Executive **19 March 2020**

Report of the Corporate Director of Economy and Place
Portfolio of the Executive Member for Transport and
Executive Member for Environment and Climate Change

Future Fleet Management Policy

Summary

1. The way the fleet is renewed is seen as a vital part of the council's response to the climate emergency and the expectation that council become a leader in the fight to reduce the city's carbon emissions with an ambition to be carbon neutral by 2030. This will reduce the carbon emissions from the council's fleet by a third.

2. The current fleet comprises of 535 vehicles and items of plant equipment with a current capital value of £15.3 million. This includes 180 vehicles that are under 3.5 tonnes of which 153 are currently due to be replaced over the next three years.

3. The transition to a green fleet for the council will minimise the environmental and health impacts caused by vehicles. The report sets out options for the timescale of this transition and the proposal that the imminent replacements are phased over four years to allow the managed transition to an electric fleet.

4. Any transition must be done without compromising the valued services the council delivers to the city and its residents.

Recommendations

5. Executive are asked to :

    a. Note the adoption of the draft Vehicle Management Policy (Annex A).

Reason: This will formalise the current working practice and strengthen the work to minimise the size of the fleet actually required to deliver council services.

b. To approve option 3 in the report and to commence the transition to an electric fleet for all vehicles under 3.5 tonne as part of a four year programme, by extending the operational life of some existing vehicles. Once approved this will be incorporated in the Fleet Management Policy.

Reason: the transition to an electric fleet will reduce the environmental impact of the councils operations. Doing so in a phased approach will ensure service quality is maintained.

c. To ask officers to continue to explore the options for vehicles over 3.5 tonnes to move away from fossil fuels.

Reason: the alternative fuel technology is evolving rapidly and will be able to support a wide range of tasks undertaken by our vehicles. But the green technology for heavier vehicles is still emerging. Wherever viable the greenest possibly option shall be recommended.

d. To request an allocation of £50k is provided from the One Planet Council capital budget to fund further development and design work to upgrade Hazel Court to operate an electric fleet

Reason: Hazel Court Depot will be key in the delivery towards an electric fleet and work needs to progress this upgrade prior to final business case

Background

6. The Council has legal obligations it must meet to ensure the fleet is legal and compliant, whether it be 'O' compliance, EU or Domestic tachograph regulations, and Working Time Directive and or vehicle roadworthiness. These responsibilities are shared between the operational service and the fleet team e.g. MOT's are undertaken by fleet, but driver hours are an operation responsibility.

7. The draft vehicle management policy is attached at Annex A. By placing control of fleet at a corporate level efficiency in terms of vehicle deployment and planning, will enable the reduction in the number of vehicles to be achieved. This was developed in response to the Economy and Place Policy Development Committee review undertaken in 2018. The focus of this policy is to reduce the requirement for vehicles in the first place as this will ultimately help reduce the carbon footprint in absolute terms. By using the latest telematics services will be provided reports to service managers about utilisation and usage,

any underutilised assets can therefore be reviewed and reallocated by the fleet team.

8. Many of the current vehicles are due to be replaced in the next three years.

9. The Council is committed to creating a greener and cleaner city which has a thriving local economy, strong communities and a sustainable way of life. A city where residents are healthy, happy and prosperous. Key to achieving this is the Council's ambition to reduce carbon emissions to zero by 2030.

10. The Council has implemented a number of measures to address these challenges, for instance a clean air zone for busses and the transition of the Park and Ride fleet of busses to electric double decker busses will be completed this year.

11. A key part of addressing transport emissions is also the fleet of vehicles the Council uses to deliver its services. The vast majority of this fleet is currently a carbon based fleet. So in order to achieve a zero carbon fleet by 2030 the Fleet Replacement Policy must set out a transition plan from carbon to zero by 2030.

12. The Council has an opportunity to set an example within the city and lead the move of commercial vehicles to ones with zero carbon emissions at the tailpipe. It is hoped this would be the catalyst for other fleet operators within the city to start to change their fleets to zero emission vehicles.

