PERTH AND KINROSS COUNCIL

Climate Change and Sustainability Committee

14 February 2024

Fleet Decarbonisation Strategy

STRATEGIC LEAD – ENVIRONMENT & INFRASTRUCTURE
(Report No. 24/54)

1. PURPOSE

1.1 The purpose of this report is to advise Members of the Committee on the progress being made regarding the Council transitioning its transport fleet from petrol and diesel vehicles to Low Emission Vehicles (LEVs) in line with Scottish Government guidance. It also seeks approval for the proposed way forward.

2.	RECOMMENDATIONS
2.1	It is recommended that the Climate Change and Sustainability Committee: • notes the background and targets for the decarbonisation of the Council's fleet, and our current position in relation to these. • agrees that the Council move to the purchase of electric vehicles from 2025 for its cars and small vans under 3.5 tonnes • agrees that officers continue to maintain a watching brief and investigate various low emission alternative solutions for its larger vehicles, as the technology and market continues to develop • notes the proposed introduction of Hydrotreated Vegetable Oil (HVO) as an alternative to diesel for the Council's Refuse Collection Vehicles, following a three month trial period.

3. STRUCTURE OF REPORT

3.1 This report is structured over the following sections:

- Section 4: Background
- Section 5: Proposals
- Section 6: Conclusion
- Appendices

4. BACKGROUND

4.1 The UK Government currently has a net zero emission target by 2050. Part of this is the ambition for all new vehicles to be effectively zero emissions by 2035.

4.2 To support this ambition, it is estimated that the UK will require around 280,000 publicly accessible chargers by 2035. The UK government has, therefore, set aside £1.3 billion to increase the provision of charging infrastructure through incentives and funding. Further to this, an update in the strategy, launched in 2022, expects there to be the need for at least 30,000 public charge points in Scotland.

Scottish targets

4.3 The Scottish Government has also taken measures towards the decarbonisation of transport by setting the ambitious target of achieving a 75% reduction in greenhouse gas emissions by 2030 and reaching net-zero by 2045. This includes the requirement for the public sector phasing out of any new purchases of petrol or diesel cars and vans by 2025, and the complete phase out by 2030.

4.4 Significant challenges exist in terms of meeting the UK and Scottish Government targets, given the financial and staff resources required to transition the Council fleet. The lack of availability of proven Low Emission Vehicles (LEVs) to satisfactorily replace Internal Combustion Engines (ICE) versions, specifically in relation to the heavy fleet above 3.5 tonnes, will undoubtedly cause a delay in moving the entire fleet to alternatively powered vehicles.

Current technology

4.5 The technology for cars and vans, i.e. electric is well developed, and therefore investment in replacement electric vehicles is a low-risk approach.

4.6 However, the technological solution for larger vehicles and HGVs is still very much in its infancy. While many organisations and authorities have invested in Low Emission Vehicles (LEVs), be these electric, hydrogen or Hydrotreated Vegetable Oil (HVO), there is currently no single preferred technology. Furthermore, the cost of larger, low emission vehicles, e.g. an electric refuse collection vehicle can be as much as £450,000 compared with a diesel equivalent of £225,000. The hydrogen equivalent is dearer still and would be in the region of £750,000.

4.7 Officers will continue to closely monitor developments in the new technologies, particularly electric and hydrogen.

Perth and Kinross Council in context

4.8 The Council's vehicle fleet creates in the region of 2,690 tonnes of CO2 per annum. This is approximately 6.7% of the Council's total carbon footprint per year. If the Council wishes to achieve its own carbon reduction targets, and contribute to local, national and global targets, and ultimately achieve net zero, consideration needs to be given to the way the Council operates its fleet in the future.

4.9 The Council's Fleet Service is committed to supporting the reduction in carbon emissions, as well as keeping abreast of national initiatives, targets and funding opportunities. For example, the Fleet Manager attends a quarterly meeting with Association for Public Service Excellence (APSE) sharing best practice with all Transport Managers in Scotland. Discussions have also taken place with Transport Scotland looking specifically at our requirements.

4.10 Officers are also in regular dialogue with the Energy Saving Trust (EST), which administers the funding for EV charging infrastructure, and Fleet Services will continue to work closely with the EST to secure as much funding as possible to support any future projects. Currently, there is no funding available to support all of the Council's requirements.

4.11 Officers have also been working with a firm of consultants (Urban Foresight), who are specialists in this field, to understand the challenges and formulate a strategy and detailed implementation plan. This indicates that a differentiated approach is required between light and heavy vehicles, which forms the basis for proposals to Committee.

