintaining Financial Sustainability**		
P10	Organisational design and streamlining services	☐	☐
P11	Making best use of and investing in our assets	☒	☐
P12	Being commercially astute	☐	☒
P13	Optimising our financial investments and grant opportunities	☐	☐
P14	Review service delivery with partners	☐	☒
T04	**Delivering Digital Transformation**		
P15	Digital by default	☐	☐
P16	Lean and efficient streamlined services	☐	☐
P17	Effective use of data	☐	☐
P18	Skills and training	☐	☐
P19	District-wide digital infrastructure	☐	☐
T05	**Caring for our Environment**		
P20	Lead by example	☐	☐
P21	Minimise waste, reuse materials, increase recycling	☐	☒
P22	Renewable energy	☐	☐
P23	Protection, education and influence	☐	☒
XXX	**Governance**		
XXX	How ESC governs itself as an authority	☐	☐

How does this proposal support the priorities selected?

This acquisition will achieve several strategic priorities for the council. First amongst these is maximising the use of council assets. RCVs represent a significant investment – and are the backbone of the council's waste collection operation. Collection of waste is a vital function of the District Council and it is important that we have the assets to do this in as efficient and reliable way as possible.

The purchase of a new RCV fleet will provide an efficient, reliable and environmentally sustainable transport solution for the collection of refuse. The waste collection fleet are currently the biggest single contributor to the council's carbon emissions. By replacing the fleet with new vehicles, it means that all of the council's RCV fleet will be able to run on HVO fuel, reducing the carbon emissions associated with refuse collection by up to 90%.

Background and Justification for Recommendation

1 Background facts

1.1 Norse currently deploy around 150 collection rounds per week across the district, picking up refuse, recycling, garden waste and trade waste. To enable this service, a fleet of around 50 vehicles are in operation, generally made up of 26t RCV's, but alongside some smaller capacity vehicles that are used for specific areas, e.g. areas with narrow access etc.

26t RCV's are the industry standard vehicle, being the best compromise between capacity and size, bearing in mind that they operate in areas of housing with small roads, cul-de-sacs etc. A 26t RCV has a payload of around 11t, so in a standard service model each vehicle will collect two loads per day, equating to 22t residual waste collected, or around 11t for recycling, as recycling doesn't compress as well as residual waste, due to the volume of plastic and cardboard.

An RCV collection vehicle is usually crewed by a driver and two loaders. The table below shows how many households each service collects from per day on average (pass rate), and the weight collected per year and per collection:

		Pass Rates				
ESC		Properties/day		KG/HH/Year		KG/HH/Day
Residual		1173		621		12
DMR		1290		220		4
GRN		822		419		8

To ensure a robust service, the general rule for fleet numbers is one spare vehicle for every five in service. This allows for the regulatory six-weekly service schedule to be carried out, along with allowing for breakdowns, MOT's etc.

We are currently engaged in a rerouting exercise, to identify whether any efficiencies can be identified, but the latest data prepared for the RAWS project

	(Resources and Waste Strategy white paper) which has been circulated indicates that we will need 36 x 26t RCV's to collect the tonnage they're working with (2020 data), so add spares at a 5:1 ratio and we end up with a fleet of 43 vehicles. By choosing 26t single chamber (collects one waste stream) vehicles we are keeping the maximum operational flexibility in our fleet, able to respond to any changes that are introduced either by us or by RAWS, which has yet to be finalised. All indications from our work with the Suffolk Waste Partnership indicates that a fleet of single chamber vehicles collecting on a twin stream fortnightly basis is the most efficient and cost-effective methodology – see Eunomia RAWS report. The separate food waste collection service that will be introduced under RAWS will require a different fleet configuration, and will effectively be a stand-alone service. The vehicles currently modelled for this are 12 x 7.5t RCV's, with 2/3 as spare. There will be Government funding to help with this. In 2020 the Council approved a proposal to move the Council's diesel fleet to use HVO (Hydrotreated Vegetable Oil) fuel instead of diesel, thus reducing total carbon emissions by >40%. Whilst undergoing this process it was noted that 16 vehicles in the RCV fleet were Euro V engines, which are older and not guaranteed for the use of HVO fuel. Therefore, ESC has hired in 14 new RCV's to replace these, all with Euro VI engines which are fine to use HVO. These 14 vehicles have been hired for 12 months, with an option for another 12 months. The age profile of the 14 vehicles replaced was: 1 x 12 yrs old 1 x 11 yrs old 5 x 10 yrs old 7 x 9 yrs old Given that the average lifespan for an RCV in municipal service is 7 years, these vehicles were overdue for replacement, especially given the high mileage required in East Suffolk. In addition, there are a further 9 vehicles that will have reached the end of their working life in 2023, making 23 in total, i.e. 14 vehicles currently hired and 9 x 16 plate vehicles. The cost of maintaining the ageing vehicles in the fleet is also rising, and they are uneconomic to keep in service. The size of the fleet we maintain to deliver services is calculated on a certain number of vehicles being off-the-road every day for either planned maintenance (servicing and MOT's etc.) or unscheduled breakdowns. There have been several instances recently where these numbers have been exceeded, which has compromised the collection service, and has resulted in extra cost such as overtime payments to rectify along with inconvenience for residents.

2	Current position
2.1	East Suffolk Norse has an ageing fleet that is affecting their ability to deliver an efficient, resilient waste & recycling collection service. With RAWS being introduced in 2023/2024 we need to have a fleet and operation that can adapt to any service changes that we implement, along with any efficiencies we introduce. In keeping with our desire to deliver an efficient, modern service for residents and with an eye on the LATCo start-up next July, we should look to have an up-to-date fleet, cutting down on emissions, being more resilient and presenting a positive image of East Suffolk Services.
2.2	With current business improvement programmes underway (such as rerouting) and the formation of East Suffolk Services, it is imperative that a fleet replacement programme is started. If we introduce service efficiencies or improvements then we need to have a resilient adaptable fleet at our disposal, to ensure that any changes are as seamless as possible thus causing as little inconvenience to residents as we can.

3	How to address current situation
3.1	Procure 23 RCVs to be in service by the end of 2023 at the latest.
3.2	To commence a rolling replacement programme, with a further 7 vehicles reaching the end of their life in 2024, 5 in 2025 and 5 in 2026.

4	Reason/s for recommendation
4.1	To ensure an efficient, adaptable and resilient waste & recycling collection service for East Suffolk.
4.2	To reduce maintenance costs and service disruptions.

Appendices

Appendices:
None.

Background reference papers:
None.