REPORT TO: **ECONOMIC DEVELOPMENT AND INFRASTRUCTURE SERVICES COMMITTEE ON 30 APRIL 2024**

SUBJECT: **ZERO EMISSION FLEET REPLACEMENT STRATEGY**

BY: **DEPUTE CHIEF EXECUTIVE (ECONOMY, ENVIRONMENT AND FINANCE)**

1. REASON FOR REPORT

1.1 To provide Members with a strategic overview to decarbonise the Council's fleet and meet the agreed net zero targets.

1.2 This report is submitted to the Economic Development and Infrastructure Services Committee in terms of Section III (F) 15 of the Council's Scheme of Administration relating to the function of the Council as Roads Authority.

2. RECOMMENDATION

2.1 **It is recommended that Committee:**

(i) considers the EV strategy proposed by Fleet Services to ensure the Council is well placed to meet its ambitious net zero targets;

(ii) recognises the council's progress made to date in reducing fleet carbon emissions;

(iii) notes that options put forward within the strategy will require varying levels of capital investment, and endorses the preferred option 2, which will be subject to consideration as part of the standard financial planning process going forward;

(iv) recognises that the transition to a zero-emission fleet cannot progress at scale until suitable charging infrastructure is in place following the depot review and smarter working projects;

(v) agrees that proposals for Ashgrove depot are developed as the council's centralised green depot with alternative infrastructure in place to allow development of net zero alternatives;

(vi) agrees to the Council exploring external funding opportunities for future hydrogen and biogas pilots.

3. DEFINITIONS

3.1 BEV – Battery electric vehicle
DNO – Distribution Network Operator (electricity transmission infrastructure provider - currently SSEN)
EV – Electric Vehicle
FCEV – Hydrogen fuel cell vehicle
ZEV – Zero emissions vehicle
HDV – Heavy duty vehicles
ICE – Internal combustion engine vehicle (powered by diesel or petrol)
LCV – Light commercial vehicle (gross vehicle weight of up to 3.5 Tonne)
RCV – Refuse collector vehicle
HVO – Hydrotreated vegetable oil (Renewable diesel)

4. BACKGROUND

4.1 The Scottish Government (SG) has made the commitment to work with public bodies to phase out petrol and diesel cars from the public sector fleet, and phase out the need for any new petrol and diesel light commercial vehicles by 2025. They have set a further target for these bodies not to purchase fossil fuel light commercial vehicles under 3.5T after 2025 and have these vehicle types phased out in Scotland by 2030. The SG target for phasing out Heavy Duty Vehicles (HDV) is by 2040. The Scottish Government's commitment to public sector fleet decarbonisation was underlined by its signature of the Climate Group ZEV Pledge for Public Fleets at COP26, however, these targets are government targets as part of the statutory commitments in the Climate Change (Scotland) Act 2009 as amended and are not binding on local authorities.

4.2 On 10 March 2021 the Council adopted a Climate Change Strategy for 2020-2030 (para 13 of the minute refers). The strategy set a goal of the Council being carbon neutral by 2030 and that the Council, its officers and members will work with others across Moray to deliver that goal. To be net-zero means that the Council will reduce its carbon emissions as much as possible and offset any remaining emissions.

4.3 On 6 April 2022 the Council adopted a route map to start the process of calculating how the Council would reach net zero emissions by 2030 (para 18 of the minute refers). This route map recognised the difficulty in converting Council fleet vehicles and estimated that 75% of fleet vehicles would be transferred to ultra-low emissions vehicles by 2030. The residual emissions would have to be offset until the remaining fossil fuel vehicles were phased out.

4.4 On 7 February 2023 this Committee approved that in relation to vehicles, the development of the council's ZEV strategy and transition to net zero be aligned with SG targets as detailed in paragraph 4.1 rather than tied to the Council's 2030 target (para 10 of the minute refers). This change in position because between now and 2040, the market is expected to mature significantly with greater choice and reduced costs. The approach was intended to inform forward capital funding requests as part of the capital

planning process. The strategy set out in **Appendix 1** and summarised below builds on this position.