13. There are a number of alternate fuels that can be considered, however each fuel type favours different types of vehicles:

    a. Hydrogen – Zero emissions at the tail pipe, requires expensive infrastructure and is currently focused on long distance large goods vehicles.
    b. Bio Gas – whilst still emitting carbon there is a significant reduction of carbon emissions. It requires substantial infrastructure investment.
    c. Electric – Zero emissions at the tail pipe. Existing infrastructure in the city although upgrading of facilities would be required at the depot.
    d. Hybrid vehicles - use a combination of fuels.

14. The future remains uncertain, in that technology is developing all the time and the purpose of the fleet strategy is not to second guess the

future technology. In the short the most efficient transition for the Council is to electric vehicles. The infrastructure requirement is scalable and our relatively small geography mitigates some of the concerns about range.

15. The public concerns about moving to electric vehicles is often questioned in terms of the following concerns:

    a. Purchase Price
    b. Battery Pack Replacement
    c. Range
    d. Charge location
    e. Charging Time
    f. Carrying capacity

16. In the same way that the public need to consider these so will the Council. Issues around purchase price and battery packs can be addressed by looking at the whole life cost and purchasing arrangements can mitigate the cost of battery pack replacement.

17. The transition to a zero emissions fleet must be a success and therefore addressing these issues needs to be considered for each services vehicle replacement.

18. The fleet department have undertaken soft market testing with leading alternative fuel vehicle providers such as Toyota, Ford and LDV to ensure that the Council understand the market place for lower emission vehicles.

19. The technology for different vehicle types is at different stages of maturity and for some vehicle types there is a limited market. However, this is changing all the time and we are expecting new ranges of vehicles in 20/21.

20. We have recently seen new government grants announced for other public services to move to a green fleet such as the recent announcement of an all electric bus fleet in a town. New grant funds may be available to support this programme in the future.

Options

21. Option 1 is to adopt a policy of fleet replacement that replaces all vehicles under 3.5 tonnes with a fossil fuel vehicle.

22. Option 2 is to replace the council's fleet of 3.5 tonne vehicles with electric vehicles immediately.

23. Option 3 is to adopt a phased approach to an electric fleet. The principle is that no new diesel vehicles would be purchased, but the transition to an electric fleet would be planned over the next four years.

Analysis

Option 1. Replace with diesel

24. Under the current pricing models this options is the most cost effective as an electric vehicle has a more expensive whole life cost except for a car. The table below shows the estimated cost of replacing 153 vehicles over the next three years. The costs are shown as annual revenue costs once the vehicles have been replaced.

	Total Vehicles	Diesel £	Electric £	Diff £
Small Vans	8	44,424	45,496	1,072
Medium Wheel base Van	93	745,209	1,046,436	301,227
Large Wheel Base Van	6	44,892	82,062	37,170
Car	15	77,595	75,420	-2,175
Large Tipper Van	31	241,521	407,557	166,036
	153	**1,153,641**	**1,656,971**	**503,330**

Table 1 Whole life cost of 3 year replacement programme for vehicles under 3.5 tonne.

25. The cheapest alternative for vehicles under 3.5 tonne is therefore to replace vehicles with a diesel as even after considering the capital costs and 7 year running costs the electric fleet is over 40% more expensive than a conventional diesel. It can be seen that for the cars and small vans the costs are now comparable but the electric larger vans are significantly more expensive.

26. However, it does not respond to the climate emergency declared by the council, nor does it start the journey of the council's fleet being zero carbon by 2030. The council's current entire vehicle fleet emits 1763 tonnes of CO2 every year, including large goods vehicles.

27. Not only are the environmental impacts global in terms of climate emergency they have local impact in that air quality will not be improved by purchasing a fossil fuel fleet.

28. This would still allow a green fleet to be purchased before 2030 as a fossil fuel fleet purchased now would be replaced from 2027 onwards.

29. For these reasons this is not the recommended option.

Option 2. Immediate Replacement

30. In terms of an immediate reduction in emissions at the tail pipe the council could start replacing vehicles with electric vehicles now. This would have an immediate impact on carbon usage and air quality.