4.12 To support this approach to light vehicles, Fleet Services are progressing the development of an electric charging hub at Inveralmond industrial estate to support the likely growing number of electric vehicles based across the Council area and specifically housing services.

4.13 The Council is also exploring low emission technology for larger vehicles. For example, the Council undertook a recent successful trial of an Electric Refuse Collection (ERC) vehicle within Perth. Whilst this trial was successful, an ERC vehicle would present the Council with some issues in the more rural areas, due to the limitations of the available miles based upon a full charge. Experience demonstrates that the ERC vehicle would only currently be workable in Perth, or a town centre location as opposed to any of the outlying operational depots. It would not appear to be a realistic approach to purchase ERC vehicles for use by PKC in the foreseeable future, although close monitoring of the evolving technology will continue to be undertaken.

4.14 In relation to hydrogen technology, planning permission has been granted for a site at Binn Eco Park to have a hydrogen installation and an electric vehicle charging hub to be built by Greencat Hydrogen. It is expected that this will be operational within three years and officers will liaise with the facility owners to ascertain any potential opportunities for the Council. A further proposal for a hydrogen facility is being discussed by private funders within the vicinity of

Broxden roundabout. These facilities should provide a welcome addition of hydrogen that could benefit the Council in the future, particularly around the HGV fleet.

4.15 As part of the Council's operational estate asset review, we will consider all opportunities to work in partnership with other organisations, such as Tayside Contracts, to develop an integrated approach for more sustainable fuel sources, across the Perth and Kinross area.

PKC Current Fleet

4.16 The Council's transport fleet currently consists of 452 vehicles, the large majority of which are diesel or petrol vehicles. There are a number of reasons for this, including the affordability of Low Emission Vehicles, the current lack of charging infrastructure and the relatively low distance that most electric vehicles can travel on a single charge, which is a particular issue given the geography of Perth and Kinross. In addition, whilst the electric solution regarding cars and vans seems to be clear, it is less clear in relation to larger vehicles and HGVs, with many organisations still experimenting with the various solutions on the market.

4.17 The table below shows the current makeup of the Council fleet:

Type	**LEV**	**ICE**	**Total**	**Co2**
Cars	17	133	150	251
Commercial vehicles under 3,500kgs (Vans)	0	186	186	598
Commercial vehicles over 3,500kgs (HGVs)	0	80	80	1766
Buses (Mobility and minibuses)	0	36	36	75
Total	**17**	**435**	**452**	**2690**

PKC progress in comparison with other local authorities

4.18 Local authorities across Scotland are at varying stages on their decarbonisation journey. A small number are at a more advanced stage than the Council with around 50% of their fleet already changed to electric. Others have less]than 10% of their fleet changed which is more aligned with our current position.

4.19 Funding is a significant issue for many councils in reaching the 2030 deadline. As noted above, there is also insufficient infrastructure in place to support the introduction of electric fleet, with many sites requiring new power supplies. This will significantly impact on any timelines set and adds to the costs of the infrastructure overall.

4.20 Officers are also aware that two Scottish local authorities are considering the "do nothing option" regarding transitioning its low emission vehicles, continuing instead to purchase diesel vehicles for the Council. The stated reasons are linked to purchase cost, volume of replacements and the cost of the associated infrastructure.

Options for moving forward

4.21 There are a number of options available to the Council when considering its move towards a low emission vehicle fleet, each with different resource implications, risks and benefits.

4.22 Based on the information outlined above, and the advice from our consultants, officers are recommending the adoption of a two-phase approach depending on the size of the vehicles. Cars and vans under 3.5 tonnes would form part of a first phase (2025 – 2030) and the options linked to this are outlined in section 4.3 of this report.

4.23 The larger vehicles will form part of a second phase over a five year period (2030-2035), or sooner should the technology advance before then.

4.24 In the meantime, as part of our transition arrangements to decarbonising our fleet, officer will trial the use of Hydrotreated Vegetable Oil (HVO) as an alternative to diesel. This would allow the Council to reduce its Co2 emissions from the HGV fleet by up to 90% of the current diesel emissions, without the need for capital investment.

4.25 It should be noted that this would incur higher fuel costs to run the RCV fleet as the current cost of HVO fuel is more expensive than the diesel alternative. The estimated cost of moving the full HGV fleet to HVO would be circa £50,000 - £75,000 per annum.

4.26 This would provide an estimated Co2 reduction of around 725 tonnes. Currently a Refuse Collection Vehicle (RCV) emits around 31 tonnes of Co2 per year. The reduction of 90% of the current Co2 emitted (as noted above) is the equivalent of driving a diesel vehicle for 2,900,000 miles. Further CO2 reductions could be achieved through extending the use of HVO fuel to other larger vehicles once the transition has been made for RCVs. This approach can be progressed independently of any vehicle replacement plan. It is anticipated that this can be accommodated through current fuel budgets.