4.5 On Thursday 18 April 2024 there was media coverage about the inability of SG to meet their high level climate change targets. At the time of writing it's not clear what the wider consequences of this will be, although there are some indications around carbon budgets, and retaining a commitment to net zero. This report is based on information that is correct at the time of writing and in recognition of the fact that there is still an acknowledged climate emergency and 2030 target set by the Council itself, noting that this target and the wider route map are currently under review and are due to be reported before the recess.

4.6 Work will continue to more closely align the separate strategies being developed by the Council under its climate change aspirations. Currently separate teams are responsible for the development of hydrogen strategies, EV public infrastructure, Fleet decarbonisation and council owned infrastructure.

5. ZERO EMISSIONS FLEET REPLACEMENT STRATEGY

5.1 The Council's fleet services management team have developed a draft strategy with key and separate themes to aid transition to net zero. This draft strategy is attached as **Appendix 1**.

5.2 At present, the council's existing fleet contains a total of 47 electric vehicles which represents around 9% of the registered fleet. These vehicles have been well received by Council staff and the wider community. A further 7 electric vehicles are on order. In addition some plant, strimmers, blowers and breakers have been replaced with battery powered alternatives. This early and committed ambition to vehicle transition has put the Council in a strong position in terms of a net zero transition.

5.3 There are 525 registered vehicles in the main operational fleet, dominated by light commercial vehicles with medium vans being the largest vehicle segment (44%). The remainder of the fleet consists of pool cars (21%), heavy goods vehicles dominated by 3 axle rigid trucks (17%), buses (7%) and the remainder is tractors and heavy plant (11%).

5.4 Given the wide range of vehicles in operation, at this moment in time there is not one single technological solution to reduce the council's carbon footprint and some technologies are not yet considered mainstream solutions. All the current available technology has been considered in the proposed strategy. Currently the hardest task for fleet decarbonisation, relates to the larger/heavy duty vehicles.

5.5 The current annual Vehicle and Plant replacement capital budget is £3.53m. Migration to a zero-emission fleet is going to be a complex process which will take a number of years. Whilst good progress has been made it is evident that issues such as supply chain pressures and price inflation are extending the lead times for vehicles and infrastructure. Many manufacturers are still at the

prototype stage, and this makes whole life costing, including estimating residual value of vehicles, difficult to predict.

5.6 In terms of investment to progress the journey to zero emission vehicles, the strategy sets out three possible options The investment required will be subject to consideration as part of the standard financial planning process going forward. These options include:

Option 1 - Enhanced capital spend which will meet the ambitious targets set by SG

5.7 There is presently large cost disparity between Internal Combustion Engine (ICE) powered and electric/hydrogen alternatives for the larger heavy goods vehicles (HGV) and specialist vehicles. It is considered to meet in full the ambitious SG and council targets to be net zero is not viable from a financial and general risk perspective to purchase these as electric/hydrogen until the market has matured, greater reliability can be ensured, and economies of scale have led to a reduction in prices.

5.8 It is suggested that there is significant financial risk with seeking full transition by 2040. It is still very much emerging technology, with many of the larger vehicle types not wholly available and tested. Analysis produced suggests that, at current prices, capital investment of £6m per year would be required and may not be the best use of investment taking into account that the Council would be disposing of many of its fossil fuel vehicles before they have reached their optimum life term and age profile.

Option 2 - Steady state capital spend which will demonstrate the council's clear commitment but not meet in full SG targets

5.9 Continuing with the current levels of capital investment allows the Council to continue with the current lifecycle planning approach as set out within the Council's 10 year capital planning process. It will allow the Council to continue to operate vehicles to an optimum life which considers vehicle reliability with age, the associated maintenance costs and predicted residual values to maximise any depreciation costs.

5.10 The Council will continue to replace fossil fuel type vehicle types at their optimum life but will purchase appropriate ZEV equivalent on a phased manageable approach linked to having the right amount of charging infrastructure available. There are still risks associated with seeking a high percentage of electric vehicles as it is still developing technology. However, the Council has taken a strategic view to determine that it seeks electric options where there is a clear and established market, for example in cars and light commercial vans.

