

Report to Cabinet

9th June 2022

By the Cabinet Member for Recycling and Waste

DECISION REQUIRED



**Horsham
District
Council**

Not Exempt

Vehicle Replacement / Refurbishment; Two Compact and Two Highway Sweepers and one Refuse Collection Vehicle

Executive Summary

The purpose of this report is to advise on the need to replace our two compact town centre sweepers, to replace or refurbish our two highway, 15T sweepers and to refurbish one RCV (refuse collection vehicle).

The sweepers are all reaching the end of their useable life. They are increasingly costly to maintain and this also leads to more time off the road when we can't use them.

The recommended option for the two compact town sweepers is to purchase two electric sweepers. This will lead to a reduction in our carbon emissions and meets the Council's approach to climate change and reduction in emissions.

The recommended option for the highway sweepers is to refurbish them to enable us to use them for another 5 years plus. These will still run on HVO (Hydro treated vegetable oil) which is a carbon saving fuel as we are concerned about the range and the restricted charging capabilities of existing electric models for a rural district, but this will fit in with the corporate plan to reuse and HVO still reduces carbon emissions.

Our refuse collection fleet comprises various aged vehicles of differing sizes from 15 tonnes to 26 tonnes. In order to help meet our emission targets by 2030 we will need to replace these vehicles with alternative powered vehicles, these can be either BEV (Battery Electric Vehicles) or Hydrogen. Currently the cost of these vehicles is high (£450,000 each for a BEV version, £600,000 each for a hydrogen version). Battery range is also very poor and the charging infrastructure within our District does not meet HGV charging requirements.

In order to allow the cost of these vehicles to become more reasonable and charging infrastructure to be installed we are considering the option to extend the lives of our current vehicles. This will be achieved by refurbishing the vehicles in order to re-use, this will follow our climate strategy of reducing carbon emissions compared to building new vehicles. They will still use HVO saving 90% of emissions compared to diesel and will allow a minimum of 6 years further life in which time BEV and Hydrogen technology will be established. Charging and hydrogen refuelling infrastructure will also be more established.

Recommendations

That the Cabinet is recommended :

That the Cabinet is recommended to approve the following:

- i) The purchase and contract award of two electric compact sweepers for the town centre and install electric charge points in Black Horse Way Car Park at a cost of £400,000.
- ii) The refurbishment and contract award of one of the collection vehicles RCV's at an estimated cost of £80,000.
- iii) To approve the refurbishment of the two highway sweepers at a cost of £101,000.

Reasons for Recommendations

- i) The two town centre sweepers have reached the end of their useable life. We need to replace as they have become unreliable and expensive to repair. Electric vehicles are best suited for this purpose as the majority of vehicles/sweepers cover short journeys, they are also quieter for early morning use. Some infrastructure work is required to install charge points within Black Horse Way Car Park which is Council property. We are awaiting quotes for this work. The town centre cleansing team will become emission free with 2 x Battery Electric Vehicles (BEV) compact sweepers. This will be in line with our climate change action plan and will be highly visible to the general public in the town centre.
- ii) To refurbish one 26 tonne refuse collection vehicle. This will enable the vehicle to be used for a further 5-6 years to allow alternative fuel options to be more available at a reasonable cost and refuelling infrastructure to be in place.
- iii) Highways sweepers – these are reaching the end of their useable life. To refurbish them means we are reducing our maintenance costs and ensuring we don't have increased downtime.

Background Papers

- Investment and Business Case Horsham District Council Vehicle replacement strategy 9th September 2021.
- Capital vehicle replacement schedule December 2021.
- Horsham District Councils Three year programme to reduce the councils carbon emissions; working towards the approved carbon neutral targets.

Wards affected: All wards will be affected as the highway sweepers cover the whole district. The electric sweepers will only operate in the town centre.

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Background Information

1 Introduction and Background

- 1.1 Purchasing two electric compact sweepers means that the town centre cleansing team will be emission free. This will have a positive impact on the local community and those who use the town centre. It will be quieter for early morning use and is in line with the Council's carbon strategy.
- 1.2 The RCV's have been inspected and found to be in need of refurbishment in the bodies and cabs. This is work which needs to be carried out to extend their useable life with reduced downtime and maintenance costs.
- 1.3 The highway sweepers are reaching the end of their economic life. The option to replace these with electric vehicles has been explored but concluded to be too expensive with not enough range. To refurbish them means we are reusing them and also ensuring we reduce our maintenance and downtime costs.