4.27 To support this approach, an initial three-month trial with the RCV fleet will be undertaken to allow the Council to have a more informed view of whether this should be rolled out across all the RCV fleet. Based on previous experience, it is the professional opinion of the fleet manager that there are no mechanical issues for the fleet in making this change.

Options for transitioning cars and light vehicles (under 3.5 tonnes)

4.28 When focusing on a strategy which involves the replacement of only cars and vans with LEVs, as a first phase, the options for the Council are:

- a 2 to 3 year accelerated transition programme (para 4.3.2)
- a 5-year transition programme to replace diesel vehicles with electric (para 4.3.3), or
- continue, for the foreseeable future, with the current approach of largely purchasing Diesel and Petrol vehicles, maintaining the status quo position (para 4.3.4).

2 to 3 year accelerated transition programme

4.29 This approach would involve the transition to electric vehicles at a rapid pace. It is the option which could most quickly deliver reductions in the Council's CO2 emissions in our small fleet. However, this represents a high risk, high-cost approach.

4.30 As outlined above, a key requirement of any transition strategy is ensuring that there is an adequate charging network to keep the fleet running and on the road. There are examples across Scotland of local authorities purchasing LEVs without the necessary infrastructure which has led to vehicles unused and a waste of finite Council resources. The Council currently has 80 charging points, and it is estimated that an additional 70 charging points would be needed, located across Perth and Kinross, to adequately service our fleet. It would be a challenge to ensure that this number of charging points could be delivered within these timescales, even if the necessary level of investment was secured during this period.

4.31 It is estimated that there would need to be investment of circa £1m to install the necessary electric supply in the right locations, including Council depots, and community campuses. It also requires capacity in, and willingness from, the private sector to install the charging infrastructure, as well as consideration of the impact of the National Grid capacity.

4.32 The cost and availability of electric vehicles are also a challenge. Electric vehicles are generally still 50% more expensive than petrol or diesel vehicles and the lead in time for electric vehicles is generally longer (circa 9-18 months). There are no grants available now to encourage the move from diesel to electric. The additional investment required for this option is estimated to be circa £8m, which would include vehicles not at the end of their useful life, which would not be cost effective.

4.33 Given the above, it is not proposed to take this approach.

5-year transition programme to replace diesel vehicles with electric

4.34 This option would be to transition the Council's fleet cars and vans to electric over a five year period.

4.35 This is more cost effective as vehicles would only be replaced at the end of their useful life or lease period. It would be a more affordable option as the additional cost of electric vehicles would be spread over 5 years as opposed to two or three years. This would be a lower risk approach as it allows more time for the necessary charging infrastructure to be developed and installed. It would not, of course, reduce the Council's carbon footprint at the pace which the short programme could, However, it is considered a more realistic transition period.

4.36 This approach would also allow fleet staff to look at the required infrastructure to support that transition. It could include options of a partnership approach involving the private sector to support that transition.

4.37 Using the fleet management system data to support the programme will ensure that the fleet continues to be fully utilised. Fleet would suggest only to dispose of vehicles that are beyond economic repair during that transition to allow for a meaningful transition to support services with the fleet that is needed.

4.38 Officers would recommend this approach to elected members.

Continue for the foreseeable future with the current approach of largely purchasing Diesel and Petrol vehicles (status quo)

4.39 This approach is in effect the "Do Nothing" option, as it simply continues with the current replacement programme of largely petrol and diesel vehicles. It is recognised that this approach would be contrary to the Council's Climate Change commitments. However, it is a low-cost approach, and low risk from a service delivery perspective.

4.40 Given the above, it is not proposed to take this approach.

5. PROPOSALS/RECOMMENDATIONS

5.1 It is proposed that:

i. A two phased approach should be adopted with regard to transitioning the Council's fleet to low emission vehicles, with cars and light vehicles forming part of a first phase, and larger vehicles forming part of a second phase.

ii. For larger vehicles, officers continue to maintain a watching brief and investigate various low emission alternative solutions for its larger vehicles, as the technology and market continues to develop. In addition, officers introduce Hydrotreated Vegetable Oil (HVO) as an alternative to diesel for the Council's Refuse Collection Vehicles, following a three month trial period

iii. For cars and light vehicles under 3.5 tonnes, the Council transitions to LEVs over a five year period.