Option 3 - Reduced capital investment which will significantly impact the transition to a net zero fleet.

5.11 The Council continues to face a very difficult financial situation with having to find savings over 2024/25 and 2025/26 of approximately £13.5 million. It is estimated that £10m of savings will need to be made in 2024/25 taking

account of savings that have already been identified. This means that the Council has no choice but to make significant changes to the services that are delivered, and require to continue to reduce spend.

5.12 If a capital cap was applied leading to significant reduction in current capital investment, this would effectively halt the transition to EV and in addition will extend the age profile of the fleet. Extending the age profile of the fleet will have the following consequences, some of which are directly opposed to SG targets;

- Increased maintenance costs
- Increased downtime
- Increased labour time (- this is expensive and in short supply)
- Potential for major component failure of assets leading to hire costs
- Increased carbon emissions
- Poor fuel economy
- Poor public image

5.13 Charging Infrastructure: The strategy sets out a 3 year approach to increasing charging infrastructure which facilitates the vehicle transition set out in Option 2. It also sets out an approach to be delivered in tandem with the depot strategy (subject to a separate report to this committee) which would see the case for a green hub at Ashgrove depot being prepared to facilitate greater expansion of charging facilities at that site. This, along with other workstreams internally and with the DNO to develop charging infrastructure on a longer term basis form part of the future strategic actions described in the strategy.

Summary

5.14 The recommendation from Fleet Services management is to progress with option 2, which is adopting a phased approach to replacing the current fleet with ZEV equivalent.

5.15 This option represents a blend of priorities which includes the initial ambition tied to an affordable budget allocation in relation to ‘invest to save’ as well as taking account of the Council’s commitment to climate change ambitions. A range of different options have been appraised which included capturing the level of capital investment against meeting climate targets. Firstly, the option of increasing the total amount of electric vehicles to meet Scottish Government targets completely was considered. However, this is not achievable within the Council’s current financial resources and may not be the best use of investment taking into account current emissions, charging infrastructure required and the age of some of the current fleet. The result would be the council effectively replacing vehicles before they are due for replacement. The third option with reduced capital investment would halt our transition to net zero.

5.16 To meet the challenges of addressing the strategy, both the Energy Saving Trust (EST) and Jacobs consultants have assisted in the development of the strategy and acted as a sense check to the approaches being proposed. This has involved considerations of current fleet and infrastructure and to offer

technical advice on the broad timing and sequencing of the Council's continued move to a zero emissions fleet.

5.17 Adopting a phased approach and continuing with the Council's Fleet Replacement Programme will result in the optimum operating age profile of a maximum 7-year profile for LGV and cars and a 10 year profile for HDV. This will minimise expensive repair costs and give an enhanced residual value of the asset on replacement.

5.18 In addition, this would also result in fuel savings, reduced maintenance costs and an increase in carbon emissions being saved each year as more and more vehicles are replaced with ZEV equivalent.

6. FINANCIAL POSITION

6.1 It is predicted that if the Council can continue with the £3.53m capital investment (as highlighted by option 2 in EV strategy), which is currently identified within the 10 year capital plan through to 2040 that the council would be able to replace current fossil fuel vehicles at optimum life with EV equivalent on a phased and managed approach.

6.2 Over the life of the project this preferred option 2 would see the council's overall capital investment at £60m and allow the council to have 353 vehicles at zero emission. This would not meet the ambitious SG targets currently in place but would demonstrate the Council's commitment which, in the absence of adequate external funding, would be affordable.

6.3 To fully meet the SG targets and have all the Council's fleet ZEV by 2040 would cost the Council over £107m. This is an additional £47m capital investment and would result in replacing fossil vehicles well before their optimum lifetime. There is also significant risk in not having the appropriate charging infrastructure in place to cope with such wholesale vehicle replacement.

6.4 It is also recommended that where a ZEV specialist or large vehicle is available that these are trialled in the short term between 2025 to 2028 and purchased at small scale to robustly test suitability for service uses and ensure value for money to the Council is achieved in its transition from petrol/diesel vehicles to ZEVs.

