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Meeting	CABINET
Time/Day/Date	5.00 pm on Tuesday, 21 September 2021
Location	Council Chamber, Council Offices, Coalville
Officer to contact	Democratic Services (01530 454512)

AGENDA

Item		Pages
1. APOLOGIES FOR ABSENCE		
2. DECLARATION OF INTERESTS		
	Under the Code of Conduct members are reminded that in declaring disclosable interests you should make clear the nature of that interest and whether it is pecuniary or non-pecuniary.	
3. PUBLIC QUESTION AND ANSWER SESSION		
4. MINUTES	To confirm the minutes of the meeting held on 31 August 2021	3 - 4
5. 2021/22 QUARTER 1 PERFORMANCE REPORT		
	Report of the Chief Executive Presented by the Leader	5 - 66
6. REVIEW OF MEDIUM TERM FINANCIAL PLAN		
	Report of the Strategic Director Presented by the Corporate Portfolio Holder	67 - 74
7. SPECIAL EXPENSES POLICY		
	Report of the Strategic Director Presented by the Corporate Portfolio Holder	75 - 84

8. ADOPTION OF FLEET MANAGEMENT STRATEGY	
Report of the Strategic Director Presented by the Community Services Portfolio Holder	85 - 266
9. CARAVAN FIT & PROPER PERSON FEES POLICY	
Report of the Strategic Director Presented by the Community Services Portfolio Holder	267 - 280
10. CORPORATE DISPOSALS POLICY	
Report of the Strategic Director Presented by the Housing, Property and Customer Services Portfolio Holder	281 - 296
11. REVIEW OF CORPORATE GOVERNANCE POLICIES	
Report of the Chief Executive Presented by the Corporate Portfolio Holder	297 - 450
12. FORMER TENANT RENT ARREARS, CURRENT TENANT RENT ARREARS, COUNCIL TAX, NON DOMESTIC RATES AND SUNDRY DEBTOR WRITE OFFS	
Report of the Strategic Director Presented by the Corporate Portfolio Holder	451 - 454
13. EXCLUSION OF PRESS AND PUBLIC	
The officers consider that the press and public should be excluded during consideration of the following items in accordance with Section 100(a) of the Local Government Act 1972 as publicity would be likely to result in disclosure of exempt or confidential information. Members are reminded that they must have regard to the public interest test and must consider, for each item, whether the public interest in maintaining the exemption from disclosure outweighs the public interest in making the item available.	
14. THE RECOVERY OF OUR LEISURE CENTRES AND THE PARTNERSHIP CONTRACT WITH EVERYONE ACTIVE	
Report of the Strategic Director Presented by the Community Services Portfolio Holder	455 - 506

Circulation:

Councillor R Blunt (Chairman)
 Councillor R Ashman (Deputy Chairman)
 Councillor R D Bayliss
 Councillor T Gillard
 Councillor K Merrie MBE
 Councillor N J Rushton
 Councillor A C Woodman

MINUTES of a meeting of the CABINET held in the Council Chamber, Council Offices, Coalville on TUESDAY, 31 AUGUST 2021

Present: Councillor R Blunt (Chairman)

Councillors R Ashman, R D Bayliss, T Gillard, N J Rushton and A C Woodman

In Attendance: Councillors J Legrys and S Sheahan

Officers: Mrs B Smith, Mr J Arnold, Mr A Barton, Mr D Bates, Miss E Warhurst, Mrs C Hammond and Mr P Wheatley

146. APOLOGIES FOR ABSENCE

There were no apologies received.

147. DECLARATION OF INTERESTS

There were no interests declared

148. PUBLIC QUESTION AND ANSWER SESSION

No questions were received.

149. MINUTES

Consideration was given to the minutes of the meeting held on 27 July 2021.

It was moved by Councillor T Gillard, seconded by Councillor A Woodman and

RESOLVED THAT:

The minutes of the meeting held on 27 July 2021 be confirmed as an accurate record of the meeting.

Reason for decision: To comply with the Constitution.

150. EXCLUSION OF PRESS AND PUBLIC

It was moved by Councillor T Gillard, seconded by Councillor R Bayliss and

RESOLVED THAT:

In pursuance of Section 100A(4) of the Local Government Act 1972, the press and public be excluded from the remainder of the meeting on the grounds that the business to be transacted involves the likely disclosure of exempt information as defined in Paragraph 3 of Part 1 of Schedule 12A to the Act and that the public interest in maintaining this exemption outweighs the public interest in disclosing the information.

Reason for decision: To enable the consideration of exempt information.

151. DISPOSAL OF NWLDC LAND HOLDING IN CROPSTON DRIVE/WATERWORKS ROAD

Councillor R Bayliss presented the report to members.

It was moved by Councillor R Bayliss, seconded by Councillor R Blunt and

RESOLVED THAT:

The recommendations, as set out in the report, be agreed.

Reason for decision: To enable the disposal of the site to progress.

152. MARLBOROUGH CENTRE

Councillor R Blunt presented the report to members.

It was moved by Councillor R Blunt, seconded by Councillor N J Rushton and

RESOLVED THAT:

The recommendations, as set out in the report, be agreed.

Reason for decision: To enable cabinet to make decisions regarding the purchase of an asset and make recommendations to Council regarding the capital programme.

The meeting commenced at 5.00 pm

The Chairman closed the meeting at 5.12 pm

NORTH WEST LEICESTERSHIRE DISTRICT COUNCIL

CABINET – TUESDAY 21 SEPTEMBER 2021.



Title of Report	2021/ 22 QUARTER 1 PERFORMANCE REPORT	
Presented by	Councillor Richard Blunt Leader of the Council	
Background Papers	Various documents on the In-Phase performance management system. Corporate Scrutiny Committee 1 September 2021.	Public Report: Yes Key Decision: Yes
Financial Implications	As detailed in the report Signed off by the Section 151 Officer: Yes	
Legal Implications	No legal implications apparent Signed off by the Monitoring Officer: Yes	
Staffing and Corporate Implications	No direct implications Signed off by the Head of Paid Service: Yes	
Purpose of Report	The report provides members of the Cabinet with information on the performance and progress made against the Council Delivery Plan actions and performance indicators for Quarter 1 (April – June 2021)	
Reason for decision	To report Q1 2021/22 Council Delivery Plan performance.	
Recommendations	THAT CABINET NOTES THE PROGRESS AGAINST THE CORPORATE OBJECTIVES AND PERFORMANCE INDICATORS FOR QUARTER 1 2021/22	

1. INTRODUCTION

- 1.1 This report provides an update of the Council's key objectives and performance indicators for the period April to June 2021. Performance is managed at a strategic, service, operational and individual level. This report provides information measured against the Council Delivery Plan agreed in November 2020. Members will be aware that a new Council Delivery Plan was agreed by Council at its

meeting on the 7 September 2021. However, due to timing issues, the updated plan had not been approved by full Council when this report was prepared for the earlier Corporate Scrutiny meeting (which met on 1 September 2021) so this report measures progress against the earlier Council Delivery Plan. Future reports will be measured against the new plan.

- 1.2 At a strategic level, Members and the Corporate Leadership team need to ensure that services are provided meeting the needs of the community, both now and in the future. Members and the leadership team also need to ensure that there are appropriate and meaningful measures underpinning our vision and objectives so that they can be assured that we are making good progress towards our vision, priorities and objectives published in our Council Delivery Plan. Much of the Council's regular work and objectives was impacted by the COVID-19 pandemic during 2020 and 2021, but as restrictions have been lifted during recent months many of our activities are starting to return to normal operation.
- 1.3 The quarterly performance reports seek to recognise good performance, share best practice across the organisation and also to identify 'performance gaps' highlighting if and where action is required to meet targets. Once these gaps are identified, time bound intervention plans will be created or adapted to improve performance towards the target. This will be part of a continual cycle of review and action.

2. SUMMARY OF PERFORMANCE QUARTER 1.

- 2.1 This report sets out the performance and progress against the Council Delivery Plan - priority actions, performance indicators, Health and Safety, Customer services, and sickness absence management.
- 2.2 A report on the progress made against the Council Delivery Plan at the end of Q1 is included in Appendix 1. In summary of the 32 actions in the Council Delivery Plan 17 had been achieved, good progress was made with 2 of the actions and 9 have not been progressed at this stage. (4 are on hold due to Covid-19 or annual target).
- 2.3 The following notable achievements in the first quarter of 2021/22 were: -
- 2.4 **Supporting Coalville to be a more vibrant, family friendly town**

- A levelling up bid for Coalville has been submitted which if successful will significantly move forward regeneration in the town. Progress is also being made towards implementing a number of other projects.
- Contracts for the Marlborough Square redevelopment will be tendered during quarter 2 and 3 of 2021/22.
- During quarter 1 we have delivered an open-air gallery of artworks in Coalville designed to attract new visitors to the town centre.
- The existing market has traded successfully in line with the various pandemic lockdown criteria and virtual sessions were delivered before the end of the year to support the various traders' business plans and some face-to-face sessions will be implemented when restrictions allow. 22 new traders have joined us at the market during the past year selling a variety of products ranging from homemade foodstuff, artisan gifts, fashion, and accessories. Traders have commented on the vibrancy of the market and the support provided from the team.
- An opening date of the new indoor market in Marlborough Square is targeting early September 2021.
- We have continued to work with developers to ensure housing developments, notably in Money Hill, Ashby de la Zouch, Park Lane Castle Donington and at Standard Hill and Cropston Drive Coalville, accord with the Councils high aspirations for design quality.
- Options are being developed for the decommissioned Hermitage Leisure Centre in close consultation with residents, community groups, sports clubs, children and young people and other interested stakeholders. The options appraisals will be presented to the Community Scrutiny Committee and Cabinet later in 2021.

2.5 Our communities are safe, healthy, and connected.

- Significant progress continues to be made on the construction of the new Leisure Centre in Coalville/Whitwick in accordance with the contract programme with completion due in July 2022.
- In conjunction with our partner Everyone Active, the new outdoor pool offering was promoted as "Ashby by the sea", the centre has been relaunched as "Ashby Leisure Centre and Lido" with a taster open day and outreach events.
- We continued to make excellent progress in the availability of digital services across our service areas with 13K of digital forms created during the quarter and nearly 2,000 additional on-line accounts created.
- The integrated neighbourhood team have been undertaking research in the key areas of the Obesity strategy and have identified Healthy Weight, Mental Health, Palliative care and COVID-19 recovery as the priority areas where partners can best assist. An action plan will be developed for 2022/23
- The projects led by our community partners at Measham Leisure Centre and Ibstock Leisure complex continue to progress.
- The final stage of the public consultation on the Hugglescote and Donington-le-heath Neighbourhood plan was hosted during the quarter and the plan progressed to Examination, and work continues to seek to develop Neighbourhood plans in other areas of the district.

2.6 Local people live in High quality, affordable homes

- Planning permission has been secured for the build of new Council homes at a site in Moira and a decision is anticipated early in Q2 for a site in Measham. Subject to the planning decisions, construction work will then be able to commence on sites later in the year. Offers have been accepted for section 106 units on three sites delivering a total of an additional 16 homes. The majority of these are expected to complete in 2021/22
- All major housing schemes approved during the quarter have scored positively against the building for life criteria and the Council's Good Design Supplementary Planning Document (SPD).
- Our upgrade programme to improve tenants' homes continued to be affected by the COVID-19 restrictions where a primary consideration was the safety of tenants and staff when working in people's homes. Despite the restrictions £384,000 value of work was completed, and the programme is anticipated to increase significantly during future quarters. The backlog of work from the previous financial year caused by the various COVID impacts is being remodelled and rescheduled wherever possible.
- The estate improvement programme has restarted with external improvement schemes in Ashby and Castle Donington completed in the period.
- A new Housing asset management strategy is being updated for the Council's Housing Stock which will focus on the completion of essential compliance works with estate improvements commencing later in the financial year

2.7 Support for businesses and helping people into jobs

- The key focus of Economic Development work in the quarter has been to continue to support business recovery during the COVID-19 pandemic. This has included virtual jobs fairs, business support and advice and grant funding opportunities.
- We continue to work with our Leisure partner Everyone Active and the construction contractor "Metnor" to engage local companies in supply chains to support the construction and delivery of the new Whitwick and Coalville Leisure Centre.
- While the COVID-19 pandemic impacted our ability to complete our programme of food hygiene inspections in the district, we have focussed our attention on working with businesses to help them with their reopening plans to ensure COVID regulations and safe methods of working were in place for their employees and customers.
- Business Enquiries have increased by over 100% since 2019. We are working with several large companies to support relocation to the district. We are delivering a programme of initiatives to improve high street vibrancy using "Welcome Back" Funds provided by the government.
- To June 2021 the Council had issued 565 Restart Grants to eligible local businesses totalling in excess of £4m
- Through the Access to Work Partnership we are continuing to support the new Airway 9 scheme which provides transport connections between the employers at East Midland Airport and SEGRO through Melbourne, Ashby de la Zouch, and Burton.

2.8 Developing a clean and green district

- Our recycling rate for 2019/20 increased by 1.3% to 46.3%, which was supported by our Recycle More campaign which included weekly food waste

- collections for 2,000 households, the introduction of battery and mobile phone recycling at the kerbside and a recycling trolley trial for 250 residents.
- We are working with the National Forest to develop a Heart of the Forest masterplan; a first draft was prepared during the quarter and was circulated to partners.
 - A total of 365 Air source heat pumps have been installed in tenants' homes and overall tenant satisfaction remains high.
 - Electric charging points have been installed in our car parks in Castle Donington, Thringstone and Whitwick. Feasibility studies are being undertaken at other sites in the district.
 - We have commenced a review of employee travel and allowances to help deliver our Zero Carbon ambitions in future years.
 - As part of the Council properties home improvement programme, we have updated boilers and central heating systems and several properties have been identified for loft and cavity wall insulation improvements.

3.0 Performance Indicators

- 3.1 The use of both qualitative and quantitative measures (indicators) to supplement the delivery of actions in the Council Delivery plan provides a picture of how we are performing against the expected outcomes. Progress against the Council's key indicators is detailed under each group of actions with explanations of the progress against each of the key tasks identified for quarter 1. The overall performance against the indicators was significantly impacted by the COVID-19 pandemic - 14 were on target, 5 were within a 5% variance of the target and 9 were not achieved. The report also details the performance indicators, along with explanations where the targets have been missed. Members will see that many of the Council's activities have been significantly impacted by the COVID-19 pandemic.

4.0 Corporate Scrutiny Committee Review

- 4.1 This report was considered by the Corporate Scrutiny Committee at its meeting on 1 September 2021. The comments of the committee can be found in the draft minutes attached at Appendix 2 of this report.

Policies and other considerations, as appropriate	
Council Priorities:	This report documents the progress against all of the priorities in the Council delivery plan as agreed by Council in November 2020.
Policy Considerations:	The actions cut across a number of policy areas – developing Coalville and wider regeneration considerations, Community support, post COVID-19 recovery and our climate agenda are some examples.
Safeguarding:	No specific considerations.
Equalities/Diversity:	No direct impacts

Customer Impact:	Detailed in the report.
Economic and Social Impact:	Detailed in the report
Environment and Climate Change:	Detailed in the report
Consultation/Community Engagement:	Not applicable
Risks:	As detailed in the corporate risk register.
Officer Contact	<p>Bev Smith Chief Executive bev.smith@nwleicestershire.gov.uk</p> <p>Mike Murphy Head of Human Resources and Organisation Development mike.murphy@nwleicestershire.gov.uk</p>

APPENDIX 1

Supporting Coalville to be a more vibrant, family friendly town

Our aims

Coalville is a vibrant town – Local people choose to spend their time and money in Coalville town centre
– Coalville is a good place to do business

Key tasks 2021/22	Quarter 1 Performance
Commence delivery of the Coalville Regeneration Framework to enhance the town centre	Through the preparation of a Levelling Up Fund bid for Coalville several plans and drawings illustrating how the retail core of the town is proposed to be regenerated have been produced. Further illustrations demonstrating proposals for other regeneration areas around the town are being commissioned and these will build to form the Regeneration Framework. Reports that seek approval to begin implementing regeneration projects in the town are proposed to be taken to Cabinet throughout Q2 and Q3 2021/22
Seek external funding, including the new national Future High Streets Fund to support town centre regeneration, and recovery post COVID19	An external funding bid has been submitted to the Government's new Levelling Up fund. NWLDC bid to the national Welcome Back Fund was successful.

Seek a cinema operator for Coalville	An application for government funding for an arts and skills Lyceum which includes auditoria for showing films has been submitted. Occupiers and operators have been identified.
Deliver a community events programme, where appropriate in line with the current COVID19 guidance	We have delivered three events over a period of 54 days attracting over 6000 visitors to the town centre, the events included a Drive in Cinema, open-air gallery of artworks and traditional funfair.
Start the implementation of Marlborough Square redevelopment	The Marlborough Square project construction contract will be tendered during Q2 and Q3 2021/22.
Complete the new indoor market on Marlborough Square	An opening date is being targeted at early September, several leases and licences have been issued but not yet signed/returned.
Work with partners to make the most of our heritage to bolster the town's identity and sense of place	<p>The Many Faces of Palitoy project (a National Lottery Heritage Fund and council fund project) continues as Covid restrictions are relaxed, work with communities and schools commences.</p> <p>Our partnership working with Snibston Colliery Park includes the installation of a selection of artworks from the open-air gallery on Oliver's Walk and promotion of Coalville Celebrates Snibston.</p>

<p>Provide grants to at least ten businesses in Coalville to improve the fronts of their buildings, creating a better street scene</p>	<p>As part of the Coalville Frontage Improvement Scheme, In Quarter 4 of 2020/21 one new frontage improvement was completed</p> <p>Work is ongoing for the remaining 5 potential frontage improvement projects in Coalville town centre.</p>
<p>Consider how the Councils accommodation and property ownership can assist with the delivery of regeneration and reduce environmental impacts</p>	<p>The Council has engaged with potential suppliers to provide quotation for an energy efficiency / carbon evaluation and opportunities, arising from the existing estate. Once taken forward, the recommendations will form the basis of a programme of upgrade works.</p>
<p>Continue to provide support and funding for Coalville Market traders to grow their business</p>	<p>Several leases and licences have been issued but not yet signed/returned.</p> <p>Significant support has been provided to the market traders in the existing building and a vibrant feeling has developed amongst the traders and staff at the hall. The market officer operates an open-door policy and is available to traders to deal with any queries and offer one to one support. A monthly newsletter is circulated to all traders and regular meetings will be conducted when Covid19 restrictions permit. The market has traded successfully in line with the various pandemic lockdown criteria. Some virtual sessions were delivered before the end of this year to support the various traders' business plans and some face-to-face sessions will be implemented when restrictions allow. 22 new traders have joined us at the market during the past year selling a variety of products ranging from homemade foodstuff, artisan gifts, fashion, and</p>

	accessories. Traders have commented on the vibrancy of the market and the support provided from the team.
Begin priority projects in the Regeneration Framework for Coalville	Reports that seek approval to begin implementing regeneration projects in the town are proposed to be taken to Cabinet throughout Q2 and Q3 2021/22.
Enable and initiate new developments and public realm projects, supporting the district's high aspirations for design quality	Officers continue to work closely with developers to ensure that major housing developments permitted by the Council accord with detailed master plans and design codes that support the districts 82 high aspirations for design quality. Examples include decisions made on planning applications at south east Coalville and on-going work to ensure the housing developments at Money Hill, Ashby, Park Lane, Castle Donington, Standard Hill Coalville, and the Councils own housing development at Cropston Drive, Coalville are of the highest standard of design possible.
Support the redevelopment of key housing sites in Coalville	A planning application has been submitted for the redevelopment for housing on the Wolsey Road regeneration site in Coalville supported by NWL.
Work with the Belvoir Shopping Centre to make it a more attractive destination and reduce the number of vacant shops	We are delivering a programme of initiatives designed to improve high street vibrancy using Welcome Back Funds provided by Government. During Q2 we plan to carry out enhanced street cleaning, a programme of street entertainers and introduction of a local retailing loyalty card.

Ensure that links to the new leisure centre are maximised focusing on Hermitage Recreation Ground and the future of the leisure centre building

V4 Services have been engaged to support officers in developing options to create more of a visitor destination at Hermitage Recreation Ground that links to the new Whitwick and Coalville Leisure Centre and to the building currently housing Hermitage Leisure Centre.

Options are also being developed for the decommissioned Hermitage Leisure Centre. All options are being developed in response to previous consultation undertaken with residents, community groups, sports clubs and children and young people.

Options are due to be presented for consideration after the summer with members via Community Scrutiny and stakeholders including Whitwick Parish Council which will be fully engaged prior to them being refined into a final version that will be presented to Cabinet for approval later this year.

Performance Indicators - Supporting Coalville to be a more vibrant, family friendly town

Coalville is a vibrant town – Local people choose to spend their time and money in Coalville town centre
Coalville is a good place to do business

Performance Indicator 2021-22	Actual	Target	RAG	Commentary
Number of people attending Coalville events organised	6000	9000	▲	Several Coalville Events have been held during Q1. Events during Q2-Q4 expected to deliver remaining outputs.
Number of events delivered in Coalville	3	2	★	Three events were delivered in Q1: April – Drive in Cinema (five days attracting 750 people) May/June – Coalville Outdoor Gallery (39 days engaging over 2500 people) May/June – Coalville May Fair (10 days attracting over 3000 people)
Number of visitors/tourists spending is increased by 2% across the District	N/K	2%	N/A	With High Streets still under Covid Restrictions during Q1 it has not been appropriate to collect this information.
Shop vacancy rates in the Belvoir Centre are more positive than the national average	13.7%	9.8%	▲	In July 2021 the High Street Retail Vacancy Rate in Coalville stood at 13.7% (28 vacant units) down from 14% (29 vacant units) recorded in April 2021.

Our communities are safe, healthy, and connected

Our aims

Put our customer sat the heart of all we do – Increase connectivity (physically and virtually) throughout our communities
– Support safer neighbourhoods

Key tasks 2021/22	Quarter 1 Performance
Ensure that our communities recover from the impacts of COVID19, including the continued delivery of the 'hub' for our shielded and vulnerable residents	<p>The Hub continues to support vulnerable residents by signposting them to alternative support services for shopping, Test and Trace information, financial advice, or a combination of all three. In quarter 1, the Hub took on 49 new cases, processed 35 Covid Winter Grants, referred 20 clients for food parcels and supported 5 with getting financial advice.</p> <p>As the Hub is due to cease at the end of September, focus is very much on implementing an exit strategy and ensuring adequate referral mechanisms are in place to continue to support vulnerable residents. For example, long term cases are signposted to partner providers such as Morrison's Doorstep Delivery for shopping, Age UK or Enrych for befriending calls, and The Red Cross for prescription pick-ups, whilst clients with more complex support needs are referred to First Contact Plus. The exit strategy was supported with Contain funding and £1,800 has been allocated to partners to support residents with food and essential shopping requirements with a view to integrating them back into doing their own shopping. 11 residents have benefitted from this service. Similarly, the</p>

	<p>Marlene Reid Centre was supported with almost £3,000 of Contain funding to establish a Social Supermarket initiative which allows residents access to low-cost food and essential items rather than having to go to a foodbank.</p> <p>As part of the exit strategy, the Hub team has also organically reduced in size from 5 to 2 by the end of July. As well as supporting the Hub, the team have also supported other council services such as Housing, Finance, Waste, and Environmental Protection with Covid related activities.</p>
8	<p>Develop and deploy an 'agile' working policy and approach</p> <p>The hybrid working model has been agreed by CLT following the consultations. Managers are now considering how this will be implemented in their teams with a view to commencement in September 2021.</p>
	<p>Make sure our customers can interact with us in a way which meets their needs, improving our services, promoting self-serve and digital options as well as providing face-to-face support compliant with COVID19 guidance</p> <p>Digital Services continue to be a key focus for the Authority with more forms being made available for the public and in house services to provide efficiency. In the past quarter, 13,210 digital forms were created with 1,956 online accounts being created.</p> <p>Face to Face services resumed with an appointment basis in May 2021 and customers have been coming back in to use these services, with digital still the preferred method of communication alongside traditional contact methods through phone and email.</p>

	<p>In the future, we will continue to drive the efficiency with digital in Q2 and Q3 with the Housing system going live this year providing self-service options around rent and repair management, further digital forms for all customers, and testing of blended media options in the call centre, prioritising emails alongside phone calls to provide efficiencies.</p>
61	<p>We intend to work with our partners to deliver the proposed Obesity Strategy for Leicestershire and support the Leicestershire Weight Management service by providing physical activity for their clients as part of the integrated Health and Wellbeing Strategy</p> <p>Data research has been undertaken by the Integrated Neighbourhood team to understand the key issues in North West Leicestershire that all partners can help to impact on positively. The priorities that have provisionally been identified are.</p> <ul style="list-style-type: none"> • Healthy weight • Mental health • Palliative care • Covid recovery <p>Mapping exercises are now being undertaken to understand current service provision, from which areas for improvement will be identified and a Healthy Communities Action Plan will be developed. It is anticipated that the action plan will be in place for 2022/23.</p>
	<p>Work with our leisure partner to start the construction of the new Whitwick and Coalville Leisure Centre</p> <p>Work on the new Whitwick and Coalville Leisure Centre continues to progress very well on site and is in accordance with the contract programme with completion still due in July 2022.</p>

	<p>Alongside this, various interventions and innovations have been introduced at both Ashby and Hermitage Leisure Centres. These include.</p> <ul style="list-style-type: none"> • The introduction of cross site fitness memberships • Fitness memberships reduced to £29.99 and no signing on fee. • New outdoor pool offering through 'Ashby by the Sea'. • Taster open day at Ashby Leisure Centre and Lido (31 activities) as part of the re-launch under the new name. • Outreach events such as the Ashby Open Day on 3rd July. Over 100 contacts and expressions of interest received. • Outsourced the Holiday Activity programme <p>Whilst usage levels are still lower than would be expected at this time of the year due to the Covid restrictions that have been in place during Q1, both fitness membership and swimming lesson levels are performing well at Ashby Leisure Centre and Lido are on course to match pre-Covid levels by the end of the year.</p>
	<p>Working with local schools, parish councils and leisure centres, improve the community leisure facilities in Castle Donington and at Ibstock and Measham Leisure Centres</p> <p>The projects led by our community partners at Measham Leisure Centre and Ibstock Leisure Complex continue to progress. Building of the new fitness room at Ibstock will commence in April and, whilst work can't commence at Measham until later in the year due to the site being used as a vaccination centre, the project is still being refined and value engineered in preparation. Community access to the grass</p>

	<p>pitches at Castle Donington College is likely to commence in September. In addition, a consultant has been procured to undertake a pre-feasibility assessment on having a full sized 3G pitch on the school site which, if applicable, will be used to try and secure funding from the Football Foundation. As well as that, the school have submitted a Strategic School Improvement Fund (SIF) bid to enhance the fitness room development to include changing rooms, a studio and meeting/teaching space. The outcome of these bids will determine how the fitness room development will be progressed as it will impact on potential locations and the infrastructure requirements.</p>
Develop our tourism offer to encourage inward investment, dwell time and connecting visitor attractions	During Q1 we have delivered an open-air gallery of artworks in Coalville designed to attract new visitors to the town centre.
Encourage and support town and parish councils to write and prepare their own Neighbourhood Plans (NP)	During Q1 the Planning Policy Team hosted the final stage of public consultation on the Hugglescote & Donington le Heath Neighbourhood Plan and arranged the Examination into the Plan. The team also confirmed the designation of the Lockington cum Hemington neighbourhood plan area and continued to support the preparation of 4 further NPs in the district.
Adopt the partial review of the Local Plan	Local plan Partial Review adopted at Council on 16 March 2021.

Develop a network of locations for mobile CCTV	<p>Three mobile CCTV cameras will be installed at Castle Donington in Q2. The exact locations are still to be determined but will be located at hotspots in the area as part of the safer streets' initiative.</p> <p>Work with both Ibstock and Measham on possible mobile units is also under way.</p>
Stabilise and reduce, if possible, our sickness absence levels through a combination of measures in our People Plan	The sickness absence levels were above target during the quarter. More information is detailed in the Appendix to this report.
Work towards increasing participation levels at Coalville and Ashby Leisure Centres by 58% by 2026	See response to "Work with our Leisure partner to start the construction of the new Whitwick and Coalville Leisure Centre"
Achieve accreditation from the Surveillance Camera Commissioner for our CCTV system	The new control room in the council offices is now fully complete and operational and places the service in a strong position to achieve this target in 2021/22.

Performance Indicators - Our communities are safe, healthy, and connected

Put our customer sat the heart of all we do – Increase connectivity (physically and virtually) throughout our communities
Support safer neighbourhoods

Performance Indicator 2021-22	Actual	Target	RAG	Commentary
Number of online accounts	34,999 (cumulative)	22,500 (annual)	★	Digital Services continue to be a key focus for the Authority with more forms being made available for the public and in house services to provide efficiency. In the past quarter, 13,210 digital forms were created with 1,956 online accounts being created.
Number of online forms submitted (transactions)	13,210	1875	★	Face to Face services resumed with an appointment basis in May 2021 and customers have been coming back in to use these services, with digital still the preferred method of communication alongside traditional contact methods through phone and email. In the future, we will continue to drive the efficiency with digital in Q2 and Q3 with the Housing system going live this year providing self-service options around rent and repair management, further digital forms for all customers, and testing of blended media options in the call centre, prioritising emails alongside phone calls to provide efficiencies.

Percentage of customer satisfaction (Customer Services)	N/A	92%	N/A	This is an annual indicator so no performance figures will be available until March 2022.
Percentage of high risk ASB cases recorded and actioned within 48 hours	All	100%	★	All High risk cases are logged and actioned within 48 hours (100%) Please note that High risk cases are rare, and we only have small numbers.

Local People live in high quality, affordable homes

Our aims

Increase the number of affordable homes in the district

Improve the quality of our council housing – Improve the quality of private rented accommodation

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Key tasks 2021-22	Quarter 1 Performance
Get planning permission and start building new council homes in Whitwick and Measham and pursue other sites where viable	Planning permission has been secured for 2 units at Cedar Grove, Moira and a decision is anticipated early in Q2 for 7 units at Queensway in Measham. Once the Measham permission is secured we will tender for a contractor on both sites for construction work to commence on site later in this financial year. Offers have been accepted for section 106 units on three sites delivering a total of an additional 16 homes. The majority of these are expected to complete in 2021/22.
Ensure residential development takes place on brownfield sites in Moira and Measham	Planning decision is pending for Measham site, and the scope of work to the Moira site has been revised, requiring additional feasibility work prior to bringing forward a proposal later this financial year.
Ensure all new housing in the district meets the standards of the NWLDC Good Design Guide.	All major housing schemes approved in Quarter 1 have scored positively against building for life criteria and the Councils Good Design SPD.

	<p>Invest up to £5 million to upgrade tenants' homes and their neighbourhoods</p> <p>Q1 continued to be affected by Covid 19 restrictions on working practices, particularly relating to internal working, to ensure we kept our staff and tenants safe. Despite these restrictions a total of £384K work was completed in Q1, and plans developed to increase the level of investment as restrictions are lifted later in the year.</p> <p>Plans to complete all the deferred work from 2020/21 continues to be modelled, with the current proposal being to complete this over the next 2 years by integrating it into the ongoing programme for completion by the Inhouse Repairs Team (IRT) who are completing all other improvement work. This is being kept under ongoing review as the Covid safe working practice environment changes and affects our ability to forecast the amount of work we can complete.</p>
26	<p>Alter tenants' homes where there is an assessed medical need, by spending up to £300,000 on level access showers, stair lifts and other aids and adaptations</p> <p>The need for aids and adaptations are assessed by Occupational Therapists (OTs) or Trusted Assessors before a referral is made to the council. Due to Covid-19, the OTs/Trusted Assessors have been continuing to focus on end of life/hospital discharges rather than standard requests. This has resulted in a reduction in the number of referrals received and we are working with LCC colleagues to understand how we can assist with their backlog. Completion of works has continued where approved during Q1.</p>
	<p>Invest £770,000 in estate improvements including off-street parking, improvements to footpaths and roads and mobility scooter stores</p> <p>The estate improvement programme has been largely on hold due to Covid-19 reduced resources. However, external car parking improvement schemes in Ashby and Castle Donington were completed in Q1 providing much needed additional parking capacity for residents at a cost of £350k. Following the successful appointment of a new Housing Assets Team</p>

	<p>Manager who started in Q1, a root and branch review of the investment programme is being completed. This will lead to the production of a new asset management strategy for the Councils Housing Stock. Current investment activity is focussing on the completion of essential compliance works as a priority, and estate improvements will be commenced later in the financial year.</p>
Carry out proactive, targeted enforcement so all eligible landlords have a Houses in Multiple Occupation (HMO) License	<p>The team have been working proactively and several actions have been carried out this year including:</p> <ul style="list-style-type: none"> • Following up unlicensed HMOs to ensure compliance • Communicate with agents reminding them of the requirements for HMOs • Reviewed the Kegworth HMO campaign and identified the next target area as Ellistown <p>Further work in respect of rolling out the campaign and continuing to follow up unlicensed HMOs will build on this work in 2021/22</p>
Commence delivery of the redevelopment of Appleby Magna Caravan Park	<p>Planning permission has been successfully obtained for works to the caravan site, and a contractor appointed following a process that included site resident involvement. Start on site is forecast for later in Q2 after the completion of detailed design with completion in Q3,</p>
Provide at least 15 new council homes through new build or by acquiring through agreements with developers and market purchase	<p>Planning Permission has been obtained for two new homes in Moira and is currently waited for a further 7 homes at Measham and 15 homes in Whitwick, making a total new build programme of 24. Once Planning Permission is obtained, we will procure development contractors to build the properties, with start on site expected to be later in the financial year. The Whitwick proposal has been delayed slightly as it has been redesigned</p>

	<p>to achieve an EPC A rating for energy efficiency as an exemplar scheme.</p>
Maximise the number of private empty properties that are brought back into use	<p>Due to Covid-19 restrictions on face-to-face meetings, limiting travel and internal visits, this has resulted in a delay in the progression of some casework. This will be reinstated in 2021/22 including more formal action on several properties.</p>
Selectively buy back long-term empty properties	<p>Opportunities to buy back properties previously sold under the Right to Buy (RTB) continue to be evaluated as we are notified of them by sellers, with criteria established to assess each property. No acquisitions were undertaken in Q1.</p>
Work with local housing associations to supply 300 new affordable homes	<p>This is a three-year rolling target to allow for the often-uneven delivery profile of the affordable housing programme. 24 units have been delivered in quarter one with the forecast for the rest of the year predicting to exceed the target. Q2 is forecast to see the completion of the 60-unit Springfield Extra Care scheme in Ashby which will account for half the annual target alone.</p>
Invest up to £14 million to improve council homes	<p>The HRA capital programme provides funding for a range of works to improve tenant's homes and estates. Overall spend against this budget to the end of quarter one was £598,000. The key elements of this budget are:</p> <ul style="list-style-type: none"> • The Home Improvement Programme, £384,000 spent, which includes 'Decent Homes' improvement work to tenant's homes, which are now being completed by our In-house Repairs Team (IRT). • £108,000 was spent on parking improvements. • £55,000 on improving empty properties before they are relet • £51,000 on major aids and adaptations

Performance indicators - Local People live in high quality, affordable homes

Increase the number of affordable homes in the district – Improve the quality of our council housing
 Improve the quality of private rented accommodation

Performance Indicator 2021-22	Actual	Target	RAG	Commentary
Percentage of major residential development schemes scoring / performing positively	100%	90%	★	All major housing schemes approved in Quarter 1 have scored positively against building for life criteria and the Councils Good Design SPD.
Percentage of major planning applications determined within 13 weeks	100%	75%	★	100% of major planning applications have been determined within 13 weeks which is comfortably above the specified target.
Percentage of minor planning applications determined within 8 weeks	88.7%	80%	★	88.7% of minor planning applications have been determined within 8 weeks which is above the specified target.
Percentage of other planning applications determined within 8 weeks	95.3%	85%	★	95.3% of other planning applications have been determined within 8 weeks which is above the specified target.
Percentage of all repairs completed within target	97.2%	97%	★	Although performance has just exceeded target, Covid mitigations to ensure the safety of our staff and tenants continued to impact

						performance. Consequently, 2 out of the 4 repairs priorities, that make up this measure are below target performance. Whilst we have concentrated our resources to meet our core repairing obligations and fulfil promises made to tenants, prolonged covid mitigations together with sustained number of staff self-isolations will continue to challenge the team in to Q2.
Average length of time taken to re-let a Council property when it becomes vacant	25	22	▲			During Q1, 60 properties have been let in an average of 25 days each. This is an improvement of 6 days over the Q1 position last year, although performance continues to be impacted by Covid 19 related changes to working arrangements.

Support for businesses and helping people into local jobs

Our aims

Match local people with skills and jobs – Support new and growing businesses to create jobs – Help young people into work

Key tasks 2021-22	Quarter 1 Performance
Working in partnership with the National Forest Company, carry out an options appraisal for Moira Furnace as part of an application for Resilient Heritage funding to the Heritage Lottery Fund	An options appraisal for Moira Furnace has been completed. A business plan based upon the recommended option is to be developed during 2021/22
Provide targeted support for local business who may be impacted by HS2	There have been no further updates or engagement business engagement activity regarding the proposed HS2 route in quarter 4.
Deliver the aspirations of the North West Leicestershire Economic Growth Plan 2019-21	The aspirations of the 2019-21 Growth Plan met. The council's Growth Plan is currently being updated.

Working with our new leisure partner, increase local employment, training, and apprenticeship opportunities with a key focus on local supply chains in the construction of the new Whitwick and Coalville Leisure Centre	<p>Works to ensure maximum social value is achieved because of the delivery of the leisure centre are ongoing with all key parties engaging well in the process.</p> <p>Metnor Construction, the contractor responsible for the project on site, is actively engaging with the council to track social value performance and to help identify other opportunities to create jobs and increase local spend.</p>
Work with food establishments to further reduce the number that have a hygiene rating of 0, 1 or 2	<p>The pandemic has had a significant impact on our ability to complete our programme of food hygiene inspections at food establishments within the district. During the various stages of the pandemic many food businesses have not been trading and food inspectors have been redeployed to carry out Covid-19 compliance work.</p> <p>During periods of the year when trading was permitted, we have been working with businesses on their reopening plans to ensure that their new ways of working are safe for their staff and the customers.</p> <p>In summary we were able to complete approximately 30% of the planned food inspection programme. The number of food businesses rated 0, 1 or 2 fell from 20 to 16 between 1 April 2020 and 31 March 2021.</p>
Ensure that we minimise the negative impacts and maximise the positive of COVID19 on our business community	<p>We have successfully rolled out an economic recovery plan designed to support aid our businesses to respond to the impact of Covid 19.</p> <p>Up to 28 June 2021 the Council have issued 565 Restart Grants to eligible local businesses totalling £4,114,711.</p>

	In addition, the council have awarded 7 Growth Grants to eligible local businesses totalling £288,887 up to 28 June 2021. A further 15 Growth Grants will be made in Quarter two totalling a further £567,035 of grant payments
Play our part in readying our businesses for the effects of BREXIT	The Economic Development team continued to offer 1-to-1 support, communicate the latest information on the new rules on trading with the EU, identifying support options available through local partnerships including LLEP, Chamber of Commerce & UK Government including the SME Brexit Fund.
Encouraging the public to support local businesses as part of our recovery from COVID19	We are delivering a programme of initiatives designed to improve high street vibrancy using Welcome Back Funds provided by Government. During Q2 we plan to carry out enhanced street cleaning, a programme of street entertainers and introduction of a local retailing loyalty card.
Maintain 12 apprentice placements each year	The number of apprentices had fallen to 5 at the end of the quarter, a number have gained employment with the Council or with other employers, and we have 3 new starters scheduled to start during Q2 and we are actively recruiting to the vacancies.
Provide a £250,000 programme of grant funding and business support	The final two grant payments from the Councils Enterprising 3 Business Grants programme were paid to applicants Sew Essential in Moira and The Priory Health Club in Breedon. In total the programme provided over £170,000 of grants to 14 growing local business creating an estimated £1.25million of private sector investment and creating over 70 new local jobs.

	<p>In addition to the Council's Enterprise grant fund, Council officers continue to support local business with over £2.4 million of Covid support Additional Restrictions Grant funding.</p>
Promote North West Leicestershire as a key location for business growth and support £1 million of new business investment and 4,000 new jobs	<p>We continue to work with businesses seeking to locate on the district's major distribution sites E.G. SEGRO.</p>
Work with partners and public transport providers to enhance transport connectivity so local people can access new job opportunities throughout the district	<p>Through the Access to Work Partnership, the Economic Development Team are continuing to support the new Airway 9 bus service providing public transport connections between the employers at East Midlands Airport and SEGRO through Melbourne, Ashby, Swadlincote and Burton.</p> <p>Despite a reduction in patronage on the service due to the pandemic, passenger numbers have seen a steady climb throughout quarter 1 moving into quarter 2. It is anticipated that patronage figures will achieve pre-Covid figures by the end of Q2.</p> <p>Further promotional activity with key employers and job seekers to showcase the Airway 9 service will take place in Q2 to coincide with the relaxing of restrictions on movement and increasing consumer confidence to use public transport.</p>
Work with three schools / colleges and local businesses on skills development with a focus on career advice	<p>Due to Covid restrictions no interactions have taken place with local schools in Q1. It is anticipated that these engagement activities will recommence in the new school year.</p>

Provide face-to-face business and environmental health advice to 20 growing businesses each year	This work-stream has not been delivered because of pandemic restrictions. This process has now recommenced in 2021-22.
Work closely with Kegworth Parish Council and other partners to engage the public and businesses and deliver a scheme that focuses on improving the village's infrastructure, stimulating economic growth and supporting businesses.	Work continues and first construction activity is expected in Q3.

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Performance indicators - Support for businesses and helping people into local jobs

Match local people with skills and jobs – Support new and growing businesses to create jobs – Help young people into local work

Performance Indicator 2021-22	Actual	Target	RAG	Commentary
Number of jobs in the tourism sector is increased in the District	0%	3.8%	▲	Evidenced by external statistics information and comparisons. *note - figure reduced by 59% from Dec 2019 due to Covid- 19.