31. To make this change for all vehicles under 3.5 tonnes would cost as shown in table 1 an additional £500k per annum more than replacing with a diesel fleet of which c £200k would be attributable to the housing revenue account.

32. A successful move to an electric fleet must not impact on service delivery to our residents. Several front line services work on the basis that employees take a vehicle home, this partly for efficiency allowing them to start from home, but also to provide twenty four hour emergency response.

33. In order for the electric fleet to be a success, services will need to change the way they operate and deliver their services. However, some of this will have an impact upon staff and require business process re-engineering.

34. Many of more specialist items of fleet are in the early stages of development and testing and therefore any purchases come with risk and potential impacts upon services. The Fleet Team continue to arrange a trials and testing of these items from an electric refuse vehicle through to an electric mini digger.

35. The cost of providing infrastructure will be significant and an indicative estimate of £1.5m has been used for this report. The largest element of the cost is the power distribution into the depot and the costs are subject to confirmation by Direct Network Operator Northern Powergrid. There is also uncertainty as to how quickly this could be procured and installed at Hazel Court. The infrastructure would need to be installed before the vehicles entered usage.

36. Officers do not recommend the immediate move to option 2 as the risk is that the infrastructure is not in place for the fleet replacement and that it impacts upon the services delivered within the city.

Option 3. Phased Replacement

37. This would achieve the objectives of Option 2 but allow the risks to be mitigated by giving services the time to plan and restructure services around an electric fleet.

38. It is proposed that this plan is implemented over a four year period.

39. Year one would secure the infrastructure to enable an electric fleet to operate. For those services that will already have some charging infrastructure away from Hazel Court will make the move to electric vehicles e.g. parking. Three electric waste vehicles will also be ordered, although the build time is significant as they are bespoke.

40. Year 2 Services that are ready for an electric fleet now can make the change in year 2 as the infrastructure will now be in place. For those services that require some business process re-engineering a third of the vehicles will move to electric e.g. housing.

41. Over years 3 and 4 those services that need a phased approach will be progressed to a 100% electric as quickly as possible.

42. As the market place for more specialist items of equipment matures then these items can be replaced.

43. To achieve this plan existing vehicles will need to be run for longer than originally planned. The council will not purchase fossil fuel vehicles during this transition period. Therefore, it may be necessary to arrange short term lease replacements if existing vehicles fail and a an electric vehicle is not available or the service is not yet ready to operate an electric vehicle.

44. Given this changing landscape an agile and strategic approach on a risk managed approach to support the wider ambition of zero carbon by 2030 is required, particularly with regard to LGV's, therefore any policy will need to remain under review.

45. In order to achieve this a fleet replacement programme is proposed which will be considered on an annual basis as part of the annual capital programme.

46. Option 3 will lead to the same overall increase in cost due to moving to electric from diesel (although price differentials could reduce over time) but will mean the move to full electric will be delayed and some diesel

vehicles may have to be extended for further years potentially using vehicle hire.

Financial Analysis

47. The analysis is based on the assumption that services are able to afford replacement diesel vehicles within current budgets. It also assumes there is no scope for fleet rationalisation**.**

48. The financial implications of moving towards an electric fleet for vehicles under 3.5 tonnes are considered below. There will be additional capital expenditure incurred that would be required over the coming years is shown below

	Option 1	Option 2	Option 3
Infrastructure Yr1	£0.00m	£1.50m	£1.50m
Vehicle Purchases Yr 1	£1.83m	£4.22m	£0.00m
Vehicle Purchases Yr 2	£0.91m	£2.40m	£2.22m
Vehicle Purchases Yr 3	£0.02m	£0.06m	£2.22m
Vehicle Purchases Yr 4	£0.00m	£0.00m	£2.22m

Table 2 Capital Costs of future vehicle replacement

The table above shows that under option 3 the capital expenditure can be smoothed to mean the additional costs can be spread over a longer period.