6.5 In the assumptions used, a switch from an ICE vehicle to an equivalent electric vehicle comes with some cost savings. One saving noted within the cost model is the saving on diesel. Even with increasing electricity prices, charging an electric vehicle is noticeably less than the cost of diesel.

6.6 An additional benefit of this transition to electric is the carbon emissions saved from the day-to-day operations of the current ICE fleet. There are significant savings (tCO2) per year that the proposal is forecast to provide.

6.7 The current technology and the council's early installation of EV charging infrastructure now makes the cost of smaller electric vehicles a viable replacement proposition with range and whole life costs comparable to petrol and diesel equivalents.

6.8 The technology for larger/specialised vehicles is still very much developing, making the whole life costs for these vehicles a riskier financial proposition for the council. For this reason, the strategy is focused to start with small vehicles, replace in phases and only replace large/specialist vehicles when the technology is right and whole life costs have fallen. In addition, as set out in the strategy, it is recommended that other fuel sources are also explored as well as EV technology, especially for larger vehicles.

7. SUMMARY OF IMPLICATIONS

(a) Corporate Plan and 10 Year Plan (Local Outcomes Improvement Plan (LOIP))

The Strategy for delivering the Council's approach to ZEV and fleet transition sits within the approach of the council in its Corporate Plan of building a stronger greener vibrant economy and will see Moray being recognised as an outward facing and ambitious Council delivering a sustainable economy.

(b) Policy and Legal

Scottish Government's draft vision for Scotland's Public Electric Vehicle Charging Network sets out the future approach to funding to provide, expand and operate the network. The Councils strategy to delivering on these objectives have been prepared taking the draft vision into account and following the template and guidelines, and using the supporting data provided by Scottish Government and Scottish Futures Trust. If the EV strategy is not approved there is significant risk of non-compliance leading to potential reputational damage for the Council.

The targets set by Scottish Government do not impose a binding duty for full compliance, but Scottish Government has made the commitment to work with public bodies to phase out petrol and diesel cars from the public sector fleet and phase out the need for any new petrol and diesel light commercial vehicles by 2025. The recommended approach from the strategy attempts to strike a balance between SG targets, the council's own net-zero aspirations and affordability.

(c) Financial implications

The financial cost of decarbonising the LGV fleet is significant. The cost of LGVs powered by electric and hydrogen remain prohibitively high. Generally, EV costs are double to treble, and hydrogen costs are quadruple the cost of diesel vehicles. There are financial implications associated with the future decarbonisation of the fleet and building of required infrastructure.

If option 2 is approved, which sees capital expenditure continuing at current capital plan rates it may be that additional capital savings will be required from elsewhere within the Council's 10 year capital plan to fund the additional investment required to transition to ZEV fleet. This would be considered along with other strategic positions when reviewing the capital plan for future years. Whilst the capital spend figures quoted in the strategy and report are gross figures, for 24-25 this will be delivered with the slippage factor in place.

There will also be additional cost of infrastructure to be considered but these costs are unknown at this time. This high-level approach is based on the fact smaller vehicles are much cheaper to replace and do not drastically increase the capital costs but as the council does progress to replacing the larger vehicles, costs will increase.

The details in this report set out the costs associated in transitioning the council fleet to ZEV. However, it must be highlighted that these projections are at today's prices and the current market is very fast paced and rapidly evolving. It must also be pointed out that there will likely be costs savings in running an EV fleet as a result of the difference between cost of electricity and cost of diesel, but this can only be assumed subject to external market changes. Another cost assumption is the EV sector suggests a reduction in maintenance costs but this is not proven at this time and difficult to quantify. Initial cost monitoring of current EV's is showing a 10% reduction in parts costs and a 10% reduction in labour costs for smaller EVs with equal costs but increased downtime for larger vehicles. It should be noted that these new vehicles and is early monitoring data. It is however predicted over the long term that revenue maintenance costs will reduce and these reductions could be offset against the capital borrowing costs funding the vehicle replacement programme.

It is also assumed that the current ZEV replacement costs will become less as the external market develops. The council will require to utilise capital and revenue budgets alongside grants and bids to Scottish funding streams. There will be pressure on the market to supply ZEVs which will impact on pricing and availability as organisations move to replace their fleet to meet internal and national targets.