Number of food businesses improving hygiene standards	39	11		The pandemic has had a significant impact on our ability to complete our programme of food hygiene inspections at food establishments within the district. During the various stages of the pandemic many food businesses have not been trading and food inspectors have been redeployed to carry out Covid-19 compliance work. In summary we were able to complete approximately 30% of the planned food inspection programme. The number of food businesses rated 0, 1 or 2 (poor compliance) fell from 20 to 16 between 1 April 2020 and 31 March 2021. The number of businesses achieving a very good rating of 5 increased from 574 to 609.
Number of business enquires received and supported	86 new business enquires from a total of 108 enquiries in Q1.	25		There have been an increased number of business support enquires in Q1 due to Coronavirus impact on local businesses.
Value of Coalville shop fronts grant awards	Nil	£40,000		No additional grant awards were made in Q1. Design work is still ongoing for Alison's Café, Fast Cash, Bolstridge and Metro Stores.
Number of businesses supported - Market Towns business support programme	34	20		Working with the Leicestershire Growth Hub, the Council delivered a programme of digital training for high street businesses. The training

						<p>launched in April and delivered 6 sessions until June.</p> <p>34 local businesses drawn predominantly from the high streets of Coalville and Ashby participated in the free to access Digital Growth training programme, helping them to create, expand and revitalise the digital side of their businesses. The sessions cover websites, social media, online advertising, and search optimisation.</p> <p>To underpin the digital training, the Council have also launched a closed grants programme so that the businesses taking part in the training are also able to apply for grants of up to £1,000 to support them in putting the digital training into action and for support towards accessing some tailored 1:1 support.</p> <p>To date 3 grant awards of £1,000 have been made.</p>
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Developing a clean and green district

Our aims

Lead by example by reducing our own carbon footprint – Reduce littering and fly tipping – Promote the work of the National Forest

Key tasks 2021-22	Quarter 1 Performance
Increase recycling rates by at least 1% every year through our Recycle more... campaign	In April 2021, Defra confirmed the district's household recycling rate for 2019/20 had increased by 1.3% to 46.3%, partly supported by Recycle more which included a weekly food waste collection trial for 2,000 households, the introduction of battery and mobile phone recycling at the kerbside and a recycling trolley trial for 250 residents.
Continue our Free Tree Scheme	We had planned to deliver the scheme in November 2020 but deferred it to February 2021 but with lockdown three we have taken the decision to relaunch the scheme in November 2021. Our partners The National Forest Company are on board with this decision and the nursery trees will simply remain planted until they are needed later this year.
Support towns and villages to develop an identity associated with the National Forest	We have continued to work with the National Forest to develop the Heart of The Forest masterplan. A first draft has been circulated to partners for comment by the National Forest. Wider consultation is due to commence in Q2. We have supported Timber 2021 (a three-day camping festival in the Heart of the National Forest – music, forest, arts and ideas through a sponsorship agreement, the event is able to

	proceed this year in line with Covid regulations and is scheduled to take place on 2, 3 and 4 July to a sold-out audience.
Support private householders to improve the energy efficiency of their homes and help those in greatest need to access Government grants for affordable warmth	Year to date we had a promotion of the LCC Warm Homes Scheme in August including Updating the information our Customer Services Team have available to them and the information on Council webpages. We also sent out information through a range of forums including our Community Focus Team for distribution to Community Group contacts, the Landlord Forum and Landlord support group contacts. Information also distributed among key internal contacts.
Complete the installation of air source heat pumps in council homes and assess tenant satisfaction	A total of 365 Air Source Heat Pumps have been installed in tenants' homes through this programme and overall satisfaction has been high. The next step in increasing the number of ASHP heating systems is being taken through our Green Homes Grant programme of works, which we see an additional 56 homes fitted with these heating systems with works due for completion by the end of Q2.
Undertake feasibility studies for 4 EV charging points across the district	Electric vehicle charging points have been installed in NWLDC car parks in Clapgun St at Castle Donington, The Green at Thringstone and Vicarage St at Whitwick, supported by funding from the Office of Zero Emission Vehicles, OZEV. Feasibility studies have been undertaken at Coalville and an installation has been approved for Margaret Street car park, again with funding support from OZEV. This is planned for Q3. Electric vehicle charging points have been installed at Lindon Way depot to support electric vehicle trials.

Continue the delivery of our Zero Carbon Roadmap	<p>We have installed electric vehicle charging points in our council car parks in Whitwick, Thringstone, Castle Donington and we are undertaking feasibility studies in Coalville. We are undertaking a fleet strategy review to inform and influence our vehicle replacement strategy. Housing is rolling out a home improvement programme to improve energy efficiency of some of our housing stock with the support of Green Home Grant funding. Leisure Services has commissioned a cycling & walking strategy. Planning is reviewing our Local Plan and considering climate change impacts, including renewable energy, and building standards.</p>
Review our employee travel and allowances to help deliver the Zero Carbon Roadmap	<p>A report has been considered by the Corporate Leadership Team. Consultations with trade unions will commence during Q2.</p>
Support the Litter Strategy for England through our partnership working within the Roadside Litter Working Group	<p>A taskforce has been set up and has met on several occasions. To date the taskforce has:</p> <ul style="list-style-type: none"> • Reviewed the litter picking procedure and implemented new methods for communities to request litter picking equipment and litter picking waste collections • Distributed over £5,000 of kit from the allocated budget for litter picking equipment to parish councils and individual litter pickers • Refreshed the litter picking volunteer guidance and reissued • Held 6 campaigns which resulted in 16 littering cases being investigated and 10 FPNS being issued • Issuing 2 FPNS for fly tipping • Held educational talks with workers at Tulips, Coalville to advise them not to drop cigarette ends during breaks.

	<p>Monitoring at this site will continue to check for compliance</p> <p>The taskforce is currently drafting a zero-litter campaign document that will be presented to Scrutiny and Cabinet later this year.</p>
Work in partnership with local haulage companies to tackle layby litter	This was not possible due to Covid-19 restrictions and will be embraced within a new action in 2021/22 entitled "Litter taskforce".
Achieve 50% recycling rates by 2023	In April 2021, Defra confirmed the district's household recycling rate for 2019/20 had increased by 1.3% to 46.3%, partly supported by Recycle more which included a weekly food waste collection trial for 2,000 households, the introduction of battery and mobile phone recycling at the kerbside and a recycling trolley trial for 250 residents.
Reduce carbon emissions at the new Whitwick and Coalville Leisure Centre and Ashby Leisure Centre by 20% by 2024	In progress with Everyone Active and adaptations to Hood Park as well as the replacement of Hermitage with the new leisure centre.
Replace lighting in NWLDC buildings with LED lighting to reduce energy consumption	Due to Covid-19 and the impact on available resources, the planned improvements to sheltered housing schemes was placed on hold. The improvements will see the communal lighting changed to LED sensor lighting to reduce energy consumption.
Reduce vehicle emissions from licensed Hackney Carriage and Private Hire vehicles	This policy has been deferred until September 2021.

Help 250 fuel poor households to receive funding for loft and cavity wall insulation and replacement boilers	<p>As part of the Home Improvement Programme for 2020/21, 40 properties benefitted from new boilers and a further 6 had full central heating replacements. A further 76 properties have been identified for loft and cavity wall insulation though a free scheme being led by E-on. This work was placed on hold in December due to local restrictions introduced due to Covid-19 resulting in the work being delayed until 2021/22. Also, in 2021/22 56 more properties have been identified for a variety of improvements under the Green Homes Grant (GHG) scheme which could include insulation, including External Wall Insulation, PV Panels, Air-Source Heat Pumps. Both the E-on and GHG scheme are subject to an eligibility criterion which includes the property needs to have an Energy Performance Certificate rating of below D and be able to achieve a C. There is also a household income threshold for the GHG scheme.</p>

Performance Indicators - Developing a clean and green district

Lead by example by reducing our own carbon footprint – Reduce littering and fly tipping – Promote the work of the National Forest

Performance Indicator 2021-22	Actual	Target	RAG	Commentary
Number of trees delivered to the local community to expand the district's National Forest area	0	13,000	▲	<p>The agreement with the National Forest Company has been signed and a target of 10,000 trees has been agreed in principle so we are able to manage demand safely when it comes to collection day. If we can extend that to 13,000 then we will.</p> <p>Residents will be able to apply for their free trees in September/October 2021 with the collection date in November 2021.</p>
Percentage of fly tipping in district is reduced by 3% over the year	112.7% (Increase)	3% (reduction)	▲	<p>Due to multiple reports of the same fly tip over 50% of these cases where in fact duplicates. There was also huge increase in waste being left by volunteer litter pickers, these were also logged as fly tips leading to this misrepresenting increase.</p> <p>Moving forward, a new system has been introduced for the volunteer litter pickers which enables them to log their waste collections separately to fly tipping reports and a new process is in development which will dramatically reduce the number of duplicated cases being logged.</p>

Percentage increase on yearly recycling rate by 1%	1.3% for 2019/20	1%		*Please note this is the recycling rate for 2019/20 confirmed by Defra in April 2021. The recycling rate for 2020/21 will be confirmed by Defra in December 2021.
Amount in kgs of household waste sent to landfill per house, per year	130.45Kgs	125kgs		Based on actual domestic waste tonnages for April and May 2021 as the tonnages for June are not yet finalised. Household waste levels are still relatively high as people continue to work from home due to Covid-19, generating additional waste in a residential setting.

Value for Money



It is our ethos to manage our budgets carefully and sensibly. This allows us to provide excellent value for money in our services; investing in key schemes and infrastructure that make a real difference in our communities, whilst balancing the books and planning for the future.

Performance Indicator 2021-22	Actual	Target	RAG	Commentary
Amount of income generation from the sale of Legal Services	£21,275 for Q1	£11,000 per month £33,000 per quarter		Although this figure remains below target, it is a significant increase on the equivalent quarter last year when we generated £8,641. This demonstrates that we are on track with our recovery from the effects of COVID and team vacancies. The new monthly billing processes have now been implemented along with our new marketing strategy, which

					we hope will enable us to bring in more external work.
Percentage of rent loss	N/A	0.75%	▲		The amount of rent loss for Q1 reflects an increase in the total number of properties that have become empty in 2021/22, which is 76 compared to 62 for the same period last year. Covid restrictions have continued to influence performance due to restrictions in the number of operatives conducting repairs in a property at any time, and increased flexibility needed for tenancy start dates.
Amount of spend on agency workers is reduced to £1m in 20/21	N/A	£250,000.00	N/A		The spend level on agency workers is still high because of the impacts of COVID-19 and isolation requirements in the workforce. No specific target has been set for the 21/22 financial year, but we will be continuing to seek to reduce our reliance on agency workers.
Percentage of Council Tax Collected (in year target)	28.4%	28.2%	★		Performance may be impacted this year due to arrears that are being pursued. Last year due to COVID-19 restrictions prevented cases being progressed to liability order hearings
Percentage of National Non-Domestic Rates (in year target)	29.0%	25.9%	★		In June retail discount awarded was adjusted as this had changed from 100% to 66% for period July to March. Additional charge raised and resulted in payments becoming due from July

Number of days taken to process new claims	15.0	19 days	★	The speed of processing new claims has been impacted by having a backlog as we moved into the new financial year. The assessment staff have also been dealing with a significant increase in the number of claims for Test and Trace support payment and alerts from the DWP arising from the ever-increasing number of households in receipt of Universal Credit.		
Percentage of rent collected from commercial tenants	98%	98%	★	We have achieved the % rent target from commercial tenants.		
Percentage of commercial units occupied per annum	89%	90%	●	Virtually met target, shortfall was due to suspending considering further leases in Whitwick Business Centre whilst the accommodation programme was put in place.		
Amount of annual income achieved by the In-house Repairs Team at least £5.2 million	£946,000	£1,300,000	▲	The annual income is based on the approved budget for all work undertaken by the in-house team which did not take account of disruptions to service or mitigations that reduced productivity due to the Covid Pandemic. Both of those factors continued in to Q1. In addition, the actual sum expended also does include over £300k of work that		

					was completed towards the end of the quarter that had not reached the stage in the system that would include this as accrual. If it has this would have increased the expenditure to £1,246,000. Options are being progressed to accelerate expenditure during the remaining part of the year now that Covid risk mitigations have eased
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Performance Indicator 2021/22	Actual	Target	RAG	Commentary
Number of targets achieved	17	32 (*29)	★	(* 3x N/A due to covid-19 regulations or annual target)
Number of targets within 5% variance of target (10% financial)	2	0	●	
Number of targets Not achieved	9	0	▲	Awaiting 1 return

Sickness Report Q1 2021-22

- 1.1 In Q1 (2021/22) there were 1352 FTE days lost due to sickness. This equates to 2.65 days lost per full time equivalent employee (FTE). The rate of sickness in the corresponding period, in 2020/21, was significantly lower (by 806 FTE days). This was due to the Covid-19 measures taken by the council at the onset of the pandemic. In Q1 last year there were 67 clinically vulnerable members of staff who were unable to work for part or all of the quarter; a further 31 employees were quarantined in this period due covid-19 related symptoms, as well as 11 employees who were under shielding measures.
- 1.2 Projecting ahead, based on Q1 results, the annual absence rate will be 10.6 days lost per FTE against a corporate target of 8.0 days. Absence due to Covid-19 is not included in the sickness figures unless the employee tests positive or become unwell after receiving a vaccination. This approach is in line with National Joint Council guidance.
- 1.3 Community Services (4.30 days/FTE), Housing (2.49 days/FTE) and Planning and Regeneration (2.07 days/FTE) were the work areas with the highest levels of sickness in this Quarter.
- 1.4 Almost all sickness in Community Services (80%) and Housing (67%) was the result of long-term sickness. Long term sickness is defined as any period of sickness lasting 10 days or more.
- 1.5 The teams with the highest levels of sickness include, Waste Services, which amounted to over 50% of all sickness, followed by Repairs and Investment (17%) and Environmental Protection (11%). The most common reasons for sickness in Waste Services was Stress, accounting for over a third of all sickness, followed by Covid19 related sickness (22%), Musculoskeletal (17%). Repairs and Investment also experienced high prevalence of absence due to stress – 44% of the sickness in the team was as result of work-related stress and 23% personal stress.
- 1.6 Across the organisation stress accounted for 39% of all sickness (22% personal stress and 17% work related) - this was the most common reasons for sickness. Musculoskeletal (18%) and Covid19 related sickness (15%) were the other most common reasons.

- 1.7 The table below illustrates total sickness as a percentage by reason:

Sickness reason	Percentage of sickness by reason
Stress - depression - anxiety - psychological (non-work related)	21.78%
Back pain - sprain - strain - musculo- skeletal	17.95%
Stress - depression - anxiety - psychological (work related)	17.30%
Covid 19 – Vaccination side effect	8.32%
Operation / Post Op	6.48%
Covid 19 - Positive Test	6.34%
Stomach - bowel - gastric – intestinal	6.14%
Headache - migraine – neurological	2.88%
Cold and Flu	2.73%

- 1.8 Out of a total of 190 instances of sickness in the period 26 were due to stress, of which 11 were work related (mainly in Repairs and Investment (5) and Waste Services (3)). Where relevant these cases have been referred to Occupational health for medical guidance and to understand if any adjustments are necessary.

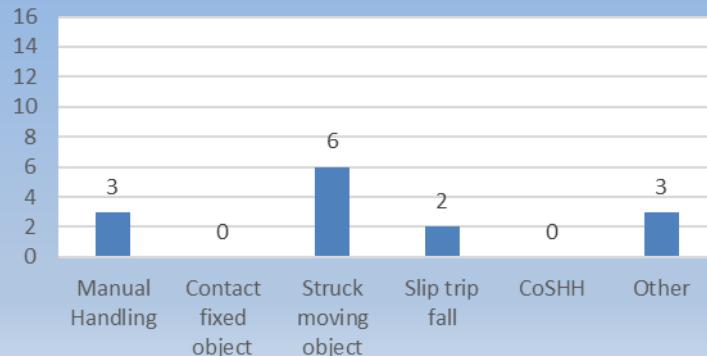
- 1.9 On average each stress related sickness resulted in 19 FTE days lost. This is reflected in the figures where 26 instances (out 190) have contributed to 39% of the overall sickness figure.
- 1.10 The Senior HR advisors closely monitor and manage long term cases in conjunction with Occupational Health and their line managers. Where needed, employees have been referred to the 24/7 Everyday Advice Line, the council's employee assistance plan.
- 1.11 Completion of return-to-work interview forms across the Council was a rate of 89%.

Health and Safety

Accidents in the period

- There were 14 accidents to employees reported in the quarter, there were no RIDDOR reportable accidents to employees that led to periods of absence from work, although one incident aggravated a previous injury leading to absence.
- We also had 3 near misses reported. All accidents and near misses were investigated and measures put in place to minimise re-occurrence.

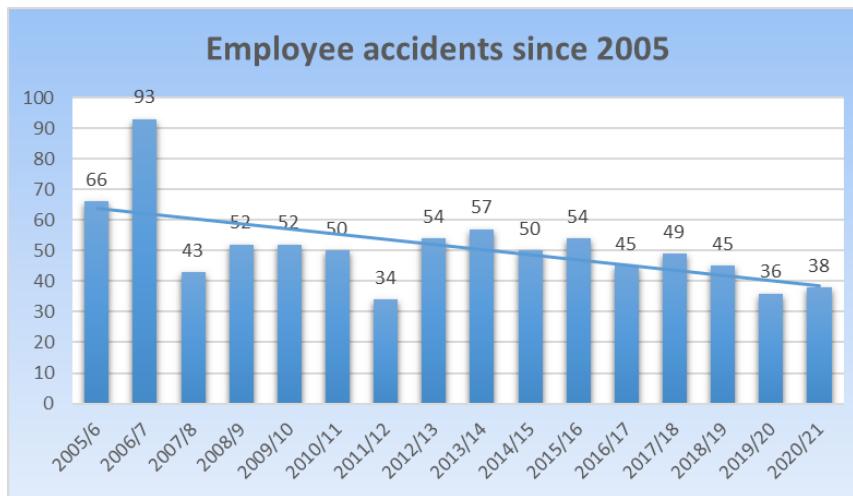
Accidents by type 2021-22



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Historic accidents statistics graph 2005 - 2021

As can be seen in the graph below the average number of employee accidents have, since 2005, been stable at 51.13 annually or approximately 1 per week.



- **Training** – In house face to face training has been limited during the quarter due to the COVID restrictions, we are working on a suite of compulsory safety modules on Learning pool – our e-training package. Training has been undertaken virtually wherever possible and essential.
- **Legionella** Stringent procedures and testing was undertaken during the first quarter of the year, to ensure there were no reports of any bacterial ingress. Regular testing takes place, the regime includes the Main Council Offices, Sheltered Housing, Parks and sports pavilions throughout the district. A revised policy for Legionella was devised by the Property Services Team.
- **Fire**, A fire evacuation of the Council Offices took place in March. The nature of the evacuation highlighted some areas of training, and revision of procedures which were put in place to mirror the reduced number of staff working in the building. Following a Fire Risk Assessment at Linden way some remedial actions were completed, and a revised evacuation plan was devised.
- **Risk assessments** - To ensure full legal compliance, we must ensure we have *in written form*, suitable and sufficient risk assessments for any task they expect their staff to perform and to communicate safe systems of work

to those who are at risk. In 2021, so far 53 assessments were produced and reviewed on our Health and Safety software, SHE. In addition, we continue to review personal Covid related risk assessments in line with the changing government guidance. Training on SHE for users continued during the period.

- **Asbestos** –If there is any suspicion of asbestos being present in Council buildings, operatives are instructed to immediately report to their line manager. Following this specialist contractors are used to manage arrangements for handling Asbestos according to agreed procedures.

Customer Feedback

The number of complaints has been increasing over the past quarter which is indicated in the graphics below. The Authority welcomes feedback and have put in additional measures because of the increased feedback to ensure we capture opportunities to learn. These have included:

- Lessons learnt meetings where complaints have often been multi-disciplinary
- Improving our feedback database to us get more detailed analysis bringing forward a new dashboard of information
- A new back-office system which will be rolled out in Quarter 2 2021/22 which will enable complaints to feed directly into the information above, giving officers more time to react, respond and learn from the actual feedback rather than a focus on administration.

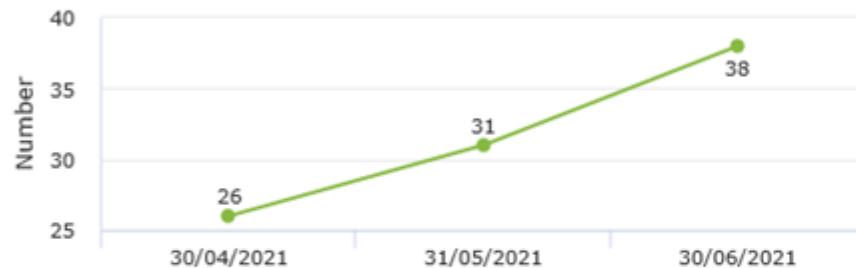
In addition to the above, information will be provided to Team Managers in a live data environment which will show where delays are being received and improve on our response rates.

Customer Feedback Graphs

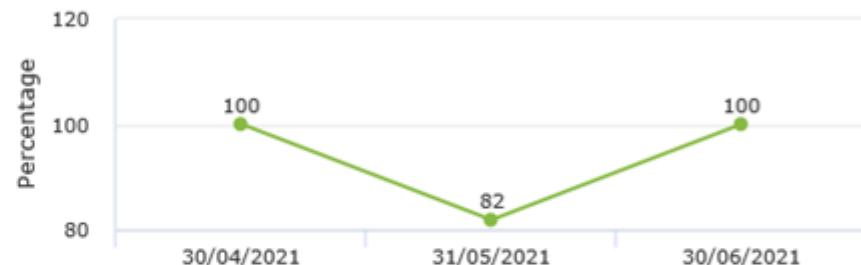
Performance Indicator	Community Services	Customer Services	Economic Regeneration	Finance	Housing and Property	HR and Organisation Development	Legal and Commercial Services	Planning and Infrastructure
*PI003 - Number of compliments received	25	12	2	1	46	4	0	5
*PI004 - Number of ombudsman cases received	0	0	0	0	0	0	0	0

*

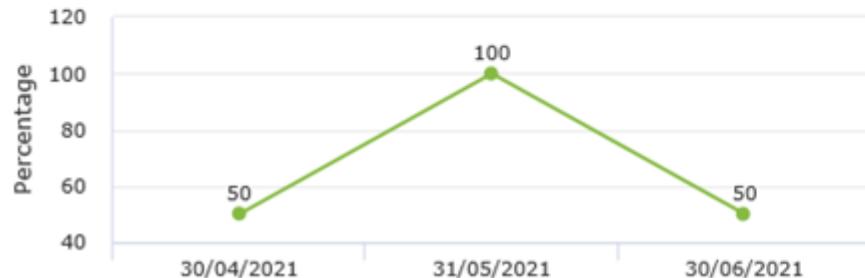
Number of compliments received



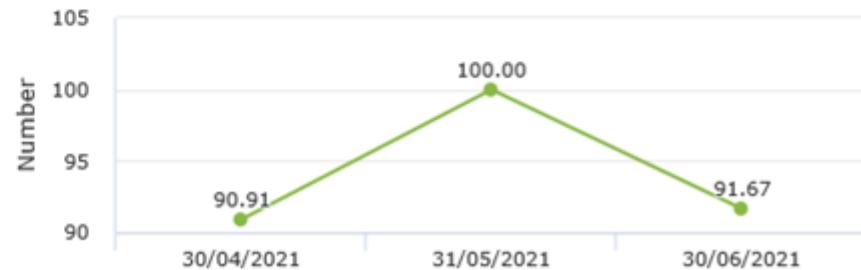
Percentage of stage 1 complaints responded to within 10 days

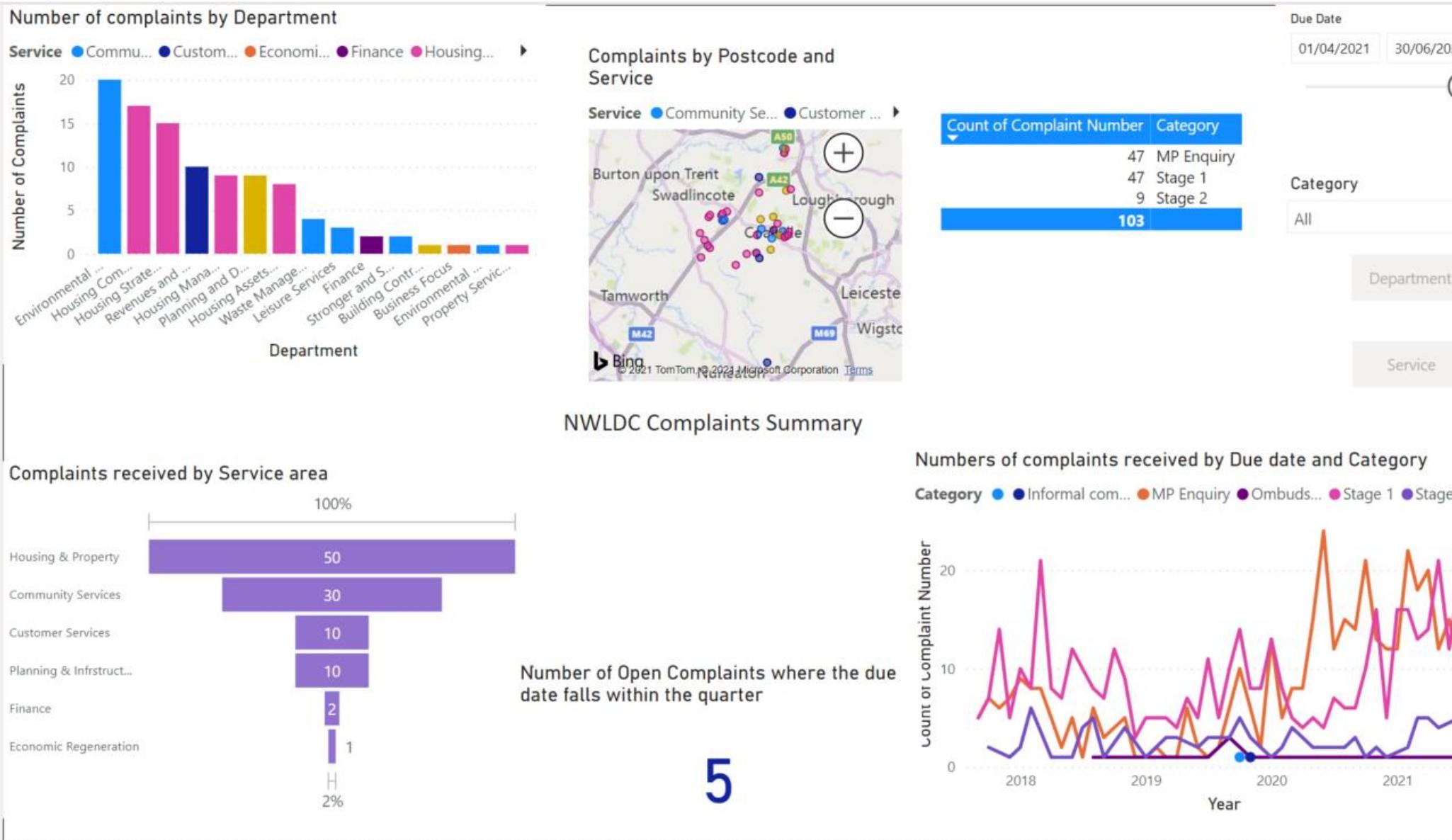


Percentage of stage 2 complaints responded to within 10 days

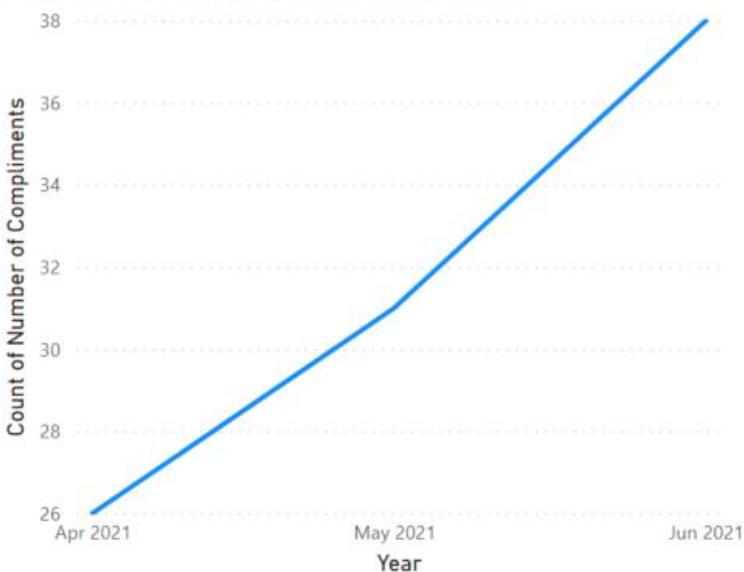


Percentage of MP enquiries responded to within 10 days

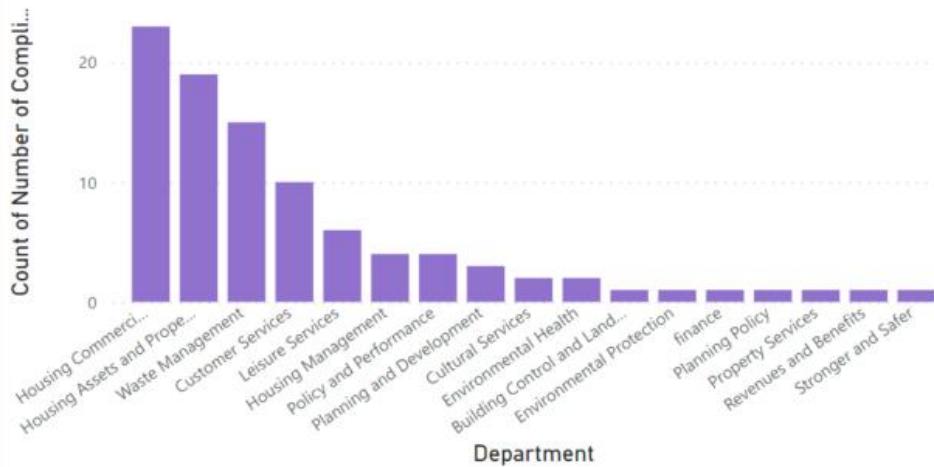




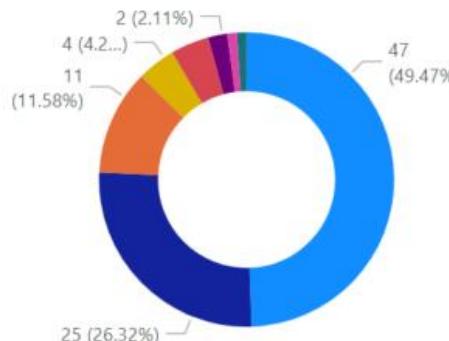
Number of Compliments received over time



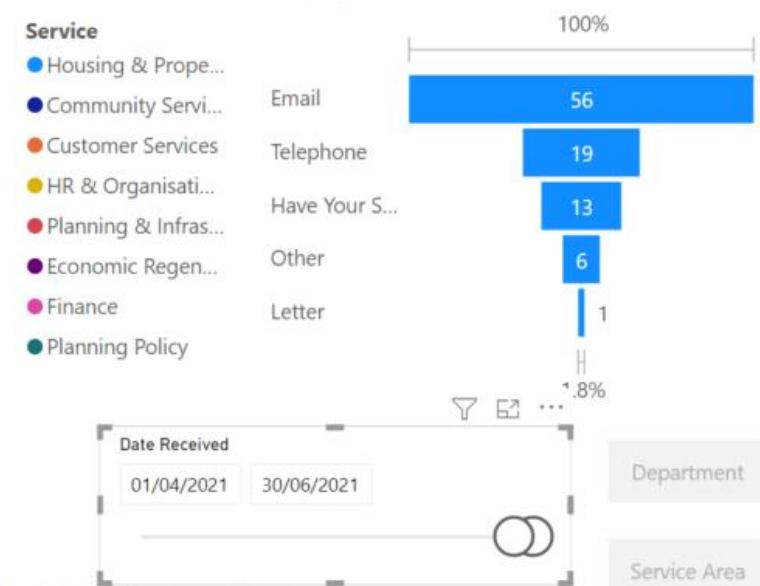
Compliments received by Department and Category



Compliments received by Service Area

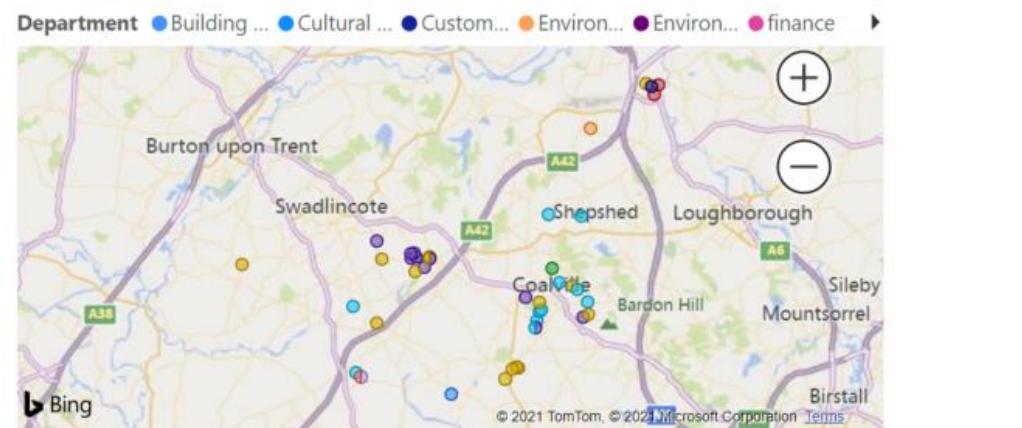


Compliments received by Method of Receipt



NWLDC Compliments Summary

Compliments received by Postal Code and Service Area



Customer Services Call Centre Statistics

Quarter 1 has seen call volumes increase by approximately 3000 more calls than the same period last year yet despite this, Customer Service have answered more calls, 89.08% in contrast to 82.31%. The volume of calls can be attributed to continued service disruptions and reinstated debt recovery whilst the ability to respond and answer is supported by face-to-face customers being seen by appointment.

Abandoned calls over this Quarter 1 period are higher when compared to 2020-21, however this is due to the volume of calls received overall. Customer Service received 3,000 more calls and answered 5,000 more calls than the same period last year, making this quarters' performance a better result generally.

Call waiting times have also increased due to call volumes and length of conversations. Waiting times have only increased by an average of 38 seconds yet the Customer Service team saw an increase of demand by 11.69%. The team answered 20.88% more calls for the quarter compared to last year with a slight uplift in handling time of 43 seconds.

Average amount of minutes a visitor had to wait before they are seen by Customer Services:

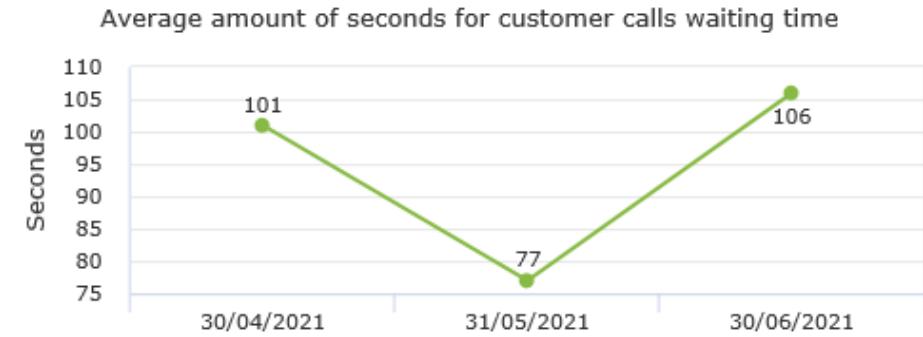
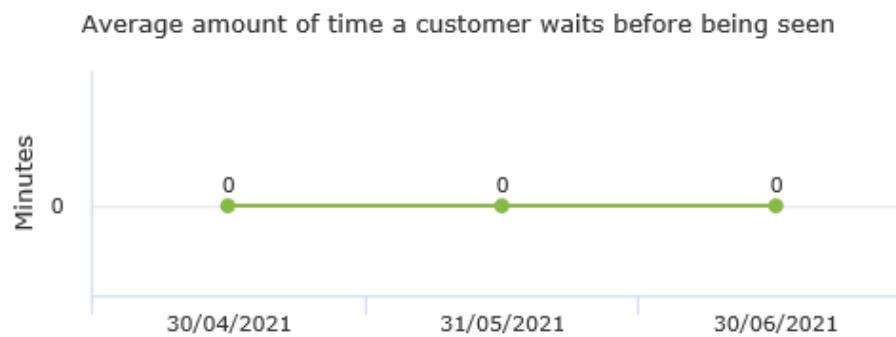
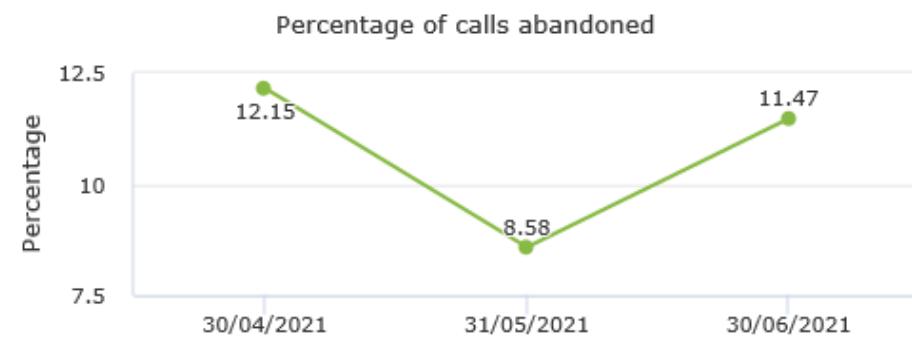
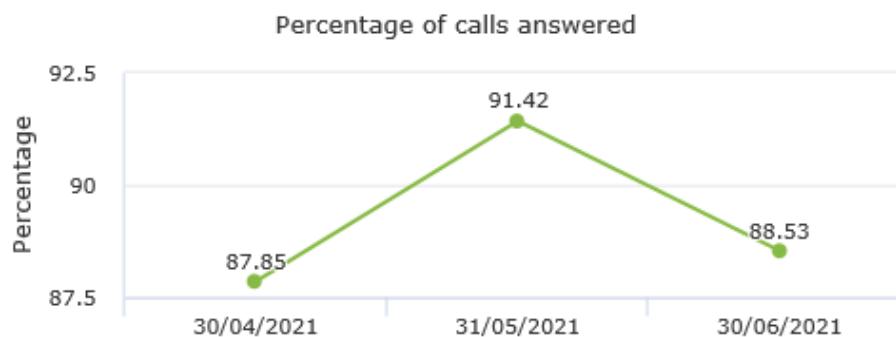
This measurement needs to be revised/amended as currently customers are seen by appointment rather than on demand therefore no waiting times are presently recorded.

Customer Services Call Centre Statistics Graphs

Dates

30/04/2021 31/05/2021 30/06/2021

Measure Name		Apr 2021	May 2021	Jun 2021
PI029 - Percentage of calls answered in the call centre	Actual	87.85	91.42	88.53
PI030 - Percentage of Call centre rate of abandonment	Actual	12.15	8.58	11.47
PI032 - Average amount of minutes a visitor has to wait before they are seen by Customer Services	Actual	0	0	0
PI235 - Amount of seconds for customer call waiting time average	Actual	101	77	106



Finance

General Fund	Annual Budgeted Position	Q1 Annual Forecast Position	Forecast Variance	
Budgeted Surplus/(Deficit)	£1,102,000	£244,000	£858,000	
<p>The general fund forecast outturn is currently £858,000 lower than the budgeted position, which is predominantly due to the additional £720,000 expenditure on leisure services, due to plans to provide additional financial support to the leisure contract as a result of the pandemic, which is subject to Cabinet approval.</p> <p>Other significant variances include:</p> <ul style="list-style-type: none"> - Environmental protection forecast overspend of £156,000. This is predominantly due to lower than anticipated income from: car parking (£63,000); the new market (£41,000); and off-street parking enforcement fines (£27,000). There are also additional legal costs of £38,000 from public protection work. - Waste service costs are forecast to be £83,000 over budget. This is largely due to higher salary and vehicle costs, totalling £548,000 but is offset by a £481,000 increase in recycling income. 				
Housing Revenue Account	Annual Budgeted Position	Q1 Annual Forecast Position	Forecast Variance	
Budgeted Surplus/(Deficit)	£35,000	(£99,480)	(£134,480)	
<p>The HRA forecast deficit of £99,000 is largely the result of income being £78,000 lower than forecast and additional forecast staffing costs within housing management because of staff absences.</p> <p>If spend on the HRA capital programme remains below forecast, it may be possible to reduce the revenue contribution to capital outlay to bring the HRA back to a surplus. This will be monitored over the course of the year.</p>				

Special Expenses	Annual Budgeted Position	Q1 Annual Forecast Position	Forecast Variance	
Budgeted Contribution to/(from) Reserves	(£113,000)	(£64,000)	£49,000	
The forecast contribution from special expenses reserves has fallen as a result of the pandemic continuing to prevent events from going ahead, saving £29,000 and due to income from burials increasing by £17,000.				
General Fund Capital Programme	Annual Budgeted Position	Q1 Annual Forecast Position	Forecast Variance	
Budgeted Expenditure	£20.7 million	£20.7 million	£0 million	
<p>Total spend on the general fund capital programme in quarter one was £3.3 million, which was mainly due to spend on the new leisure centre.</p> <p>There are two significant reviews of general fund capital projects that are likely to change the capital programme in the future:</p> <ul style="list-style-type: none"> • Accommodation review. There is currently £2.0 million budgeted for improvements to the current council offices which will be replaced by new budgets if Council approves the latest accommodation plans in September. • Fleet review. Officers are currently developing a fleet strategy to reduce carbon emissions from our vehicles. This is likely to result in changes to the vehicle replacement budgets, which total £2.5 million. 				
Housing Revenue Account Capital Programme	Annual Budgeted Position	Q1 Annual Forecast Position	Forecast Variance	
Budgeted Expenditure	£14.4 million	£11.9 million	(£2.5 million)	
Total spend on the HRA Capital Programme in quarter one was £855,000 against a capital programme of £14.4 million.				

The forecast outturn for the year have been revised down by £2.7 million. This variance largely due to lower anticipated spend on the New Supply programme in the year, as the forecasts reflect the status of the new build sites which were due to start this year.

There is a small adverse variance on the new housing finance system reflecting a later completion date for the project that initially planned, which is currently forecast to spend an additional £120,000 over budget.

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APPENDIX 2

Extract of the Draft MINUTES of a meeting of the CORPORATE SCRUTINY COMMITTEE held in the Council Chamber, Council Offices, Coalville on WEDNESDAY, 1 SEPTEMBER 2021

Present: Councillor R Boam (Chairman)

Councillors E G C Allman, D Bigby, A J Bridgen, G Hoult, A C Saffell and S Sheahan

Portfolio Holders: Councillors A C Woodman

Officers: Mr A Barton, Mrs C Hammond, Mr D Bates, M D'Oyly-Watkins, Mr C Elston, Mrs A Harper, K Hiller, James, Mrs M Long, Mr M Murphy, Mr P Sanders and Mr P Wheatley

12. APOLOGIES FOR ABSENCE

Apologies for absence were received from Councillors B Rushton-Harrison, N Smith and M Wyatt

13. DECLARATION OF INTERESTS

There were no interests declared.