2 Relevant Council policy

- 2.1 A cared-for environment, replacing existing vehicles with alternatively fuelled alternatives to help reduce carbon emissions and help towards the protection of our environment.

3 Details

- 3.1 It is proposed that the Council replace the Capital vehicle replacement schedule December 2021.
- 3.2 By replacing the vehicles according to the Replacement Schedule, the Town Centre Cleansing Team will be the first to become emission free. Electric vehicles are best suited for this purpose as the majority of vehicles/sweepers cover short journeys and they are also quieter for early morning use. Some infrastructure work required to install charge points within Black Horse Way Car Park which is Council property.
- 3.3 The compact vehicles have been trialled for suitability using electric sweepers and both management and drivers agreed they were capable of the scope they need to fulfil for town centre sweeping.
- 3.4 Larger sweepers need to have their life extended by another 5 years to then fit in with the replacement schedule. Currently the electric versions do not have enough range to enable us to meet our cleansing schedules on the bigger roads in the District and are also costly to purchase. A trial was carried out using an electric highway sweeper and it was established that it could not meet the mileage requirements each day. Refurbishing these two sweepers means we extend their economic life whilst keeping costs down. Maintenance costs will reduce and the vehicles are able to be used to their full potential enabling us to fulfil the cleansing schedules required.

4 Next Steps

- 4.1 The replacement schedule budget has been agreed for this financial year to include the purchase of two electric compact sweepers, refurbishing an RCV and refurbishing the two highway sweepers.
- 4.2 Infrastructure needs to be budgeted for the charge points and management systems that monitor charge point outputs.
- 4.3 The electric sweepers were put out to a mini competition through a framework agreement, with two quotes received. An evaluation meeting took place on 16th May and a moderation meeting will take place on 18th May to score the two quotes submitted.
- 4.4 We need to obtain quotes through a mini competition process to refurbish the RCV's. This will be carried out as soon as possible through a compliant framework agreement.
- 4.5 Quotes to refurbish the highway sweepers have been obtained from Scarab.

5 Views of the Policy Development Advisory Group and Outcome of Consultations

- 5.1 A presentation was given to PDAG on the 24th May 2022 which after discussion ended with a positive outcome and the group agreeing with the above recommendations.

6 Other Courses of Action Considered but Rejected

- 6.1 The Council can continue using the current sweepers but this is not recommended as they are old unreliable vehicles and we would not be able to fulfil our cleansing duties due to downtime and costs.
- 6.2 The Council can continue using the current RCV's but this is not recommended as they are becoming unreliable and need to have their economic life extended.
- 6.3 It has been considered to replace all sweepers with BEV's but the technology and range (infrastructure) is not in place. It is also cost prohibitive when considering the 15t sweepers each costing £370k.

7 Resource Consequences

- 7.1 The estimated capital cost in 2022/23 for the four sweepers is £0.5m which breaks down as follows:

Type	HVO	BEV
2 x Highway sweeper refurbishment	£101,000	
2 x electric precinct sweeper		£394,000
Charging infrastructure		£6,000
Total	£101,000	£400,000

- 7.2 The capital costs are already included in the 2022/23 capital programme budget. The charging infrastructure includes an estimate for a 2 port 7.4kW charge point at Blackhorse Way Car Park which charges over a 12 hour window.
- 7.3 The proposed options will help the delivery of efficiencies and income which will help towards balancing the budget. The reduction on the revenue budget per annum is estimated in the table below:

Change	HVO Highway Sweepers	BEV Compact Sweepers
Maintenance costs	- £12,000	- £14,000
Electric based on the two compact sweepers completing 3,120 hrs a year (2 x 1,560 hrs)	-	£3,500
HVO Costs per annum (Compact 2,666hrs = 7,300 litres fuel) HVO £1.95ppl	-	-£14,000
Servicing costs	£950	£8,500
Tax / MOT	£500	0
Total	£-10,550	-£16,000

- 7.4 The electric savings are based on 3,120 annual hours. Comparisons based on the savings of the cost £1.95ppl on HVO but an increase in electricity use at £0.14pp kw.
- 7.5 As vehicles age, maintenance costs and downtime increase, which can lead to periods without sweeping or additional hire costs. All the sweepers were near the end of life, so the maintenance cost savings shown above are based on the 2021/22 outturn, and would only increase in future years.
- 7.6 The additional capital cost of two new electric compact sweeper vehicles over their HVO counterparts is £230,000. Whilst the revenue savings are estimated at £16,000 per year, and the investment does not fully pay back financially over the

expected useful economic life of the vehicle, the two electric sweepers will save 43 tonnes of carbon per year over the same period, providing some value for money.