As reported there will be financial implications with regards to the associated infrastructure required whether this be electrical underground, electrical battery, solar, wind or hydrogen. It is crucial that the on-going depot and buildings review is completed which will influence the most suitable and appropriate charging infrastructure required at key locations to transition all of the Council's fleet.

There is potential for significant financial cost to the Council to offset carbon emissions in the future which could otherwise be avoided by taking action now.

(d) Risk Implications

Budget Pressures – Officers will seek to maximise the funding available from Scottish Government to assist with the transition to zero emission vehicles and build the required infrastructure. There is also a risk that avoidable financial costs could be incurred by the Council in the future if actions are not taken to reduce carbon emissions.
The current fleet vehicles are aging and becoming more costly and unpredictable when it comes to general maintenance and repair. This can have a critical impact on service delivery if vehicles remain out of service for longer than services plan.

ZEV availability – there is a risk that the council will not receive vehicles in time to reach SG targets.

There are some risks associated with seeking a high percentage of electric vehicles as it is still developing technology however, the Council has taken a strategic approach to determine it seeks electric options where there is a clear and established market, for example in cars and commercial vans.

Workforce – Investment in Depots and Training will be provided to ensure our teams and the right skills and working environment to maintain a zero-emission fleet.

Road to Net Zero Challenges – The actions from this report will support the reduction of CO2.

Infrastructure – It is challenging to receive advice, estimates on cost and installation timescales from the council's DNO operator within reasonable timescales and this is widely the same across all regions, simply due to the demand and capacity issues across the network.

(e) Staffing Implications

To meet the council's net zero aspirations is challenging within current workforce. The market is rapidly changing and appropriate resourcing, including project management support is crucial to manage infrastructure installations, power sources and planning/building warrant issues.

The change required to transition all the fleet will require on going management and administration of the back-office infrastructure function such as control of charging cards/Invoicing/repairs to infrastructure responding to out of hours emergencies.

Training will be required at all levels throughout the organisation. Recruitment and retention of fleet staff remains an issue.

(f) Property

The depot review is critical to allow for better understanding of what depots and building assets are to remain in the Council's long term plans moving forwards. This will provide the strategic direction to assist with planning of the infrastructure, carrying out reviews to identify capacity

issues at depots/buildings which will then require planning and building warrant control.

(g) Equalities/Socio Economic Impact
The transition to a more environmentally friendly fleet will result in improved air quality for local communities.

(h) Climate Change and Biodiversity Impacts
There is a reputational risk of not meeting the statutory Scottish Government and Moray Council objectives in relation to its climate change aspirations and 2030 net zero target.

The operation of fossil fuel powered vehicles contributes to local air pollution as well as greenhouse gas emissions and the approach proposed in this report will prolong release of air pollutants and greenhouse gas emissions and resultant exposure to employees and the wider public. However, it is noted that the proposed replacement vehicles will emit lower levels of air pollutants and greenhouse gas emissions than the current models in operation.

(i) Consultations
The Depute Chief Executive (Economy, Environment and Finance), Head of Environmental and Commercial Services, Legal Services Manager, Chief Financial Officer, Climate Change Strategy Officer (G Gunn), Committee Services Officer (L Rowan), and Equalities Officer have all been consulted and their comments incorporated into this report.

8. RECOMMENDATIONS

8.1 Subject to approval of the EV strategy and option 2 proposed within the strategy, it is proposed to transition the fleet aligned at a pace to show significant commitment to meet SG targets in conjunction with the council's lifecycle planning approach. It is still anticipated that between now and 2040 the market is expected to mature significantly with greater choice and reduced costs.

8.2 This paper and attached strategy appendix sets out the projected capital funding that will be required to transition the council's fleet to ZEV and will be put forward for consideration as part of the capital planning process.

8.3 Work will continue to more closely align the separate strategies being developed by the Council under its climate change agenda. Currently separate teams are responsible for the development of hydrogen strategies, EV public infrastructure, Fleet decarbonisation and council owned infrastructure.

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Background Papers:

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