18. 2021/22 QUARTER 1 PERFORMANCE REPORT

The Head of Human Resources and Organisational Development introduced his report which provided an update on the Council's key objectives and performance indicators for the period April to June 2021. It was noted that these were based on the Council Delivery Plan agreed by Council in November 2020, as the latest one is yet to be agreed by Council at its meeting on 7 September.

Concern was expressed on the level of fly tipping and a member felt that the Council had lost control of the situation and asked that the Committee be informed of the cause of the issue and what was being done in an attempt to address it. The Committee was advised that the figures reflected the situation in the midst of the pandemic with severe staffing issues the tips being appointment only and the public being restricted in movements. The figures are historical and the situation has already been remedied and the figures are now more in line with where they would be expected to be.

In response to a question in relation to the target of 9,000 people attending events in Coalville against the reality of 6,000 and the reason for the shortfall, it was noted that 9,000 was a target was for the year and 6,000 was what had been achieved in the first quarter and therefore it was a positive outcome.

Further details were requested on the proposal for loyalty cards and it was noted that it was not just intended for the Belvoir Shopping Centre but across the wider shopping areas. The detail was still being developed but it was agreed that these would be shared with members outside the meeting.

It was noted that the figures in the report which relate to shop vacancy rates were produced before demolition commenced at the Belvoir centre and therefore they include information relating to some units which no longer exist.

Discussion turned to the use of leisure centres as vaccination centres. There were mixed views as these were considered vital to the area, whilst accepting that it resulted in the loss of community facilities in the area.

Concern was expressed by a member who felt that we may be deliberately holding back on capital spend in order to balance the books on the Housing Revenue Account. It was made clear that the issue was around dealing with the backlog of some capital works a result of Covid and every effort was being made to address the backlogs of work and hence maximise the available funds.

The discussion turned to the levels of sickness and more specifically the levels of stress related illness. Assurances were sought that the workforce was being appropriately looked after. Members were reassured that good levels of support are provided including the use of occupational health, a counselling helpline and dedicated HR support.

Having been moved by Councillor E Allman and seconded by Councillor G Hoult it was subsequently

RESOLVED:- That the Quarter 1 Performance Report be noted and that the comments of the Committee be conveyed to Cabinet ahead of its meeting on 21 September 2021.

The meeting commenced at 6.30 pm

The Chairman closed the meeting at 8.50 pm

NORTH WEST LEICESTERSHIRE DISTRICT COUNCIL

CABINET – TUESDAY, 21 SEPTEMBER 2021



Title of Report	REVIEW OF MEDIUM TERM FINANCIAL PLAN	
Presented by	Councillor Nicholas Rushton Corporate Portfolio Holder	
Background Papers	<u>Medium Term Financial Strategy</u> – Council 26 February 2019 <u>Provisional Financial Outturn</u> 2020-21 – Cabinet 27 July 2021 <u>2021-25 Medium Term Financial Plans</u> – Cabinet 2 February 2021	Public Report: Yes Key Decision: Yes
Financial Implications	<p>The medium term financial plan sets out the indicative five year financial position for the council, and should be considered when making strategic decisions.</p> <p>There remains significant uncertainty around the general fund's funding position over the medium term. The report sets out optimistic and pessimistic scenarios for the future, but under all scenarios structural deficits arise within the medium term.</p> <p>The HRA, as a self-financing account, remains healthy, with occasional deficits over the five year period driven by the need to fund the HRA capital programme. Deficits are fully funded through the HRA's working balances.</p> <p>Signed off by the Section 151 Officer: Yes</p>	
Legal Implications	<p>There are no direct legal implications</p> <p>Signed off by the Monitoring Officer: Yes</p>	
Staffing and Corporate Implications	<p>There are no immediate staffing or corporate implications. However, over the medium term there may be significant implications if the Council's key funding sources reduce as expected.</p> <p>Signed off by the Head of Paid Service: Yes</p>	
Purpose of Report	To update Cabinet on the council's medium term financial position and to approve the approach to setting the 2022/23 budget.	
Reason for Decision	To approve the planned approach to budget setting for 2022/23.	

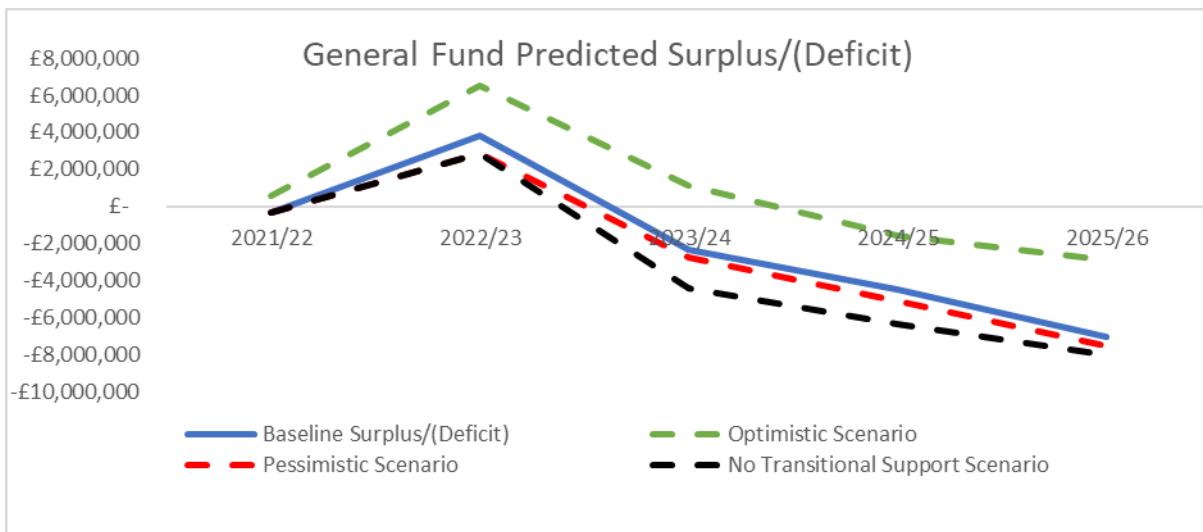
Recommendations	<p>THAT CABINET:</p> <ol style="list-style-type: none"> 1. NOTE THE COUNCIL'S REVISED MEDIUM TERM FINANCIAL PLANS, IN PARTICULAR THE UNCERTAINTY SURROUNDING THE GENERAL FUND'S FUNDING POSITION. 2. APPROVES THE PLANNED APPROACH TO BUDGET SETTING THIS YEAR.
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1.0 BACKGROUND

- 1.1 This report sets out the Council's latest medium term financial plans and the assumptions that underpin those, with a view to guiding the Council's approach to setting the budgets for 2022/23. At this stage, only underlying assumptions supporting the plans have been updated, based on the latest information available. Planned expenditure over the medium term has not been updated, except to reflect outturn and known changes going through the committee system.

2.0 GENERAL FUND MEDIUM TERM FINANCIAL PLAN

- 2.1 The previous medium term financial plan, reported to Council in February 2021, estimated that the general fund would suffer a £10.3 million deficit over the five-year period. This deficit was caused by anticipated changes in government policy that would see the council lose significant amounts of funding. The shortfall would be offset by making savings over the five-year period, totalling £5.1 million, and the remaining shortfall would be covered by the Journey to Self Sufficiency Reserve.
- 2.2 In updating the plan, officers have developed optimistic and pessimistic scenarios for how the Council's finances may change over the next five years. These are summarised in the graph below.



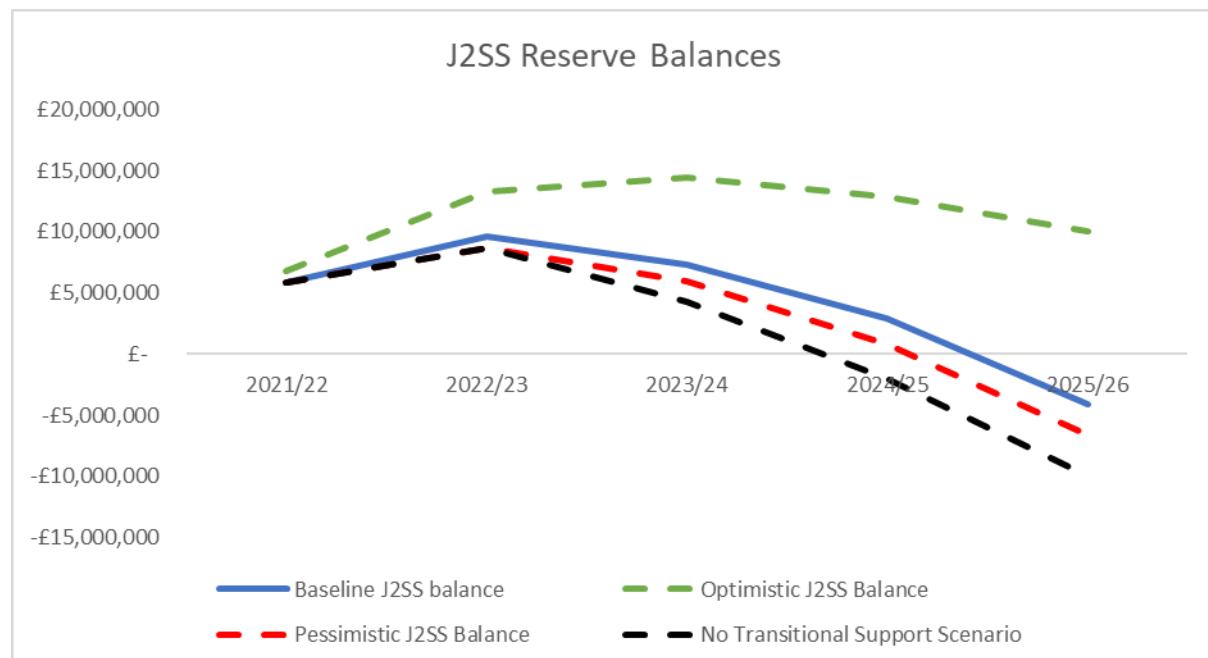
- 2.3 Overall, each scenario shows a downward trajectory for the Council's surpluses and shows that we expect the Council's general fund to fall into a deficit position in the medium term unless action is taken.

- 2.4 The drops are caused by the anticipated resetting of the business rates retention scheme. This scheme allows local authorities to keep a proportion of the growth in business rates within its area, with the baseline reset periodically. That reset is now long overdue, as it is part of Government's wider reviews into local authority funding. The latest expectation is that Government will not reset the business rates until 2023/24, giving North West Leicestershire another year before business rate income may drop.
- 2.5 Other key assumptions included within the modelling are:
- 2.5.1 **Council Tax.** The Council tax base is assumed to grow in each case, with 1.26% per year used in the baseline and pessimistic scenarios and 2.15% in the optimistic. Within the optimistic, it's also assumed that the council increases the council tax charge by the maximum amount possible from 2024/25, which is the first budget set after the next district election. Under the pessimistic scenario, it's assumed that collection rates drop by 1 percentage point and council tax remains frozen throughout the period. This leaves the total income from council tax over the five years varying from £28.0 million in the pessimistic scenario to £28.8 million in the optimistic, with the baseline projection being £28.3 million.
- 2.5.2 **New Homes Bonus.** This is payments provided by central government to incentivise housing growth in districts. Government held a consultation on the future of the new home bonus earlier this calendar year. Our baseline assumption is that there will be one more legacy payment for 2022/23, totalling £0.9 million. The optimistic scenario assumes that the bonus continues, with £1.5 million received in 2022/23 and £1.1 million thereafter. The pessimistic scenario assumes that it is withdrawn in the forthcoming spending review and we receive no bonus going forward.
- 2.5.3 **Business Rates Growth.** In addition to when planned reforms will arise, there is assumed growth in business rates within the district. This varies from there being no growth in the pessimistic scenario, to 0.7% per year growth in the baseline and 2% growth in the optimistic scenario.
- 2.5.4 **Transitional Support.** Government often provides local authorities with some form of transitional support when implementing major funding changes, to ensure councils have time to respond to changes in funding. Under the baseline scenario, it's assumed that government funds 90% of the funding loss initially, with that then falling away each year. The optimistic case sees 95% of the loss funded, whilst the pessimistic sees 80% of the loss funded. These scenarios result in support of £3.3 million over five years in the pessimistic and baseline scenarios, with £0.6 million in the optimistic scenario. A further scenario is presented for no transitional support being provided on top of the pessimistic scenario, which is represented by the black dotted line.
- 2.5.5 **New Unknown Funding.** Under the optimistic scenario, a new, currently unknown, funding source emerges that generates £1 million per year for the Council. Examples could be government funding for initiatives that we already undertake or are planning to in the medium term, such as free collection of garden or food waste. The baseline and pessimistic assumptions assume that no funding sources are found.
- 2.5.6 **Journey to Self Sufficiency Savings.** The optimistic scenario assumes that the planned J2SS savings of £5.1 million over 5 years on the general fund are achieved. This assumption is not presented in the baseline and pessimistic scenarios so it is clear that action is required to balance the budget over the medium term.

2.6 Journey to Self Sufficiency Reserves

2.6.1 The Council's Medium Term Financial Strategy sought to mitigate against this risk by setting aside surpluses into a reserve, known as the Journey to Self Sufficiency Reserve. This currently sits at £6.2 million, and gives the Council resources to fund spend to save activities or offset some future years of deficits.

2.6.2 The figure below shows how the J2SS reserve will fare in each scenario if it is used solely to offset future deficits. It shows that, without action, the J2SS reserve will be depleted in all but the optimistic scenario by 2025/26.



3.0 HOUSING REVENUE ACCOUNT MEDIUM TERM FINANCIAL PLAN

3.1 The previous medium term financial position, reported to Council in February 2021, estimated that the Housing Revenue Account would have a £1.9 million deficit over the five-year period. Unlike the General Fund, HRA is financially self-sufficient with a stable income stream from rents. The 5 year deficit is a result of large revenue contributions to capital to fund the HRA capital programme – a cost which is fully met from the HRA's reserve position.

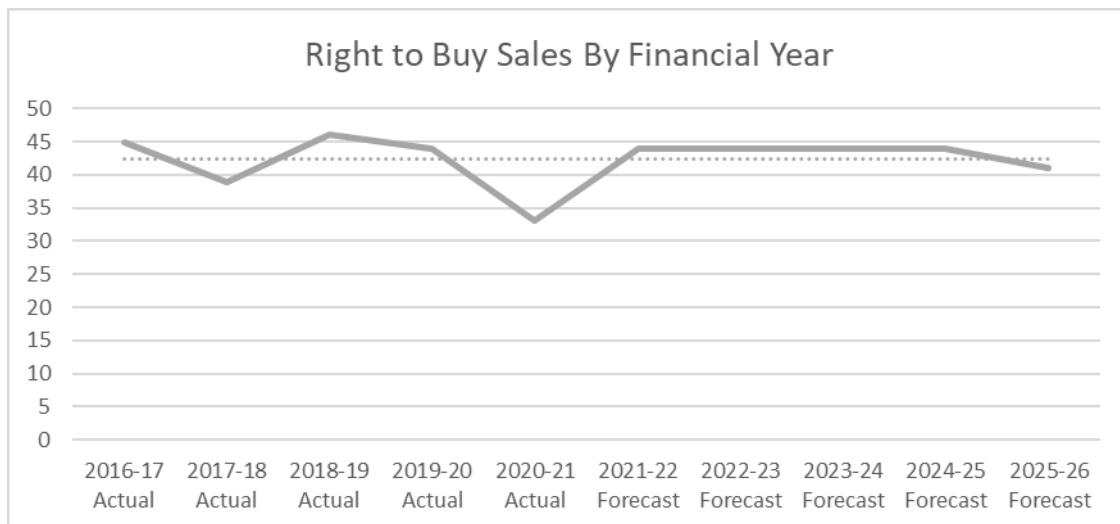
Key assumptions

3.2 The key assumptions underpinning the Housing Revenue Account medium-term financial plan are:

3.2.1 **Rents.** This is the primary income for the HRA, with £17.4 million budgeted in 2021/22. Renting-setting is regulated by government, with the current policy limiting rent increases to CPI+1% each year until March 2025, which is built into our medium-term financial plans. It is not known what the rent policy will be after that period, but our current assumption is that rent increases will be in line with CPI from April 2025.

3.2.2 **Right to buy sales.** Whilst sales of council homes reduce our rental income, they also provide a large capital receipt that part funds the HRA capital programme – in 2020/21 the Council retained £1.1 million from the sales for use in the capital programme.

Our assumption is that right to buy sales will continue at around 44 properties a year, which is based on the average of past sales excluding 2020/21, which saw a dip in sales as a result of the pandemic. We also assume that in 2025/26 we will see the number of sales start to decrease, which reflects the position seen nationally that, over time, right to buy sales start to decrease as house prices increase and most tenants who want to purchase their home would have.



- 3.2.3 **Inflation.** Inflation increases both the rent we collect, but also the forecast cost increases within the medium term financial plan. The long term assumption for inflation is that it will increase by 2.0% each year. However, the latest forecasts from the Bank of England suggest there will be a short term spike in inflation in late 2021 for a year. The inflation forecasts have therefore been revised up 2.7% for 2022/23 and 3.3% for 2023/24 in line with the Bank of England's forecasts, before dropping back to the long-term position of 2.0%.

Latest Medium-Term Financial Position

- 3.3 The revised five year surplus position for the HRA is shown in the table below, and shows a £1.7 million deficit over the 5 year period, an improvement of £0.2 million since the February 2021 report. This change is largely due to the increase in inflation on the figures, as higher inflation allows rents to increase more, which is then compounded over time.
- 3.4 The table below shows the deficit is a result of the £26.1 million revenue contribution to the capital programme over the 5 years and represents the use of surpluses from previous years that are currently retained to be used flexibly in the future. This demonstrates the robustness of the HRA's financial position in the medium term.

	2021/22 £'000	2022/23 £'000	2023/24 £'000	2024/25 £'000	2025/26 £'000	TOTAL £'000
Surplus/(Deficit) before adjustments	3,460	3,998	4,525	4,826	4,938	21,751
Revenue contributions to capital outlay	-3,650	-6,136	-5,740	-5,500	-5,070	- 26,100
Planned Journey to Self- Sufficiency Savings	225	325	575	625	900	2,650
Predicted Surplus/(Deficit)	35	-1,813	-640	-49	768	-1,699

- 3.5 The challenge for the HRA in the medium term is responding to new emerging priorities, such as reducing the carbon footprint of our council homes, a potential new standard for the decency of our homes and Government's new social housing white paper.

4.0 APPROACH TO SETTING THE 2022/23 BUDGET

- 4.1 The medium term financial position presented in this report shows that there are significant financial risks on the horizon for the Council, although uncertainty remains as to how and when they will crystallise and what the precise impact will be. It is, therefore, important to continue preparations that give the Council the agility to respond quickly if the risks identified within this report do materialise.
- 4.2 The Council's primary mitigation against the funding risk is the Journey to Self-Sufficiency Programme (J2SS). The previously agreed five-year savings targets was reset for 2021/22, with a total of £7.8 million of savings planned over the next five years across both the general fund and housing revenue account.
- 4.3 As part of the 2022/23 budget-setting process, officers will perform detailed reviews of budgets to identify budget savings. This will include asking budget holders to complete value for money statements for their service areas and to model the impact of a 10% reduction to their net cost of service on their performance.
- 4.4 This process aims to improve the understanding, and scrutiny, of overall budgets. This will provide a good basis for moving towards outcomes-based budgeting in the future, should a significant revision of budgets be needed to respond to reduced funding or changing priorities.
- 4.5 In order to facilitate this additional work and to provide more opportunity for member engagement with the process, officers have reviewed the budget timetable to create more time for developing the budgets and to ensure Cabinet is consulted once it's

clearer what the national funding position looks like. The revised timetable would involve:

- **November 2021:** Corporate Scrutiny Committee will be asked to scrutinise the medium-term financial position of the Council. At this point, members of the committee will be asked to feed in any proposals that they think should be considered as part of the budget setting process.
- **December 2021:** Corporate Scrutiny Committee will be presented with the draft budgets and proposals for scrutiny.
- **January 2022:** Cabinet will be asked to review and approve the draft budgets for a shorter, three-week public consultation.
- **February 2022:** Cabinet will be asked to recommend the final budgets for full Council in the same month.

Policies and other considerations, as appropriate	
Council Priorities:	The medium term financial plans seek to understand the amount of resources available to the Council to deliver its priorities in the future.
Policy Considerations:	Not applicable.
Safeguarding:	Not applicable.
Equalities/Diversity:	Not applicable.
Customer Impact:	Not applicable.
Economic and Social Impact:	Not applicable.
Environment and Climate Change:	The plans set out in this report do not fully reflect the potential effort required to make the Council zero carbon by 2030. A £1 million reserve was created to fund initial works, of which £409,000 remains unallocated, but there is likely to be further financial resources required in the run up to 2030 to meet this target.
Consultation/Community Engagement:	Not applicable.
Risks:	The financial risks over the medium term are detailed in the report.
Officer Contact	Dan Bates Head of Finance and Section 151 Officer Dan.bates@nwleicestershire.gov.uk

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NORTH WEST LEICESTERSHIRE DISTRICT COUNCIL

CABINET – TUESDAY, 21 SEPTEMBER 2021



Title of Report	SPECIAL EXPENSES POLICY	
Presented by	Councillor Nicholas Rushton Corporate Portfolio Holder	
Background Papers	Coalville Special Expenses Working Party Draft Minutes - 15 June 2021	Public Report: Yes
	Corporate Scrutiny Draft Minutes – 1 September 2021	Key Decision: No
Financial Implications	Special Expenses do not bring any additional income to the Council as they are a means of redistributing who pays for an element of the council's costs. However, instead of being paid by all Council Taxpayers, the service is paid for only by those Council Tax payers in the area receiving specified Signed off by the Section 151 Officer: Yes	
Legal Implications	Only certain functions are capable of being treated as special expenses and those functions need to be approved by Council. It is therefore important that it is clear which functions the Council has approved as being capable of being treated as special expenses. A policy assists in providing this clarity. Signed off by the Monitoring Officer: Yes	
Staffing and Corporate Implications	Signed off by the Head of Paid Service: Yes	
Purpose of Report	For Cabinet to review the draft Special Expenses Policy and provide any amendments/comments before approval at Council.	
Reason for Decision	To enable the approval of the Special Expenses Policy.	
Recommendations	THAT CABINET RECOMMEND TO COUNCIL THE APPROVAL OF THE SPECIAL EXPENSES POLICY AS DETAILED IN APPENDIX B.	

1.0 BACKGROUND

- 1.1 Special Expenses were introduced at the Council to solve the problem of concurrent functions and avoid double taxation. The subject of concurrent functions and double taxation can be quite complex and is explained further in paragraph 2 of this report.

1.2 Special Expenses have been in place for several years at the council, however there is no policy in place. This has led to some confusion as to what can and cannot be treated as a special expense. It is also a requirement that Council approves each category of special expense, which the Council has previously done through the approval of the budget. A policy has been drafted to formalise the Council's current position on Special Expenses as this will help ensure that everybody is aware of what can be treated as Special Expenses and provides a clear mechanism for Council to approve the functions in conjunction with the annual budget report.

2.0 CONCURRENT FUNCTIONS

- 2.1 Concurrent functions are services provided in some parts of the district by the district or county council and in other areas by a parish council, where this occurs parish taxpayers may be charged twice. This occurs because parish councils will charge within their precept for the functions they carry out and where the function is being carried out by the District Council in non-parished areas, it will charge for those functions within its precept too. The parished areas will therefore pay both the parish council and the District Council, when only the parish council is carrying out the function in their area. Treating those as special expenses instead means that only those in unparished areas who get the benefit of the function pay the District Council for it, whilst parishes continue to pay their parish council, meaning nobody ends up paying twice.
- 2.2 The existence of concurrent services does not in itself mean that double taxation is occurring; this has to be determined through assessing the funding and financial arrangements. Concurrent functions can arise in wholly parished districts as well as partially parished ones. This is often historic, for example, due to functions or local facilities being transferred following the 1974 local government reorganisation.
- 2.3 Government guidance issued in May 2002 provided a list of examples of facilities/functions across the country that were being exercised concurrently, and hence may be the cause of double taxation. These are detailed in Appendix A. This should not be relied on a definitive list, the deciding factor is that the function must be carried out by the Billing Authority in only part of its district, and the same function must be carried out in another part of the district by one or more Parish/Town councils.

3.0 SPECIAL EXPENSES

- 3.1 This makes use of provisions under the Local Government Finance Act 1992 which provide for different amounts of council tax to be calculated for different parts e.g. parished and unparished areas, of the district, depending on what, if any, special items relate to those parts. A special item is an item which relates to only part of the district council's area. Where functions are provided in part of a billing authority's area by a parish council, sections 34 and 35(1)(a) of that Act ensure that only council taxpayers in that parish pay towards the cost of the precept issued by that parish council. A local precept is one 'special item'.
- 3.2 'Special Expenses' are another 'special item'. The five different types of special expense are listed in section 35(2). Section 35(2)(d) provides that "any expenses incurred by a billing authority in performing in a part of its area a function performed elsewhere in its area by the sub-treasurer of the Inner Temple, the under-treasurer of the Middle Temple, a parish or community council or the chairman of a parish meeting are the authority's special expenses unless a resolution of the authority to the contrary effect is in force."

3.3 In order for expenses incurred in performing any function of a district council to be special expenses under section 35(2)(d), the function must be carried out by the district in only part of its area, and the same function must be carried out in another part of the district by one or more parish councils. The detailed identification of concurrent functions is therefore essential for using this special expense provision. The district council first calculates an average council tax across the whole of its area under section 33 of that Act. Included in that will be the amounts the district council has to pay to parish councils under their precepts, plus the amounts the district will spend on performing functions which are performed in parts of its area by parish councils.

3.4 Special Expenses are currently in place for the following areas:

- Appleby Magna
- Coalville
- Coleorton
- Hugglescote and Donington-le-Heath
- Lockington cum Hemington
- Measham
- Oakthorpe, Donisthorpe & Acresford
- Ravenstone
- Stretton-en-le-Field
- Whitwick

4.0 SPECIAL EXPENSES POLICY

4.1 Special Expenses have been in place for several years at the council, however there is no formal policy in place. The benefit of having a policy is that the Council has a clear central list of those expenses that have been approved as being capable of being treated as a special expense. It will provide clarity to both officers and members on what functions can be carried out by the Council for the benefit of unparished areas and will fall under the special expense category. A policy has been developed and is attached at Appendix B for review.

4.2 The policy has been considered by the Coalville Special Expenses Working Party on the 15 June 2021 and Corporate Scrutiny on the 1 September 2021 and a link to the draft minutes is included within the background papers above.

4.3 The policy will be going to Council on 16 November 2021 for approval.

Policies and other considerations, as appropriate	
Council Priorities:	Not applicable
Policy Considerations:	Not applicable
Safeguarding:	Not applicable
Equalities/Diversity:	Not applicable
Customer Impact:	Not applicable
Economic and Social Impact:	Not applicable

Environment and Climate Change:	Not applicable
Consultation/Community Engagement:	Coalville Special Expenses Working Party – 15 June 2021 Corporate Scrutiny – 1 September 2021 Cabinet – 21 September 2021
Risks:	Not applicable
Officer Contact	Anna Wright Finance Team Manager and Deputy S151 Officer anna.wright@nwleicestershire.gov.uk

List of Concurrent Functions

- Allotments
- Boating pools
- Bus shelters
- Car parking (off street)
- CCTV(installation and maintenance)
- Cemeteries and burial grounds
- Christmas lights and trees
- Closed cemeteries and burial grounds
- Commons and common pastures
- Community centres
- Crematoria
- Entertainment and the arts
- Footway lighting
- Grants to bus operators
- Grass cutting
- Information services (transport, tourism)
- Highways maintenance
- Leisure facilities
- Litter and dog waste bins
- Museums
- Open spaces
- Parks
- Playgrounds
- Playschemes
- Playing fields
- Public clocks
- Public conveniences
- Public seats adjoining highways
- Recreation grounds
- Sports pitches
- Street cleansing
- Subsidies for uneconomic post or telecommunications services
- Taxi fare concessions
- Tourism promotion
- Traffic calming
- Village greens
- Village halls
- War memorials

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North West Leicestershire District Council

Special Expenses Policy

Issue 1.1

1. Overview

- 1.1 Special expenses are applied when North West Leicestershire District Council (NWLD) provides a service in a parish (or unparished area) which is provided in other parishes by a town or parish council.
- 1.2 The cost of this service has to be met by the council taxpayers of the town or parish where (NWLD) is providing the service so a special expense is charged to the council tax payers of that parish.
- 1.3 It should be noted that special expenses are not additional spending over and above the budget set by the Council but a classification within the overall budget. The Authority's budget includes Special Expenses, and some Council Tax calculations are based on the total including Special Expenses.
- 1.4 The district consists of 31 parished areas, and one unparished area. Parish councils exercise certain functions in their respective areas, which the District Council must exercise directly in the unparished area. These are known as concurrent functions.

2. Legislation

- 2.1 Section 35 of the Local Government Finance Act 1992 (the Act) specifies the items which are to be treated as special items for the purposes of calculating the Council Tax. Essentially, there are three areas within the provisions of Section 35 of the Act that it is considered apply to the Council:
 - i. A precept relating to part only of the Council's area e.g. parish precepts;
 - ii. The whole of the expenses (or only some) of those incurred by the Council in performing in a part of its area a function performed elsewhere in its area by a Parish Council are its special expenses.
 - iii. Any net expenses which arise out of the Council's possession of property held in trust for a part of its area are Special Expenses.
- 2.2 The first two items above can only be treated as a special expense if the Council has made resolutions to that effect.
- 2.3 In practical terms this is done by the Council at the time of setting the Council Tax in February each year as the report presented to the Council is in the form of a resolution which sets out the calculations required under Chapter III of the Act.

3. Special Expense Items

- 3.1 The Council levies Special Expenses in respect of the following services:
 - i. All Cemetery provision
 - ii. Parks, Open Spaces and Recreation Grounds
 - Closed churchyards
 - Open spaces, parks and play areas that are maintained by NWLD in parished areas;
 - Open spaces, play areas, parks, pavilions and sportsgrounds in Coalville;
 - iii. Coalville Town Centre Support:
 - Coalville in Bloom
 - Support given to 'Local' events

- Christmas Lights and Trees
 - Community Art
- iv. Highways Maintenance

- 3.2 The whole of the net expense (inclusive of any income) is to be included in the definition of the special expense.
- 3.3 Those debt charges will be included for all projects which fall within a special expenses only to the extent that it would be for prudential borrowing, capital receipts or revenue finding, and debt charges on historic capital expenses would not be included.

4. Calculation of Special Expenses

- 4.1 NWLDC will calculate an average council tax across the whole of its area under section 31B of the Local Government Finance Act 1992. Included in that will be the amounts payable to parish councils under their precepts, plus the amounts NWLDC will spend on performing functions which are performed in parts of its area by parish councils.
- 4.2 Under section 34 of the Local Government Finance Act 1992, NWLDC must then deduct the total of any special items. For each part of its area, NWLDC must then add back amounts for any relevant special items for that part of its area. The amount added back is calculated by dividing the special item (i.e. the authority's estimated cost of performing the function in that part of its area) by the tax base for the part of the area in which the authority performs the function.
- 4.3 Treating expenses as special expenses does not affect the overall amount that NWLDC needs to raise through council tax, and does not, therefore, affect the average amount of council tax across the whole of the district. It simply means that, compared with what would happen if the expenses were not treated by NWLDC as special expenses, the council tax is:
 - relatively lower for areas where the parish council performs the concurrent function, as it includes the parish's costs but not NWLDC's costs of performing the function elsewhere; and
 - relatively higher for areas where NWLDC performs the concurrent function, as all NWLDC's costs of performing the concurrent function must be met by taxpayers in the area where NWLDC performs it.
- 4.4 Special Expenses are estimated for the year approaching (in line with all other budget estimates). Special Expenses budgets in future years include previous under or overspends.
- 4.5 If work is undertaken through the Authority's capital programme, any effect from depreciation and funding does not have any effect in the revenue budget until the following year where an estimate is included where the capital expenditure is known, otherwise there is a time lag and it falls into the year after. If the item falls within the special expenses policy then the special expenses budget for future years is amended to include the relevant costs.

5. Review

- 5.1 The list of concurrent functions included within the Special Expenses Items will be reviewed from time to time and the policy updated as necessary.

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NORTH WEST LEICESTERSHIRE DISTRICT COUNCIL

CABINET – TUESDAY, 21 SEPTEMBER 2021



Title of Report	ADOPTION OF FLEET MANAGEMENT STRATEGY	
Presented by	Andrew Woodman Community Services	
Background Papers	<u>Corporate Scrutiny considered the Fleet Management Strategy at its meeting on 1st September 2021</u>	Public Report: Yes Key Decision: Yes
Financial Implications	<p>Section 6 of this report outlines the financial exposure to the council which is expanded in further detail within Annex A.</p> <p>It is anticipated that the adoption of the fleet management strategy, as proposed in this report, will increase the annual revenue costs of running the fleet by £322,000. This will require savings to be made elsewhere in the revenue budget and this will be picked up during the annual budget process.</p> <p>Signed off by the Section 151 Officer: Yes</p>	
Legal Implications	<p>Procurement activities will be supported by the council's in house legal team</p> <p>Signed off by the Monitoring Officer: Yes</p>	
Staffing and Corporate Implications	<p>The fleet management function is contained within current staffing responsibilities within Community Services. Service specific working practices and ways of working will be developed by respective teams in line with the action plan.</p> <p>Signed off by the Head of Paid Service: Yes</p>	
Purpose of Report	To recommend to Cabinet the Fleet Management Strategy.	
Reason for Decision	To enable the council to procure replacement vehicles and reduce CO ₂ emission across the fleet, embracing the council's Zero Carbon commitments.	
Recommendations	<p>THAT CABINET:</p> <ul style="list-style-type: none"> A) CONSIDERS AND APPROVES THE FLEET MANAGEMENT STRATEGY, RECOMMENDATIONS AND ACTION PLAN WITHIN ANNEX A B) AGREES TO THE ALLOCATION OF RESOURCES AND A RELATED PROCUREMENT EXERCISE TO FUND THE INITIAL 3 YEAR FLEET REPLACEMENT PLAN (OUTLINED IN SECTIONS 5 AND 6 OF THIS REPORT) C) AGREES TO THE ALLOCATION OF RESOURCES TO 	

	SWITCH TO AN ALTERNATIVE FUEL (OUTLINED IN SECTIONS 2 AND 6 – SPLIT ACROSS THE HOUSING REVENUE ACCOUNT AND THE GENERAL FUND)
	D) DELEGATES AUTHORITY TO THE HEAD OF COMMUNITY SERVICES, IN CONSULTATION WITH THE PORTFOLIO HOLDER AND HEAD OF FINANCE, TO AWARD CONTRACTS FOR THE FLEET REPLACEMENT PROGRAMME WITHIN THE APPROVED BUDGET SCHEME.

1.0 BACKGROUND

- 1.1 In late 2020 it was agreed that no further vehicles would be purchased until a fleet management strategy had been created to demonstrate how the council's fleet could transition to zero carbon by 2030.
- 1.2 The council owns and maintains its fleet for all services within the council. The council's fleet is made up of 114 vehicles which is a mixture of refuse collection vehicles, parks maintenance vehicles, medium sized panel vans and smaller vehicles alongside more specialist equipment, such as sweepers and mowers.
- 1.3 The fleet replacement plan helps the council to ensure that all vehicles are replaced in a timely manner but previously has not considered vehicle emissions and environmental impact.
- 1.4 A fleet forum was created to bring together representatives from the main fleet user groups along with finance, procurement and zero carbon, to understand current and future challenges and concerns and to develop early fleet management strategy thinking.
- 1.5 Governance and legal compliance forms an element of a fleet management strategy. Officers have worked with the council's insurers to undertake a motor fleet risk assessment service.
- 1.6 A fleet management action plan has been developed to take a holistic approach. This report focuses on fleet and infrastructure for the first three years due to quickly changing technology.

2.0 TECHNICAL FLEET ASSESSMENT

- 2.1 In April 2021, Cenex, consultants specialising in low emission transport and associated energy infrastructure, were commissioned to undertake the development of a fleet management strategy, considering the fleet and infrastructure, and recommend how the council could transition to a zero carbon fleet by 2030. Cenex have undertaken similar projects in the East Midlands for Nottingham City Council, Derbyshire County Council and Severn Trent Water. The suite of Cenex reports is contained within **Annex B, C, and D** to this report.

Current Fleet

- 2.2 The medium van segment produces the highest proportion of air quality emissions on the fleet, amounting to 60% and 69% of NO_x and PM emissions respectively. The high NO_x and PM emissions are impacted by the large proportion of older Euro 4 diesel vehicles currently in operation.

- 2.3 The rigid truck 3-axles (refuse vehicles) segment contributes 54% of CO₂e emissions despite only accounting for 16% of the total fleet. This is a result of the high fuel consumption of these vehicles and associated high energy usage due to the use of bin lifts and compaction units.

Technology Options

- 2.4 Given the wide range of vehicles in operation, Cenex advised that it was unlikely that there would be a single technological solution to reduce the council's carbon footprint and that some technologies are not yet considered mainstream solutions. They considered all the available technology in their review and noted that the harder task for fleet decarbonisation relates to the heavier duty vehicles
- 2.5 Three main technologies were identified based on current UK vehicle availability and supplier/ market maturity.
- 2.5.1 A zero-tailpipe emission vehicle or **ZEV** is a vehicle which does not emit greenhouse gas (e.g., carbon dioxide/CO₂) or air quality pollutant emissions from the vehicle exhaust/tailpipe. These include Battery Electric Vehicle (BEV), Fuel Cell Range Extended Electric Vehicle (FC REEV) and Fuel Cell Electric Vehicle (FCEV).
- 2.5.2 An ultra-low emission vehicle **ULEV** is currently defined as any car or van that emits less than 75 g/km of CO₂ from the exhaust/tailpipe. Due to advances in technology, it is expected that from 2021 an ULEV will be defined as a car or van that emits less than 50 g/km with a minimum required zero emission range. These include Range Extended Electric Vehicle (REEV) and Plug-in Hybrid Electric Vehicle (PHEV).
- 2.5.3 Low emission vehicle **LEV** technologies include all ULEVs and ZEVs in addition to internal combustion engine vehicles capable of using renewable fuels. This includes compressed natural gas (CNG), biodiesel (FAME) and renewable diesel (HVO) each have different levels of supplier maturity and different economic models.

Vehicle recommendations

- 2.6 A Battery Electric Vehicle (BEV) Assessment was completed using three key measures, does it:
- lead to a carbon saving compared to diesel
 - have the range to complete the average daily journeys
 - lead to a total cost of ownership saving compared to a new diesel vehicle
- 2.7 The analysis demonstrated that BEV is suitable for small cars, small vans, and medium vans across all three measures.
- 2.8 Hydrotreated Vegetable Oil (HVO) fuel was identified as an alternative to fossil diesel and a method of achieving an immediate removal of CO₂e emissions pending vehicle replacement across the fleet or where alternative technology is not yet viable. It is a "drop-in" fuel so can be added directly to the existing diesel tank at Lindon Way Depot.
- 2.9 HVO is generally more expensive than diesel due to the market demand, however the market rate does vary. Costs are covered in section 6.
- 2.10 It is recognised that the market and technology is changing quickly, and it is anticipated that there will be further options available for the larger fleet over future

years. Cenex advises repeating the analysis in 2024 to identify whether there are any viable options to replace HVO with BEV or alternative technology, such as hydrogen.

3.0 INFRASTRUCTURE

- 3.1 Cenex assessed the infrastructure required to facilitate the uptake of BEVs, taking into consideration that Housing staff would need home charging facilities. They provided a separate report on what best practice would look like for a home charging scheme.
- 3.2 Cenex considered charging powers, charge point providers, types of parking, reimbursement mechanisms, grant support, tax implications, ensuring installation readiness and liability for home charge points. The actions suggested by this study are included in the Action Plan.
- 3.3 Waste Services is rapidly outgrowing Linden Way depot, due to the increase of properties in the district producing more waste, needing more vehicles and staff to service them. As a key enabler to the progress of the fleet strategy the long term location of the depot is critical. With the potential to run the HGV fleet on hydrogen or another technology in a few years, provision needs to be considered for alternative fuel tanks. It is proposed that a project board is established to assess the requirements and if agreed, source a location for a new depot, meeting the future requirements of the service and enabling long term infrastructure investment.

4.0 SPECIALIST FLEET

- 4.1 There are 20 specialist fleet vehicles on the NWLDC fleet, dominated by mowers, sweepers, tele-handlers, and tractors, these operate primarily on diesel.
- 4.2 Low emission options for specialist equipment and plant are at a lower level of product maturity and availability than those used in road vehicles. Therefore, a higher level analysis was taken than that used for other operational road vehicles.
- 4.3 Cenex assessed the technologies available and advised that electric vehicles are significantly more expensive than their diesel variant. It is recommended that HVO is used in the specialist fleet in order to reduce the emissions until an alternative technology is available.

5.0 REPLACEMENT PLAN

- 5.1 A three year replacement plan has been created to transition the fleet in line with the seven year lifecycle to carbon zero. Technologies will be reviewed before any procurement activity is commenced.