- 7.7 This compared to the additional capital cost of two new electric highway sweeper vehicles over their HVO counterparts which was calculated at £360,000, combined with the fact that electric was unable to deliver the required operational range meant that this was discounted on both financial value and non-financial grounds.

RCV Refurbishment

- 7.8 We are awaiting for the mini competitive process to go ahead but have estimated the following:

- Yr 1 22/23 £80,000 for one vehicle
- Yr 2 23/24 £800,00 for 10 vehicles
- Yr 3 24/25 £880,000 for 11 vehicles

- 7.9 The costs will be subject to review once we have received the mini tender results. One of our vehicles is a 16 plate so this is why we need to refurbish it this year to reduce the maintenance and downtime costs.

8 Legal Considerations and Implications

- 8.1 The approaches are compliant with the council's Procurement Code and the Public Contract Regulations and will be undertaken in conjunction with the council's Shared Procurement Service. Legal colleagues will support the provision of requisite legal document.

9 Risk Assessment.

If the proposed options are not approved, then there is a significant risk of the current revenue budgets being affected due to increased costs of repairing and maintaining our aging fleet. There is also a significant risk to the Council Operators Licence which has strict guidelines on the upkeep and maintenance of our heavy goods vehicles.

9.1

Risk description	Score	Mitigating Actions/Contingencies
Infrastructure for vehicle charging is in development stage	Medium	Watching brief on infrastructure development. Replace smaller vehicles e.g. sweepers. Optimisation of load capacity and load management strategy
Market for BEV cleansing vehicles is emerging but not fully	Medium	Ongoing discussion with industry experts, trial of electric

established like cars and vans		sweepers have taken place.
Battery life of vehicles is only 4 to 5 years and disposal is via hazardous waste route	High	Battery technology is developing with faster charge and alternatives to Lithium cells. Arrange battery replacement warranty with supplier.

9.2 Assumptions

1. Technology will improve within next 5 to 6 years including vehicles and batteries
2. Alternative technologies such as Hydrogen (already in use in Scotland and N America) will become available for larger vehicles (RCVs and large sweepers)
3. Charging infrastructure will improve with a move toward smart charging at charge-points to manage demand in real-time.
4. Introduction of lower time of use (ToU) tariffs using multiple charge-points not exceeding maximum power capacity at the site.
5. Advancement of different types of ultra-low emission vehicles (ULEVs) including zero emission, extended range electric vehicles, plug-in hybrids for larger (HGV) and fuel cell electric (FCEV- hydrogen vehicle)
6. Government will adhere to is zero carbon emission target with potential stretch-targets introduced following COP26.

9.3 Issues

Issue description including impact	Score	Mitigating Actions/Contingencies
Political support for switching to electric vehicles	Med	Agreement to commit to replacement programme by SLT followed by Member briefings including Informal Cabinet
Ensure sufficient on-site charging capacity for new vehicles	High	Assessment of current site capacity and identification of additional capacity against growth in fleet
New vehicles can be serviced by workshop staff	Med	Training of workshop staff on maintenance of new vehicles as part of purchase agreement

10 Procurement implications

- 10.1 The Council will comply with all necessary Procurement Regulations and the Council's Procurement Code. The procurement processes is being overseen by the Council's Procurement Manager and supported by a Procurement Officer.

11. Equalities and Human Rights implications / Public Sector Equality Duty

- 11.1 The recommendation has no negative impact on any particular groups and an Equalities Impact Assessment is not required.

12 Environmental Implications

- 12.1. Suppliers will be assessed on their approach to sustainability (for example carbon reduction and neutrality, waste, etc.) as part of the quality evaluation process for each mini competition undertaken.
- 12.2 Increased reliance on electricity but with emissions savings from reduced use of HVO. Re-use of existing vehicles also fits in with our sustainability and environmental strategy.

13 Other Considerations

- 13.1 The mini competition will ensure GDPR and data protection processes are in place and compliant with all relevant legislation.
- 13.2 Crime and disorder incidents are unlikely to occur but do need to be taken into consideration for potential vehicle or infrastructure vandalism. Monitoring processes are in place to deter this behaviour.