

## **LEISURE AND ENVIRONMENT COMMITTEE**

**16 MARCH 2021**

### **POTENTIAL ROUTEMAP TO THE ELECTRIFICATION OF THE NSDC FLEET**

#### **1.0 Purpose of Report**

1.1 To inform members of a provisional roadmap, milestones and strategy towards the electrification of the NSDC fleet. To increase understanding of the operational and political complexities this shift will bring in terms of short, medium and long term plans and to alert the Council to the additional capital expenditure that any such programme will require.

#### **2.0 Background Information**

2.1 Members will be aware that currently all of the council's vehicle fleet is powered by I.C diesel engines and the current capital programme is based on a "like for like" replacement of all vehicles reaching termination date. The programme has been built up over years with an eye to central government's original mandate of introducing a ban on I.C vehicles in the car and small van category from 2040. Colleagues will also now be aware that this target has recently been bought forward to 2030 under the Prime Minister's plans for a green recovery from Covid 19 and this has therefore changed the playing field. The council will need to decide if it wants to go into 2030 with a good number of fleet vehicles under the ULEV banner or to bring them on stream post the government's "go live" date.

2.2 Currently the Asset Replacement Programme shows 42 vehicles that could be made ULEV (Ultra Low Emission Vehicles) with a replacement date of 25/26 & 26/27. With the current policy on vehicle life span that would mean that it will be possible and legal to replace with I.C diesel versions and operate them until 2033/34/35. However that may not be an acceptable political decision as we would, in essence, leapfrog the new directive. Members will also be aware of the Council's Carbon Reduction Strategy and Action Plan which commits the Council to being net neutral by 2035 and identifies the Council's fleet as one of the its main sources of emissions.

2.3 The Business Manager Environmental services has been working on the options for many months now. Recently we received a completed external consultants' report on the two aspects of fleet carbon reduction. The reports touch on many types of carbon reduction methods but currently the main solution relies on electrification. The two aspects are 1. Vehicle replacement and suitability and 2. Depot Infrastructure.

2.4 1. Vehicles. The reports show that although it is possible to replace all vehicles (of any weight) with a ULEV substitutes, there are many difficulties to overcome and much of the high fuel use vehicles, such as refuse freighters, are extremely expensive and risky to do currently.

2. Depot Infrastructure. The reports show that although small scale trials can be carried out, any larger conversion numbers will require a much bigger electrical headroom than that which currently exists.

2.5 A number of decisions will need to be taken to allow NSDC to plan for the future. At this point in time the ULEV technology to support car and small van use is well established and available, albeit a more expensive capital investment. Our investigations have revealed that all of our small vans are suitable for replacement by BEV variants however even though large vans and rigid trucks are operationally suitable, the technology is still in its infancy and the current high purchase cost means that they are uncompetitive economically. In addition, the utilisation of any electric vehicles in the housing section (32 in number, mainly large vans) would require in depth work into how the front line operations work and a possible alteration of terms and conditions for staff.

2.6 It is clear that to enable plans to progress, much work is required. A project group comprising colleagues from environmental services, housing, assets and finance are now starting to meet to plan the most effective, efficient and economical way for the Council to transition towards the electrification of the fleet and the wider development of the depot. There will be a major impact from the Climate Change Agenda and any targets already agreed in policy will need to be met. Furthermore, aspirations contained within the National Waste and Resources Strategy may commit the Council to the kerbside collection of more waste streams which will have further ramifications in terms of the development of the depot and its capacity.