3 Year Replacement Plan (in line with vehicle lifecycle)

Fuel	Team	What	Notes	Year 1 (29)	Year 2 (37)	Year 3 (20)
Electric	Environmental Protection (EP) & HR	Small Car (A)	Car parks Pool cars	3 EP 2 HR		
Electric	Parks Waste	Small van (B)			1 Parks 2 Waste	1 1 Waste
Electric	Housing	Medium Van (C)	Phased approach	6 (1 per trade)	29 (2 phases)	2
Electric	Waste EP	Medium Van (C)		1 Waste		1 Waste 1 EP
Diesel/HVO	Waste	Large Van (D)	Waste collection	1		
Diesel/HVO	Waste	Large van (D)	Food waste vehicles (pending approval)	5		
Diesel/HVO	Waste	Rigid Truck (E)	Waste collection vehicles	6		4
Diesel/HVO	Waste/Parks	Rigid Truck (F)	Reach truck	1		
Electric	Parks Waste	Large van (G)			4 Parks	3 Waste 2 Parks
Diesel/HVO	Parks & EP	Large SUV	4 x 4 pick up		1 Parks	1 EP
Diesel/HVO	Waste	Specialist	Forklift truck	1		
Gas oil	Parks Waste	Specialist	Chipper, mowers, boxing off machine, sweepers	3 Parks		2 Parks 2 Waste

Note: All diesel/HVO vehicles will meet latest emissions standards and will be an improvement on the oldest fleet which is Euro 4. Current standard is Euro 6. From an air quality perspective, NO_x standard is 0.08 (68% improvement v Euro 4) and PM is 0.005 (80% improvement v Euro 4)



Zero Carbon Roadmap 11

6.0 FINANCE AND EMISSIONS

- 6.1 The total capital cost of the three year replacement plan is £5.2 million. This along, with the costs of adopting HVO, is expected to increase the average annual revenue costs of running our fleet by £322,000.
- 6.2 Of the £5.2 million programme, £661,000 relates to the additional capital costs of adopting electric vehicles and the associated charging infrastructure. These costs are expected to be offset by lower running costs over the lifetime of the vehicles, bringing the net additional costs over their lifetime down to £118,000. The carbon emission savings from these vehicles is expected to be 1,221 tCO₂e over the vehicles' lifetime, when compared to using diesel vehicles, representing a cost of £97 per tCO₂e saved.
- 6.3 Using renewable diesel (HVO) in the remaining fleet is estimated to cost an extra 15 pence per litre over fossil diesel, which is expected to equate to £265,000 over the next four financial years. This will save 3,531 tCO₂e over the next four financial years, representing a cost of £75 per tCO₂e saved.
- 6.4 These proposals go beyond the council's stated objective of making the council carbon zero by 2030, as the fleet will become carbon zero as soon as the proposal is adopted, which is likely to be later this year if members approve the proposal. This does, however, risk reducing funding available to reduce our carbon footprint in the longer term. Both proposals are currently unfunded, meaning savings will need to be made in other areas to balance the budget. This will be picked up in the budget setting process.

7.0 CORPORATE SCRUTINY

- 7.1 This paper was presented to Corporate Scrutiny Committee on 1st September 2021 for their comments.
- 7.2 Feedback and comments are captured in the meeting minutes.

7.3 Key considerations of the committee included:

- When sourcing HVO that no palm oil is part of production
- Keep a close watch on technological developments including electric and hydrogen technology
- Sustainability credentials form a key part of all procurement activities in relation to the strategy

8.0 LEGAL IMPLICATIONS

8.1 NWLDC Legal Services are part of the fleet forum and will continue to advise on governance, decision making and specific legal implications of the action plan as they arise.

9.0 RISK IMPLICATIONS

9.1 Risk Management will be a central consideration of each action. Availability of technology that can deliver the required low emission solution will be reviewed as part of all procurement activity.

10.0 ANNEXES

- | | |
|--------------|--|
| 10.1 Annex A | Fleet Management Strategy Report |
| 10.2 Annex B | Cenex Report 1 – Fleet Management Strategy |
| 10.3 Annex C | Cenex Report 2 – Specialist Fleet |
| 10.4 Annex D | Cenex Report 3 – Home Charging |

Policies and other considerations, as appropriate	
Council Priorities:	- Developing a clean and green district - Our communities are safe, healthy, and connected
Policy Considerations:	Zero Carbon Policy and Roadmap as Fleet is a key area of work to reduce emissions. Human Resources Policies and Terms and Conditions in respect of staff training to use new technology as well as the need to charge from home.
Safeguarding:	N/A
Equalities/Diversity:	Housing vehicles are currently parked at home overnight, however, it is anticipated that not all properties will be suitable for home charging.
Customer Impact:	Housing Services is implementing a new electronic scheduling system designed to improve productivity. The impact of this system on their current operational practices together with the introduction of electric vehicles will need to be managed to ensure no adverse impact on their customers.
Economic and Social Impact:	N/A
Environment and Climate Change:	Reduction in CO ₂ e emissions by 100% in year 1

Consultation/Community Engagement:	Internal engagement with relevant stakeholders
Risks:	Risks and issues considered and highlighted in tab in the action plan
Officer Contact	Paul Sanders Head of Community Services paul.sanders@nwleicestershire.gov.uk

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FLEET MANAGEMENT STRATEGY



August 2021

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1. PURPOSE

The council committed to produce a fleet management strategy report to demonstrate how its fleet can transition to a zero carbon/low carbon solution by 2030.

This report focuses on the first three years due to quickly changing technology. It considers vehicles, fuels, infrastructure and summarises the approach and the key outputs. It outlines the strategy, financial implications, and action plan.

2. BACKGROUND

The council owns and maintains its fleet for all services within the council. The fleet replacement plan helps the council to ensure that all vehicles are replaced in a timely manner but previously has not considered vehicle emissions and environmental impact.

The council's fleet is made up of 114 vehicles which is a mixture of refuse collection vehicles, parks maintenance vehicles, medium sized panel vans and smaller vehicles alongside more specialist equipment, such as sweepers and mowers. The predominant users are Waste Services (39) and the Housing team which has a home-based fleet of medium panel vans (44).

Vehicles are generally kept for a seven year period, based on expected life cycle of the vehicle. Since 2018 only one vehicle has been replaced so 53 vehicles in the fleet have now passed their expected life cycle, driving additional maintenance costs or temporary vehicle hire.

In late 2020 it was agreed that no further vehicles would be purchased until a fleet management strategy had been created to demonstrate how the council's fleet could transition to zero carbon by 2030.

3. FLEET FORUM

A fleet forum was created to bring together representatives from waste services and main fleet user groups along with finance, procurement and zero carbon, to understand current and future challenges and concerns and to develop early fleet management strategy thinking.

It included a review of the current status of the fleet, fleet data availability and updates on associated activities (e.g., fleet optimisation, tracker data policy) as well as insight to customer requirements of vehicles. A number of opportunities were identified pending the arrival of a new fleet manager and it provided the foundation for the fleet management strategy.

4. ZURICH RISK ASSESSMENT

Governance and legal compliance forms an element of a fleet management strategy. The council's insurers offer a motor fleet risk assessment service and this exercise was undertaken in Q2 2021 with the report and results expected in Q3. It comprises a number of elements:

Motor Fleet Risk Assessment



Risk Factors – HGV fleet

1. Driver Selection

- Driver Profile
- Driver Selection & Qualification

2. Driver Development

- Driver Assessment & Training
- Driver Maturity & Health Management

3. Driver Supervision

- Driver Contact
- Route Planning
- Driver Work Conditions & Turnover
- Mobile Phones/ Distractions

4. Journey / Operations

- Area of Operation
- Road & Weather Conditions
- Commodities/Loads
- Operational Fatigue Exposures
- Concentration of Values
- Vicarious Liability

5. Incident Management

- Loss History
- Incident Reporting & Investigation
- Fleet Performance Management

6. Vehicle

- Vehicle Maintenance & Inspections
- Safety Features for Heavy Vehicles
- Vehicle Security in Transit
- Vehicle Age & Specification

7. Management

- Site Risks – Fire & Security
- Safety Management & Quality Assurance
- Fleet Risk Management Policies & Procedures
- Fatigue Risk Management
- Drug & Alcohol Policy and Controls

©Zurich

Results are expressed both in qualitative and quantitative terms and risks are rated from A to D, with A being low risk.

Excellent:	Overall Score ≤ 50
Good:	50 < Overall Score ≤ 100
Fair:	100 < Overall Score ≤ 150
Poor:	Overall Score >150

The council has an aspiration to achieve a rating of “good” and officers plan to implement any recommended improvements.

5. TECHNICAL FLEET ASSESSMENT

In April 2021, Cenex, consultants specialising in low emission transport and associated energy infrastructure, were commissioned to undertake the development of a fleet management strategy, considering the fleet and infrastructure, and to recommend how the council could transition to a zero carbon fleet by 2030. Cenex has undertaken similar projects for Nottingham City Council, Derbyshire County Council and Severn Trent Water.

Given the wide range of vehicles in operation, Cenex advised that it was unlikely that there would be a single technological solution to reduce the council’s carbon footprint and that some technologies are not yet considered mainstream solutions. They considered all the

available technology in their review and noted that the harder task for fleet decarbonisation relates to the heavier duty vehicles.

The council provided detailed fleet information and tracker data which Cenex supplemented with the results of independent vehicle testing, independent cost, fuel, and emissions data along with council team interviews to gain insight to operational practices. Cenex categorised the council's individual vehicles into relevant operational vehicle segments before baselining the current fleet composition, operations, and emissions profile.

Cenex carried out a review of current low emission vehicle technologies and considered which options would be available immediately as well as future opportunities. The outputs were presented from maximum emissions savings (at any cost) and total cost of ownership (TCO) parity or better within each vehicle segment. The final technology selection was applied based primarily on wider operational suitability, low emission vehicle maturity and viability of infrastructure.

Cenex's reports are listed in below. The specialised fleet and equipment (e.g., tractors, mowers, fork trucks) is reported separately from the main fleet.

Cenex Report 1	Fleet Management Strategy (main technical report)
Cenex Report 2	Specialist Fleet report (e.g., tractors, mowers)
Cenex Report 3	Home Charging Review

6. CURRENT FLEET STATUS

There are 100 vehicles in the main operational fleet, dominated by light commercial vehicles with medium vans being the largest vehicle segment (48%). The remainder of the fleet consists mainly of heavy goods vehicles, dominated by 3-axle rigid trucks (16%).

The emissions and air quality contribution of each vehicle type is illustrated in the table below:

Car		Number of Vehicles	Percentage of Total Fleet	% Contribution to Total WTW CO ₂ e Emissions	% Contribution to Total NO _x Emissions	% Contribution to Total PM Emissions
LCV	Small Car	4	4%	1%	3%	1%
	Large Commercial SUV	2	2%	1%	3%	0%
	Small Van	7	7%	1%	6%	3%
	Medium Van	48	48%	20%	60%	69%
	Large Van (< 3.5t GVW)	11	11%	5%	10%	2%
HGV	Large Van (> 3.5t GVW)	1	1%	0%	0%	0%
	Rigid Truck - 2 axles (7.5t GVW)	4	4%	3%	0%	1%
	Rigid Truck - 2 axles (18t GVW)	7	7%	15%	1%	2%
	Rigid Truck - 3 axles (26t GVW)	16	16%	54%	16%	22%
	Total	100	100%	1,130 tonnes	1,100 kg	10 kg

TTW	Tank to Wheel	The amount of CO ₂ (derived from fossil fuels) which is released from a vehicle's tailpipe
WTW	Well to Wheel	A more complete method of looking at CO ₂ emissions. It represents the amount of CO ₂ emitted during the fuel's life cycle. This includes the upstream emissions associated with fuel extraction, processing, transportation and dispensing as well as the emissions from final fuel combustion
CO ₂ e	Carbon Dioxide Equivalent	A standard unit which accounts for carbon dioxide and all other greenhouse gases (e.g., methane, nitrous oxide)
NO _x	Nitrogen Oxides	A generic term for nitrogen oxides - a main air quality pollutant emission which can contribute to several health issues
PM	Particulate Matter	The term used for mixture of solid particles and liquid droplets found in the air - a main air quality pollutant emission which can contribute to several health issues.

The medium van segment produces the highest proportion of air quality emissions on the fleet, amounting to 60% and 69% of NO_x and PM emissions respectively. The high NO_x and PM emissions are impacted by the large proportion of older Euro 4 diesel vehicles currently in operation.

The rigid truck 3-axles segment contributes 54% of CO₂e emissions despite only accounting for 16% of the total fleet. This is a result of the high fuel consumption of these vehicles and associated high energy usage due to the use of bin lifts and compaction units.

7. TECHNOLOGY OPTIONS

Three main technologies were identified based on current UK vehicle availability and supplier/ market maturity.

- A zero-tailpipe emission vehicle or **ZEV** is a vehicle which does not emit greenhouse gas (e.g., carbon dioxide/CO₂) or air quality pollutant emissions from the vehicle exhaust/tailpipe. These include Battery Electric vehicle (BEV), Fuel Cell Range Extended Electric Vehicle (FC REEV) and Fuel Cell Electric Vehicle (FCEV).
- An ultra-low emission vehicle **ULEV** is currently defined as any car or van that emits less than 75 g/km of CO₂ from the exhaust/tailpipe. Due to advances in technology, it is expected that from 2021 an ULEV will be defined as a car or van that emits less than 50 g/km with a minimum required zero emission range. These include Range Extended Electric Vehicle (REEV) and Plug-in Hybrid Electric Vehicle (PHEV).
- Low emission vehicle **LEV** technologies include all ULEVs and ZEVs in addition to internal combustion engine vehicles capable of using renewable fuels. This includes compressed natural gas (CNG), biodiesel (FAME) and renewable diesel (HVO) each have different levels of supplier maturity and different economic models.

Note: Hydrogen fuel cell vehicles (FCEVs) and dual-fuel hydrogen vehicles (DFH₂) have not been assessed. Cenex advised that hydrogen powered vehicles are not yet market ready and it is not possible to purchase series production hydrogen powered vehicles within any of the NWLDC vehicle segments. Early trials of such vehicles are underway, but vehicle

manufacturers are not expected to release series produced vehicles until at least 2023. As such no costs or verified test data is available and the technology cannot be assessed to the same standard as the others.

Below are examples of currently available ZEV technologies:

Technology	Example	Description
Battery Electric Vehicle (OEM)		A battery electric vehicle (BEV) stores energy in a battery and delivers its power to the wheels through an electric motor. Original equipment manufacturer (OEM) vehicles are supplied by mainstream vehicle suppliers.
Battery Electric Vehicle (low volume)		A new vehicle 'glider' chassis is taken from the production line and a battery electric drivetrain is fitted. Low volume (and re-powered) BEVs are available from the likes of Emoss, Magtec and Tevva.
Battery Electric Vehicle (re-power)		A new electric drivetrain is fitted into a reconditioned second-hand vehicle. Re-power units are often used for trucks to help reduce the capital cost of an electric truck and improve payback time.
Fuel Cell Range Extended Electric Vehicle (FC REEV)		A BEV which also has an onboard hydrogen fuel cell to recharge the battery on the go. The wheels are always powered by the electric motor. The battery can also be recharged by plugging the vehicle into a mains power source.
Fuel Cell Electric Vehicle (FCEV)		Hydrogen is taking its first steps to becoming commercially available as a road transport fuel in the UK. Compressed hydrogen can be used to power an electric motor by generating electricity through a fuel cell. A small battery is often used for peak power requirements and for regenerative braking only.

To highlight which technologies may have the potential to deliver emissions savings, Cenex completed a high-level assessment of options based on current UK availability and supplier maturity.

The vehicles identified in the chart below are examples only and not a recommended manufacturer.

OEM product with a high level of maturity and aftersales support
Re-power or retrofit product with a lower supplier maturity
Technology has been demonstrated but is currently unavailable in the UK
Technology has not been demonstrated or is currently unavailable in the UK

		BEV (OEM)	BEV (low volume)	BEV (re-power)	REEV	PHEV	FCEV	FC REEV	FAME (~B30)	FAME (B100)	HVO	CNG
Car	Small Car	Renault Zoe									Red	
LCV	Large Commercial SUV		Rivian								Green	
	Small Van	Renault Kangoo ZE						Renault Kangoo ZE H2			Green	
	Medium Van	Mercedes eVito			Ford Transit Custom						Green	
	Large Van (< 3.5t GVW)	LDV EV80	Arrival					Renault Master ZE H2				Iveco Daily
HGV	Large Van (> 3.5t GVW)	Iveco Daily Electric	EMOSS	Magtec							Green	Iveco Daily
	Rigid Truck – 2 axles (7.5t GVW)	FUSO eCanter	EMOSS	Magtec	Tevva			DAF LF			Green	
	Rigid Truck – 2 axles (18t GVW)	Volvo FL Electric	EMOSS	Magtec	Tevva			DAF LF	Volvo FL		Green	Iveco Eurocargo
	Rigid Truck – 3 axles (26t GVW)	Volvo FE Electric	EMOSS	Magtec				DAF CF	Volvo FE		Green	Scania

8. LOW EMISSION VEHICLE (LEV) REVIEW

A LEV performance review was completed based on the combined fleet average vehicle for small car, medium van, large van, and rigid truck to demonstrate potential operational impact of using the identified technologies and to identify the most appropriate technology based on the individual vehicle requirements. This was followed by an individual vehicle assessment exercise.

8.1. Metrics and Assumptions

The following metrics and assumptions were used in the evaluation (prices exclude VAT):

- Annual mileage and number of used days per week
- Fuel economy and driving environment of 30% urban, 50% rural, 20% A-road (mostly regional)
- Planned ownership period
- Diesel = £1.00/ litre, Petrol = £0.96 / litre
- Electricity = £0.14 / kWh
- Bio-LPG = £0.53 / kg, CNG = £0.70 / kg (public gas station)
- FAME (B20) = £1.00/ litre
- HVO = £1.15/ litre

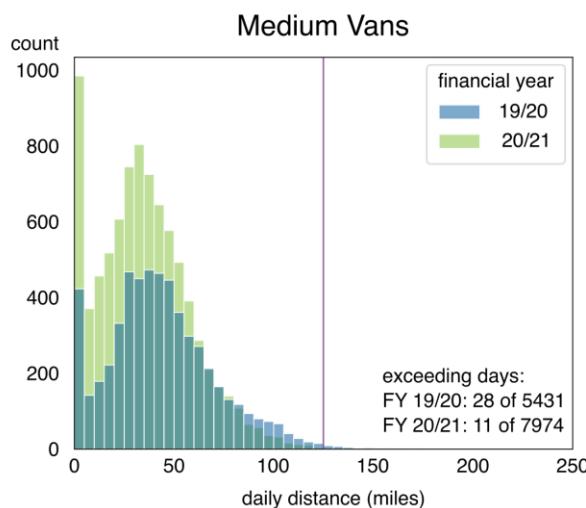
Note: All vehicle costs in the Cenex reports are based on industry standard information and the average of the top three best-selling models from each vehicle segment, where available. For waste vehicles, costs are based on chassis cost only, not the additional cost of purchasing and fitting the RCV body and bin lift as these costs are similar across all vehicles and are therefore not assessed as part of the vehicle TCO. Infrastructure costs assume that no grid upgrades are required.

8.2. Operational Considerations

Engagement sessions were held with user groups to assess potential constraints in terms of vehicle specification.

		Potential Operational Constraint
Car	Small Car	No operational restrictions identified.
LCV	Large Commercial SUV	Some vehicles may require 4x4/ off road capabilities.
	Small Van	No operational restrictions identified.
	Medium Van	Vehicles currently running at weight limit; all vehicles must be able to undertake maximum potential daily mileages due to need to cover emergency shift patterns.
	Large Van (< 3.5t GVW)	Some vehicles running at weight limit; some vehicles identified as being required to tow. One vehicle identified as having a crane. Charging of electric hand tools required.
HGV	Large Van (> 3.5t GVW)	Some vehicles running at weight limit; some vehicles identified as being required to tow.
	Rigid Truck - 2 axles (7.5t GVW)	Some vehicles identified as being required to tow. Some identified as having tail lifts. One identified as being trial food waste vehicle.
	Rigid Truck - 2 axles (18t GVW)	High energy operation due to refuse collection requirements (bin lifts, compaction); up to three loads per day requiring round trip to Loughborough waste site for disposal.
	Rigid Truck - 3 axles (26t GVW)	High energy operation due to refuse collection requirements (bin lifts, compaction); up to three loads per day requiring round trip to Loughborough waste site for disposal.

Housing raised operational concerns around BEV and range leading to a detailed analysis being undertaken of the daily mileages of the housing fleet. In the graph below, the vertical line represents 125 miles which is considered the average daily range for a medium van with a battery capacity of 68 kWh – fewer than 0.5% of daily mileages for 2019/20 and 0.14% for 2020/21 exceeded this range, which suggests that battery electric technology can be considered a suitable option.



8.3. Battery Electric Vehicle (BEV) Assessment

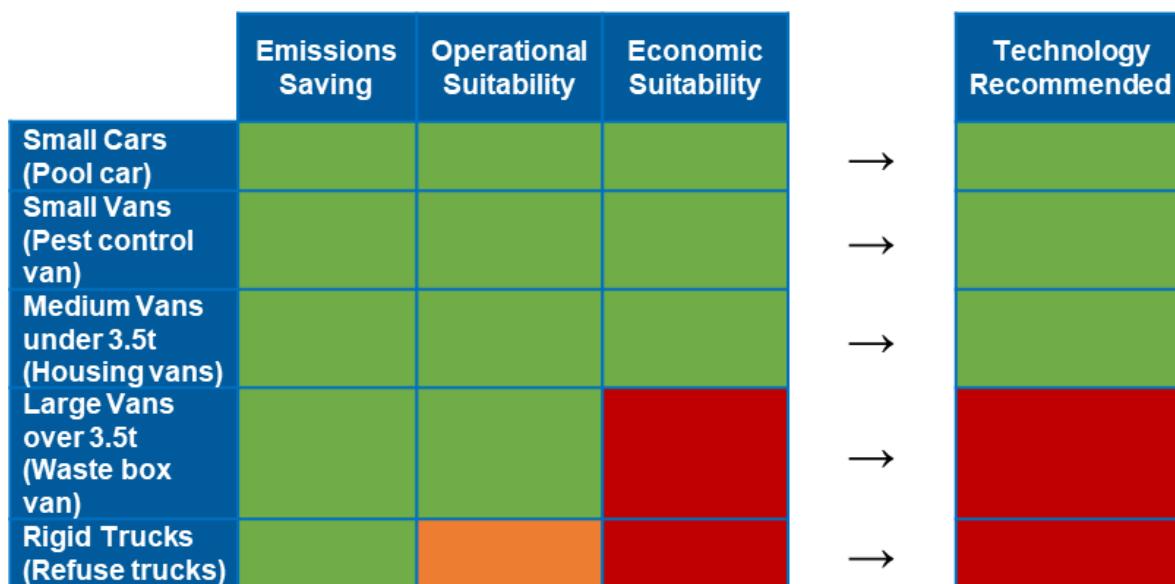
Underlying the assessment were three key measures:

- Does it lead to a carbon saving compared to diesel?
- Does it have the range to complete the average daily journeys?
- Does it lead to a total cost of ownership saving compared to a new diesel vehicle?

The analysis demonstrated that BEV is suitable for small cars, small vans, and medium vans across all three measures.

	The small car results show that <u>BEV</u> is the recommended technology to use. It covers the range, has a TCO saving and zero tailpipe emissions.
	The medium van results show that <u>BEV</u> operating range is over twice the average daily mileage and provides zero tailpipe emissions, a 69% reduction in WTW CO2e emissions and is TCO neutral. All other technologies increase TCO.
	The large van results show that <u>BEV</u> is the most expensive technology and does not provide the range that other technologies do.
	The rigid truck results show that <u>BEV</u> is the most expensive technology and does not provide the range required to complete the work.

The chart below indicates that whilst BEV is suitable for smaller vehicles, it is not considered an appropriate technology for larger vehicles over 3.5 tonnes.



8.4. Renewable Fuel Outcome

As part of the assessment, the following alternative fuels to diesel were considered in detail:

Technology	Example	Description
Compressed Natural Gas* (CNG)		CNG is the compressed form of natural gas. It is stored on vehicles in pressurised cylinders at 200 to 250 bar and consumed via a dedicated gas engine.
Biodiesel (FAME)		Biodiesel, also known as Fatty Acid Methyl Esters (FAME) is primarily produced from waste plant products and is a low carbon, sustainable alternative to mineral diesel. Biodiesel is already present in regular diesel at up to 7%. High blend biodiesel contains at least 20% biodiesel (B20), most truck manufacturers warranty vehicles up to B20. It is possible to run on B100, but this requires additional equipment, fuel management and is not covered by all warranties.
Renewable Diesel (HVO)		Renewable diesel, such as Hydrotreated Vegetable Oil (HVO) is chemically identical to fossil diesel but produced from waste feedstock and vegetable oil. It is classed as a 'drop-in' fuel, which means it can be substituted for conventional fossil fuel diesel with no impact on maintenance and warranty conditions.

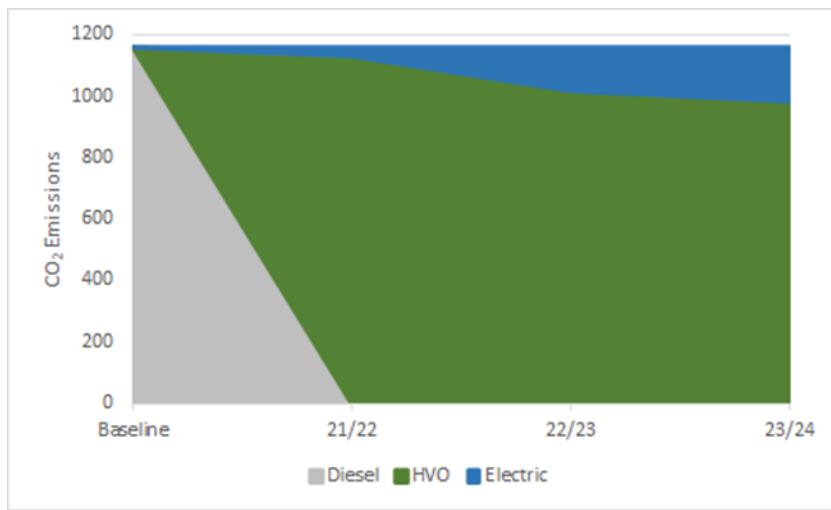
The table below shows the annual (WTW) CO₂e emissions savings and annual NOx emissions savings achievable for each fuel.

Annual WTW CO₂e Emissions Savings (% of total fleet)

	ZEV		ULEV	LEV		
	BEV (OEM)	BEV (low volume)	REEV	Bio-CNG	B100	HVO
Small Car	1%					
Large Commercial SUV					1%	1%
Small Van	1%				1%	1%
Medium Van	15%		8%		17%	18%
Large Van (< 3.5t GVW)	4%			4%	4%	4%
Large Van (> 3.5t GVW)	0%			0%	0%	0%
Rigid Truck - 2 axles (7.5t GVW)	1%		2%		3%	3%
Rigid Truck - 2 axles (18t GVW)	12%	1%		3%	12%	13%
Rigid Truck - 3 axles (26t GVW)	10%	0%		43%	44%	47%
Total	44%	1%	11%	56%	81%	86%

HVO fuel was identified as an alternative to diesel and a method of achieving an immediate removal of CO₂e emissions pending vehicle replacement across the fleet or where alternative technology is not yet viable. It was recommended to check individual vehicle manufacturer warranties and no concerns were identified by the council's fleet manager for the existing fleet.

The emissions benefit is illustrated in the chart below; emissions drop to zero with the move to a mix of BEV (blue) and HVO (green).



As demonstrated by the chart below, whilst there is a strong emission reduction case and operational suitability, financially, Cenex advised that there is an on-cost of c15 pence per litre (noting that market rates for both diesel and HVO fluctuate).



Whilst HVO reduces CO₂e emissions by 86% and is a good interim solution, it does not address air quality issues (NOx and PM). It is a “drop-in” fuel so can be added directly to the existing diesel tank.

The Linden Way depot has a single fuel tank, and it is currently used to fuel all vehicles except Housing, who use a Key Fuels system and fuel up at garages. A move to HVO fuel would mean housing vehicles would also fuel up at the depot. Housing cannot move to HVO fuel without the depot based fuel supply.

Based on HVO 15p premium versus diesel price, the estimated additional costs are:

Additional costs from using HVO	2021-22	2022-23	2023-24	2024-25	Total
General Fund	£21,685	£65,056	£63,964	£62,536	£213,241
HRA	£6,286	£18,858	£17,072	£6,733	£48,949
Special Expenses	£322	£967	£967	£539	£2,794
Total	£28,293	£84,880	£82,003	£69,808	£264,985
Emission savings (tCO₂e)	376	1,129	1,093	933	3,531

9. INFRASTRUCTURE

Cenex assessed the infrastructure required to facilitate the uptake of those vehicles identified as being suitable for replacement with ZEV, ULEV and LEV alternatives.

Existing sites for publicly available electric and natural gas infrastructure were identified. They concluded that relying only on publicly available electric vehicle infrastructure would not be appropriate given its limited availability. However, their view was that there are currently enough public charge points such that a vehicle would not have to travel far if it required a top-up charge during the day.

In terms of natural gas refuelling, there is one major liquified natural gas refuelling station in North West Leicestershire near the A42 and East Midlands Airport although this fuel is more relevant to long haul transit. The nearest public compressed natural gas stations are in Erdington (near Birmingham) and Newark.

A BEV charge point assessment was carried out and the most suitable selected with estimated costs:

- 7 kW AC (230V, 32A single phase)** – Home-based infrastructure only, £1000 each
- 22 kW AC (400V, 32A three phases, dual output)** – £7103 (2 vehicle charging points)
- 50 kW DC (400V, 32A three phases)** – £24,087(2 vehicle charging points)

Since a majority of the housing fleet vehicles are currently taken home, identifying options to allow drivers to charge their vehicles overnight at their homes would reduce the need for the installation of additional depot-based or on-street/public charging infrastructure and have minimal impact on current operational practices.

Cenex provided a separate report outlining what best practice would look like for a home charging scheme and provided recommendations for how such a scheme could work within NWLDC. This document will be used to agree reimbursement processes.

Grid upgrades can be significant, the funding model that distribution network operators (DNOs) operate under means the customer making the request shoulders the cost burden. The below table shows indicative costs and timescales for various upgrades ranging from small (70 kVA) to large (1,000+ kVA).

	Small	Medium	Large
Power	Up to 70 kVA	200 to 1,000 kVA	Above 1,000 kVA
Number of charge points	• 1-3 fast, or • 1 rapid	• 10-50 fast, • 4-20 rapid, or • 1-6 ultra-rapid	• 50+ fast, • 20+ rapid, or • 6+ ultra-rapid
Approximate connection time	8-12 weeks	8-12 weeks	6 months +
Approximate connection cost	£1,000 - £3,000	£4,500 - £75,000	£75,000 - £2 million

Cenex considered charging powers, charge point providers, types of parking, reimbursement mechanisms, grant support, tax implications, ensuring installation readiness and liability for home charge points. The actions suggested by this study are included in the Action Plan.

Waste Services is rapidly outgrowing Linden Way depot, due to the increase of properties in the district producing more waste, needing more vehicles and staff to service them. Adding the fleet expansion to include food waste vehicles there is no capacity for a large fleet of electric vehicles to charge at the same time (overnight). With the potential to run the HGV

fleet on Hydrogen or another technology in a few years, provision needs to be considered for alternative fuel tanks. It is proposed that a project board is established to assess the requirements and if agreed, source a location for a new depot meeting the future requirements of the service and enabling long term infrastructure investment.

10. FLEET REPLACEMENT PROPOSAL

Based on the results of the LEV technology selection process and LEV infrastructure review, Cenex identified those vehicles which could be replaced by ZEV, ULEV and LEV technologies with minimal changes to the fleet's current operating patterns and planned ownership periods.

The recommended replacement vehicles focus on two technologies

- BEV - battery electric vehicles
- HVO - a renewable 'drop-in' replacement fuel for fossil diesel

Across the fleet, there are opportunities to introduce BEV's within the small car, small van, and medium van vehicle segments.

It is recognised that the market and technology is changing quickly, and it is anticipated that there will be further options available for the larger fleet over future years. Cenex advises repeating the analysis in 2024 to identify whether there are any viable options to replace HVO with BEV or alternative technology, such as hydrogen.

11. 3 YEAR FLEET REPLACEMENT PLAN

The table below illustrates the fleet replacement plan for the next three years.

3 Year Replacement Plan (in line with vehicle lifecycle)

Fuel	Team	What	Notes	Year 1 (29)	Year 2 (37)	Year 3 (20)
Electric	Environmental Protection (EP) HR	Small Car (A)	Car parks Pool cars	3 EP 2 HR		
Electric	Parks Waste	Small van (B)			1 Parks 2 Waste	1 1 Waste
Electric	Housing	Medium Van (C)	Phased approach	6 (1 per trade)	29	2
Electric	Waste EP	Medium Van (C)		1 Waste		1 Waste 1 EP
Diesel/HVO	Waste	Large Van (D)	Waste collection	1		
Diesel/HVO	Waste	Large van (D)	Food waste vehicles (pending approval)	5		
Diesel/HVO	Waste	Rigid Truck (E)	Waste collection vehicles	6		4
Diesel/HVO	Waste/Parks	Rigid Truck (F)	Reach truck	1		
Electric	Parks Waste	Large van (G)			4 Parks	3 Waste 2 Parks
Diesel/HVO	Parks EP	Large SUV	4 x 4 pick up		1 Parks	1 EP
Diesel/HVO	Waste	Specialist	Forklift truck	1		
Gas oil	Parks Waste	Specialist	Chipper, mowers, boxing off machine, sweepers	3 Parks		2 Parks 2 Waste



The vehicle and infrastructure costs are outlined in section 13.

12. SPECIALIST FLEET

Non-operational vehicles (e.g., tractors and mowers) were reviewed in a separate Specialist Fleet review.

Low emission options for specialist equipment and plant are at a lower level of product maturity and availability than those used in road vehicles. Therefore, a higher level analysis was taken than that used for other operational road vehicles (e.g., small car, small van, medium van, large van, rigid truck).

There are 20 specialist fleet vehicles on the NWLDC fleet, dominated by mowers, sweepers, telehandlers, and tractors. The specialist fleet operates primarily on diesel, with fuel consumption data provided on a per vehicle basis where available, outlined in the table below.

	Number	Fuel Consumption (litres/ annum)
Ride on Mower	6	3,234
Tractor	3	3,748
Mini Excavator	1	318
Telehandler	3	16,632
Wheeled Loader	1	895
Sweeper	4	15,454
Chipper	1	470
Forklift	1	500
Total	20	41,251

This fleet category emits 91 tonnes of Tank to Wheel (TTW) and 117 tonnes of Well to Wheel (WTW) CO₂ emissions. The majority of emissions are associated with the use of telehandlers (reach truck used at the depot) and sweepers due to a combination of high usage patterns and high fuel consumption.

The completed Low Emission Technology Options review has indicated that biodiesel, hydrotreated vegetable oil (HVO), electric and alternative hydrocarbon fuels such as compressed natural gas (CNG) and biomethane (bio-CNG) have some applicability across the identified groups of specialist fleet vehicles.

While electric is significantly more expensive, in terms of capital expenditure, than the equivalent diesel variant, with some operational changes required, these should be outweighed by the emission reduction, and operational expenditure benefits of this technology.

With HVO there is an operating expenditure increase compared to diesel, however this is expected to be outweighed by the emission reduction, and operational benefits of this fuel coupled with no impact on capital expenditure.

A ‘Traffic Light’ approach was utilised to summarise alternative technology review. This approach rates the suitability of the identified alternative technology options in the following areas: Operational, Emissions, Capital Expenditure (CapEx) and Operational Expenditure (OpEx) in a **RED AMBER GREEN** traffic light matrix, as shown in the table below.

Fuel	Factor	Sweeper	Mowers	Telehandler	Tractor
Biodiesel	Operational				
	Emissions				
	CapEx				
	OpeEx				
HVO	Operational				
	Emissions				
	CapEx				
	OpeEx				
Diesel-Electric Hybrid	Operational				
	Emissions				
	CapEx				
	OpeEx				
Electric	Operational				
	Emissions				
	CapEx				
	OpeEx				
Alternative Hydrocarbon-based Fuels	Operational				
	Emissions				
	CapEx				
	OpeEx				
Hydrogen	Operational				
	Emissions				
	CapEx				
	OpeEx				

Following the review, it is recommended that officers further investigate the options to trial electric variants of the following specialist fleet equipment:

- Ride-on mowers
- Tractors
- Telehandlers
- Compact & truck mounted sweepers

Where electric variants prove incompatible with existing working practices within NWLDC the use of HVO is recommended as an alternative.

13. FINANCE AND EMISSIONS

The total capital cost of the three year replacement plan is £5.2 million. This along, with the costs of adopting HVO, is expected to increase the average annual revenue costs of running our fleet by £322,000. This section sets out the financial impact of each decision, along with the emissions saved and how the decision contributes to the Council's objective.

13.1. Financial and emission implications from revised fleet renewal programme

The Council has previously approved the replacement of vehicles totalling £2.5 million. The anticipated fleet replacement programme for 2022-23, prior to this report, was £0.5 million, bringing the total three-year replacement programme previously reported to Council to £3.0 million. The new replacement programme, set out in section 11, will replace the existing capital programme and result in £5.2 million programme over three years if it is approved. This reflects the latest anticipated fleet requirements as well as changes resulting from our zero carbon objective.

The cost of purchasing electric vehicles is currently higher than their diesel or petrol equivalents. The table below shows that, of the £5.2 million programme, the council will pay additional costs of £618,000 for the 59 electric vehicles and £43,000 for charging infrastructure that would not be incurred if adopting diesel engines. These additional costs will be partially offset by anticipated lower running costs, as well as higher residual values when the vehicles are sold. This brings the net anticipated costs over and above diesel equivalents down to £118,000.

	Small Car	Small Van	Medium Van	Large Van	Total Programme
Additional capital costs	£32,033	£30,873	£312,800	£242,097	£617,803
Charging Infrastructure Costs	£0	£0	£36,000	£7,100	£43,100
Lifetime revenue savings	-£19,952	-£19,176	-£315,428	-£69,396	-£423,952
Additional value when sold	-£12,575	-£2,663	-£25,761	-£77,468	-£118,467
Net additional lifetime costs/(savings)	-£493	£9,034	£7,611	£102,333	£118,484

The above shows that the electric small cars are expected to be cheaper over their life than their diesel equivalent, whilst all other categories of battery electric vehicle are expected to increase the lifetime costs of owning the vehicle.

The lifetime additional costs of £118,000 is dependent upon estimates of the running costs and residual values of battery electric vehicles compared to their diesel comparators. Over time these figures could vary. An optimistic scenario, where savings in running costs and the value of the vehicle are 10% higher than set out above, would see the additional lifetime costs of running the vehicles reduce to £64,000. Alternatively, in a pessimistic scenario where the savings and residual value are 10% lower, the additional lifetime costs increase to £173,000.

Purchasing the electric vehicles will bring the carbon emissions from the vehicles down to zero, which is an estimated lifetime reduction in well to wheel emissions of 1,221 tCO₂e when compared to using diesel vehicles, representing a cost of £97 per tCO₂e saved. Of the 1,221 tCO₂e saved, 54 tCO₂e (4.4%) is saved in the years 2030 or beyond – the council's target date to be zero carbon – before the vehicle is due to be replaced. This represents a cost of £2,197 per tCO₂e saved in the 2030 period. Adopting electric vehicles will also save 1,264 kg of nitrous oxide and 5kg of particulate matter from being emitted over the life of the vehicle. The table below summarised the emissions savings from the vehicles purchased in each year.

Vehicles purchased in:	2021-22	2022-23	2023-24	Total
Additional lifetime costs/(savings) from electric vehicles	£5,498	£69,679	£43,307	£118,484
Lifetime well to wheel emissions savings from adopting electric vehicles (tCO ₂ e)	203	772	246	1,221
Cost per tonne CO ₂ e of saved (£/tCO ₂ e)	£27	£90	£176	£97
Amount of emission savings that occur from 2030 (tCO ₂ e)	-	28	26	54
Cost per tonne CO ₂ e saved in 2030 and beyond (£/tCO ₂ e)	Not Applicable	£2,526	£1,643	£2,197
Lifetime nitrous oxide emissions savings from adopting electric vehicles (kg)	252	803	209	1,264
Lifetime particulate matter savings from adopting electric vehicles (kg)	1	3	1	5

The three-year fleet replacement programme will be funded by unsupported borrowing, which results in an annual charge back to the general fund for the vehicles, known as the Minimum Revenue Provision. The annual minimum revenue provision charge is expected to increase by £297,000 as a result of this new programme, of which £71,000 relates to the additional charges from adopting electric vehicles. Approximately £171,000 of the minimum revenue provision will be recharged to the HRA, with the remaining £559,000 being charged to the general fund.

13.2. Financial and emission implications from adopting HVO

Using renewable diesel (HVO) in the remaining fleet is expected to cost around 15 pence per litre more than diesel, although this will vary as the costs of both HVO and diesel vary - including potentially being cheaper than diesel at times.

The table below shows the anticipated cost per year of using HVO, along with the anticipated carbon dioxide savings, based on the vehicles that remain diesel over three years. It shows that the total cost over the next four financial years is anticipated to be £265,000, assuming that HVO costs 15 pence per litre more than diesel. This will prevent emissions totalling 3,531 tCO₂e from being emitted from our fleet over the 3.5 years, at a cost of £75 per tonne of CO₂e saved. No reduction to nitrous oxide or particulate matter emissions is expected from the adoption of HVO over diesel.

	2021-22	2022-23	2023-24	2024-25	Total
Additional costs from using HVO	£28,293	£84,880	£82,003	£69,808	£264,985
Emission savings (tCO₂e)	376	1,129	1,093	933	3,531
Cost per tCO₂e saved	£75	£75	£75	£75	£75

This proposal is currently unfunded, and so represents an additional cost pressure to the council's finances over the medium term. Savings will need to be made through subsequent budget setting processes, in addition to the already planned Journey to Self Sufficiency Savings, to fund this proposal. However, the costs decrease over time as more vehicles are replaced with battery alternatives. The costs will affect the council's general fund the most, as less of the fleet will convert to electric in the medium term and this is shown in the split of figures below.

Additional costs from using HVO	2021-22	2022-23	2023-24	2024-25	Total
General Fund	£21,685	£65,056	£63,964	£62,536	£213,241
HRA	£6,286	£18,858	£17,072	£6,733	£48,949
Special Expenses	£322	£967	£967	£539	£2,794
Total	£28,293	£84,880	£82,003	£69,808	£264,985

This proposal goes beyond the Council's stated objective of making the Council carbon zero by 2030 by making the fleet zero carbon as soon as the proposal is adopted, which is likely to be later this year if members approve the proposal. This does, however, risk reducing funding available to reduce our carbon footprint in the longer term.

13.3. Approvals

The latest capital programme, approved by full council in February 2021, noted that the results of the fleet review would be reported to Cabinet and further approval sought from Council if required. Of the new programme, 19 vehicles have already been approved at a cost of £1.3 million – meaning they can be ordered if Cabinet approves the fleet strategy and 3-year fleet replacement programme.

The remaining 67 vehicles, totalling £3.9 million, requires further approval from full Council as the replacement has not previously been approved. This includes 5 vehicles needed for the rollout of food waste collections, which will be subject to a separate report.