49. Whilst capital costs for electric vehicles are often greater than the diesel equivalent, the operating costs of electric vehicles are lower particularly in relation to Vehicle Excise Duty and fuel costs. The table below shows the indicative growth in the revenue budget that would be required to set aside in the budget process to fund the net additional costs of operating the fleet taking into account higher capital costs offset by lower operating costs. A proportion of the increased costs will be attributed to the HRA and the indicative breakdown is included in the table.

All figs £'000's	Option 1	Option 2		Option 3	
		GF	HRA	GF	HRA
2021/22	0	180	220	120	0
2022/23	0	210	0	90	80
2023/24	0	10	0	90	70
2024/25	0	0	0	90	70
Total Increase	**0**	**400**	**220**	**390**	**220**

Table 3 Indicative additional budget / costs per annum of new policy

The above table shows that with the recommended option the additional revenue costs can be staged over a longer period by adding revenue growth of additional c£100k per annum.

50. There will also be budget issues for the HRA as repairs costs increase due to being charged for vehicles that are more expensive. The Head of Building Services will need to consider the size of the fleet and see whether there are operational efficiencies that can be identified to offset this additional cost.

51. As highlighted earlier in the report here are significant costs surrounding the infrastructure and this has been modelled at £1.5m. It is too early to determine the final cost of this key element of the project and therefore formally request a capital budget however it is requested that Executive allocate funding of £50k from the One Planet Council energy efficiency capital budget to continue the development of this project. It is anticipated that a formal budget proposal will be brought forward to Executive by July 2020.

Pre Decision Scrutiny

52. The Economy and Place Policy and Scrutiny Committee considered a pre decision report on minimising the environmental impact of the fleet strategy.

53. The committee felt that the councils approach should be to have a clear policy position that all new vehicles should be zero emissions. The committee felt that this policy should apply to all vehicles including large goods vehicles and bespoke vehicles to the extent these vehicles are available to purchase. Recognising this would show leadership and stimulate the market.

54. This would have significant additional costs. The proposed policy applied to 3.5 tonne vehicles only. Recognising the committee's request a recommendation to keep larger vehicles under review has been added.

Implications

The following are the identified implications.

- **Financial** –These are considered in paragraphs 47-51 of the report

- **Human Resources** – None at this stage.

- **Equalities** – None at this stage.

- **Legal** – Notwithstanding any recommendations set out within this report and approved by Members:

    - the purchase of any fleet vehicles must still be in accordance with the Council's Contract Procedure Rules and the Council's legal obligations under the Public Contract Regulations 2015 or any applicable future laws, regulations or statutes relevant to public procurement.

    - all fleet vehicles and plant which are disposed of must be done so in accordance with the Council's Financial Regulations and any Council Asset Vehicle Acquisition and Disposal Policy.

- **Information Technology (IT)** – The existing capital programme to improve fleet software is already being implemented and will lead to the reports on usage being provided to services.

- **Property** – The depot is managed by the council's property team. Depending on the future fuel choices and scale of fleet using each fuel type will impact upon the infrastructure required at the depot and vehicle storage locations.

- **Risk Management** – The overwhelming focus of this report is to address the risks posed by a climate emergency and take actions to reduce our impact on the environment.

  As ULEV technologies develop in what is still a relatively new area of technology the council needs to achieve a balance in determining which technology it invests in, this particularly the case with regards to LGV.

  The life expectancy, maintenance costs and residual values for some none fossil fuel options have yet to be proven. Maintenance requirements will require different skills from our workforce. Running the existing fleet for longer does pose risk in terms of its reliability and the pressure on the fleet workshop.

The fleet is only a tool and support service for the actual services delivered across the city and to our residents. Ensuring that these services still operate.

There are significant costs in updating infrastructure at Hazel Court and this is dependent on the ability of the Distribution Network Operator, Northern Powergrid, to be able to provide a suitable supply to the site. There remains a risk to the project until these costs are finalised.

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Wards Affected: List wards or tick box to indicate all **All** ✓

For further information please contact the author of the report

Annexes

Annex 1 - Vehicle Management Plan.

List of Abbreviations Used in this Report

"O" - Operator Licence
EU - European Union
RCV - Refuse Collection Vehicle

MW – Megawatt
CO_2 - Carbon Dioxide