Some of the questions the project group are considering include:

1. At what stage does the council want to phase in the purchase of ULEV models, given technology development, infrastructure, costs, procurement cycles and the 2030 government date?
2. How will staff contracts, terms and conditions be dealt with and a time frame for consultation with wholesale transition of large vans?
3. Which vehicles will come in scope and when – early pilots to enable learning, medium term transition of all small and large vans, longer term move around refuse collection vehicles?
4. Is the current depot big enough given the possible government mandate to collect new waste streams from the kerbside, charging infrastructure requirements and the possible storage of housing vehicles?
5. What shape will our dealings with Western Power re electrical headroom take and what does their route map look like given the Government's 2030 timescale?
6. How will all of this be financed – NSDC, new government funding, competitive grants for which the Council may need shovel-ready schemes?
7. What actions do we take with vehicles that cannot easily be operated as ULEV – i.e., refuse collection vehicles and transitioning them last in the NSDC route map?

2.7 As members will see from the above, the subject is extremely complex and indicative costs cannot be estimated with great certainty at this time, particularly so in relation to government contributions or otherwise, technology developments the impact of any new obligations arising from the National Waste and Resources Strategy (due

2023). However, to give colleagues a feel for current prices, the consultants' report identified 13 vehicles which were currently suitable for moving onto ULEV. The estimated cost for suitable charging points was £110,000 plus additional ground works.

2.8 Similarly, the table below shows the comparison between current diesel vehicles and their electric alternatives.

<b>Vehicle Type</b>	<b>Diesel £</b>	<b>Electric £</b>	<b>Grant estimate £</b>
Caged tipper	29,000	78,000	Up to 18,000
Small van	12,000	29,000	up to 6,700
Large Panel	27,000 – 30,000	50,000 – 55,000	unknown
Large Mechanical Sweeper	139,000	290,000	unknown
26,000kg refuse Freighter	180,000	500,000	unknown

Obviously the above prices are purchase costs and there is a pay off as far as fuel consumption is concerned which obviously has an impact on the Total Cost of Ownership. These paybacks are discussed in the reports but at this time it is impossible to estimate cost of operation until decisions on which, how and when are made. Obviously, this cost will ultimately be driven by usage and energy costs.

2.9 The aspects that need to be considered are numerous, but a few are:

Vehicle type suitability

Electric vehicle range

Carrying capacity reductions

Other options such as bio diesel / bio LPG / BEV / CNG etc.

Bio diesel practicality due to warranty terms and conditions.

However the report does summarise the TCO and emissions savings and identifies that ULEV small vans are currently the only technology replacement that leads to a direct total cost of ownership saving, with associated benefits in terms of Co2 emissions.

2.10 What this means in terms of next steps, is that the proposed NSDC approach will be to start small with some pilots of electric small vans for the Council's Community Protection Officers. This will also allow utilisation of the already fitted charging points at Castle House. This will allow a real world long term test, with the associated TCO calculations, whilst also allowing the vehicles to be seen around the district as a positive first step in the route map the Council wishes to take. The cost of these vehicles will be more expensive than their diesel alternatives, but the experience will enable to the Council to learn from operating, charging and maintaining the vehicles in a relatively cost effective way.

- 2.11 Conversations with Western Power revealed that the Company is currently tied into 8 year regulatory periods with the next break due in 2023. At the current time, the Company is prevented from planning ahead of need but given that 2030 will also be on its radar as well as the regulators, this may well be subject to change and may therefore increase power capacity to Brunel Drive which would facilitate a more extensive move to electric vehicles.
- 2.12 The period between 2023 and 2026 will be crucial then in terms of putting in place the business case for wider infrastructure at the depot in order to facilitate a possible wholesale transition of small vans and vehicles in 2026. This period will also require consultation with colleagues about possible changes in terms and conditions in relation to how vehicles are used and whether they are charged from home or the depot.
- 2.13 Post 2026, the Council may start similar trials with larger vehicles, such as refuse collection vehicles, to once again understand the practicalities of operating such vehicles before putting together a business case at a future point for the wholesale transfer to electric.

**3.0 Finance Comments (FIN-21/2814)**

- 3.1 At present, the effect to the general fund is an estimated one-off cost of £30,000 for the specialist input to the working party. There is a budget of £53,050 for Development in 2021/22 to cover this cost.
- 3.2 In the long term, there could be savings to the general fund on the running costs of the vehicles, but that is unknown at this stage of the project. The 2021/22 vehicle running cost budgets are shown below to give an idea of amounts where there is potential for savings in the future.