Vehicle Type	Replacement Fuel	2021-22		2022-23		2023-24		Total	
		Number	Cost £'000						
Elements of the programme already approved by Council									
Rigid Trucks	HVO	5	£920	0	£0	N/A	£0	5	£920
Large Commercial 4x4s	HVO	0	£0	1	£41	N/A	£0	1	£41
Large Vans	Electric	0	£0	0	£0	N/A	£0	0	£0
Medium Vans	Electric	4	£133			N/A	£0	4	£133
Small Car	Electric	3	£71	0	£0	N/A	£0	3	£71
Small Van	Electric	1	£24	1	£24	N/A	£0	2	£48
Specialist	Various	4	£98	0	£0	N/A	£0	4	£98
Total already approved		17	£1,246	2	£65	0	£0	19	£1,311
Elements of the programme requiring Council approval									
Rigid Trucks	HVO	8	£920	0	£0	4	£840	12	£1,760
Large Commercial 4x4s	HVO	0	£0	0	£0	1	£41	1	£41
Large Vans	Electric	0	£0	5	£269	5	£269	10	£538
Medium Vans	Electric	3	£100	29	£964	4	£133	36	£1,197
Small Car	Electric	1	£24	0	£0	0	£0	1	£24
Small Van	Electric	0	£0	1	£24	2	£48	3	£72
Specialist	Various	0	£0	0	£0	4	£285	4	£285
Total to be approved by full Council		12	£1,044	35	£1,258	20	£1,616	67	£3,918

14. FLEET MANAGEMENT STRATEGY SUMMARY

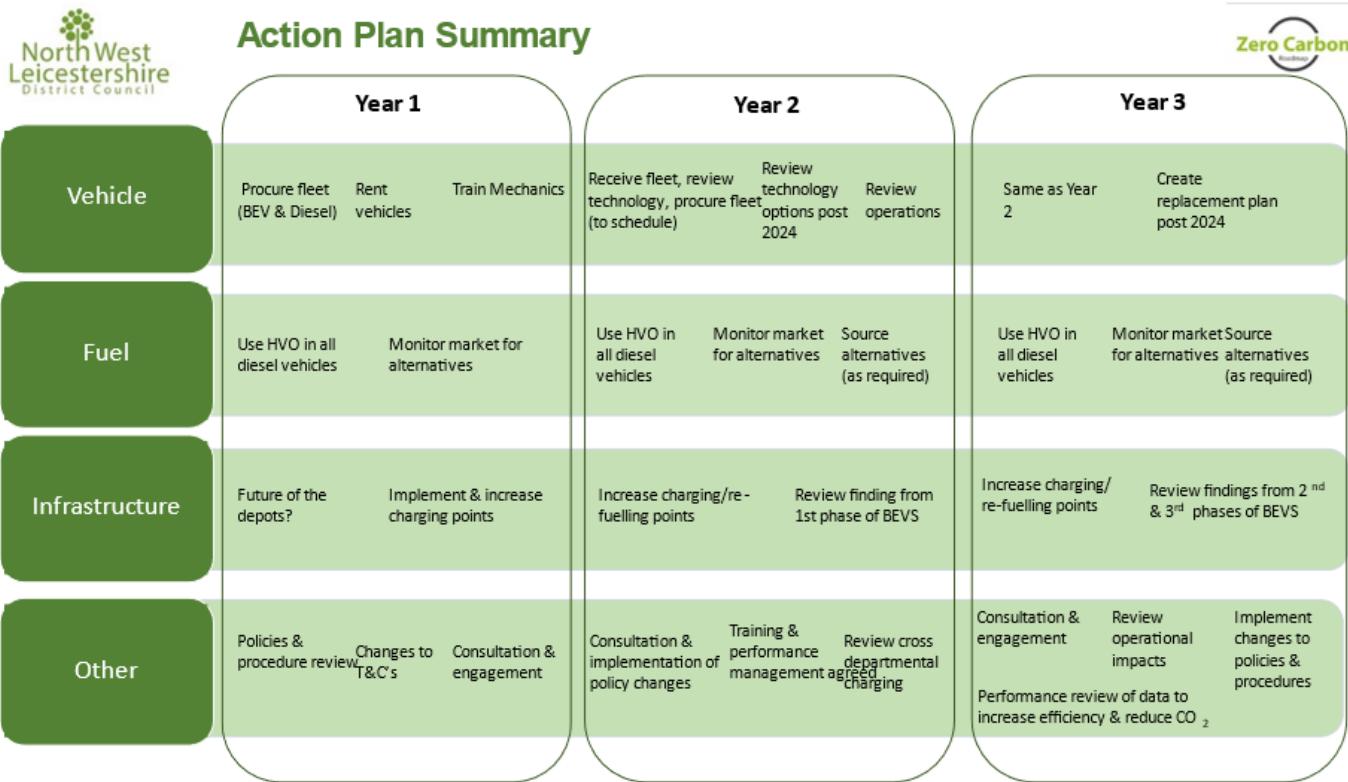


15. NEXT STEPS

- Agree the three year fleet replacement plan and supporting infrastructure and action plan
- Purchase battery electric vehicles for all fleet that are below 3.5 tonne, with a phased approach for Housing to allow time to review and assess
- Purchase diesel vehicles for all identified fleet above 3.5 tonne
- Use renewable diesel (HVO) as an interim solution across all remaining vehicle segments
- Set up a Fleet Programme Board to monitor and feedback challenges and success
- Officers to monitor the vehicle and fuel market and review technologies
- Review operations in order to make improvements that could increase the uptake of BEVS
- Refresh the fleet assessment process in 2024
- Work with Zurich insurance company to achieve a “Good” Fleet Risk Assessment score
- Infrastructure & Other
- Prepare and execute an infrastructure plan, including feasibility studies, home, and depot/office charging
- Set up a project governance structure to agree the future of the Waste and Parks depots
- Review T&Cs and corporate policies and procedures to include new technologies such as BEV

- Create a training and performance management plan to build capability and measure success
- Continue consultation and engagement with all stakeholders

16. ACTION PLAN



Year 2021/22

Theme one	Aim	Action
1 Vehicles	<p>1.1 Implement battery electric cars and light commercial vehicles (medium vans) in line with replacement schedule (appendix XX)</p> <p>1.2 Implement replacement of none BEV HGV's in line with replacement schedule (appendix XX)</p> <p>1.3 Implement procurement of Food Waste vehicles in line with replacement schedule (appendix XX)</p>	<p>1.1.1 Work with service users to specify vehicle requirement</p> <p>1.1.2 Send specification to TPPL framework (phased approach for Medium vans)</p> <p>1.1.3 Specify vehicles with optional on-board AC chargers with increased power ratings.</p> <p>1.1.4 Framework go to market</p> <p>1.1.5 Evaluate responses and award contracts</p> <p>1.2.1 Work with service users to specify vehicle requirement</p> <p>1.2.2 Send specification to TPPL framework</p> <p>1.2.3 Framework go to market</p> <p>1.2.4 Evaluate responses and award contracts</p> <p>1.3.1 Work with service users to specify vehicle requirement</p> <p>1.3.2 Send specification to TPPL framework</p> <p>1.3.3 Framework go to market</p> <p>1.3.4 Evaluate responses and award contracts</p>

	1.4 Procure rental vehicles required until new fleet is delivered	1.4.1 Through TPPL framework
	1.5 Confirm specific towing requirements of specialist fleet	1.5.1 Investigate the feasibility of introducing operational changes to reduce this requirement for potential ULEV replacement vehicles
	1.6 Maintain BEV vehicles	1.6.1 Confirm requirements and plan training for mechanics to maintain BEV fleet

Theme two	Aim	Action
2 Fuel	2.1 Use HVO as stop gap on existing fleet	<p>2.1.1 Contact fleet operators currently using HVO to discuss operational experiences, implications and to verify potential cost increases.</p> <p>2.1.2 Contact relevant vehicle manufacturers to discuss and verify any potential warranty and maintenance changes to existing fleet</p> <p>2.1.3 Send specification to framework to procure fuel</p> <p>2.1.4 Framework go to market</p> <p>2.1.5 Evaluate responses and award contract</p> <p>2.1.6 Review weekly fuel prices for HVO and diesel</p> <p>2.1.7 Recalibrate fuel tank</p> <p>2.1.8 Inform insurance regarding changes to fuel in vehicles and depot</p> <p>2.1.9 Confirm requirements and if necessary plan training for mechanics to maintain fleet using HVO</p>
	2.2 Monitor the market for alternative 'drop in' fuels to diesel and HVO	<p>2.2.1 Regular meetings with experts to identify alternatives</p> <p>2.2.2 Change fuel type if all conditions are met</p>

Theme three	Aim	Action
3 Infrastructure	3.1 Confirm the future of Linden Way waste transfer station and London Road parks depot	3.1.1 Initiate a project board to review the requirements of the waste transfer station
	3.2 Implement electric charging points where required	<p>3.2.1 Confirm grid capacity and explore upgrade options for all identified locations used by NWLDC fleet</p> <p>3.2.2 Develop a plan to home charging to include first phase installation</p> <p>3.2.3 Send specification to framework to procure and install 22 kw AC charge points at new office location and 7kw home charge points</p> <p>3.2.4 Framework go to market</p> <p>3.2.5 Evaluate Responses and award contract</p> <p>3.2.6 Identify 6 volunteers to take the first phase of BEV's for home charging</p> <p>3.2.7 Consider an industry partner who may want to support home charge points scheme</p> <p>3.2.8 Select hardware and back office system</p> <p>3.2.9 Reimbursement mechanism for home</p>

		charging
		3.2.10 Arrange for home charging points to be installed for phase one staff
		3.2.11 Consider what more infrastructure is required to suit operational needs
	3.3 To increase charging/re-fuelling points across the district	3.3.1 Identify alternate charging areas for BEV's, working with partners such as LCC (Snibson)

Theme four	Aim	Action
4 Other	4.1 Transition operating model to make the service fit for the future	4.1.1 Agree actions required to implement changes to ways of working 4.1.2 Create Home Charging Scheme policy and guidelines 4.1.3 Change T's and C's for all staff to include requirements to plug in vehicles when finished 4.1.4 Review all driving relating policies and expectations regarding the use of electric vehicles 4.1.5 Consult with staff and unions

Theme five	Aim	Action
5 Communication	5.1 To engage with staff, members, unions and residents	5.1.1 Create a plan to be used in all communications 5.1.2 Execute communications plan

Year 2022/23

Theme one	Aim	Action
6 Vehicles	6.1 Implement battery electric cars and light commercial vehicles (medium vans) in line with replacement schedule (appendix XX)	6.1.1 Take delivery of new BEV vehicles 6.1.2 Dispose of old vehicles 6.1.3 Analyse and review the first phase of medium vans 6.1.4 Monitor the market 6.1.5 Procure second phase of vans 6.1.6 Monitor and analyse journey profiles to optimise power usage
	6.2 Implement replacement of none BEV HGV's in line with replacement schedule (appendix XX)	6.2.1 Take delivery of new HGV vehicles 6.2.2 Dispose of old vehicles, inform insurance and update O Licence 6.2.3 Monitor the market 6.2.4 Start procurement process of HGV's due for replacement next year
	6.3 Implement procurement of Food Waste vehicles in line with replacement schedule (appendix XX)	6.3.1 Take delivery of Food Waste vehicles 6.3.2 Monitor and analyse journey profiles to optimise power usage

	6.4 Implement procurement of BEV for Specialist fleet in line with replacement schedule (appendix xx)	6.4.1 Identify vehicles which can be transitioned to BEV in line with replacement schedule
	6.5 Implement procurement of Specialist fleet not suitable for BEV in line with replacement schedule (appendix xx)	6.5.1 Identify vehicles which can't be transitioned to BEV in line with replacement schedule
	6.6 Consider operational improvements that could increase the uptake of ULEVs	6.6.1 Monitor and analyse journey profiles to optimise power usage
	6.7 Review ULEV options for HGV fleet	6.7.1 Prepare for introduction beyond 2025 when a much wider selection of ZEVs including BEV, FC REEV and FCEV will be available
	6.8 Investigate the potential to reduce the ownership period of the remaining non-BEV vans from 7 years to 4 years	6.8.1 To ensure that the fleet can be transitioned as quickly as possible
	6.9 Review technology options for fleet past 23/24	6.9.1 To ensure that the fleet can be transitioned as quickly as possible

Theme two	Aim	Action
7 Fuel	7.1 Increase alternative fuel supply	7.1.1 Source alternative fuel (as required) suppliers
	7.2 Use HVO as stop gap on existing fleet and replacement diesel (Euro 6) vehicles	7.2.1 Review weekly fuel prices for HVO and diesel
	7.3 Monitor the market for alternative 'drop in' fuels to diesel and HVO	7.3.1 Regular meetings with experts to identify alternatives 7.3.2 Change fuel type if all conditions are met
Theme three	Aim	Action
8 Infrastructure	8.1 To increase charging/refuelling points across the district	8.1.1 Secure new waste transfer station 8.1.2 Increase electric charging points where it has been identified that they are required 8.1.3 Review charging infrastructure at Parks depot 8.1.4 Organise a feasibility study for electric charging points at the parks depot 8.1.5 To discuss alternative fuel filling stations with providers
	8.2 Communicate findings of first phase of medium vans	8.2.1 Throughout the organisation and secure funding for wider deployment.
	8.3 Implement electric charging points where required	8.3.1 Wider deployment
Theme four	Aim	Action

9 Other	9.1 Transition operating model to make the service fit for the future	9.1.1 Consult with staff and Unions 9.1.2 Review the operational impact of phase one 9.1.3 Implement changes to policies
	9.2 Training, compliance, reporting and performance management	9.2.1 Arrange training required for staff working with and using new technologies 9.2.2 To ensure all procedures are correct and compliant 9.2.3 Create performance reporting schedule to report to project board and monitor 9.2.4 Work with insurers on fleet risk assessment to achieve a GOOD rating
	9.3 Review departmental cross charging	9.3.1 To ensure charging for fleet is consistent
Theme five	Aim	Action
10 Communication	10.1 To continue to engage with staff, members, unions and residents	10.1.1 Follow communications plan with regular updates, consultations, surveys, competitions

2023/24

Theme one	Aim	Action
11 Vehicles	11.1 Implement battery electric cars and light commercial vehicles (medium vans) in line with replacement schedule (appendix XX)	11.1.1 Take delivery of new BEV vehicles 11.1.2 Dispose of old vehicles 11.1.3 Analyse and review the second and third phase of medium vans 11.1.4 Monitor the market and prepare for introduction beyond 2025 when a much wider selection of ZEVs including BEV, FC REEV and FCEV will be available 11.1.5 Start procurement process of HGV's due for replacement next year 11.1.6 Monitor and analyse journey profiles to optimise power usage
	11.2 Implement replacement of none BEV HGV's in line with replacement schedule (appendix XX)	11.2.1 Take delivery of new HGV vehicles 11.2.2 Dispose of old vehicles, inform insurance and update O Licence 11.2.3 Monitor the market 11.2.4 Start procurement process of HGV's due for replacement next year
	11.3 Implement procurement of BEV for Specialist fleet in line with replacement schedule (appendix xx)	11.3.1 Identify vehicles which can be transitioned to BEV in line with replacement schedule
	11.4 Implement procurement of Specialist fleet not suitable for BEV in line with replacement schedule (appendix xx)	11.4.1 Identify vehicles which can't be transitioned to BEV in line with replacement schedule
	11.5 Consider operational	11.5.1 Monitor and analyse journey profiles to

	improvements that could increase the uptake of ULEVs	optimise power usage
	11.6 Review ULEV options for HGV fleet	11.6.1 Monitor the market and prepare for introduction beyond 2025 when a much wider selection of ZEVs including BEV, FC REEV and FCEV will be available
	11.7.1 Investigate the potential to reduce the ownership period of the remaining non-BEV vans from 7 years to 4 years	11.7.1 To ensure that the fleet can be transitioned as quickly as possible
	11.8 Create replacement plan for vehicle replacements due after 23/24	
	11.9 Review technology options for fleet past 23/24	11.9.1 To ensure that the fleet can be transitioned as quickly as possible
	11.10 Commence procurement of vehicles for next year based on findings from the fleet review	11.10.1 Hydrogen, electric or alternative

Theme two	Aim	Action
12 Fuel	12.1 Increase alternative fuel supply	Source alternative fuel (as required) suppliers
	12.2 Use HVO as stop gap on existing fleet and replacement diesel (Euro 6) vehicles	Review weekly fuel prices for HVO and diesel
	12.3 Procure alternate fuel	Hydrogen?
	12.4 Monitor the market for alternative 'drop in' fuels to diesel and HVO	12.4.1 Regular meetings with experts to identify alternatives 12.4.2 Change fuel type if all conditions are met

Theme three	Aim	Action
13 Infrastructure	13.1 To increase charging/re-fuelling points across the district	13.1.1 Increase electric charging points where it has been identified that they are required 13.1.2 To discuss alternative fuel filling stations with providers
	13.2 Communicate findings of second and third phases of medium vans	
	13.3 Continue to implement electric charging points where required	

Theme four	Aim	Action
14 Other	14.1 Transition operating model to make the service fit for the future if changes made	14.1.1 Consult with staff and Unions
		14.1.2 Review the operational impact of phased implementation of Housing fleet
		14.1.3 Implement changes to policies

Theme five	Aim	Action
15 Communication	15.1 To continue to engage with staff, members, unions and residents	15.1.1 Follow communications plan with regular updates, consultations, surveys, competitions

APPENDIX A – Financial Summary

	3-year Capital Position			Estimated Annual Revenue Position		
	3 year Fleet Replacement Programme	Charging Infrastructure	Total capital costs	Changes in fleet running costs	Capital Financing Costs	Net Revenue Cost/ (Saving) from new
Previous Budget	£3,029,320	£0	£3,029,320	£0	£432,760	£432,760
Changes as a result of this report:						
1) Amendments to fleet programme	£1,582,342	£0	£1,582,342		£226,049	£226,049
2) Adopting electric vehicles	£617,803	£43,100	£660,903	-£60,565	£77,491	£16,926
3) Using HVO			£0	£78,897		£78,897
New Budget Position	£5,229,465	£43,100	£5,272,565	£18,333	£736,300	£754,632
Net Increase/ (decrease) in costs	£2,200,145	£43,100	£2,243,245	£18,333	£303,540	£321,872

Apportionment of these costs

General Fund	£5,229,465	£43,100	£5,272,565	£57,796	£557,822	£615,617
HRA	£0	£0	£0	-£40,288	£176,117	£135,830
Special Expenses	£0	£0	£0	£824	£2,361	£3,185
Total	£5,229,465	£43,100	£5,272,565	£18,332	£736,300	£754,632



Lowering your emissions
through innovation in transport
and energy infrastructure

PROJECT **REPORT**

Fleet Management Strategy

North West Leicestershire
District Council

June 2021

Prepared for:

Claire Preston
Waste Services Team Manager
North West Leicestershire District Council

Claire.Preston@nwleicestershire.gov.uk
Tel: 01530 454663

Prepared by:

Robert Anderson
Portfolio Manager & Senior Fleet Specialist
Tel: 07833 447 352
Email: robert.anderson@cenex.co.uk

Approved by:

Fergus Worthy
Country Manager, Scotland
Cenex

Company Details

Cenex
Holywell Building
Holywell Park
Ashby Road
Loughborough
Leicestershire
LE11 3UZ

Registered in England No. 5371158

Tel: 01509 642 500
Email: info@cenex.co.uk
Website: www.cenex.co.uk

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Document Revisions

No.	Details	Date
1	Initial release, for Cenex review	21/06/2021
2	Cenex peer review	22/06/2021
3	NWLDC Feedback	02/07/2021
4	Final Report	08/07/2021

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Abbreviations

BEV	Battery Electric Vehicle
CH ₄	Methane
CI	Compression Ignition
CNG	Compressed Natural Gas
CO ₂	Carbon Dioxide
CO _{2e}	Carbon Dioxide Equivalent
DF	Dual Fuel
DNO	Distribution Network Operator
FAME	Fatty Acid Methyl Ester
FC REEV	Fuel Cell Range Extended Electric Vehicle
FCEV	Fuel Cell Electric Vehicle
GVW	Gross Vehicle Weight
GWP	Global Warming Potential
HGV	Heavy Goods Vehicle
HRS	Hydrogen Refuelling Station
HVO	Hydrotreated Vegetable Oil
ICE	Internal Combustion Engine
LCV	Light Commercial Vehicle
LEV	Low Emission Vehicle
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
MPV	Multi-Purpose Vehicle
N ₂ O	Nitrous Oxide
NO	Nitric Oxide
NO ₂	Nitrogen Dioxide
NOx	Oxides of Nitrogen
PHEV	Plug-in Hybrid Electric Vehicle
PM	Particulate Matter
PTO	Power Take-Off
RCV	Refuse Collection Vehicle
REEV	Range Extended Electric Vehicle
RRV	Resource Recovery Vehicle
RTFO	Renewable Transport Fuel Obligation
SI	Spark Ignition
TCO	Total Cost of Ownership
TTW	Tank-to-Wheel
ULEV	Ultra-Low Emission Vehicle
WTW	Well-to-Wheel
ZEV	Zero Tailpipe Emission Vehicle

1. Executive Summary

Introduction

North West Leicestershire District Council (NWLDC) commissioned Cenex to undertake the development of a fleet management strategy, roadmap, and action plan with the overall aim of transitioning their existing Council fleet to a zero carbon/low carbon solution by 2030, along with the identification of the infrastructure requirements to support this transformation.

The NWLDC fleet has several components and is made up of around 114 vehicles and is a mix of refuse collection vehicles (RCVs), parks maintenance vehicles, medium sized panel vans and smaller vehicles alongside more specialist equipment, such as sweepers and mowers. The predominant users are Waste Services, which also manages the whole fleet and the in-house workshop, along with the Housing Team which has a home-based fleet of large panel vans.

The NWLDC fleet is diverse, with a wide variety of vehicles in use across multiple operational requirements. With such a wide range of vehicles in operation, NWLDC should accept that there is, at this time, unlikely to be a single technological solution that will enable their fleet operations to achieve zero emissions by 2030. This may result in a mix of technologies being utilised across the fleet depending on vehicle category and operational requirements.

Methodology

This analysis contained within this report is based on fleet operational and performance data supplied by NWLDC, supplemented by independent vehicle ownership cost data, vehicle fuel consumption values, and low emission vehicle energy consumption factors. These energy consumption factors are based on real-world (e.g. chassis dynamometer, test track or in-use) testing of low emission vehicles managed by Cenex or partners (e.g. Emissions Analytics, Zemo partnership) during commercial and research projects. Such vehicle tests are deemed independent as they do not involve vehicle manufacturers as part of the testing team, except as a source of the vehicles. Low emission vehicle data and any associated assumptions have been verified by industry working groups including fleet operators and trade associations. The fleet review was delivered through the following steps which commenced upon receipt of initial fleet data following a project initiation meeting delivered via a web conference.

- Summary of Current Fleet: using the data provided Cenex categorised individual vehicles into relevant operational vehicle segments before baselining the current fleet composition, operations, and emissions profile. Non-operational vehicles were included within the Specialist Fleet Review.
- Low Emission Vehicle Technology Options: an initial screening of low emission vehicle technologies based on current UK vehicle availability and supplier/ market maturity.
- Low Emission Vehicle Technology Selection: input of key fleet parameters such as annual mileage, fuel economy and ownership period into an in-house spreadsheet model to assess the suitability of low emission vehicle technologies against each individual vehicle and selection of the most suitable technologies based on two implementation scenarios – maximum emissions savings (at any cost) and total cost of ownership parity (or better) within each vehicle segment.
- Low Emission Vehicle Infrastructure Review: a high-level assessment to identify the required type, location, and indicative capital and installation costs of any required infrastructure.
- Recommended Replacement Vehicle Technologies: based on the results of the fleet review, Cenex has highlighted those vehicles which could theoretically be replaced by low emission vehicle technologies with minimal changes to the fleet's current operating patterns and planned ownership periods. A final technology selection has been applied based primarily on wider operational suitability, low emission vehicle maturity and viability of infrastructure.
- Implementation Recommendations and Next Steps: a summary of the recommended next steps for NWLDC to take to implement the recommended replacement vehicles.

Summary of Current Fleet

The NWLDC operational fleet numbers around 100 vehicles, dominated by light commercial vehicles (LCVs) less than 3.5t gross vehicle weight (GVW) with medium vans the largest vehicle segment (48% of the fleet). The remainder of the fleet consists mainly of heavy goods vehicles, dominated by 3 axle rigid trucks (16% of the fleet). 14 non-operational vehicles (e.g. tractors and mowers) were removed from this review and are included within a separate Specialist Fleet review.

		Number of Vehicles	Percentage of Total Fleet	% Contribution to Total WTW CO ₂ e Emissions	% Contribution to Total NO _x Emissions	% Contribution to Total PM Emissions
Car	Small Car	4	4%	1%	3%	1%
	Large Commercial SUV	2	2%	1%	3%	0%
	Small Van	7	7%	1%	6%	3%
	Medium Van	48	48%	20%	60%	69%
	Large Van (< 3.5t GVW)	11	11%	5%	10%	2%
HGV	Large Van (> 3.5t GVW)	1	1%	0%	0%	0%
	Rigid Truck - 2 axles (7.5t GVW)	4	4%	3%	0%	1%
	Rigid Truck - 2 axles (18t GVW)	7	7%	15%	1%	2%
	Rigid Truck - 3 axles (26t GVW)	16	16%	54%	16%	22%
Total		100	100%	1,130 tonnes	1,100 kg	10 kg

The medium van segment (accounting for 48% of the total fleet) produces the highest proportion of air quality emissions on the fleet, amounting to 60% and 69% of NO_x and PM emissions respectively. The high NO_x and PM emissions are impacted by the large proportion of Euro 4 diesel vehicles currently in operation within this van segment.

However, the Rigid Truck – 3 axles (26t GVW) segment contributes 54% of CO₂e emissions despite only accounting for 16% of the total fleet. This is a result of the high fuel consumption of these vehicles and associated high energy usage due to the use of bin lifts and compaction units.

Recommended Replacement Vehicles (TCO Parity with HVO)

Across the NWLDC fleet, there are opportunities to introduce battery electric vehicles (BEV) within the small car, small van, and particularly the medium van vehicle segments.

The table below shows a summary of the recommended replacement vehicles, with a focus on the deployment of BEV vehicles were identified as suitable and utilising Hydrotreated Vegetable Oil (HVO), a renewable diesel that is a ‘drop-in’ replacement for fossil diesel, across the remaining fleet vehicles.

In terms of number of vehicles, capital and revenue costs, and emissions savings. All values are compared to the procurement of a new Euro 6/ VI diesel vehicle excluding VAT. All costs are represented as a difference to an equivalent diesel vehicle where **positive values** are higher than the equivalent vehicle and **negative values** are lower than the equivalent vehicle. This is further highlighted by the use of **red** and **green** text across both tables.

Introducing 54 BEVs (55% of the fleet) would require additional capital of **£420,000** for vehicles and **£82,000** for electric vehicle charging infrastructure (hardware and installation costs only). These vehicles could provide total cost of ownership (TCO) savings of **£37,000** whilst reducing fleet well to wheel (WTW) CO₂e emissions by **16%** and fleet air quality pollutant emissions up to **60%** in NOx and **35%** in PM.

Fuelling the remaining fleet vehicles with HVO would lead to an increase in running costs of **£420,000** over the 7-year vehicle ownership period. Whilst HVO increases running costs and thus TCO, WTW CO₂e savings of **68%** of the fleet emissions can be achieved. As HVO uses the same engine as a diesel vehicle, there are no guaranteed air quality savings; only BEVs contribute to air quality pollutant emissions reductions.

Over all this scenario equates to a potential increase of **£4,700** per vehicle or £670/ vehicle per year for an **84%** reduction in fleet WTW greenhouse gas emissions.

	Small Car	Small Van	Medium Van	Small Van	Large Van	Rigid Truck	Large 4x4	Total
Replacement Technology	BEV (OEM)			HVO				
Number of Vehicles	4	2	48	5	12	26	2	99
% of vehicle segment	100%	29%	100%	71%	100%	100%	100%	100%
Additional Capital Cost (£)	£32,000	£12,300	£375,400	£0	£0	£0	£0	£419,700
Difference in Running Costs (£)	-£19,900	-£11,800	-£380,500	£3,500	£26,600	£385,400	£4,500	£7,700
Difference in Residual Values (£)	£12,600	£1,100	£31,100	£0	£0	£0	£0	£44,800
Difference in TCO (£)	£500	£600	£36,200	-£3,500	-£26,600	-£385,400	-£4,500	-£382,600
Ownership Period (years)	7	7	7	7	7	7	7	7
% of Fleet TTW CO ₂ Savings	1%	1%	20%	0%	5%	67%	1%	95%
% of Fleet WTW CO ₂ Savings	1%	1%	15%	0%	4%	62%	1%	84%
% of Fleet NOx Savings	3%	2%	55%	0%	0%	0%	0%	62%
% of Fleet PM Savings	3%	1%	31%	0%	0%	0%	0%	36%
Number of 7 kW Chargepoints	0	0	43	0	0	0	0	43
Number of 22 kW Chargepoints	4	2	5	0	0	0	0	16
Number of 50 kW Chargepoints	0	0	0	0	0	0	0	0
Infrastructure Capital Cost	£14,200	£7,100	£60,800	£0	£0	£0	£0	£82,100

The total column in the above table highlights the total saving that can be achieved, or cost increases resulting from adopting the recommended vehicles. In the case of TCO, while there are TCO savings available through the adoption of electric vehicles, these are outweighed by the increased costs associated with operating the remaining fleet on HVO.

The above costs for cars and LCVs (e.g. capital costs, residual values, TCO) have been derived from industry standard information readily available from Fleet News and Commercial Motor. All costs are based on the average of the top three bestselling models from each vehicle segment, where information is available.

The calculated infrastructure costs are based on the installation of 7 kW chargepoints at all relevant home locations and depot based dual socket 22 kW chargepoints, assuming that no grid upgrades are required.

Recommended Replacement Vehicle Schedule (TCO Parity with HVO)

The Recommended Replacement Vehicle Schedule presented below can be considered an outline action plan for the deployment of BEV and HVO across the NWLDC fleet. However, this plan assumes that NWLDC can readily purchase or lease the relevant vehicle models and specifications required for their operational requirements. The impacts of potential vehicle delivery lead times has not been accounted for as this can differ greatly from manufacturer to manufacturer. Similarly, the impact of any potential delays in deploying the relevant charging infrastructure has not been accounted for.

It will be essential that NWLDC discuss their vehicle and infrastructure needs with relevant vehicle and chargepoint suppliers to gain a clear understanding of the likely timeline for delivery/ installation. This will enable a more accurate vehicle and infrastructure deployment plan can be generated.

	Financial Year									
	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
Small Car (BEV)	3	1	0	0	0	0	0	0	0	0
Large Commercial SUV (HVO)	1	1	0	0	0	0	0	0	0	0
Small Van (BEV and HVO)	5	1	0	0	1	0	0	0	0	0
Medium Van (BEV)	26	2	7	0	13	0	0	0	0	0
Large Van (HVO)	9	1	1	0	0	0	0	0	0	0
Large Van (> 3.5t GVW) (HVO)	0	0	0	0	1	0	0	0	0	0
Rigid Truck - 2 axles (7.5t GVW) (HVO)	0	0	1	0	2	0	0	0	0	0
Rigid Truck - 2 axles (18t GVW) (HVO)	0	0	0	5	1	1	0	0	0	0
Rigid Truck - 3 axles (26t GVW) (HVO)	9	1	2	0	4	0	0	0	0	0
Vehicle Replacements	53	7	11	5	22	1	0	0	0	0
Cumulative % of Fleet Replaced by LEV	54%	61%	72%	77%	99%	100%	100%	100%	100%	100%
Additional Vehicle Capital Costs (£)	£227,345	£29,823	£54,740	£0	£107,835	£0	£0	£0	£0	£0
Infrastructure Cost (£)	£41,757	£14,205	£9,551	£0	£16,551	£0	£0	£0	£0	£0
Annual Running Cost Savings (£)	£5,211	£4,271	£5,439	-£2,936	£633	-£1,094	-£1,094	-£1,094	-£1,094	-£1,094
Annual TTW CO₂ Savings (tonnes)	411.8	465.2	565.7	660.0	849.8	869.3	869.3	869.3	869.3	869.3
Annual WTW CO₂ Savings (tonnes)	446.1	508.3	617.2	725.7	929.2	951.5	951.5	951.5	951.5	951.5
Annual NOx Savings (kg)	103.3	112.6	136.6	136.6	194.1	194.1	194.1	194.1	194.1	194.1
Annual PM Savings (kg)	0.5	0.5	0.6	0.6	0.8	0.8	0.8	0.8	0.8	0.8

There is a need for the immediate replacement of some 53 vehicles (54% of the fleet) which are at the end of their current ownership cycle (predominantly medium vans and 3 axle 26t GVW rigid trucks). The replacement of these vehicles will need to be carefully managed as it entails significant capital costs for both vehicle and infrastructure. However, the staged replacement of these vehicles will enable NWLDC to make immediate gains on their decarbonisation plans.

Most of the recommended replacement vehicles are medium vans which are due to be replaced during FY2021/2022 to FY2025/2026. By this date 99% of the entire fleet could be replaced by BEVs and HVO fuelled vehicles.

Other low emission vehicle technologies, such as bio-CNG, dual fuel hydrogen and hydrogen fuel cell electric, are currently economically challenging for the remainder of the fleet. This is mainly due to the high initial vehicle purchase costs and low market maturity combined with low annual mileages which limit the opportunities for running cost savings.

Implementation Recommendations and Next Steps

The recommendations in this section are of most relevance over the next five years with any occurring after these timescales considered closer to an outline strategy to 2030.

- 1. Implement battery electric cars and light commercial vehicles (i.e. small cars and small and medium vans) along with the associated electric vehicle charging infrastructure according to the current vehicle replacement schedule, if not sooner.**
 - a. Confirm which specific vehicle models meet the required operational specifications in terms of payload, towing capacity and minimum viable battery capacity required to meet day to day mileage variation. For a given vehicle model this is a trade-off between cost, payload, and range (smaller batteries = lower cost, higher payload, and lower operating range). It should be recognised that the analysis in this report has been based on average daily mileage and does not include the impact of additional factors (cabin heating, towing, etc.).
 - b. Where possible, consider specifying vehicles with optional on-board AC chargers with increased power ratings, to enable higher rates of vehicle charging to occur (e.g. 11 kW or 22 kW vs. 7 kW).
 - c. Undertake a short-term managed vehicle trial of between 4 – 8 weeks in each identified vehicle segment to confirm operational suitability and to verify the potential running cost and emissions savings.
 - d. Plan and rollout a home charging pilot scheme, including the installation of appropriate 7 kW chargers, with targeted drivers to confirm applicability, operational suitability and to verify the running cost and emissions savings.
 - e. Procure and install 22 kW AC chargepoints at the depot locations identified during the infrastructure review.
 - f. Investigate the potential to reduce the ownership period of the remaining non-BEV vans from 7 years to 4 years to ensure that the results of the above electric vehicle trial can be implemented as quickly as possible.
- 2. Investigate the feasibility of using renewable diesel (HVO) as an interim solution across all remaining vehicle segments to provide immediate WTW CO₂e emissions reductions.**
 - a. Contact fleet operators currently using HVO to discuss operational experiences, implications and to verify potential cost increases.
 - b. Contact relevant vehicle manufacturers to discuss verify any potential warranty and maintenance changes.
 - c. Contact relevant fuel suppliers to discuss supply requirements such as volumes, delivery, costs, etc.

3. **Prepare for the potential introduction of ULEV HGVs (i.e. RCVs, Food Waste Disposal, etc.) beyond 2025;** vehicle segments without recommended replacement ULEVs account for 45% of the current fleet. This is primarily due to the relative immaturity of ULEV HGVs and the resulting increase in additional capital costs.
 - a. Undertake the further analysis of journey profiles and daily routes within the relevant vehicle categories to assess and verify the suitability of BEV as a replacement technology.
 - b. Where possible undertake vehicle trials within those operations identified as suitable for BEV deployment.
 - c. The majority of rigid trucks are due for replacement from FY2024 onwards, therefore this date is considered critical to achieving NWLDC's 2030 aspirations. Any vehicles replaced after this point will likely remain on the fleet until at least 2031.
4. **NWLDC should consider the process of assessing, trialling, and implementation of ULEVs across the fleet as a continuous one, depending on the requirements of different vehicle segments.**
5. **Consider operational improvements that could increase the uptake of ULEVs.**

2. Purpose of Fleet Decarbonisation Options Review

North West Leicestershire District Council (NWLDC) commissioned Cenex to undertake the development of a fleet management strategy, roadmap, and action plan with the overall aim of transitioning their existing Council fleet to a zero carbon/ low carbon solution by 2030, with a focus on greenhouse gas emission savings, along with the identification of the infrastructure requirements to support this transformation.

The NWLDC fleet has several components and is made up of around 114 vehicles and is a mix of refuse collection vehicles (RCVs), parks maintenance vehicles, medium sized panel vans and smaller vehicles alongside more specialist equipment, such as sweepers and mowers. The predominant users are Waste Services, which also manages the whole fleet and the in-house workshop, along with the Housing Team which has a home-based fleet of large panel vans.

The recent UK Government Net Zero 2050 target will require zero-emission vehicles to be deployed across all industry sectors. For many sectors, especially those that utilise cars and light commercial vehicles (LCV), this transition should occur seamlessly, as there are a wide variety of electric options within these vehicle categories that are suitable for many business operations.

The harder task for fleet decarbonisation relates to heavier duty vehicles, where electric variants are either not currently available, not cost effective, or not applicable due to operational considerations.

The NWLDC fleet is diverse, with a wide variety of vehicles in use across multiple operational requirements. With such a wide range of vehicles in operation, it may be difficult to identify a specific technology or technologies that are most appropriate for the NWLDC fleet. NWLDC should therefore accept that there is, at this time, unlikely to be a single technological solution that will enable their fleet operations to achieve zero emissions by 2030.

2.1 Scope

To fulfil the requirements of the commission, Cenex undertook the following Work Packages:

- **ULEV Fleet Review**, where the operational fleet was analysed to identify the economic and operational suitability of selected Low Emission Vehicle (LEV), Ultra-low Emission Vehicle (ULEV), and Zero Emission Vehicle (ZEV) technologies taking into consideration the different ownership and usage patterns of individual fleet vehicles. This generated an indicative vehicle replacement schedule based on current replacement schedules, economic considerations, and vehicle availability.
- **Charging/ Refuelling Infrastructure Review**, where those operational vehicles identified as being suitable for replacement with LEVs, ULEVs and ZEVs were assessed to determine the likely infrastructure requirements needed to support their roll out. This analysis included a review into home charging, which is provided as a separate report with a summary contained in this report.
- **ULEV Specialist Fleet Review**, where the specialist fleet (e.g. tractors and mowers) was assessed to identify the possible low emission technology options that could be deployed within the fleet. The results of this analysis have been provided in a separate report.

2.2 Methodology

Figure 1 provides a summary of the overall methodology used during this Fleet Decarbonisation Options Review. This analysis has been undertaken using fleet and specialist fleet data (e.g. mileage, fuel use) supplied by NWLDC supplemented by the results of interviews with selected department managers. The work packages commenced upon receipt of initial fleet data following a project initiation meeting delivered via a web conference.

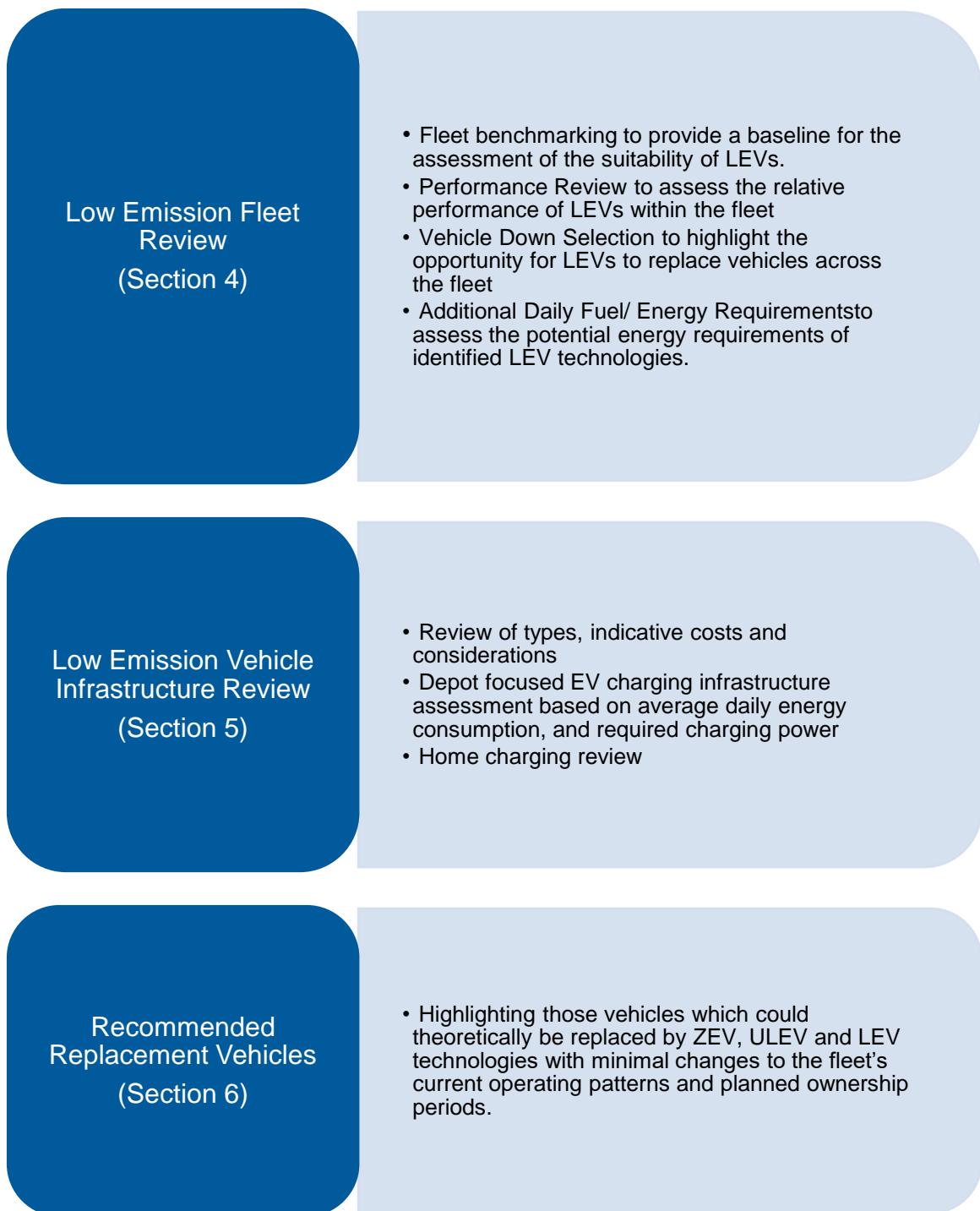


Figure 1 - Summary of Methodology

3. Low Emission Vehicle Technology Options

This section introduces the main technologies discussed in this report by providing basic definitions and technology descriptions alongside an initial screening of LEV technologies based on current UK vehicle availability and supplier/ market maturity.

More detail on LEV technologies, including case studies, can be found in Appendix G – Low Emission Technology Factsheets or in the Low Emission Van Guide¹ and Renewable Fuels Guide² produced by Zemo Partnership and Cenex.