6. CONCLUSION

6.1 It is important that the fleet decarbonisation strategy for the Council reflects both the Scottish Government guidance in terms of alternatively fuelled vehicles, and our own aspirations and policies with regard to addressing Climate Change. This report proposes that the approach should be to initially focus on vehicles less than 3.5 tonnes, as a first phase, and to maintain a watching brief for larger vehicles, to allow for evolving technologies to assist with changing larger vehicles (HGV fleet) to either electric or hydrogen should that be available. However, this report also notes a transition to HVO fuel from diesel for the Council's Refuse Collection Vehicles, on a phased basis, following a three-month trial. This would require no upfront capital investment, but would generate significant reductions in the Council's CO2 emissions.

6.2 As stated above, it is estimated that the Council's fleet creates over 2,690 tonnes of Co2 each year. Replacing the Council's cars and vans with electric vehicles could reduce the Council's carbon footprint by 600 tonnes per year.

6.3 The introduction of HVO for the Council's Refuse Collection Vehicles is likely to further reduce the Council's creation of Co2 by around 725 tonnes.

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ANNEX

1. IMPLICATIONS, ASSESSMENTS, CONSULTATION AND COMMUNICATION

Strategic Implications	**Yes / None**
Community Plan / Single Outcome Agreement	Y
Corporate Plan	Y
Resource Implications	
Financial	Y
Workforce	Y
Asset Management (land, property, IST)	Y
Assessments	
Equality Impact Assessment	Y
Strategic Environmental Assessment	
Sustainability (community, economic, environmental)	Y
Legal and Governance	Y
Risk	Y
Consultation	
Internal	Y
External	Y
Communication	
Communications Plan	Y

1. Strategic Implications

Community Plan/Single Outcome Agreement

1.1 This report supports the following of the priorities within the Community Plan 2022-27.

(i) Skills, learning and development.
(ii) Employability

Corporate Plan

1.2 This report supports the objectives within the draft new Corporate Plan: -

(i) People and businesses are increasingly able to prosper in a local economy which support low carbon ambitions and offers opportunities for all;
(iii) Perth and Kinross is a safe and vibrant place, mitigating the impact of climate and environmental change for this and future generations.

2. Resource Implications

Financial

2.1 The Council's vehicle fleet is currently funded by prudential borrowing through the Council's capital programme with associated loan charges charged to Service revenue budgets. The EV proposal would require additional options appraisals to look at the best funding method whether that is through lease or prudential borrowing. Low Emission vehicles currently have a greater capital cost than traditional petrol and diesel vehicles.

2.2 In addition, any transition to electric vehicles would require the Council to further develop access to appropriate charging infrastructure across the Council area. This will be explored in consultation with colleagues in Transport Planning and Property to ensure alignment with the development of a wider public charging network and other work being undertaken in relation to the Council's Operational Estate Asset review.

2.3 The estimated financial implications in this report will be reported back to Council in autumn 2024 for further consideration with input from the Strategic Investment Advisory Group (established as part of the Corporate Asset Management Framework on 22nd January 2024).

Workforce

2.4 There are no direct workforce implications arising from this report, other than operatives within the Council's fleet workshop will receive the relevant training to ensure that any new fleet will be able to be serviced and maintained efficiently.

Asset Management (land, property, IT)

2.5 There are no direct asset management implications, although the transient to low emission vehicles requires the appropriate charging infrastructure, which would need to be locally on Council sites, such as Operational Depots and Community Campuses.

3. Assessments

Equality Impact Assessment

3.1 The Equality Impact Assessment undertaken in relation to this report can be viewed clicking here.

Strategic Environmental Assessment

3.2 The Environmental Assessment (Scotland) Act 2005 places a duty on the Council to identify and assess the environmental consequences of its proposals.

Option 3 pre-screening has identified that the PPS will have no or minimal environmental effects, it is therefore exempt and the SEA Gateway has been notified. The reason(s) for concluding that the PPS will have no or minimal environmental effects is that the proposals in this report support the Council's Climate Change targets.

Sustainability

3.3 The proposals in this report support the Council's policy objectives with regard to a sustainable environment and achieving its targets regarding carbon reduction as set out within the Council's Climate Change Action Plan.

Legal and Governance

3.4 There are no legal or governance issues arising from the recommendations in this report.

Risk

3.5 The key risks regarding the implementation of the proposals in this report including the installation of an adequate charging network which meets the Council's needs and the availability of electric vehicles. These issues have been discussed in the body of the report.

4. Consultation

Internal

4.1 The proposals in this report have been discussed with officers from the various relevant Council services, including transport planning and property.

External

4.2 The Council is in regular contact with various agencies regarding low emission vehicles and these have been highlighted in the report.

5. Communication

5.1 It is important that the Council has a clear direction of travel regarding its transition to low emission vehicles, and that this is communicated to all internal and external stakeholders.