Petrol & Diesel	£456,680
Oil & Lubricants	£16,050
Tyres	£53,650
Licences & MOT's	£36,110
Materials	£215,580

- 3.3 Currently, the Asset Replacement Programme has a budget to replace two small vans at £12,000 each. The costs of these would increase to £29,000 each and could be eligible for a small grant of up to £6,700 each to contribute to the additional cost. Therefore, the Capital Programme budget for replacement vehicles would need to be increased by £34,000 financed by the Capital Reserve, less the value of the grant that is awarded. The Capital Reserve unallocated balance will be £16,400.
- 3.4 The Capital Programme budget for 2021/22 to 2024/25 has recently been reported to Policy and Finance Committee including replacement vehicles on a like for like basis and has been recommended for approval by Council at its meeting on 9 March. Any additional costs that are realised by the project group will need to be considered by SLT via a Capital Appraisal Form in order for the additional budgets to be appropriately

assessed and scored before approval is sought from Policy and Finance Committee to increase the budget.

#### **4.0 Equalities Implications**

4.1 None at this stage but during the implementation of this strategy the ongoing impacts of any decisions will be considered.

#### **5.0 Digital Implications**

5.1 Will be detailed as the project develops.

#### **6.0 Impact on Budget/Policy Framework**

6.1 As can be seen from the text above there are many impacts on budget and policy however it is clear that these will need to be clarified after a decision on the direction of travel. Each individual aspect of the strategy will need to be individually assessed. These assessments will need to consider finance, both revenue and capital (inc HRA), political stewardship, Human Resources implications etc etc. There will be many more reports provided over the coming months and years to inform members of decisions, difficulties and opportunities.

#### **7.0 Community Plan – Alignment to Objectives**

7.1 Continue to maintain the high standard of cleanliness and appearance of the local environment. Enhance and protect the district's natural environment. Improve the health and wellbeing of local residents.

#### **8.0 RECOMMENDATIONS that:**

- i) Members approve the phased approach towards electrification that has been set out in the report, starting with small scale pilots, before looking at two possible phases of transition – 2023-26 for small vans and fleet, subject to business case, and post 2026 for larger vehicles, subject to business case;
- ii) Members note the current uncertainties in setting out the long-term route map, but ask the project team to continue working on a masterplan for the development of the depot site, taking into consideration the National Waste and Resources Strategy and future requirements given the Government's 2030 target. This would significantly assist in off-setting costs if government grants become available for shovel ready schemes;
- iii) Members recommend to Policy and Finance Committee at its next meeting on April 1, that an amendment is made to the capital programme to the increase the Capital replacement programme for small vehicle replacement during 21/22 by £34k to allow the already scheduled replacement of two suitable ULEV's to be purchased in line with the phased approach being set out in this report; and
- iv) Members recommend to Policy and Finance Committee that the sum of £30,000 is allocated from the Capital Feasibility Reserve, to allow a small

working party made up of Director Communities and Environment, Business Manager Environmental Services and Asset Management to undertake a study into the future requirements of the operational depot at Brunel Drive. This study will lead to a report that sets out a roadmap for future development and utilisation by front line services. It will, amongst other things look at future requirements for Waste Management and the requirement for more vehicles through the National Waste Strategy. It will look at parking and charging requirements for all departments, including Housing vehicles as well as electrical needs, possibilities and central grants. The budget will allow the employment of external services such as Architects, M & E specialists, Civils and ULEX experts etc.

### **Reason for Recommendations**

To provide the Council with clear direction and focus for the coming years and to allow the strategy to deliver the roll out of Ultra Low Emission Vehicles and the infrastructure to support the use of such a fleet which helps to meet the environmental aims and ambitions of the council.

For further information please contact Andrew Kirk or Matthew Finch on Ext 5716

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