3.1 Zero Tailpipe Emission Vehicle Technologies

A zero-tailpipe emission vehicle or ZEV is a **vehicle which does not emit greenhouse gas (e.g. carbon dioxide (CO₂)) or air quality pollutant emissions from the vehicle exhaust/ tailpipe**.

ZEVs do not have an internal combustion engine (ICE) and instead are driven by an electric motor which is powered by electricity generated by a battery and/ or a hydrogen fuel cell which converts stored chemical energy into electrical energy. Several types of battery electric vehicle (BEV) are described below, which have different levels of supplier maturity and different economic models, all three technologies have been assessed and reported within this analysis.

Table 1 provides a description of currently available ZEV technologies.

Table 1 - Zero Tailpipe Emission Vehicle Technologies

Technology	Example	Description
Battery Electric Vehicle (OEM)		A battery electric vehicle (BEV) stores energy in a battery and delivers its power to the wheels through an electric motor. Original equipment manufacturer (OEM) vehicles are supplied by mainstream vehicle suppliers.
Battery Electric Vehicle (low volume)		A new vehicle 'glider' chassis is taken from the production line and a battery electric drivetrain is fitted. Low volume (and re-powered) BEVs are available from the likes of Emoss, Magtec and Tevva.
Battery Electric Vehicle (re-power)		A new electric drivetrain is fitted into a reconditioned second-hand vehicle. Re-power units are often used for trucks to help reduce the capital cost of an electric truck and improve payback time.
Fuel Cell Range Extended Electric Vehicle (FC REEV)		A BEV which also has an onboard hydrogen fuel cell to recharge the battery on the go. The wheels are always powered by the electric motor. The battery can also be recharged by plugging the vehicle into a mains power source.
Fuel Cell Electric Vehicle (FCEV)		Hydrogen is taking its first steps to becoming commercially available as a road transport fuel in the UK. Compressed hydrogen can be used to power an electric motor by generating electricity through a fuel cell. A small battery is often used for peak power requirements and for regenerative braking only.

¹ https://www.lowcvp.org.uk/assets/reports/Low_Emission_Van_Guide_2019_Update.pdf

² https://www.zemo.org.uk/assets/lowcvpreports/ZEMO_Renewable%20Fuels%20Guide%20_2021.pdf

3.2 Ultra-Low Emission Vehicle Technologies

An ultra-low emission vehicle (ULEV) is currently defined as **any car or van that emits less than 75 g/km of CO₂ from the exhaust/ tailpipe**. Due to advances in technology, it is expected that from 2021 an ULEV will be defined as a car or van that emits less than 50 g/km with a minimum required zero emission range.

To be eligible for the UK Government plug-in grant³, which offers up to £2,500 off the price of a brand-new car, a vehicle must have CO₂ emissions of less than 50 g/km and can travel 70 miles with zero tailpipe emissions. Conversely, for a brand-new van up to 3.5t gross vehicle weight (GVW) to be eligible for up to £6,000 off the purchase price the vehicle must have CO₂ emissions of less than 50 g/km and can travel 60 miles with zero tailpipe emissions. Further details of the current plug-in vehicle grants is available in Section 16 (Appendix I – Grant Funding Options).

Currently any private or public sector organisation can claim the above grant, which is usually administered through the vehicle supplier (i.e. retail or leasing company).

No equivalent definition currently exists for heavy duty vehicles, although the Zemo Partnership are current developing ultra-low emission truck (ULET) standards⁴.

ULEV technologies include all ZEVs in addition to range extended electric vehicles (REEV) which use ICE generators, and plug-in hybrid electric vehicles (PHEV). Several types of ULEV are described below, which have different levels of supplier maturity and different economic models, all technologies have been assessed and reported within this analysis.

Table 2 provides a description of additional, currently available, ULEV technologies.

Table 2 - Ultra-Low Emission Vehicle Technologies

Technology	Example	Description
Range Extended Electric Vehicle (REEV)		A BEV which also has an onboard generator (powered by an ICE) to recharge the battery on the go. The wheels are always powered by the electric motor. The battery can also be recharged by plugging the vehicle into a mains power source.
Plug-in Hybrid Electric Vehicle (PHEV)		A PHEV has an internal combustion engine as well as a battery and electric motor. The wheels can be driven by either the combustion engine or the electric motor. The battery can be recharged by plugging the vehicle into a mains power source.

³ <https://www.gov.uk/plug-in-car-van-grants>

⁴ <https://www.lowcvp.org.uk/projects/commercial-vehicle-working-group/developing-ulet-standards.htm>

3.3 Low Emission Vehicle Technologies

Low emission vehicle (LEV) technologies include all ULEVs and ZEVs in addition to **ICE vehicles capable of using renewable fuels**. This includes compressed natural gas (CNG), biodiesel (FAME) and renewable diesel (HVO), as described below, which have different levels of supplier maturity and different economic models. All three technologies have been assessed and reported within this analysis.

Table 3 provides a description of additional, currently available, LEV technologies.

Table 3 - Low Emission Vehicle Technologies

Technology	Example	Description
Compressed Natural Gas* (CNG)		CNG is the compressed form of natural gas. It is stored on vehicles in pressurised cylinders at 200 to 250 bar and consumed via a dedicated gas engine.
Biodiesel (FAME)		Biodiesel, also known as Fatty Acid Methyl Esters (FAME) is primarily produced from waste plant products and is a low carbon, sustainable alternative to mineral diesel. Biodiesel is already present in regular diesel at up to 7%. High blend biodiesel contains at least 20% biodiesel (B20), most truck manufacturers warranty vehicles up to B20. It is possible to run on B100, but this requires additional equipment, fuel management and is not covered by all warranties.
Renewable Diesel (HVO)		Renewable diesel, such as Hydrotreated Vegetable Oil (HVO) is chemically identical to fossil diesel but produced from waste feedstock and vegetable oil. It is classed as a 'drop-in' fuel, which means it can be substituted for conventional fossil fuel diesel with no impact on maintenance and warranty conditions.

* Natural gas vehicles can be powered by biomethane (bio-CNG) which is a sustainable and renewable version of natural gas.

4. Low Emission Fleet Review

This section focuses on the NWLDC operational fleet, with the specialist fleet being covered in a separate report.

The modelling presented in this report assumes all vehicles are fitted with a standard body without any additional ancillary equipment. Any differential in purchase cost is assumed to be dominated by the powertrain. The impact on vehicle energy consumption associated with loading, towing, and the use of ancillary equipment (e.g. bin lifts, waste compaction, charging of hand tools, etc.) is assumed to be included in any fleet provided fuel consumption data. As such the operating ranges of ZEVs, ULEVs and LEVs are scaled appropriately to accommodate for these additional energy demands.

It is understood that NWLDC is currently trialling an ISUZU 7.5t refuse vehicle for food waste, with the intent to acquire additional vehicles for operational rollout during 2021 – 2022. This vehicle has been included within the fleet summary and benchmarking analysis, (Section 4.1) but is not included within the accompanying Technology Performance Assessments and Recommended Vehicle Replacement Schedule. Instead, a separate performance review has been carried in Section 7 to identify the operational conditions that would need to be achieved to make deployment cost effective.

Therefore, Sections 4.5, 4.6, 5, and 6 do not include this trial vehicle in their analyses.

It should be recognised that NWLDC is reviewing their current operations due to COVID-19 and new services, which is expected to result in additional vehicles and working patterns being adopted. However, it is anticipated that the result contained within this review will be applicable for future vehicle deployments.

Further details, including data sources and references, can be found in Appendix A – Fleet Review References.

4.1 Summary of Current Fleet

This section reviews the NWLDC fleet list to understand and baseline the current fleet size, vehicle types, emissions profile, and current vehicle replacement schedule. The purpose of this section is to provide context for subsequent analysis and to provide a baseline for the assessment of the suitability of LEVs. This analysis has been undertaken using data relating to 2019 – 2020 as it captured the expected typical working environments experienced by NWLDC.

4.1.1 Fleet Vehicles in Use

Table 4 provides an overview of the types of vehicles operated by NWLDC.

Table 4 - NWLDC Fleet Vehicles

		Description
Car	Small Car	Small passenger cars with 5 seats (e.g. Ford Fiesta)
LCV	Large Commercial SUV	Pick up trucks, with up to 5 seats and exposed loading area (e.g. Ford Ranger)
	Small Van	Light commercial vehicles with up to 3 seats and a gross vehicle weight not exceeding 2 tonnes. (e.g. Ford Transit Connect)
	Medium Van	Light commercial vehicles with up to 3 seats and a gross vehicle weight not exceeding 3.1 tonnes. (e.g. Ford Transit Connect)
	Large Van (< 3.5t GVW)	Light commercial vehicles with up to 3 seats and a gross vehicle weight not exceeding 3.5 tonnes. (e.g. Ford Transit Tipper)
	Large Van (> 3.5t GVW)	Heavy duty vehicles with up to 3 seats and a gross vehicle weight exceeding 3.5 tonnes but not exceeding 7.5 tonnes. (e.g. Iveco Daily)
HGV	Rigid Truck - 2 axles (7.5t GVW)	Heavy duty vehicles with two axles and a gross vehicle weight exceeding 7.5 tonnes but not exceeding 12 tonnes. (e.g. Iveco Eurocargo)
	Rigid Truck - 2 axles (18t GVW)	Heavy duty vehicles with two axles and a gross vehicle weight exceeding 12 tonnes but not exceeding 18 tonnes. (e.g. Mercedes Econic Refuse Collection Vehicle)
	Rigid Truck - 3 axles (26t GVW)	Heavy duty vehicles with three axles and a gross vehicle weight exceeding 18 tonnes but not exceeding 26 tonnes. (e.g. Mercedes Econic Refuse Collection Vehicle)

4.1.2 Combined Fleet Composition

Table 5 shows a breakdown of the NWLDC fleet by vehicle type and sub-type. As can be identified from the table below, the NWLDC operational fleet numbers around 100 vehicles, dominated by medium vans and 3 axle rigid trucks (26t GVW).

Table 5 - Summary of Fleet Composition

		Average Annual Mileage (miles)	Average Fuel Consumption (MPG)	Number of Vehicles	Percentage of Total Fleet
LCV	Small Car	8,600	49.6	4	4%
	Large Commercial SUV	8,800	27.8	2	2%
	Small Van	5,200	42.8	7	7%
	Medium Van	8,900	27.0	48	48%
	Large Van (< 3.5t GVW)	5,500	15.6	11	11%
HGV	Large Van (> 3.5t GVW)	2,400	9.9	1	1%
	Rigid Truck - 2 axles (7.5t GVW)	11,200	12.6	4	4%
	Rigid Truck - 2 axles (18t GVW)	5,600	3.4	7	7%
	Rigid Truck - 3 axles (26t GVW)	10,000	3.8	16	16%
Total		8,225	21.7	100	100%

68% of the fleet consists of light commercial vehicles (LCVs) less than 3.5t gross vehicle weight (GVW) with medium vans the dominant vehicle segment (48% of the fleet). The remainder of the fleet consists mainly of heavy goods vehicles, dominated by 3 axle rigid trucks (16% of the fleet).

14 non-operational vehicles (e.g. tractors and mowers) were removed from this review and included within the Specialist Fleet review.

While all vehicles operate for approximately five days a week (assumed to be 260 days per year) the overall average annual mileage of 8,200 miles is less than that within other local authority managed fleets assessed by Cenex. As of the 2011 census, NWLDC has a population of ~93,500 with 58% rural population. The local authority district is classified as 'largely rural'⁵. This will most likely result in several different drive and duty cycles across the fleet. As such **the driving environment has been assumed to be mainly regional (30% urban, 50% rural, and 20% A-road)**.

It should also be noted that the average calculated fuel economy for each vehicle segment is typically similar to the expected ranges for such vehicles.

The annual mileage, number of days per week used and calculated vehicle fuel economy are used as primary inputs to the LEV suitability modelling (see Section 4.5).

4.1.3 Combined Fleet Emissions

The combustion of fossil fuels used for road transport (such as petrol and diesel) produces three main greenhouse gas emissions that contribute directly to climate change. These are carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O). For reporting purposes, greenhouse emissions are standardised to CO₂ equivalents (CO₂e) based on their global warming potential (GWP). For an equivalent amount of each gas released (e.g. 1 kg) the GWP of CO₂ = 1, CH₄ = 25 and N₂O = 298.

Tank to Wheel (TTW) or Scope 1 emissions represent the amount of CO₂ (derived from fossil fuels) which is released from a vehicle's tailpipe. Under the UK Greenhouse Gas reporting protocol, these Scope 1 emissions are the direct responsibility of the transport operator.

⁵ [Lookup for 2011 Rural Urban Classification of Local Authorities, Defra](#)

Well to Wheel (WTW) or All Scope emissions are a more complete method of looking at CO₂ emissions and represent the amount of CO₂ emitted during the fuel's life cycle. This includes the upstream emissions associated with fuel extraction, processing, transportation, and dispensing, as well as the emissions from final fuel combustion. Although the upstream emissions from fuel manufacture are not the reporting responsibility of the transport operator (under UK emission reporting guidance), they are considered important by environmentally conscious fleets when making decisions on fuel and transport options.

As such the greenhouse gas emissions in the main body of the report are presented as WTW CO₂e.

In addition to greenhouse gas emissions, high-temperature combustion of fuels used for road transport also produces two main air quality pollutant emissions that at high concentrations or sustained low concentrations contribute directly to several health issues including respiratory and cardiovascular conditions as well as reduced life expectancy. These are **nitrogen dioxide (NO₂)** and **particulate matter (PM)**.

The National Atmospheric Emissions Inventory provide average speed related emissions factors for different vehicle types, euro standards and fuel types. These factors are provided for **oxides of nitrogen (NOx)**, a collective term that includes NO₂ as well as nitric oxide (NO), and PM. Although NO is not considered hazardous to human health it can lead to the formation of NO₂, as such the collective NOx emission factors are still relevant as evidenced by their use in the Emission Factor Toolkit published by Defra.

All data sources and references used within the delivery of this Fleet Review can be found in Appendix A – Fleet Review References.

Table 6 shows the emissions profile of the NWLDC fleet in terms of percentage contribution to annual WTW CO₂e, NOx and PM emissions.

Table 6 – Summary of Annual Fleet Emissions Contribution

		Percentage of Total Fleet	% Contribution to Total WTW CO ₂ e Emissions	% Contribution to Total NO _x Emissions	% Contribution to Total PM Emissions
Car	Small Car	4%	1%	3%	1%
LCV	Large Commercial SUV	2%	1%	3%	0%
	Small Van	7%	1%	6%	3%
	Medium Van	48%	20%	60%	69%
	Large Van (< 3.5t GVW)	11%	5%	10%	2%
HGV	Large Van (> 3.5t GVW)	1%	0%	0%	0%
	Rigid Truck - 2 axles (7.5t GVW)	4%	5%	1%	1%
	Rigid Truck - 2 axles (18t GVW)	7%	14%	1%	2%
	Rigid Truck - 3 axles (26t GVW)	16%	53%	16%	22%
Total		100%	1,200 tonnes	1,100 kg	10 kg

The medium van segment (accounting for 48% of the total fleet) produces the highest proportion of air quality emissions on the fleet, amounting to 60% and 69% of NOX and PM emissions, respectively. The high NOX and PM emissions are impacted by the large proportion of Euro 4 diesel vehicles currently in operation within this van segment.

However, the Rigid Truck – 3 axles (26t GVW) segment contributes 53% of CO₂e emissions despite only accounting for 16% of the total fleet. This is a result of the high fuel consumption of these vehicles and associated high energy usage due to the use of bin lifts and compaction units.

4.1.4 Combined Fleet Age and Euro Profile

Table 7 shows the calculated fleet age and Euro standard profile. The Euro standard regulations define the maximum acceptable limits for key pollutant emissions (including NOx and PM) for new vehicles sold in the EU.

Euro standards are denoted by Arabic numerals (e.g. Euro 6) for light-duty vehicles which are tested on a chassis dynamometer and Roman numerals (e.g. Euro VI) for heavy-duty vehicles where the engines are certified separately on a test bed.

Table 7 – Vehicle Age and Euro Standard Profile

		Vehicle Age (years)		Engine Euro Standard		
		Average Age (years)	Maximum Age (years)	Euro 4/IV or lower	Euro 5/V	Euro 6/VI
Car	Small Car	6.5	7	0%	75%	25%
LCV	Large Commercial SUV	6.0	7	0%	100%	0%
	Small Van	7.1	11	29%	57%	14%
	Medium Van	6.7	11	33%	25%	42%
	Large Van (< 3.5t GVW)	6.5	10	9%	82%	9%
HGV	Large Van (> 3.5t GVW)	3.0	3	0%	0%	100%
	Rigid Truck - 2 axles (7.5t GVW)	2.8	4	0%	0%	100%
	Rigid Truck - 2 axles (18t GVW)	2.7	3	0%	0%	100%
	Rigid Truck - 3 axles (26t GVW)	6.3	15	6%	13%	81%
Total		6.2	15	20%	32%	48%

48% of the fleet meets the latest Euro 6/ VI emissions standard, with most of the HGV segments achieving this standard. A high proportion of the small and medium vans are **Euro 4 or lower**, causing increases in local air pollutants (NOx and PM).

4.1.5 Current Fleet Replacement Schedule

NWLDC **purchased** 99 of their vehicles, with the capital cost funded and repaid over a seven-year period, although some vehicles may be kept for longer than this. Table 8 shows the vehicle replacement schedule that results from these ownership periods.

While NWLDC previously operated on a fixed 7-year vehicle replacement schedule, it is acknowledged that due to funding considerations and the COVID-19 pandemic this has fallen behind, with some vehicles now overdue replacement.

The below replacement schedule (Table 8) shows that around 60 vehicles are due for replacement in this and the next financial year. These vehicles are predominantly medium vans but does include some 3 axle 26t GVW rigid trucks. A proportion of 18t GVW and 26t GVW rigid trucks due for replacement in 2024 – 2026, which will provide an opportunity for NWLDC to further assess the potential LEV options for these vehicle segments, including trialling suitable vehicles, and preparing to introduce LEVs within this vehicle segment.

Table 8 – Calculated Vehicle Replacement Schedule (financial year)

		2021/ 2022	2022/ 2023	2023/ 2024	2024/ 2025	2025/ 2026	2026/ 2027	2027/ 2028	2028/ 2029	2029/ 2030	2030/ 2031
Car	Small Car	3	1	0	0	0	0	0	0	0	0
LCV	Large Commercial SUV	1	1	0	0	0	0	0	0	0	0
	Small Van	5	1	0	0	1	0	0	0	0	0
	Medium Van	26	2	7	0	13	0	0	0	0	0
	Large Van (< 3.5t GVW)	9	1	1	0	0	0	0	0	0	0
HGV	Large Van (> 3.5t GVW)	0	0	0	0	1	0	0	0	0	0
	Rigid Truck - 2 axles (7.5t GVW)	0	0	1	0	2	0	0	0	0	0
	Rigid Truck - 2 axles (18t GVW)	0	0	0	5	1	1	0	0	0	0
	Rigid Truck - 3 axles (26t GVW)	9	1	2	0	4	0	0	0	0	0
	Total	53	7	11	5	22	1	0	0	0	0

4.2 Operational Constraints

Following a discussion with the NWLDC fleet teams the following potential operational considerations and constraints have also been identified. It is acknowledged that many vehicles within the fleet may be required to meet a minimum specification to complete their daily duties. This may include carrying equipment, towing, use of ancillary power, and off-roading depending on the requirements and location of a given operation.

Table 9 highlights the potential operational restrictions that have been identified, listed out according to vehicle category.

Table 9 - NWLDC Fleet Operational Constraints and Considerations

		Potential Operational Constraint
Car	Small Car	No operational restrictions identified.
LCV	Large Commercial SUV	Some vehicles may require 4x4/ off road capabilities.
	Small Van	No operational restrictions identified.
	Medium Van	Vehicles currently running at weight limit; all vehicles must be able to undertake maximum potential daily mileages due to need to cover emergency shift patterns.
	Large Van (< 3.5t GVW)	Some vehicles running at weight limit; some vehicles identified as being required to tow. One vehicle identified as having a crane. Charging of electric hand tools required.
HGV	Large Van (> 3.5t GVW)	Some vehicles running at weight limit; some vehicles identified as being required to tow.
	Rigid Truck - 2 axles (7.5t GVW)	Some vehicles identified as being required to tow. Some identified as having tail lifts. One identified as being trial food waste vehicle.
	Rigid Truck - 2 axles (18t GVW)	High energy operation due to refuse collection requirements (bin lifts, compaction); up to three loads per day requiring round trip to Loughborough waste site for disposal.
	Rigid Truck - 3 axles (26t GVW)	High energy operation due to refuse collection requirements (bin lifts, compaction); up to three loads per day requiring round trip to Loughborough waste site for disposal.

The following Low Emission Vehicle Technology Selection analysis made no distinction between specific operational requirements as the calculated vehicle fuel economy figures were found to provide a good approximation for the operational weight/ power needs/ etc.

4.2.1 Low Emission Vehicle Technology Screening

To highlight which LEV technologies may have the potential to deliver emissions savings, Cenex has undertaken a high-level assessment of options based on current UK availability and supplier maturity (e.g. availability of service centres, lower technology maturity), as outlined in Figure 2. Further details of these technologies can be found in Appendix G – Low Emission Technology Factsheets. Technologies have been categorised based on the criteria below.

OEM product with a high level of maturity and aftersales support
Re-power or retrofit product with a lower supplier maturity
Technology has been demonstrated but is currently unavailable in the UK
Technology has not been demonstrated or is currently unavailable in the UK

		BEV (OEM)	BEV (low volume)	BEV (re-power)	REEV	PHEV	FCEV	FC REEV	FAME (~B30)	FAME (B100)	HVO	CNG
LCV	Car	Small Car	Renault Zoe									
	Large Commercial SUV		Rivian									
	Small Van	Renault Kangoo ZE						Renault Kangoo ZE H2				
	Medium Van	Mercedes eVito			Ford Transit Custom							
	Large Van (< 3.5t GVW)	LDV EV80	Arrival					Renault Master ZE H2			Iveco Daily	
HGV	Large Van (> 3.5t GVW)	Iveco Daily Electric	EMOSS	Magtec								Iveco Daily
	Rigid Truck – 2 axles (7.5t GVW)	FUSO eCanter	EMOSS	Magtec	Tevva			DAF LF				
	Rigid Truck – 2 axles (18t GVW)	Volvo FL Electric	EMOSS	Magtec	Tevva			DAF LF	Volvo FL			Iveco Eurocargo
	Rigid Truck – 3 axles (26t GVW)	Volvo FE Electric	EMOSS	Magtec				DAF CF	Volvo FE			Scania

Figure 2 - Low Emission Vehicle Technology Screening

All green and amber technologies have been assessed during the remainder of the report.

As such hydrogen fuel cell vehicles (FCEVs) and dual-fuel hydrogen vehicles (DF H₂) have not been assessed. Hydrogen powered vehicles are not yet market ready and it is not possible to purchase series production hydrogen powered vehicles within any of the NWLDC vehicle segments.

Early trials of such vehicles are underway, but vehicle manufacturers are not expected to release series produced vehicles until at least 2023. As such no costs or verified test data is available and the technology cannot be assessed to the same standard as the others.

4.3 Cenex Fleet Review Methodology

Cenex uses an in-house developed vehicle and fleet analysis spreadsheet model (Fleet Advice Tool) to provide companies with a detailed breakdown of the estimated real-world operating range, total cost of ownership (TCO) and emission reduction performance of low emission technologies relative to a new diesel-powered Euro 6/ VI vehicle.

The Cenex Fleet Advice Tool uses independent vehicle ownership cost data, vehicle fuel consumption values, and low emission vehicle energy consumption factors. These energy consumption factors are based on real-world (e.g. chassis dynamometer, test track or in-use) testing of low emission vehicles managed by Cenex or partners (e.g. Emissions Analytics, Zemo partnership) during commercial and research projects. Such trials are deemed independent as they do not involve vehicle manufacturers as part of the trial team, except as a source of the vehicles.

This wider data set is supplemented by information gathered via stakeholder interviews with vehicle and fuel suppliers. The data contained within the Fleet Advice Tool has been verified by industry working groups including fleet operators and trade associations.

Figure 3 below shows the methodology used during a fleet review and reflects the process undertaken during this commission.

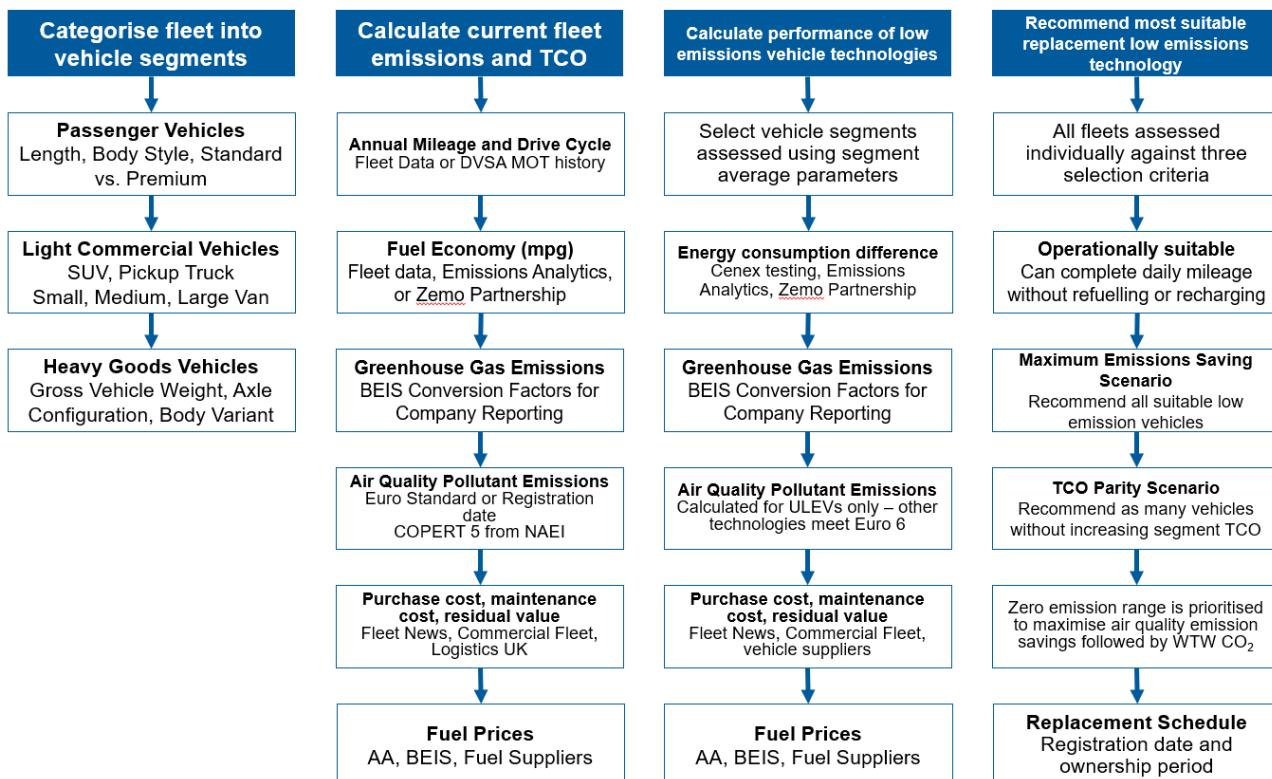


Figure 3 - Fleet review methodology

4.4 Data Input Considerations

The accuracy of this fleet review is dependent on the data provided by NWLDC. The supplied information is used to calculate the current fleet emissions and acts as a baseline for all low emission vehicle suitability calculations (e.g. modelled operating range, total cost of ownership and emissions savings). The list below describes the relationship between the input data and some of the key outputs of the reports. It is acknowledged that the fleet data provided reflects the best available data, as such this information is included to provide context for the subsequent results only.

- **Fuel consumption** is used to calculate the current vehicle CO₂ emissions and fuel costs. Additionally, this fuel consumption is converted into a baseline energy consumption that low emission vehicle technologies are compared against. The biggest risk is that fuel consumption is underreported. This would result in an underestimation of the emissions, fuel costs, and energy consumption requirements of a low emission vehicle. To minimise this risk Cenex check the fuel consumption data against maximum default values to highlight any potential outliers, which are then adjusted.
- **A typical driving environment** (e.g. either mostly congested/ urban/ rural/ motorway or mixed) is used to calculate the energy consumption difference between a low emission vehicle and the current vehicle. This is applied through a database of low emission vehicle 'efficiency factors' determined by independent real-world testing. If the actual drive cycle is significantly different to the assumed drive cycle this could lead to misleading results, particularly relating to the operating range of low emission vehicles. A worked example of the calculation method, for a small battery electric van, is shown below.

	Diesel Fuel Consumption	Electric Vehicle Energy Consumption Reduction	Electric Range	Fuel Cost Savings
Mostly Congested	36 mpg	-74%	104 miles	9.5 ppm
Mostly Motorway	48 mpg	-49%	70 miles	4.2 ppm

- **Annual mileage** is used to calculate the total cost of ownership and emissions savings of low emission vehicles. Typically, due to an increase in ownership costs (e.g. purchase cost and residual values), most low emission vehicle technologies currently have a minimum annual mileage (and ownership period) that is required to be economically viable. The number of days used per week combined with the annual mileage is used to calculate the average daily mileage, this is then compared against the operating range of low emission vehicles to assess operational suitability.

For vehicles on the fleet list **missing information**, average performance data from a similar vehicle in a similar operating group was assigned. Annual mileage, fuel consumption, driving environment, and days of use per week were estimated using this method.

An expanded summary of the key assumptions held within the model's calculation engine is shown in Table 10, with the primary reference for each parameter detailed alongside examples of assumptions for the key technologies (i.e. those which have a significant impact on the results and conclusions). All prices exclude VAT.

Table 10 - Key assumptions within Cenex Fleet Review

Parameter	Cars and Vans (up to 3.5t)	Rigid Trucks and Tractor Units
Energy / fuel consumption	Diesel: Emissions Analytics real-world testing (https://www.emissionsanalytics.com/) ULEVs: Cenex real-world testing (https://www.cenex.co.uk/)	All technologies: LowCVP testing - Emissions Testing of Urban Delivery Commercial Vehicles (https://www.lowcvp.org.uk/resource-library/reports-and-studies.htm) Gas vehicles: Emissions Analytics and Cenex managed testing - Dedicated to Gas (https://www.cenex.co.uk/app/uploads/2019/11/324-003-004-Dedicated-to-Gas-Assessing-the-Viability-of-Gas-Vehicles.pdf)
Purchase cost	Fleet News (Car and van running costs) (https://www.fleetnews.co.uk/car-running-costs-calculator)	Diesel: Freight Transport Association operating cost tables
Residual value	All costs are an average of the top three bestselling models from each segment, where information is available.	All other technologies: Fleet operators, Manufacturers, and industry interviews BEVs have the same absolute residual value as diesel equivalent (increased depreciation). Gas vehicles have 50% of the residual value of diesel equivalent.
Maintenance costs		
Fuel prices	Diesel: AA fuel price reports Electricity: BEIS non-domestic electricity prices Natural Gas: Cenex consultation with gas suppliers	

4.5 Low Emission Vehicle Performance Reviews

This section shows the relative performance of ZEV, ULEV, and LEVs that have been selected for further analysis during the technology screening process.

The **Low Emission Vehicle Performance Reviews** reported below **are based on the combined fleet average vehicle for each segment** as calculated during the fleet baselining and are reported for selected vehicle segments to demonstrate the potential operational impacts of using the identified technologies within the vehicle segment.

Conversely, the **Low Emission Vehicle Technology Selection involves an assessment of each vehicle** to identify the most appropriate technology based on the individual vehicle requirements.

In both cases, the following parameters (exc. VAT) are used as the main inputs to the spreadsheet model:

- Annual mileage and number of used days per week.
- Fuel economy and driving environment of 30% urban, 50% rural, 20% A-road (mostly regional).
- Planned ownership period.
- Diesel = £1.00/ litre, Petrol = £0.96 / litre.
- Electricity = £0.14 / kWh.
- Bio-LPG = £0.53 / kg, CNG = £0.70 / kg (public gas station).
- FAME (B20) = £1.00/ litre.
- HVO = £1.15/ litre.

Table 11 summarises the key assumptions held within the calculation engine of the spreadsheet model. A table of references can be found in Appendix A – Fleet Review References.

Table 11 - Key Modelling Assumptions

Assumption	Description
Estimated real-world operating range	The electric-only vehicle range stated is based on the current vehicle fuel/energy consumption. As such, it includes the average impact of the current duty cycle as well as any ancillary power demands. The actual operating range on any given day will vary by driving style, payload, use of power take off (PTO), use of air conditioning/cabin heating or other external factors (e.g. ambient temperature). The actual electric-only range can vary significantly (by up to 50%) based on these variables.
Vehicle costs - body equipment / variants	The model assumes a standard vehicle configuration without additional equipment. Any differential in vehicle purchase cost is determined primarily by the powertrain. Compatibility between chassis and body variants as well as potential integration issues should be confirmed before procurement of LEVs.
Predicted residual values	Where possible predicted residual values are based on independent data. Despite this, predicted residual values are uncertain and vary significantly based on market factors such as supply vs. demand and policy measures. Additionally, they are forecast over the life of the vehicle. Where predicted residual values are unavailable (e.g. BEV HGVs) it has been assumed the LEVs have the same absolute residual value as an equivalent diesel vehicle. Natural gas vehicles have been assumed to have an absolute residual value of 50% of an equivalent diesel vehicle, this is due to feedback from the gas industry and the lack of a public refuelling network.
Infrastructure costs	Low emission vehicle infrastructure costs are assessed separately in Section 5 (Low Emission Vehicle Infrastructure Review)

Scope of Performance Reviews

Performance reviews have been undertaken for the following vehicle segments:

- Small Car
- Medium Van
- Large Van (<3.5t GVW)
- Rigid Truck – 3 axles (26t GVW)

These vehicle segments account for 80% of the fleet WTW CO₂e emissions, 89% of the fleet NOx emissions, and cover all relevant LEV technologies applicable across all NWLDC vehicle segments.

Table 12 summarises the key vehicle performance criteria used as part of the LEV performance reviews.

Table 12 - Average Vehicle Performance Criteria

	Typical Driving Type	Annual Mileage (miles)	Fuel Consumption (MPG)	Days per Week Used	Ownership Period (years)
Small Car	Mostly regional	8,632	49.6	5	7
Medium Van	Mostly regional	8,915	27.0	5	7
Large Van (< 3.5t GVW)	Mostly regional	5,547	15.6	5	7
Rigid Truck - 3 axles (26t GVW)	Mostly regional	9,995	3.8	4	7

The completed Performance Reviews are presented over two pages with charts for operating range, total cost of ownership (TCO) and CO₂e emissions followed by a summary of the key findings of each technology.

Results are based on a comparison of the identified low emission technology against an equivalent Euro 6 diesel vehicle and presented on a per vehicle basis in order of zero-emission range descending followed by WTW CO₂e emissions savings descending. All prices exclude VAT. **LEV technologies that are of least relevance as potential replacements have been highlighted in amber** with supporting justification provided on the relevant charts.

4.5.1 Low Emission Vehicle Performance Review – Small Car

Figure 4 to Figure 6 show the relative performance of LEV technologies for small cars. The calculations contained in Figure 5 outline the methodology used to calculate the vehicle depreciation.

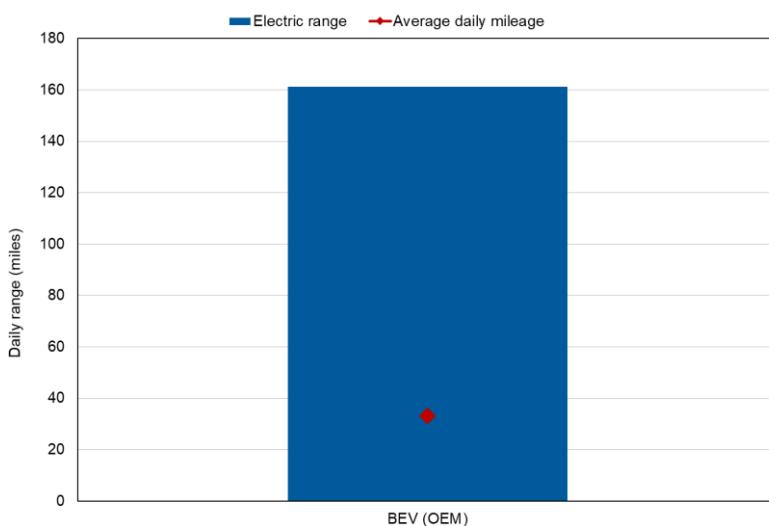


Figure 4 – Operating Range; Small Car

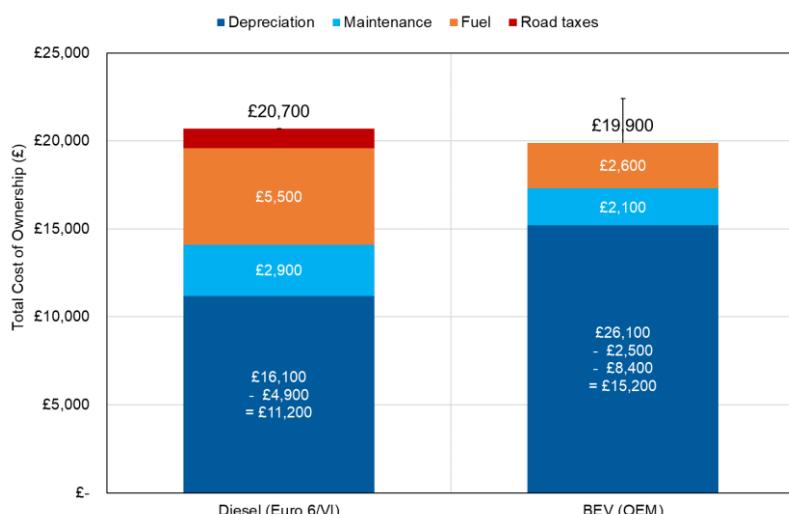


Figure 5 - Total Cost of Ownership; Small Car

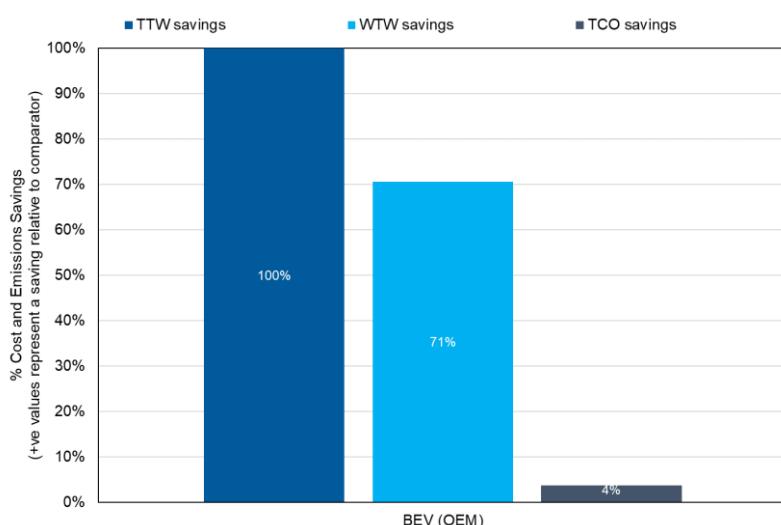


Figure 6 - CO₂e Emissions Savings vs. Cost Difference; Small Car

BEV (OEM)

Criteria	Performance
Operational	<ul style="list-style-type: none"> Estimated real-world range of 161 miles (40 kWh battery). 7kW AC on-board charger as standard = 8h charging time at 7kW chargepoint. 1 hour to DC charge to 80% capacity using a 50 kW rapid charger.
TCO	<ul style="list-style-type: none"> £10,000 increase in purchase cost (including £2,500 Plug-In grant). No road taxes, lower fuel and maintenance costs result in a TCO saving of £800.
Emissions	<ul style="list-style-type: none"> Zero tailpipe emissions. 71% reduction in WTW CO₂ emissions based on the current UK grid energy mix. This will reduce further as the UK grid decarbonises.

4.5.2 Low Emission Vehicle Performance Review – Medium Van

Figure 7 to Figure 9 show the relative performance of LEV technologies for Medium Vans. The black error bars in Figure 8 highlight the potential impact of any future removal of the Plug in Van Grant, while the calculations outline the methodology used to calculate the vehicle depreciation.

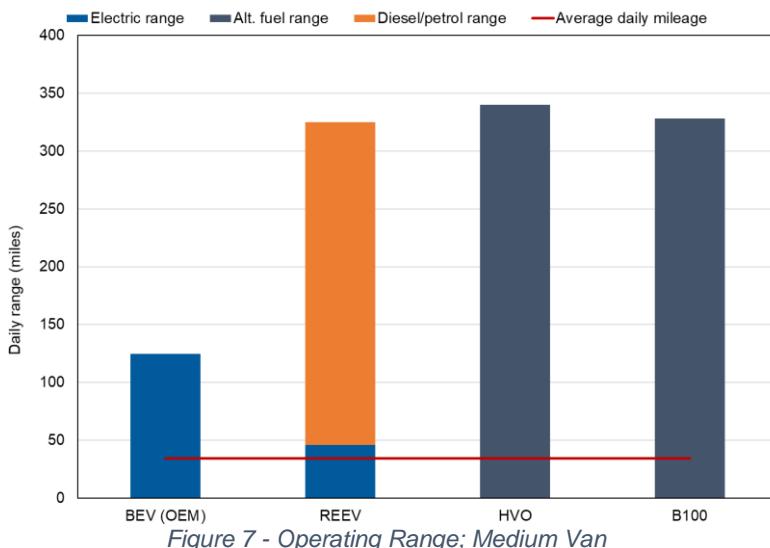


Figure 7 - Operating Range; Medium Van

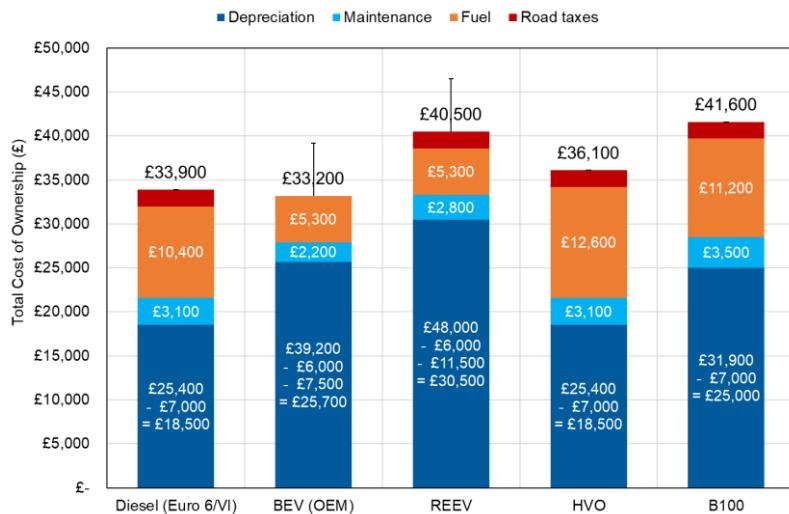


Figure 8 - Total Cost of Ownership; Medium Van

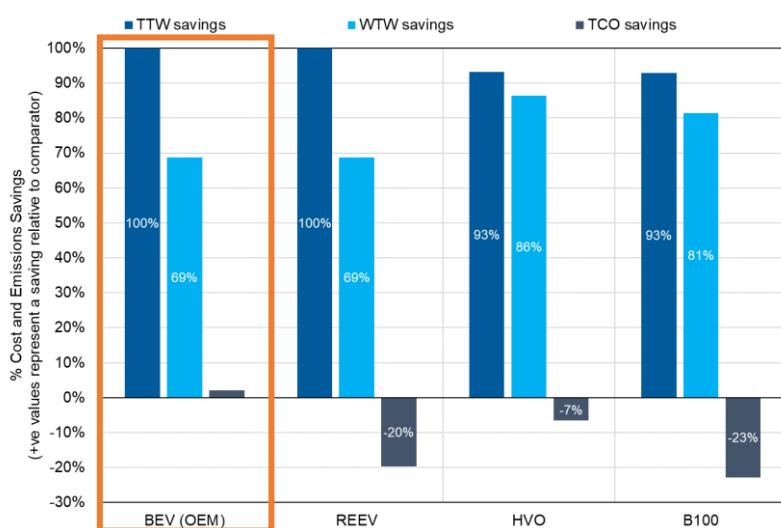


Figure 9 - CO₂e Emissions Savings vs. Cost Difference; Medium Van

BEV (OEM) operating range is over twice the average daily mileage and provides zero tailpipe emissions, a 69% reduction in WTW CO₂e emissions and is TCO neutral.

All other technologies increase TCO.

BEV (OEM)

Criteria	Performance
Operational	<ul style="list-style-type: none"> Estimated real-world range of 124 miles (75 kWh battery) 7kW AC on-board charger as standard = 8-10h charging time at 7kW chargepoint. 1 hour to DC charge to 80% capacity using a 50 kW rapid charger. Payloads of 640 kg to 1,000 kg available dependent on the model.
TCO	<ul style="list-style-type: none"> £7,200 increase in purchase cost, per vehicle (including £6,000 Plug-In Grant). Significant running cost savings lead to TCO neutrality.
Emissions	<ul style="list-style-type: none"> Zero tailpipe emissions. 69% reduction in WTW CO₂ emissions based on the current UK grid energy mix. This will reduce further as the UK grid decarbonises.

REEV

Criteria	Performance
Operational	<ul style="list-style-type: none"> The estimated combined range is far greater than the average daily mileage. Electric-only range approximately 40-50 miles Up to 22kW AC on-board charger as standard = 3-5h charge time 30 minutes to DC charge to 80% capacity using a 50 kW rapid charger Payload of 830kg available dependent on model.
TCO	<ul style="list-style-type: none"> £6,000 increase in purchase cost, per vehicle (including £6,000 Plug-In Grant). Although running costs are reduced, TCO increases by £6,600.
Emissions	<ul style="list-style-type: none"> Zero tailpipe emissions, when operating in electric mode 69% reduction in WTW CO₂ emissions based on the current UK grid energy mix. This will reduce further depending on how often the vehicle operates in electric mode.

HVO

Criteria	Performance
Operational	<ul style="list-style-type: none"> The estimated range is far greater than the average daily mileage. Refuelling can be done in a similar time to diesel.
TCO	<ul style="list-style-type: none"> No increase in capital cost as the vehicle is the same as a diesel. The increased cost of HVO results in a TCO increase of £2,200.
Emissions	<ul style="list-style-type: none"> 86% reduction in WTW CO₂ emissions. Air quality pollutant emissions equivalent to Euro 6.

FAME (B100)

Criteria	Performance
Operational	<ul style="list-style-type: none"> The estimated range is far greater than the average daily mileage. Refuelling can be done in a similar time to diesel. Additional fuel storage and handling requirements.
TCO	<ul style="list-style-type: none"> £6,500 increase in purchase cost Increased maintenance requirements. Additional running costs results in TCO increase of £7,700
Emissions	<ul style="list-style-type: none"> 81% reduction in WTW CO₂ emissions due to high biodiesel blend. Air quality pollutant emissions equivalent to Euro 6.

4.5.3 Low Emission Vehicle Performance Review – Large Van (<3.5t GVW)

Figure 10 to Figure 12 show the relative performance of LEV technologies for Large Vans (<3.5t GVW). The black error bars in Figure 11 highlight the potential impact of any future removal of the Plug in Van Grant, while the calculations outline the methodology used to calculate the vehicle depreciation.

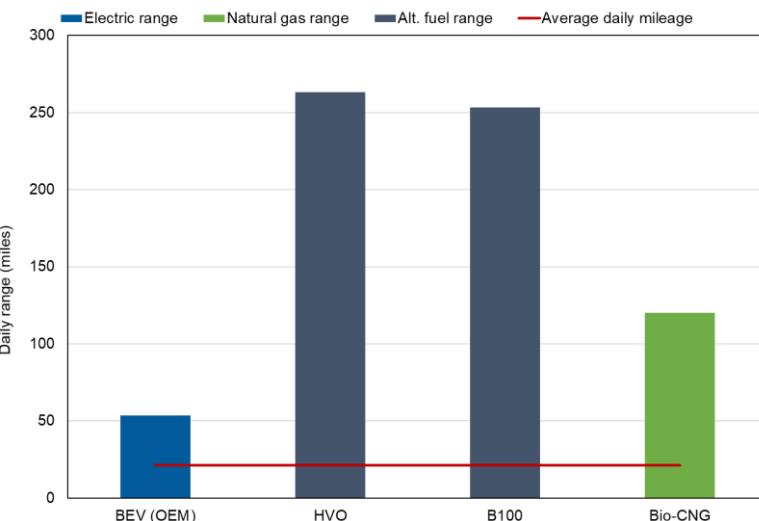


Figure 10 - Operating Range; Large Van (3.5t GVW)

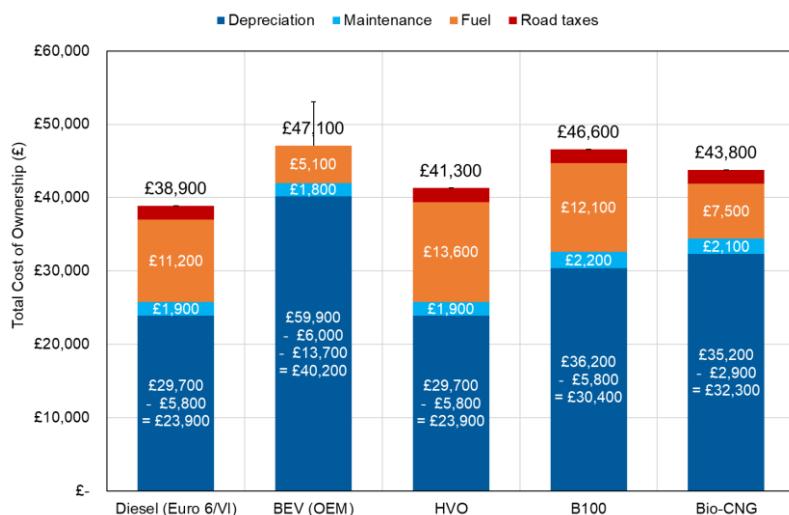
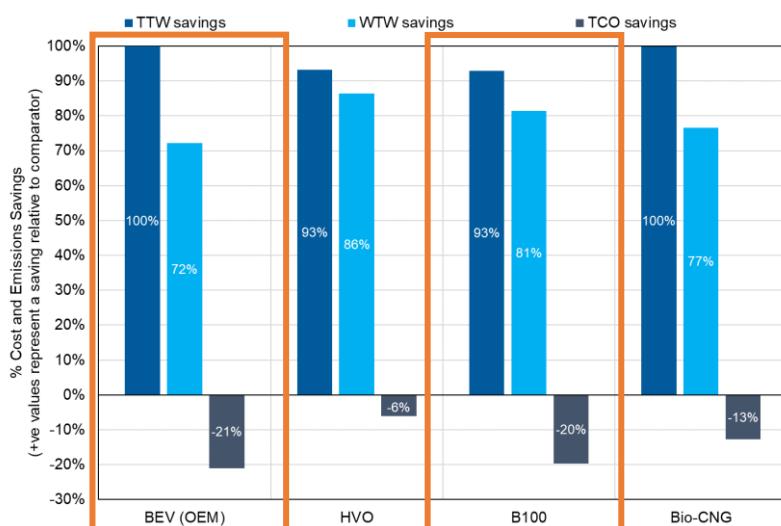


Figure 11 - Total Cost of Ownership; Large Van (3.5t GVW)



The increased purchase cost of BEV (OEM) is the main influencing factor in TCO.

B100 operating range is substantially more than the average daily mileage and provides an 81% reduction in WTW CO₂e emissions. However, TCO increases by 20%.

Figure 12 - CO₂e Emissions Savings vs. Cost Difference; Large Van (3.5t GVW)

BEV (OEM)

Criteria	Performance
Operational	<ul style="list-style-type: none"> Estimated real-world range of 53 miles (45 kWh). 7kW AC on-board charger as standard = 8h charging time at 7kW chargepoint. 1 hour to DC charge to 80% capacity using a 50 kW rapid charger. Dependent on the vehicle model and battery capacity, payloads ranging from 700 kg to 1,200 kg are available. The payload can also be increased by 750 kg by using vehicles that make use of the government derogation that allows a low emission vehicle to be rated at 4.25t GVW whilst still being used on a category B driving licence. See Appendix B – for more details. Except for the new Mercedes-Benz eSprinter, which has a towing capacity of 1,200 to 1,700 kg, most BEV large vans (<3.5t GVW) are not able to tow. The additional weight, rolling resistance and aerodynamic drag will also reduce the electric-only range which may further compromise operational suitability.
TCO	<ul style="list-style-type: none"> £16,300 increase in purchase cost (including £6,000 Plug-In Grant). Despite significant running cost savings, there is an overall TCO increase of £8,200.
Emissions	<ul style="list-style-type: none"> Zero tailpipe emissions. 72% reduction in WTW CO₂ emissions based on the current UK grid energy mix. This will reduce further as the UK grid decarbonises.

HVO

Criteria	Performance
Operational	<ul style="list-style-type: none"> The estimated range is far greater than the average daily mileage. Refuelling can be done in a similar time to diesel.
TCO	<ul style="list-style-type: none"> No increase in capital cost as the vehicle is the same as a diesel. Increased running costs lead to a TCO increase of £2,400.
Emissions	<ul style="list-style-type: none"> 86% reduction in WTW CO₂ emissions. Air quality pollutant emissions equivalent to Euro 6.

FAME (B100)

Criteria	Performance
Operational	<ul style="list-style-type: none"> The estimated range is far greater than the average daily mileage. Refuelling can be done in a similar time to diesel. Additional fuel storage and handling requirements.
TCO	<ul style="list-style-type: none"> £6,500 increase in purchase cost Increased maintenance requirements. Increased running costs lead to a TCO increase of £7,700.
Emissions	<ul style="list-style-type: none"> 81% reduction in WTW CO₂ emissions. Air quality pollutant emissions equivalent to Euro 6.

Bio-CNG

Criteria	Performance
Operational	<ul style="list-style-type: none"> The estimated range is far greater than the average daily mileage. Refuelling can be done in a similar time to diesel. Payloads up to 1,200 kg are currently available.
TCO	<ul style="list-style-type: none"> £8,400 increase in vehicle capital cost. Despite access to low-cost public gas prices (£0.70 per kg), increased running costs lead to a TCO increase of £4,900.
Emissions	<ul style="list-style-type: none"> 77% reduction WTW CO₂ emissions. Air quality pollutant emissions equivalent to Euro 6.

4.5.4 Low Emission Vehicle Performance Review – Rigid Truck (26t GVW)

Figure 13 to Figure 15 show the relative performance of LEV technologies for Rigid Trucks (26t GVW). The calculations contained in Figure 14 outline the methodology used to calculate the vehicle depreciation.

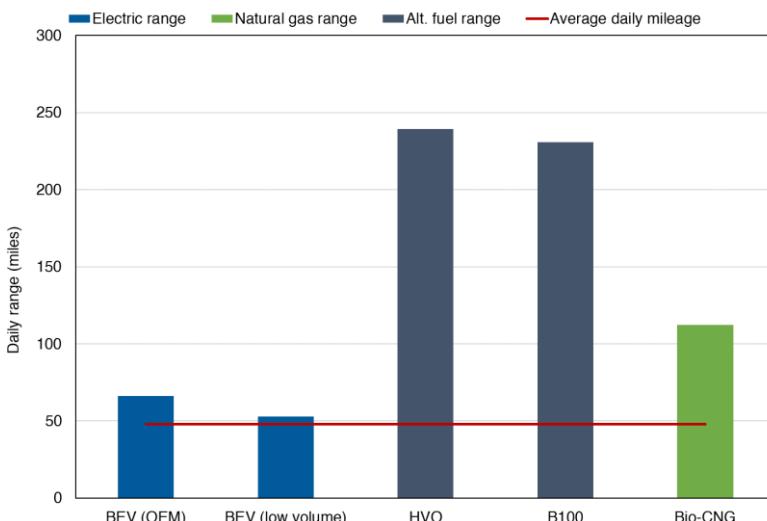


Figure 13 - Operating Range; Rigid Truck (26t GVW)

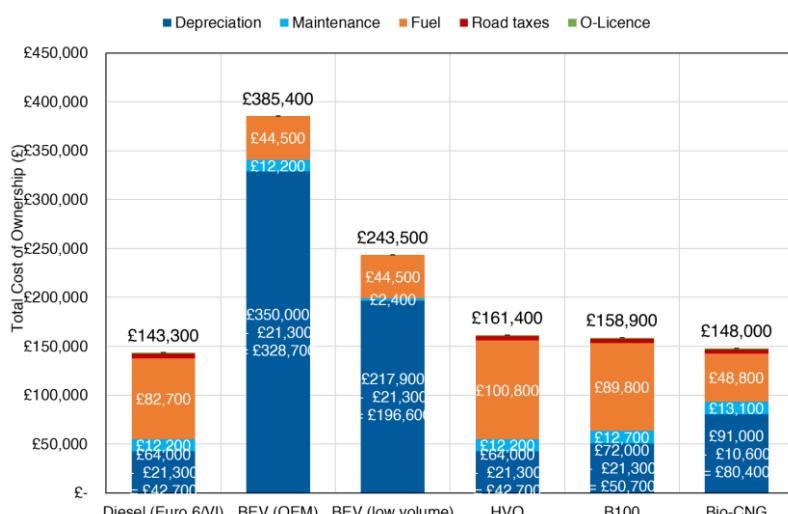


Figure 14 - Total Cost of Ownership; Rigid Truck (26t GVW)

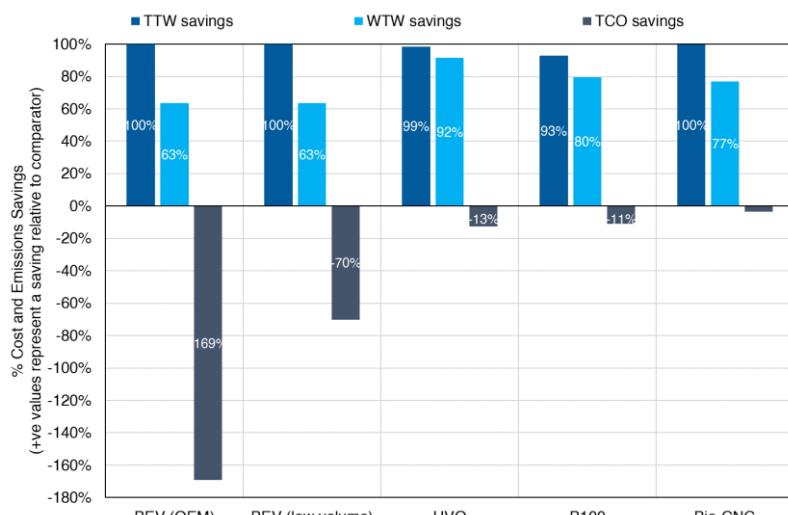


Figure 15 – CO₂e Emissions Savings vs. TCO Difference; Rigid Truck (26t GVW)

The increased purchase cost of BEV (low volume) and BEV (re-power) is the main influencing factor in TCO.

The bio-CNG operating range is substantially more than the average daily mileage and provides a 77% reduction in WTW CO₂e emissions. However, air quality emissions remain at Euro VI levels.

BEV (OEM / low volume)

Criteria	Performance
Operational	<ul style="list-style-type: none"> Estimated real-world range of between 44 – 66 miles (180 – 270 kWh). The daily mileage uses at least half of the battery capacity. The BEV would have to be charged between shifts if it were to be double shifted. Many of this vehicle category are specialist refuse collection vehicles, which may limit their suitability for battery-electric options due to the lack of available vehicles. The payload will be reduced due to the additional weight of the batteries. See Appendix B – for more details.
TCO	<ul style="list-style-type: none"> An increase in purchase costs of £154,000 – £286,000 leads to large depreciation cost increases. Despite significant running cost savings, there is an overall TCO increase of at least £100,200 due to the low mileages undertaken by these vehicles. This rises to £242,100 for the BEV (OEM).
Emissions	<ul style="list-style-type: none"> Zero tailpipe emissions. 63% reduction in WTW CO₂ emissions based on the current UK grid energy mix. This will reduce further as the UK grid decarbonises.

HVO

Criteria	Performance
Operational	<ul style="list-style-type: none"> The estimated range is far greater than the average daily mileage. Refuelling can be done in a similar time to diesel.
TCO	<ul style="list-style-type: none"> No increase in capital cost as the vehicle is the same as a diesel. Increased running costs lead to a TCO increase of £18,100.
Emissions	<ul style="list-style-type: none"> 92% reduction in WTW CO₂ emissions. Air quality pollutant emissions equivalent to Euro VI.

FAME (B100)

Criteria	Performance
Operational	<ul style="list-style-type: none"> The estimated range is far greater than the average daily mileage. Refuelling can be done in a similar time to diesel. Additional fuel storage and handling requirements.
TCO	<ul style="list-style-type: none"> £8,000 increase in capital cost. Increased maintenance requirements. Increased running costs lead to a TCO increase of £15,600.
Emissions	<ul style="list-style-type: none"> 80% reduction in WTW CO₂ emissions. Air quality pollutant emissions equivalent to Euro VI.

Bio-CNG

Criteria	Performance
Operational	<ul style="list-style-type: none"> The estimated range is far greater than the average daily mileage. Refuelling can be done in a similar time to diesel.
TCO	<ul style="list-style-type: none"> £37,700 increase in vehicle capital cost. Despite access to low-cost public gas prices (£0.70 per kg), increased running costs lead to a TCO increase of £4,700.
Emissions	<ul style="list-style-type: none"> 77% reduction in WTW CO₂ emissions. Air quality pollutant emissions equivalent to Euro VI.

4.5.5 Low Emission Vehicle Technology Options Appraisal

Following the completion of the above Performance Reviews an additional appraisal was undertaken to assess the wider implications of the analysed technologies within the Medium Van and Rigid Truck (RCV) vehicle segments. This high-level options appraisal took into account emission reduction potential, vehicle and fuel availability, operational considerations, ownership costs and refuelling/ recharging infrastructure requirements.

This analysis has been undertaken as a qualitative assessment using a **red**, **amber**, **green** status with an additional **grey** category for neutral or conditional metrics (e.g. vehicle cost for 'drop-in' fuels). Table 13 shows the colour coding used for this additional low emission vehicle technologies options appraisal.

Table 13 - Technology Options Review Criteria

Key	Cost and Emissions	Maturity and Availability	All Others
Green	Better than diesel	OEM product	Advantage
Grey	Same as diesel	Conditional	Neutral
Yellow	Slightly worse than diesel	Low volume	Minor disadvantage
Red	Worse than diesel	Demonstration phase	Disadvantage

Table 14 and Table 15 show a summary of the performance of each identified low emission vehicle technology within the Medium Van and Rigid Trucks (RCV) category respectively, against the key metrics studied. Vehicle technologies are presented left to right in order of vehicle cost ascending.

Table 14 - Summary of Low Emission Technology Options – Medium Vans

Performance Metric	Renewable Diesel (HVO)	Biodiesel (B100)	Battery Electric
Greenhouse Gas Emissions	Green	Blend limited	Green
Air Pollutant Emissions	Grey	Euro VI	ZEV
Noise Pollution	Grey	Grey	Green
Maturity	Green	Partial OEM	Partial OEM
Availability (2021)	Green	Green	Grey
Availability (2030)	Green	Green	Green
Typical Operations	Grey	Fuel Use / Storage	Grey
Intensive Operations	Green	Fuel Use / Storage	Energy Storage
Vehicle Weight	Green	Green	Red
Vehicle Costs	Grey	Yellow	Red
Fuel Costs	Red	Yellow	Green
Maintenance Costs	Grey	Yellow	Currently the same
Existing Infrastructure	Green	Green	Depot Power
Infrastructure Cost	Grey	Yellow	Varies by site
Infrastructure Viability	Green	Green	Yellow

Table 15 - Summary of Low Emission Technology Options – Rigid Trucks (RCVs)

Performance Metric	Renewable Diesel (HVO)	Biodiesel (B100)	Bio-CNG	Hydrogen Dual Fuel	Battery Electric	Fuel Cell Electric
Greenhouse Gas Emissions		Blend limited		SR ¹ limited		H ₂ Production
Air Pollutant Emissions	Euro VI	Euro VI	Euro VI	Euro VI	ZEV	ZEV
Noise Pollution			SI ¹ Only			
Maturity		Partial OEM			Partial OEM	
Availability (2021)						
Availability (2030)			Could be phased out			Availability uncertain
Typical Operations		Fuel Use / Storage				
Intensive Operations		Fuel Use / Storage			Energy Storage	
Vehicle Weight ²			Gas tanks	Gas tanks	Batteries	Batteries
Vehicle Costs						
Fuel Costs						
Maintenance Costs					Currently the same	
Existing Infrastructure					Depot Power	
Infrastructure Cost			Varies by site	Varies by site	Varies by site	Varies by site
Infrastructure Viability						

¹ SR = substitution ratio (by energy), SI = spark ignition engine (similar to a petrol engine)² UK legislation⁶ allows a 1,000 kg increase in maximum authorised weight for alternatively fuelled vehicles.⁶ 2017 No. 881 Road Vehicles, UK Government (2017)

4.6 Low Emission Vehicle Technology Selection

In this section, **the suitability of LEV technologies has been assessed for each vehicle in the NWLDC fleet**. The purpose of this assessment is to highlight the overall opportunity for each technology to replace diesel/petrol vehicles within each vehicle segment and across the wider fleet.

This analysis uses the same approach described during the Low Emission Vehicle Performance Reviews, but individual vehicle input parameters are used instead of the vehicle segment averages. The vehicle's locations are considered when analysing the emission performance of battery electric options. NWLDC uses renewable electricity on a Green Tariff at their depot, whereas home charging is accredited to the UK consumer mix. **ULEV pick-up trucks are not currently available in the UK and have been excluded from this analysis.**

The following suitability criteria have been applied to individual vehicles for all assessed LEV technologies.

- **Operating range suitability criteria** – LEVs must be able to complete the average daily mileage on less than one full charge or tank with at least 20 miles range remaining (including any secondary fuels).
- **Greenhouse gas emissions suitability criteria** – LEVs must provide WTW CO₂e emissions savings.

Individual vehicles that do not meet these suitability criteria have been excluded from both the 'Low Emission Vehicle Infrastructure Review' and from any recommendations regarding replacement vehicle technologies.

Technology selection results are reported for the two following potential implementation scenarios:

1. **Maximum emissions savings (at any cost)** – all LEVs that meet the above suitability criteria are included and no additional criteria are applied. This scenario represents the maximum emissions savings that can be achieved for each technology, regardless of the cost implications (e.g. vehicle segment TCO could increase).
2. **TCO parity (or better) within each vehicle segment** – in addition to the above suitability criteria, the number of LEVs is reduced (starting from the vehicle with the largest increase in TCO) until TCO parity is achieved across the vehicle segment. Individual vehicles can provide either an increase or decrease in TCO but the **cumulative TCO** of LEVs within each vehicle segment must **provide parity (or better)** compared to equivalent diesel/petrol vehicles. This scenario represents the emissions savings that can be achieved without increasing fleet TCO (although additional capital funding may still be required).

All previously discussed all relevant LEV technologies have been assessed as part of the Low Emission Vehicle Technology Selection. However, for reporting purposes, **the following LEV technologies have been removed from the technology selection tables and infrastructure reviews – FC REEV, REEV, PHEV, Bio-LPG and DF Bio-LPG**. Individually these technologies have the potential to reduce fleet WTW CO₂e emissions by a maximum of 7%. Additionally, for the reasons discussed previously, these technologies are those which have been identified as of least relevance as potential replacements due to economic or commercial availability reasons.

The Low Emission Vehicle Technology Selection results are presented across a series of tables showing the number and percentage of vehicles that meet the suitability criteria as well the associated emissions savings, additional capital costs and difference in TCO. For some vehicle categories, several technologies have been identified as suitable. This provides NWLDC with technology options, depending on the operational requirements of the vehicles. To provide robust recommendations for replacement vehicle technologies the charging/refuelling infrastructure must either be readily available or be viable to install and operate. LEV infrastructure requirements are assessed separately in Section 5 - Low Emission Vehicle Infrastructure Review.

4.6.1 Low Emission Vehicle Technology Selection – Maximum Emissions Savings

Table 16 shows the number and percentage of vehicles that meet the operating range and greenhouse gas emissions suitability criteria for each LEV technology and vehicle segment.

Table 16 - Number of Suitable Vehicles (% of vehicle segment); Maximum Emissions Savings Scenario

	ZEV		ULEV	LEV		
	BEV (OEM)	BEV (low volume)	REEV	Bio-CNG	B100	HVO
Small Car	4 (100%)					
Large Commercial SUV					2 (100%)	2 (100%)
Small Van	7 (100%)				7 (100%)	7 (100%)
Medium Van	48 (100%)		47 (98%)		48 (100%)	48 (100%)
Large Van (< 3.5t GVW)	10 (91%)			11 (100%)	11 (100%)	11 (100%)
Large Van (> 3.5t GVW)	1 (100%)			1 (100%)	1 (100%)	1 (100%)
Rigid Truck - 2 axles (7.5t GVW)	1 (33%)		3 (100%)		3 (100%)	3 (100%)
Rigid Truck - 2 axles (18t GVW)	6 (86%)	1 (14%)		6 (86%)	7 (100%)	7 (100%)
Rigid Truck - 3 axles (26t GVW)	5 (31%)	1 (6%)		16 (100%)	16 (100%)	16 (100%)
Total	82 (83%)	2 (2%)	50 (51%)	34 (34%)	95 (96%)	95 (96%)

It should be noted that more work is required to better understand the RCV daily rounds to determine the suitability of BEV within this vehicle segment. The calculation of vehicle energy consumption is complicated due to a variety of factors including driving, lifting, compacting, increasing payload, etc. In some instances, Cenex have seen ranges of 50 to 130 miles depending on duty cycle, which are achievable if the collection round is repeatable e.g. a vehicle might do 25 miles every day and use 50% of the capacity for a 50 mile ‘range’.

Table 17 lists the annual WTW CO₂e emissions savings and annual NOx emissions savings achievable under this scenario.

Table 17 - Annual WTW CO₂e Emissions Savings (% of total fleet); Maximum Emissions Savings Scenario

	ZEV		ULEV	LEV		
	BEV (OEM)	BEV (low volume)	REEV	Bio-CNG	B100	HVO
Small Car	1%					
Large Commercial SUV					1%	1%
Small Van	1%				1%	1%
Medium Van	15%		8%		17%	18%
Large Van (< 3.5t GVW)	4%			4%	4%	4%
Large Van (> 3.5t GVW)	0%			0%	0%	0%
Rigid Truck - 2 axles (7.5t GVW)	1%		2%		3%	3%
Rigid Truck - 2 axles (18t GVW)	12%	1%		3%	12%	13%
Rigid Truck - 3 axles (26t GVW)	10%	0%		43%	44%	47%
Total	44%	1%	11%	56%	81%	86%

Theoretically, 83% of the total fleet (predominately small cars and medium vans) could be replaced with battery electric variants, saving approximately 44% of annual fleet WTW CO₂e emissions and 78% of annual fleet NOx emissions. 34% of the fleet (LCVs and rigid trucks) could be replaced by bio-CNG variants, saving 56% of annual fleet WTW CO₂e emissions with similar Euro 6/ VI air quality pollutant emissions.

The CO₂ savings for HVO and biodiesel are shown as better than BEV due to the emission factors used, which considers the fuel production process, which is currently less polluting for these liquid fuels. However, electricity generation will continue to decarbonise in the future, while the emissions from the production of HVO and biodiesel are unlikely to change.

Table 18 - Annual NOx Emissions Savings (% of total fleet); Maximum Emissions Savings Scenario

	ZEV		ULEV	LEV		
	BEV (OEM)	BEV (low volume)	REEV	Bio-CNG	B100	HVO
Small Car	3%					
Large Commercial SUV					0%	0%
Small Van	5%				0%	0%
Medium Van	55%		52%		0%	0%
Large Van (< 3.5t GVW)	6%			0%	0%	0%
Large Van (> 3.5t GVW)	0%			0%	0%	0%
Rigid Truck - 2 axles (7.5t GVW)	0%		2%		0%	0%
Rigid Truck - 2 axles (18t GVW)	5%	1%		0%	0%	0%
Rigid Truck - 3 axles (26t GVW)	4%	0%		0%	0%	0%
Total	78%	1%	53%	0%	0%	0%

B100 is available for 96% of the fleet, resulting in WTW CO₂e emissions savings of 81% with similar NOx emissions. HVO could cover the same fleet share with marginally higher WTW CO₂e reductions. B100 and HVO could be options for the rigid truck segments, especially those where bio-CNG and battery electric are either not currently available or not viable.

Table 19 and Table 20 highlight the cost differences for the alternative technologies compared to a new Euro 6/ VI vehicle for all vehicles meeting the suitability criteria. The tables show the total cost of ownership and additional capital costs. **Green numbers** indicate lower costs, with **red numbers** indicating higher costs compared to an equivalent Euro 6/ VI diesel option.

Table 19 – Difference in Total Cost of Ownership; Maximum Emissions Savings Scenario

	ZEV		ULEV	LEV		
	BEV (OEM)	BEV (low volume)	REEV	Bio-CNG	B100	HVO
Small Car	£493					
Large Commercial SUV					-£14,754	-£4,499
Small Van	-£10,823				-£51,038	-£6,368
Medium Van	£36,246		-£420,293		-£372,056	-£107,827
Large Van (< 3.5t GVW)	-£95,955			-£55,453	-£83,733	-£24,866
Large Van (> 3.5t GVW)	-£52,760			-£4,706	-£6,636	-£1,724
Rigid Truck - 2 axles (7.5t GVW)	-£38,439		-£137,624		-£32,445	-£16,411
Rigid Truck - 2 axles (18t GVW)	-£1,227,419	-£85,299		-£64,559	-£88,190	-£77,918
Rigid Truck - 3 axles (26t GVW)	-£1,284,206	-£131,067		-£57,172	-£251,058	-£291,091
Total	-£2,672,863	-£216,366	-£557,916	-£181,891	-£530,703	-£530,703

BEV (OEM) small cars and medium vans yield a combined TCO saving of **~£36,500** over the life of the vehicles, procurement of these 52 vehicles would incur additional capital costs of **~£407,000** (excluding infrastructure).

Table 20 - Additional Vehicle Capital Cost; Maximum Emissions Savings Scenario

	ZEV		ULEV	LEV		
	BEV (OEM)	BEV (low volume)	REEV	Bio-CNG	B100	HVO
Small Car	£32,033					
Large Commercial SUV					£13,000	£0
Small Van	£43,223				£45,500	£0
Medium Van	£375,360		£780,435		£312,000	£0
Large Van (< 3.5t GVW)	£242,097			£60,500	£71,500	£0
Large Van (> 3.5t GVW)	£60,000			£5,500	£6,500	£0
Rigid Truck - 2 axles (7.5t GVW)	£54,000		£180,000		£24,000	£0
Rigid Truck - 2 axles (18t GVW)	£1,404,000	£109,550		£120,000	£56,000	£0
Rigid Truck - 3 axles (26t GVW)	£1,430,000	£142,775		£432,000	£128,000	£0
Total	£3,640,713	£252,325	£960,435	£618,000	£656,500	£0

The above tables demonstrate that the economics for the replacement of entire vehicle segments with ZEVs, ULEVs, and LEVs are challenging across the NWLDC fleet. This is primarily due to higher capital costs and the low annual mileages undertaken by most vehicles. High annual mileages allow running cost savings to offset the disadvantage of increased capital costs, especially for BEV rigid trucks with their low relative maturity and increased costs.

Under this scenario the adoption of 12 battery electric rigid trucks would increase TCO by **~£2,545,000**.

However, even bio-CNG priced at £0.70/ kg, such as from a large public gas station, would increase fleet TCO by **~£182,000**. As reported in Section 5, this represents a realistic best-case scenario as small-scale depot based natural gas stations typically yield an increased gas price.

4.6.2 Low Emission Vehicle Technology Selection – Total Cost of Ownership Parity

Table 21 shows the percentage of vehicles that meet the additional TCO parity selection criteria. This represents the percentage of vehicles that provide enough operating range, WTW CO₂e emissions savings **and** could be introduced **without** increasing fleet TCO.

Table 21 - Number of Suitable Vehicles (% of vehicle segment); TCO Parity Scenario

	ZEV	LEV
	BEV (OEM)	Bio-CNG
Small Car	4 (100%)	
Large Commercial SUV		
Small Van	2 (29%)	
Medium Van	48 (100%)	
Large Van (< 3.5t GVW)		
Large Van (> 3.5t GVW)		
Rigid Truck - 2 axles (7.5t GVW)		
Rigid Truck - 2 axles (18t GVW)		
Rigid Truck - 3 axles (26t GVW)		13 (81%)
Total	54 (55%)	13 (13%)

The introduction of battery electric and bio-CNG can provide some level of TCO parity within their respective vehicle segments although the suitability of bio-CNG is dependent on the provision of bio-CNG at £0.70/ kg. In addition, while both biodiesel and HVO provide emission savings and are operationally suitable, these fuels have been excluded from this analysis as their introduction increases TCO, due to increased fuel prices, and in the case of biodiesel, increased maintenance and vehicle capital costs.

Table 22 and Table 23 show the annual WTW CO₂e emissions savings and annual NOx emissions savings for the TCO parity scenario.

Table 22 - Annual WTW CO₂e Emissions Savings (% of total fleet); TCO Parity Scenario

	ZEV	LEV
	BEV (OEM)	Bio-CNG
Small Car	1%	
Large Commercial SUV		
Small Van	1%	
Medium Van	15%	
Large Van (< 3.5t GVW)		
Large Van (> 3.5t GVW)		
Rigid Truck - 2 axles (7.5t GVW)		
Rigid Truck - 2 axles (18t GVW)		
Rigid Truck - 3 axles (26t GVW)		39%
Total	16%	39%

Table 23 - Annual NOx Emissions Savings (% of total fleet); TCO Parity Scenario

	ZEV	LEV
	BEV (OEM)	Bio-CNG
Small Car	3%	
Large Commercial SUV		
Small Van	2%	
Medium Van	55%	
Large Van (< 3.5t GVW)		
Large Van (> 3.5t GVW)		
Rigid Truck - 2 axles (7.5t GVW)		
Rigid Truck - 2 axles (18t GVW)		
Rigid Truck - 3 axles (26t GVW)		0%
Total	60%	0%

In this scenario, 55% of the fleet, including all small cars, all medium vans and two small vans could be replaced by battery electric variants, saving 16% of annual fleet WTW CO₂e emissions and 60% of NOx emissions.

For larger vehicle segments, 81% of the rigid truck - 3 axles (26t GVW), could be replaced with bio-CNG variants, saving 39% of annual WTW CO₂e emissions while achieving Euro 6/ VI air quality pollutant standards.

Table 24 and Table 25 show the difference in total cost of ownership and additional capital cost **compared to a new Euro 6/ VI diesel vehicle** for all segments which contain ZEV and LEV technologies that can achieve TCO parity.

The procurement of 54 BEV (OEM) vehicles (55% of the fleet) would result in additional capital costs of **~£420,000** and would return TCO savings of **~£36,000**.

The procurement of 13 bio-CNG rigid trucks (13% of the fleet) would result in additional capital costs of **~£351,000** and would achieve TCO savings of **~£10,500**.

Table 24 - Difference in Total Cost of Ownership; TCO Parity Scenario

	ZEV	LEV
	BEV (OEM)	Bio-CNG
Small Car	£493	
Large Commercial SUV		
Small Van	£644	
Medium Van	£36,246	
Large Van (< 3.5t GVW)		
Large Van (> 3.5t GVW)		
Rigid Truck - 2 axles (7.5t GVW)		
Rigid Truck - 2 axles (18t GVW)		
Rigid Truck - 3 axles (26t GVW)		£10,528
Total	£36,246	£10,528

Table 25 - Additional Vehicle Capital Cost; TCO Parity Scenario

	ZEV	LEV
	BEV (OEM)	Bio-CNG
Small Car	£32,033	
Large Commercial SUV		
Small Van	£12,349	
Medium Van	£375,360	
Large Van (< 3.5t GVW)		
Large Van (> 3.5t GVW)		
Rigid Truck - 2 axles (7.5t GVW)		
Rigid Truck - 2 axles (18t GVW)		
Rigid Truck - 3 axles (26t GVW)		£351,000
Total	£419,743	£351,000

As a result of the above Low Emission Vehicle Technology Selection process, a decision was made to focus on the introduction of **BEV** and **bio-CNG** technologies as these provide a reduced risk solution to achieving a lower emission fleet. These technologies have been taken forward for an assessment of the average daily fuel/ energy requirements associated with their use, followed by the Low Emission Vehicle Infrastructure Review.

4.6.3 Additional remarks on range suitability for battery electric vehicles

The above technology selection process uses range suitability criterion based on average daily mileage. In reality, vehicle operations will vary from day to day. This daily variation can cause concern where on average vehicles have been identified as suitable, but not for every single day. Such exceeding days, if frequent, will compromise the suitability of BEVs.

Given the data provided by NWLDC, Cenex undertook an additional analysis of the suitability of battery electric options, based on the actual mileage data provided. The focus of this analysis was on medium vans, as these vehicles were identified as being the most operationally constrained due to mileage requirements.

Using the provided data it was calculated that a medium van with a battery capacity of 68 kWh has an average daily range of 125 miles. Figure 16, below, compares that value with the logged daily distances for the financial years 2019/2020 and 2020/2021. It should be noted that data logging started on the 12th of August 2019, resulting in fewer counts of daily distances for the period of 2019/20.

However, the calculated distributions between the two periods are similar, although financial year 2020/2021 skews towards shorter distances, which is believed to be a result of the COVID-19 pandemic.

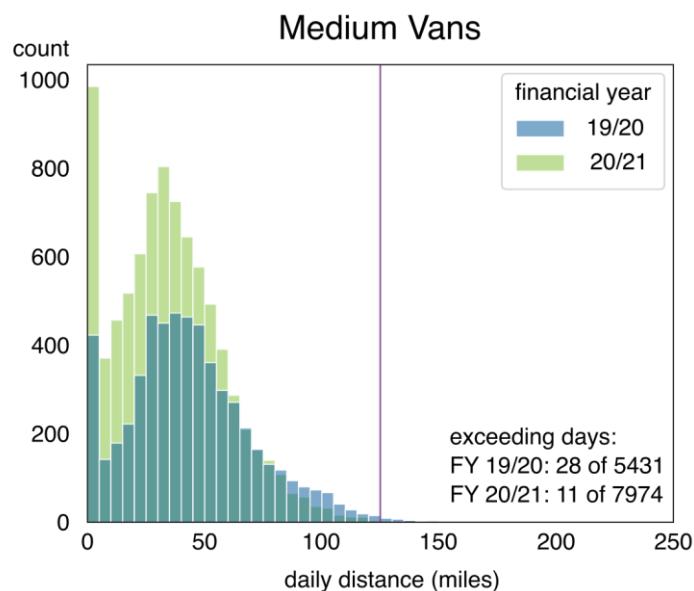


Figure 16 – Daily distance distribution for medium vans in the financial years 19/20 and 20/21

The share of trips exceeding the required 125 miles range is 0.5% for 2019/2020 and 0.14% for 2020/2021. While there are a proportion of journeys that are close to the available range, overall the bulk of daily journeys are shorter than the average BEV range of 125 miles and not all vehicles exceeded this. Table 26 lists the medium vans with logged daily distances above the battery range (Table 42 in the Appendix is an extended version of Table 26 containing all relevant vehicles). Most of them only show two or fewer days of exceedance a year.

Those numbers suggest that battery electric technology can be considered a suitable option, which is not likely to interfere with the current vehicle operation as **very few vehicles** have been found to exceed the calculated battery range. It would be expected that the low number of range exceedances can be overcome by opportunity charging during the day. However, further investigation into the vehicle start locations and daily duties would need to be undertaken to verify their suitability for BEV technology.

Table 26 – Medium vans with daily trips that exceeding battery range

Fleet Number	Vehicle Type	Department	Usable Battery Capacity (kWh)	Average BEV Range (Miles)	FY 2019/2020		FY 2020/2021	
					Number of Daily Trips Exceeding BEV Range	Number of Daily Trips	Number of Daily Trips Exceeding BEV Range	Number of Daily Trips
701	Medium Van	Housing Maintenance	68	125	1	164	2	232
710	Medium Van	Housing Maintenance	68	125	2	114	0	221
720	Medium Van	Refuse Department	68	125	3	223	2	200
735	Medium Van	Housing Maintenance	68	125	0	151	2	184
737	Medium Van	Housing Maintenance	68	125	11	134	2	189
739	Medium Van	Housing Maintenance	68	125	3	120	0	185
742	Medium Van	Housing Maintenance	68	125	2	64	1	149
743	Medium Van	Housing Maintenance	68	125	5	140	0	189
746	Medium Van	Housing Maintenance	68	125	0	111	1	68
748	Medium Van	Housing Maintenance	68	125	0	135	1	145
782	Medium Van	Housing Maintenance	68	125	1	131	0	231

4.6.4 Additional remarks on double shifting of RCVs

It is anticipated that it will be challenging to double shift battery electric RCVs. Initial calculations indicate that, using current usage patterns, the NWLDC BEV RCVs are projected to use on average 70% of their battery capacity each day so most vehicles would have to be charged between the two shifts if double shifted.

This would require multiple high power rapid chargepoints to charge the waste fleet during the limited charging window during shift changeover (as opposed to overnight charging when single shifted). It should be noted that currently available BEV RCVs cannot charge at high powers and typically take 4-8 hours to charge; however, the 2022 Mercedes eEconic will be able to charge at 150kW.

While it would be possible to double shift the BEV RCVs in the future, when suitable vehicles are available, it would require significant investments in to infrastructure and increased site grid capacity.

It should be noted that all current UK BEV RCV deployments have been single shifted days of around 8 hours.

4.7 Additional Daily Fuel/ Energy Requirements

Table 27 shows the average daily fuel or energy requirements by location for the ZEV, ULEV, and LEV technologies that have been selected for further analysis based on the Low Emission Vehicle Technology Selection. The main purpose of this analysis is to highlight which location(s) to study during the Low Emission Vehicle Infrastructure Review whilst also providing key economic modelling inputs such as the average daily fuel consumption for gaseous and liquid fuels.

The table includes all vehicles that meet the operating range and greenhouse gas emissions suitability criteria regardless of TCO. This provides a complete overview of the **maximum** potential energy requirements of ZEV, ULEV, and LEV technology per location.

Table 27 - Average Daily Fuel or Energy Consumption of Selected ZEV and LEV Technologies

Location	Baseline	ZEV	ULEV	LEV		
	Diesel (litres)	BEV (OEM) (kWh)	REEV (kWh)	Bio-CNG (kg)	B100 (litres)	HVO (litres)
Linden Way Depot	1,300	1,761	181	1,023	1,409	1,355
Home	256	950	535		277	266
London Road Depot	40	115		29	43	42
Council Offices	26	83	17		15	14
Total	1,622	2,909	733	1,052	1,743	1,677
Number of Vehicles	99	82	51	34	95	95

The current NWLDC vehicle fleet is spread across three Council locations, with a proportion taken home overnight. The introduction of BEVs has the potential to increase depot energy consumption depending on the number of vehicles based at each location. The largest increase in energy consumption is likely to be experienced by the Linden Way Depot due to the high number of rigid trucks and other HGVs stored there.

On an average day, the potential fleet of natural gas vehicles could consume about 1,000 kg of bio-CNG (assuming a shared natural gas station). This is a very small use demand with a typical small natural gas station having a daily capacity of ~10,000 kg.

High volumes of B100 biodiesel are required for economic delivery, with typical minimum on-site delivery of 10,000 litres required. Biodiesel is organic and has a shelf life meaning it requires using within three to four months. This means only sites with the capacity of at least 30,000 – 40,000 litres per annum are appropriate. With a daily demand in excess of 1,400 litres, the Linden Way Depot would have enough demand to consume the B100 before it exceeds its shelf life.

HVO does not suffer from a short shelf life like B100, although minimum deliveries are required to ensure reduce prices.

5. Low Emission Vehicle Infrastructure Review

This section assesses the infrastructure required to facilitate the uptake of those vehicles identified as being suitable for replacement with ZEV, ULEV, and LEV alternatives. This includes a high-level assessment of the required type, location, and indicative capital costs of any required infrastructure. Supporting guidance regarding the key factors to consider when installing and operating ZEV, ULEV, and LEV infrastructure are available in Appendix H – Infrastructure Considerations.

Although there are installation and operational considerations associated with the use of bunkered renewable fuel supplies, these are considered less significant than those associated with **electric vehicle charging infrastructure**, and **natural gas refuelling stations**.

5.1 Charging and Refuelling Infrastructure Baseline

To enable NWLDC to better understand whether staff can utilise existing publicly available infrastructure during their daily duties Cenex undertook an infrastructure mapping exercise, where NWLDC depot locations were mapped against the existing publicly available electric vehicle and natural gas infrastructure. The results of the exercise can be found in Figure 17, below.

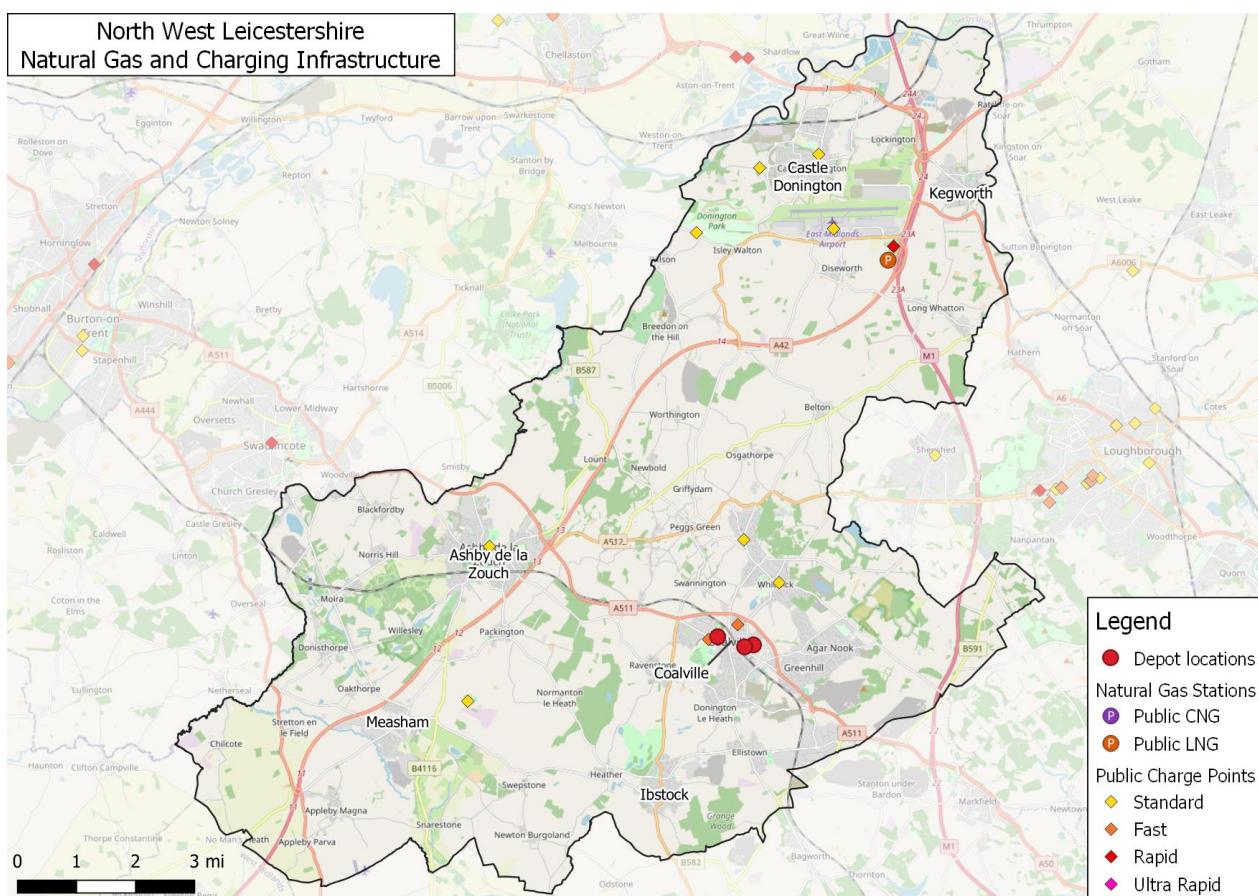


Figure 17 – Locations of Offices and Depots with EV and Natural Gas Infrastructure

The results of the benchmarking exercise indicate that there is some publicly available standard power infrastructure in the main population centres of the district. Additionally, there are 12 three-phase fast chargepoints in Coalville that can charge supported vehicles at up to 22 kW. Finally, there is one rapid charger in the district located at Castle Donington motorway services which can deliver 50 kW. Just outside the district, there are more fast and rapid chargers in the towns of Loughborough and Swadlincote. Relying purely on publicly available electric vehicle infrastructure would not be appropriate given its limited availability. However, there are currently enough public chargepoints that a vehicle would not have to travel far if it required a top-up charge during the day. If NWLDC were to install additional public chargepoints across the region it would benefit both the operational fleet and residents wishing to transition to electric cars.

In terms of natural gas refuelling, there is one major liquified natural gas refuelling station in North West Leicestershire although this fuel is more relevant to long haul transit. The nearest public compressed natural gas stations are in Erdington (near Birmingham) and Newark.

5.1.1 Electric Vehicle Charging Infrastructure – Assessment

A high-level assessment of electric vehicle charging infrastructure requirements has been undertaken to identify the required number, type, and location of chargepoints based on the number and types of BEVs identified as being suitable under the **Maximum Emission Savings** and **TCO Parity** scenarios.

In addition, and for each scenario, the implications of operating all vehicles from a single depot has also been assessed.

The assessment has been undertaken based on the following assumptions:

- **Total time available for charging between shifts = 14 hours.**
 - Most vehicles in operation between 8:00 am and 6.00 pm.
 - Some housing vans are required to be on call until 9.00 pm, so would experience a reduced window for charging.
- **Calculated charging time = average daily energy consumption (kWh) / minimum charging power (kW, on-board vehicle or chargepoint output) x additional charging time safety factor (1.25)**
- The most suitable chargepoint has been selected out of three charging options assessed:
 - **7 kW AC** (230V, 32A single phase) – Home-based infrastructure only.
 - **22 kW AC** (400V, 32A three phases) – for reference the installed cost of a 22 kW AC chargepoint is typically only ~£225 more than a 7 kW AC chargepoint, based on a level depot installation, this provides a level of future-proofing and is considered best practice for fleet operators installing new chargepoints at operational sites. The costs for installing a 7kW charger at a depot are higher than those for a home charger due to the additional ground works and wiring usually involved.
 - **50 kW DC** (400V, 32A three phases)
 - Charging power is increased until the calculated charging time is less than the total time available. Vehicles can be excluded from the recommended replacement vehicles if charging under these conditions is not viable.
- Indicative hardware and installation costs are based on Cenex experience from electric vehicle charging infrastructure projects assuming 5m cabling and 2.5m² ducting; these costs include any relevant chargepoint grants:
 - 7 kW AC (Home – single output e.g. one vehicle) = £1,000
 - 22 kW AC (dual output e.g. two vehicles) = £7,103
 - 50 kW DC (single output e.g. two vehicles) = £24,087
 - **Prices exclude a warranty, annual operating costs** (e.g. back office system, 4G connection, maintenance etc.) **and any required grid upgrade costs**
 - **Infrastructure costs are reported on a per vehicle basis** (e.g. a vehicle requiring a 50 kW DC chargepoint will be assigned a hardware and installation cost of £12,043 or £24,087 divided by 2).

Table 28 shows a summary of the number, type, location, installed hardware costs, and peak charging power for the **maximum emissions savings scenario** (i.e. Low Emission Vehicle Technology Selection – Maximum Emissions Savings.)

Table 28 - Electric Vehicle Charging Infrastructure Requirements; Maximum Emissions Saving Scenario

	Number of 7 kW chargepoints (Home Charging)	Number of 22 kW chargepoints	Number of 50 kW chargepoints	Typical Hardware and Installation Cost (£)	Additional Power Needs (kW)
Home	43	0	0	£43,000	N/A
Linden Way Depot	0	21	0	£75,000	327
London Road Depot	0	10	0	£36,000	66
Council Offices	0	8	0	£28,000	56
Total	43	39	0	£182,000	449

All vehicles which were taken home were assumed to be able to charge at home using a 7 kW chargepoint, thus highlighting the maximum possible costs of chargepoint deployment. However, further investigation will need to be undertaken to assess the actual number of chargepoints that can be deployed for home-based vehicles. Further details of these considerations are summarised in Section 5.2 Home Charging and in the accompanying Home Charging Review report.

Additionally, for those vehicles stored at a depot, the 22 kW chargepoint was identified as having the ability to charge vehicles in a sufficient time, given the identified downtime. The procurement and installation of the above mix of 7 and 22 kW chargepoints to support the maximum uptake of BEVs would cost in the region of £182,000.

Without mitigating measures, such as smart charging (i.e. the ability for chargepoints to manage the timing and power of charging in response to user or site requirements), this could result in peak charging power demands that exceed the existing site electricity capacity. For example, at the Linden Way Depot, there would be an additional power demand of 327 kW if all the BEVs were plugged in to charge at the same time.

NWLDC voiced the possibility of redeploying all vehicles to operate from a single depot, including those that are currently home-based, therefore Table 29 includes such a scenario (in the last row).

With costs in the region of £291,000, the single depot option is 60% more expensive due to the installation of additional 22 kW chargepoints instead of 7 kW, which would be sufficient to charge the currently home-based fleet. This cost can therefore be interpreted as an upper limit as Table 29 also shows additional scenarios for a single depot operation, with different numbers of vehicles from the housing fleet stationed at the depot.

The scenarios range from purely home-based operation (0% at the depot) to a purely depot-based operation (100%).

Table 29 - Electric Vehicle Charging Infrastructure Requirements for a single depot scenario and different percentages of the housing fleet stationed at the depot; Maximum Emissions Saving Scenario

	Number of 7 kW chargepoints (Home Charging)	Number of 22 kW chargepoints	Number of 50 kW chargepoints	Typical Hardware and Installation Cost (£)	Additional Power Needs (kW)
0% of the housing fleet at the depot					
Home	43	0	0	£43,000	N/A
Single Depot	0	39	0	£139,000	449
Total	43	39	0	£182,000	449
25% of the housing fleet at the depot					
Home	32	0	0	£32,000	N/A
Single Depot	0	50	0	£178,000	526
Total	32	50	0	£210,000	526
50% of the housing fleet at the depot					
Home	21	0	0	£21,000	N/A
Single Depot	0	61	0	£217,000	603
Total	21	61	0	£238,000	603
75% of the housing fleet at the depot					
Home	10	0	0	£10,000	N/A
Single Depot	0	72	0	£256,000	680
Total	10	72	0	£266,000	680
100% of the housing fleet at the depot					
Total Single Depot	0	82	0	£291,000	750

Table 30 and Table 31 show the respective results for the **TCO parity scenario** (Low Emission Vehicle Technology Selection – **Total Cost of Ownership Parity**). Table 30 shows a summary of the number, type, location, installed hardware costs, and peak charging power.

Table 30 - Electric Vehicle Charging Infrastructure Requirements; TCO Parity Scenario

	Number of 7 kW chargepoints (Home Charging)	Number of 22 kW chargepoints	Number of 50 kW chargepoints	Typical Hardware and Installation Cost (£)	Additional Power Needs (kW)
Home	43	0	0	£43,000	N/A
Linden Way Depot	0	5	0	£18,000	35
Council Offices	0	6	0	£21,000	42
Total	43	11	0	£82,000	77

A single depot operation with different levels of stationing the housing fleet at the depot is summarised in Table 31.

Table 31 - Electric Vehicle Charging Infrastructure Requirements for a single depot scenario and different percentages of the housing fleet stationed at the depot; TCO Parity Scenario

	Number of 7 kW chargepoints (Home Charging)	Number of 22 kW chargepoints	Number of 50 kW chargepoints	Typical Hardware and Installation Cost (£)	Additional Power Needs (kW)
0% of the housing fleet at the depot					
Home	43	0	0	£43,000	N/A
Single Depot	0	11	0	£39,000	77
Total	43	11	0	£82,000	77
25% of the housing fleet at the depot					
Home	32	0	0	£32,000	N/A
Single Depot	0	22	0	£78,000	154
Total	32	22	0	£110,000	154
50% of the housing fleet at the depot					
Home	21	0	0	£21,000	N/A
Single Depot	0	33	0	£117,000	231
Total	21	33	0	£138,000	231
75% of the housing fleet at the depot					
Home	10	0	0	£10,000	N/A
Single Depot	0	44	0	£156,000	308
Total	10	44	0	£166,000	308
100% of the housing fleet at the depot					
Total Single Depot	0	54	0	£192,000	378

In the short term, introducing those BEVs which achieve TCO parity would require **£82,000** of capital for the installation of the required mix of chargepoints across the identified sites (or up to **£192,000** for a single site depot).

As fewer vehicles have been identified as being suitable for replacement in the TCO Parity scenario, there is lower peak power. While this is the case it is assumed that smart charging enabled chargepoints would be installed to future-proof the depot.

5.2 Home Charging

Since a majority of the fleet vehicles are currently taken home, identifying options to allow drivers to charge their vehicles overnight at their homes would reduce the need for the installation of additional depot-based or on-street/ public charging infrastructure. Given the overall analysis of the fleet the objective of this work package was to determine:

- What best practice would look like for a home charging scheme
- Provide recommendations for how such a scheme could work within NWLDC, and
- Outline a trial roll-out of the scheme.

Cenex carried out research across fleets that have already investigated home charging to give a range of perspectives on the rollout of home charging schemes for operational vehicles. In addition, Cenex explored a range of chargepoint providers including reviewing the types of chargepoint infrastructure and back office systems available for an employee home charging scheme.

The information outlined below has been taken from a separate, more in-depth, report which should be consulted before deciding on the best approach to implementing a home charging scheme.

5.2.1 Charging powers

Most EV drivers with off-street parking have a choice of two options for charging at home either by installing a dedicated EV chargepoint or by using a standard 3 pin household plug.

Home chargepoints typically have a power rating of 3.7 kW or 7 kW, with the UK Government proposing a minimum 7kW chargepoint for residential buildings. Some early home installations are 3.6 kW chargepoints but today the majority of the installations are 7 kW. Expected increases in battery sizes and technology developments could make chargepoints less powerful than 7 kW obsolete for future car models, so these should be avoided.

5.2.2 Chargepoint providers

There are many models of domestic chargepoint available from several reputable manufacturers. Cenex interviewed a selection of hardware providers and network operators to get an industry-wide perspective on the potential for offering an employee home charging scheme. All interviewees acknowledged that issues associated with charging multiple EVs at the same place and time are becoming more common as vehicles reach mass adoption. They are increasingly developing solutions to mitigate this challenge, including smart charging, and giving customers better remote visibility and control of charging events.

Results of this qualitative data collection exercise suggest that there are hardware and software solutions available in the market to support a home charging scheme, with remote visibility of energy consumption and the ability to reimburse drivers accurately for the electricity used.

5.2.3 Type of parking

Ideally, employees would have off-street parking where a standard 7 kW chargepoint can be connected directly to their home electricity supply.

For those without off-street parking, various solutions such as lamppost chargers are in trial and early development stages but are not considered suitable for widespread deployment by an employer.

Alternatively, these employees could make use of public charging infrastructure, providing there is availability in proximity to where they live. However, this solution relies on these public chargepoints being available when required and relevant chargepoint access cards being provided. It is also likely to be a much more expensive mode of charging.

5.2.4 Reimbursement mechanism

When charging at home there needs to be a method for reimbursing employees for the cost of the electricity that they have used. This requires a back-office system connected to the chargepoints with an associated web-based portal through which the relevant manager (e.g. fleet, energy, etc.) would be able to remotely monitor the energy consumption from charging events of all drivers. Some systems offer automatic reimbursement of employees based on tracked charging session data.

- For reimbursement, drivers usually have to submit proof of their electricity tariff. There is a risk here that employees might claim for personal use, so procuring a robust system is important.
- Smart cables such as that developed by Ohme or Ubitricity can connect to an existing chargepoint and identify the vehicle being charged to record the energy use and allow accurate reimbursement. Every vehicle is equipped with a Smart Cable featuring a mobile electricity meter and mobile power contract. Smart cables enable fleet managers to monitor and report the cost of charging at fleet and individual vehicle level, calculate home charging expenses and view CO₂ emissions and savings.
- There are hardware and software solutions (Mina, Chargepoint) available in the market to support a home charging scheme, with remote visibility of energy consumption and the ability to reimburse drivers accurately for the electricity used. The idea behind these solutions is that employees' chargepoints are integrated into a platform and the software operator is linked directly to their energy suppliers. All the drivers need to do is plug in and the employer gets a single invoice for all energy used.

5.2.5 *Grant support*

The installation of home chargepoints is incentivised by government funding under the Electric Vehicle Homecharge Scheme (EVHS) administered by The Office for Zero-Emission Vehicles (OZEV). The EVHS scheme provides funding for 75% of the total cost of the purchase and installation (up to a maximum threshold) of a chargepoint providing AC power between 3.5 – 22 kW. From 1st April 2020, the maximum eligible grant amount was reduced from £500 to £350 to enable a greater number of installations to be funded under the scheme.

Currently any private or public sector organisation can claim the above grant, which is usually administered through the chargepoint supplier.

5.2.6 *Tax implications*

According to the Income Tax Earnings and Pensions Act 2003 s149(4), electricity is not treated as a transport fuel. As a result, no benefit in kind tax arises if an employer:

- Pays to charge a pure-electric company vehicle;
- Pays for a chargepoint to be installed at the employee's home to charge the company vehicle; or
- Pays for a charge card to allow individuals access to commercial or local authority charging points

5.2.7 *Ensuring installation readiness*

We recommend that NWLDC engage with an installer and insist that surveys of properties are completed to find out any upgrades that may be required and the likely costs in advance of rollout.

The installation must be undertaken by an OZEV approved chargepoint installer. Installers will advertise if they are an approved installer, and OZEV also maintains a list ⁷. Note that installers must also be approved by the chargepoint manufacturer to install their product. This helps to provide additional confidence that the installer has the necessary product knowledge to be able to deliver good quality and compliant installation.

5.2.8 *Liability for home chargepoints*

Cenex recommends that NWLDC only pay for damages to home chargepoints due to general wear and tear and not due to misuse.

NWLDC should encourage employees and train them in the proper use of chargepoint equipment to avoid any damages due to misuse (e.g. not dropping the cable, not leaving the cable uncoiled etc). The chargepoint provider may issue such guidelines themselves.

If the installed home chargepoint remains the property of NWLDC, this means they can be removed if an employee terminates employment, moves to a new property or stops participating in the scheme for any reason. In this instance, NWLDC would be responsible for the cost of removing the hardware and making good the site.

5.2.9 *Planning a home charging trial*

Cenex recommends that NWLDC plan, deliver and evaluate a trial of home EV charging for their operational fleet. A methodology for such a trial is provided below, which also explains how to transition from a trial into a wider deployment phase, assuming the trial is successful.

- **Consider an industry partner:** chargepoint providers may be enthusiastic to support a home chargepoint scheme trial since they recognise the need to demonstrate that their products and services can support fleets with the mass adoption of EVs. Working with an industry partner could potentially leverage funding to reduce the cost of running a trial. We recommend contacting more than one potential supplier to compare proposals.

⁷ <https://www.gov.uk/government/publications/electric-vehicle-homecharge-scheme-authorised-installers>

- **Scale and duration:** decide how many vehicles and drivers should be involved. A trial with 10-50 employees should be enough to generate plenty of data and driver feedback and identify any potential challenges. The trial should be run for several months to allow any initial problems to be addressed and for drivers to get fully accustomed to the technology. The intention should be for the scheme to continue through the vehicle lifecycle, with an evaluation after six months.
- **Select hardware and back office system:** 7 kW wall-mounted chargepoints are best suited to this type of charging. All home chargepoints funded by the OZEV grant must use innovative 'smart' technology meaning that chargepoints must be able to be remotely accessed, and capable of receiving, interpreting, and reacting to a signal. This is a helpful piece of legislation for home charging as it means all of the offerings on the market have the capability to report their consumption for billing and monitoring purposes.

Specify a back-office system that supports remote monitoring of energy consumption and shows when charging events take place. It is vital to have a remote web portal to track electricity consumption to ensure compliance, ensuring drivers are not overclaiming or not being fully reimbursed. Some systems offer automatic reimbursement of employees based on tracked charging session data.

- **Reimbursement mechanism:** The trial should consider how to automate the process of reimbursement to reduce driver and fleet administration. Reimbursements can either be provided as a flat fee per charging event or an accurate reimbursement using energy consumption data. The former is easier to administrate and provides a small incentive to drivers to take part. However, we strongly recommend seeking verification from your tax office to ensure compliance with the relevant legislations. While the flat fee approach is straightforward and could be used to get a trial set up, we recommend using accurate reimbursement when deploying at scale.

It is worth mentioning that many electricity suppliers are starting to offer tariffs specifically targeted at EV drivers which charge higher electricity price tariffs at peak times and lower tariffs at off-peak times.

- **Monitoring and evaluation:** define the criteria that will be used to evaluate the trial and the methods for data collection. This should include quantitative data such as energy consumption and cost, as well as qualitative feedback from drivers and department managers. Feedback could be gathered via email, internal meetings, or workshops.
- **Select participants:** Survey drivers to determine who is eligible and gather expressions of interest. At a minimum, drivers will need to have off-street parking and have a vehicle that is allocated solely for their use. NWLDC may wish to set other criteria for participation but be mindful that additional criteria will reduce the pool for potentially eligible drivers.
- **Launch the trial and evaluate:** once underway, the trial should run for several months before carrying out a formal evaluation. Interim evaluation of driver and manager experiences and monitoring of energy consumption data is recommended to ensure any potential problems can be rectified during the trial. After six months, evaluate the trial using the criteria identified. Check that vehicles have been able to meet operational needs and that any concerns from departmental managers, drivers and/or union representatives are collated and addressed.
- **The business case** for EVs should be updated with a 'home charging scheme business case' to include the cost of electricity from employees' homes, cost of hardware and associated support. This can be compared to the current diesel vehicle business case to evidence the cost saving available.
- **Communicate findings** throughout the organisation and, assuming the pilot was successful, secure funding for wider deployment.
- **Wider deployment:** wider roll-out of the scheme should be undertaken until all relevant drivers have an EV and a home chargepoint. At the same time, any new employees that have off-street parking should be provided with an EV as a default, with a home chargepoint

installed. Their interest and eligibility for participating in the scheme can be assessed during the recruitment process.

Drivers who were unwilling to participate in the original trial may change their views once a successful pilot has been undertaken. Survey these individuals again to assess their appetite for involvement in the scheme.

5.3 Natural Gas Refuelling Infrastructure

While bio-CNG has been identified as a potential replacement technology within the Large Van and Rigid Truck vehicle segments, its use depends greatly on the availability of low-cost fuel.

A high-level assessment of natural gas refuelling infrastructure viability has been undertaken by mapping nearby gas stations then calculating the estimated gas price that NWLDC could achieve from a small gas station with an average daily gas demand of 1,082 kg.

Figure 18 shows the typical economics for a small bio-CNG station funded by a station supplier with a 10-year payback period.

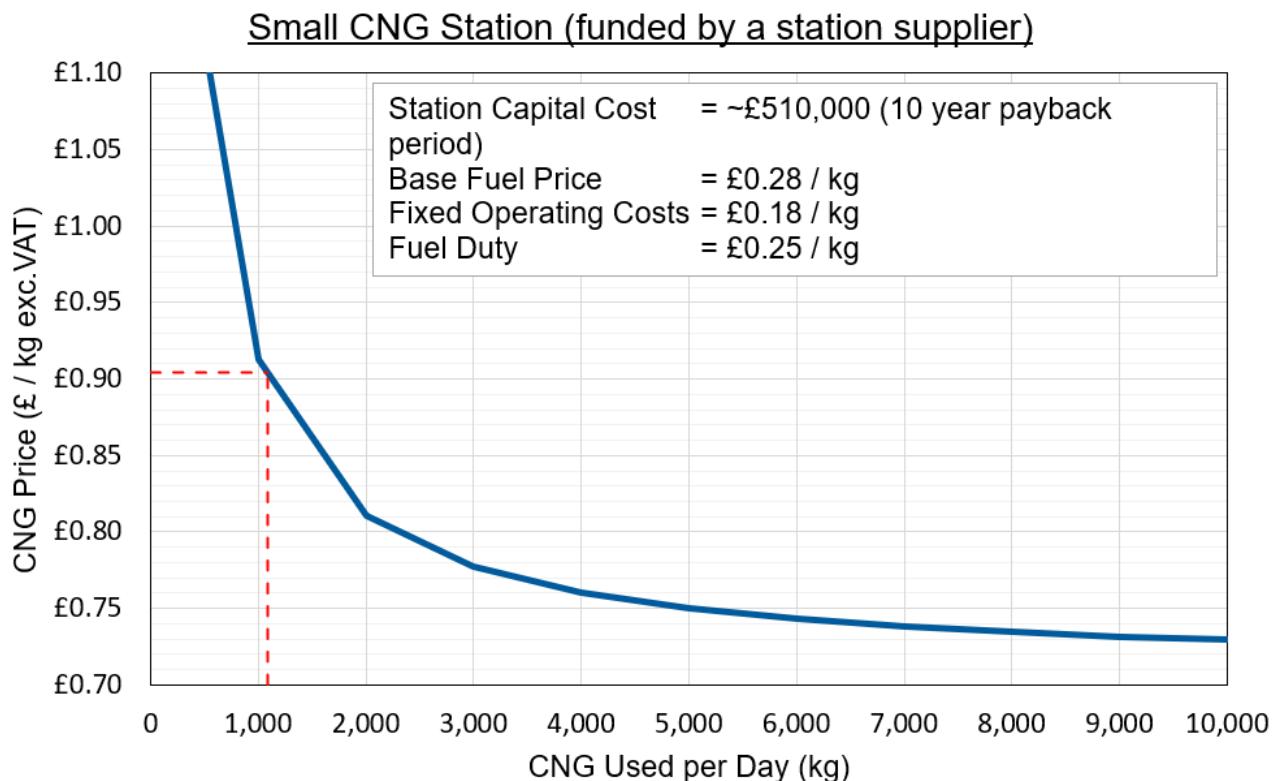


Figure 18 - Typical Economics for a Small Capacity Bio-CNG Station

This shows that **with an average daily gas demand of 1,082 kg** (as identified in the Additional Daily Fuel/ Energy Requirements) **NWLDC could expect a gas price of £0.90/ kg**, compared to the **£0.70/ kg** that could be achieved from a larger public station. Natural gas supplied at this price would result in an increase in fuel costs of **~£325,000** across the fleet.

For a bio-CNG fleet to break even on TCO, NWLDC would require bio-CNG to be supplied at a price of **~£0.57/ kg**; well below that of a depot-based station. This calculated fuel price is close to the base fuel cost (inc. fuel duty) and does not include capital and operational expenditure so is not financially viable for a fuel station provider.

Given the current public station availability and viability of a depot-based station, bio-CNG is deemed unsuitable across the entire NWLDC fleet and has not been considered within the following replacement analysis.

6. Recommended Replacement Vehicle Technologies

Based on the results of the Low Emission Vehicle Technology Selection process and Low Emission Vehicle Infrastructure Review, Cenex has highlighted those vehicles which could theoretically be replaced by ZEV, ULEV and LEV technologies with minimal changes to the fleet's current operating patterns and planned ownership periods (i.e. TCO Parity). The recommended replacement vehicles focus on two technologies: BEV and HVO.

Acknowledging that several practical considerations could limit the introduction of certain technologies, a final technology selection has been applied based primarily on wider operational suitability, ownership costs, technology maturity and viability of fuelling/ charging infrastructure.

Table 32 and Table 33 show a summary of the recommended replacement vehicles in terms of the number of vehicles, capital costs, and emissions savings. All values are compared to the procurement of a new Euro 6/ VI diesel vehicle (excluding VAT). All costs are represented as a difference to an equivalent diesel vehicle where **positive values** are higher than the equivalent vehicle and **negative values** are lower than the equivalent vehicle. This is further highlighted by the use of **Red** and **Green** text across both tables.

A further analysis, taking account of the impact of the Maximum Emissions Savings scenario is presented in Appendix B – NWLDC Maximum Emission Savings Results.

Table 32 summarises the impacts of deploying the identified BEVs within the **TCO Parity scenario**.

Table 32 - Summary of Recommended BEV Replacement Vehicles

	Small Car	Small Van	Medium Van	Total
Replacement Technology	BEV (OEM)			
Number of Vehicles	4	2	48	54
% of Vehicle Segment	100%	29%	100%	55%
Additional Capital Cost (£)	£32,000	£12,300	£375,400	£420,000
Difference in Running Costs (£)	-£19,900	-£11,800	-£380,500	-£412,000
Difference in Residual Values* (£)	£12,600	£1,100	£31,100	£45,000
Difference in TCO (£)	£500	£600	£36,200	£37,000
Ownership Period (years)	7	7	7	7
% of Fleet TTW CO₂ Savings	1%	1%	20%	22%
% of Fleet WTW CO₂ Savings	1%	1%	15%	16%
% of Fleet NOx Savings	3%	2%	55%	60%
% of Fleet PM Savings	3%	1%	31%	35%
Number of 7 kW Chargepoints	0	0	43	43
Number of 22 kW Chargepoints	4	2	5	11
Number of 50 kW Chargepoints	0	0	0	0
Infrastructure Capital Cost	£14,200	£7,100	£60,800	£82,000

* Estimated residual values are an incoming payment rather than a cost, as such positive / higher values are better. Due to the selected sign convention, the difference in TCO = difference in vehicle capital cost – difference in residual value + difference in total running costs. For example, for small cars the difference in TCO is calculated as follows: £32k – £12.6k – £19.9k = – £500.

Across the NWLDC fleet, there are opportunities to introduce battery electric vehicles within the small car, small van, and particularly the medium van vehicle segments.

Introducing 54 BEVs (55% of the fleet) would require additional capital of **£420,000** for vehicles and **£82,000** for electric vehicle charging infrastructure (hardware and installation costs only). These vehicles could provide TCO savings of **£37,000** over their 7 year ownership period, whilst reducing fleet WTW CO₂e emissions by **16%** and fleet air quality pollutant emissions up to **60%** in NOx and **35%** in PM.

It is acknowledged that the identified Medium Vans may need to meet a minimum specification to complete their daily duties especially if the main role of the vehicle is carrying equipment and towing required depending on the location of a given job. However, the Vauxhall Vivaro-e has a payload capacity of between 970 – 1,000 kg with a towing capability of 1,000 kg. While this may be short of what is typically required by the NWLDC operations, it should be sufficient to account for a high proportion of the vehicles. It is recommended that further investigation is made into the carrying and towing needs of these vehicles.

In addition to the BEVs identified in the TCO Parity scenario, NWLDC has expressed an interest in fuelling the remaining fleet vehicles with HVO. Table 33 summarises the impacts of this fuel within these remaining vehicles.

Fuelling the remaining fleet vehicles with HVO would lead to an increase in running costs of **£420,000** over their 7 year ownership period. Whilst HVO increases running costs and thus TCO, significant WTW CO₂e savings of **68%** of the fleet emissions can be achieved. As HVO uses the same engine as a diesel vehicle, there are no guaranteed air quality savings; only BEVs contribute to air quality pollutant emissions reductions. These remaining vehicles would require an estimated 1,400 litres of HVO per day.

Table 33 - Summary of Recommended HVO Vehicles

	Small Van	Large Vans	Rigid Truck	Large 4x4	Total
Replacement Technology	HVO				
Number of Vehicles	5	12	26	2	45
% of vehicle segment	71%	100%	100%	100%	45%
Additional Capital Cost (£)	£0	£0	£0	£0	£0
Difference in Running Costs (£)	£3,500	£26,600	£385,400	£4,500	£420,000
Difference in Residual Values (£)	£0	£0	£0	£0	£0
Difference in TCO (£)	-£3,500	-£26,600	-£385,400	-£4,500	-£420,000
Ownership Period (years)	7	7	7	7	7
% of fleet TTW CO₂ savings	0%	5%	67%	1%	73%
% of fleet WTW CO₂ savings	0%	4%	62%	1%	68%
% of fleet NOx savings	0%	0%	0%	0%	0%
% of fleet PM savings	0%	0%	0%	0%	0%

Table 34 combines the two separate replacement recommendations into an overall summary.

Table 34 - Summary of Recommended Replacement Vehicles

	Small Car	Small Van	Medium Van	Small Van	Large Van	Rigid Truck	Large 4x4	Total
Replacement Technology	BEV (OEM)			HVO				
Number of Vehicles	4	2	48	5	12	26	2	99
% of vehicle segment	100%	29%	100%	71%	100%	100%	100%	100%
Additional Capital Cost (£)	£32,000	£12,300	£375,400	£0	£0	£0	£0	£419,700
Difference in Running Costs (£)	-£19,900	-£11,800	-£380,500	£3,500	£26,600	£385,400	£4,500	£7,700
Difference in Residual Values (£)	£12,600	£1,100	£31,100	£0	£0	£0	£0	£44,800
Difference in TCO (£)	£500	£600	£36,200	-£3,500	-£26,600	-£385,400	-£4,500	-£382,600
Ownership Period (years)	7	7	7	7	7	7	7	7
% of Fleet TTW CO₂ Savings	1%	1%	20%	0%	5%	67%	1%	95%
% of Fleet WTW CO₂ Savings	1%	1%	15%	0%	4%	62%	1%	84%
% of Fleet NO_x Savings	3%	2%	55%	0%	0%	0%	0%	62%
% of Fleet PM Savings	3%	1%	31%	0%	0%	0%	0%	36%
Number of 7 kW Chargepoints	0	0	43	0	0	0	0	43
Number of 22 kW Chargepoints	4	2	5	0	0	0	0	16
Number of 50 kW Chargepoints	0	0	0	0	0	0	0	0
Infrastructure Capital Cost	£14,200	£7,100	£60,800	£0	£0	£0	£0	£99,900

Over all this scenario equates to a potential TCO increase of £4,700 per vehicle or £670/ vehicle per year for an 84% reduction in fleet WTW greenhouse gas emissions.

In the above scenario, any vehicle that cannot be replaced with an equivalent battery electric variant is assumed to be using HVO. In the case of Small Vans, only 2 have been identified as being appropriate for battery electric, hence the remaining 5 are deemed to be using HVO.

6.1 Recommended Replacement Vehicle Schedule

The current vehicle age and planned ownership periods have been used to calculate the replacement schedule for the recommended replacement vehicles. It shows the required number of replaced vehicles each year as well as the associated vehicle and infrastructure costs and emissions savings.

Table 35 shows the calculated recommended replacement vehicle schedule highlighted by the fleet review. This is reported by financial years to 2030. HVO vehicles have been shown entering the fleet when the current diesel vehicles are replaced, however, as HVO is a drop-in fuel the introduction can be moved forward without replacing the vehicles. The identified schedule and costs only include the first replacement and not recurring substitutions. With technological advancement and an increase in low-emission options, especially for HGVs, it is not meaningful to recommend subsequent replacements. Instead, Cenex advises repeating the present analysis in 2023 to identify whether there are any viable options to replace HVO with BEV or hydrogen power (dual fuel or fuel cell).

All costs are represented as a difference to an equivalent diesel vehicle where **positive values** are higher than the equivalent vehicle and **negative values** are lower than the equivalent vehicle. This is further highlighted by the use of **Red** and **Green** text across both tables.

Table 35 - Recommended Replacement Vehicle Schedule

	Financial Year									
	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
Small Car (BEV)	3	1	0	0	0	0	0	0	0	0
Large Commercial SUV (HVO)	1	1	0	0	0	0	0	0	0	0
Small Van (BEV and HVO)	5	1	0	0	1	0	0	0	0	0
Medium Van (BEV)	26	2	7	0	13	0	0	0	0	0
Large Van (HVO)	9	1	1	0	0	0	0	0	0	0
Large Van (> 3.5t GVW) (HVO)	0	0	0	0	1	0	0	0	0	0
Rigid Truck - 2 axles (7.5t GVW) (HVO)	0	0	1	0	2	0	0	0	0	0
Rigid Truck - 2 axles (18t GVW) (HVO)	0	0	0	5	1	1	0	0	0	0
Rigid Truck - 3 axles (26t GVW) (HVO)	9	1	2	0	4	0	0	0	0	0
Vehicle Replacements	53	7	11	5	22	1	0	0	0	0
Cumulative % of Fleet Replaced by LEV	54%	61%	72%	77%	99%	100%	100%	100%	100%	100%
Additional Vehicle Capital Costs (£)	£227,345	£29,823	£54,740	£0	£107,835	£0	£0	£0	£0	£0
Infrastructure Cost (£)	£41,757	£14,205	£9,551	£0	£16,551	£0	£0	£0	£0	£0
Annual Running Cost Savings (£)	£5,211	£4,271	£5,439	-£2,936	£633	-£1,094	-£1,094	-£1,094	-£1,094	-£1,094
Annual TTW CO₂ Savings (tonnes)	411.8	465.2	565.7	660.0	849.8	869.3	869.3	869.3	869.3	869.3
Annual WTW CO₂ Savings (tonnes)	446.1	508.3	617.2	725.7	929.2	951.5	951.5	951.5	951.5	951.5
Annual NOx Savings (kg)	103.3	112.6	136.6	136.6	194.1	194.1	194.1	194.1	194.1	194.1
Annual PM Savings (kg)	0.5	0.5	0.6	0.6	0.8	0.8	0.8	0.8	0.8	0.8

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There is a need for the immediate replacement of some 53 vehicles (54% of the fleet) which are at the end of their current ownership cycle; these are predominantly medium vans and 3 axle 28t GVW rigid trucks. The replacement of these vehicles will need to be carefully managed as it entails significant capital costs for both vehicle and infrastructure. However, a staged replacement of these vehicles will enable NWLDC to make immediate gains on their decarbonisation plans.

Most of the recommended replacement vehicles are medium vans which are due to be replaced during FY2021/2022 to FY2025/2026. By this date 99% of the entire fleet could be replaced by BEVs and HVO fuelled vehicles.

The largest additional capital costs are incurred during FY2021/2022 of **£227,000** for vehicles and **£42,000** for infrastructure.

Where possible, it is suggested that NWLDC should investigate the feasibility of redeploying vehicles to bring forward the introduction date of LEVs. This would entail replacing an end of service life vehicle with another vehicle already in the fleet to allow the replacement BEV to be used on the most suitable or cost-effective duty cycle.

6.2 Emission Impacts

Figure 19 and Figure 20 show the effects of the suggested replacement schedule contained in Table 35 on Greenhouse Gas (expressed as CO₂e) and air quality emissions. The figures illustrate the potential reduction trajectory in comparison to a Euro 6/VI diesel fleet and the maximum achievable emission savings, i.e. the strongest promotion of battery-electric vehicles.

Greenhouse gas emissions from internal combustion engines are directly linked to the amount of petrol or diesel burnt. In this fleet review, the amount of diesel burnt has been calculated using the annual mileage and the fuel consumption of each vehicle. It should be noted that the average CO₂ emissions of new vehicles have decreased over the last decades.⁸ Newer vehicles therefore tend to have marginally improved fuel consumption compared to older models, but moreover, show reduced pollutant emissions such as particle matter and NOx.

Other factors such as driving duty, payload, and driving style have a larger impact on fuel consumption than recent Euro standards. This means the possible CO₂ savings that can be achieved when moving from a Euro 4 engine to a Euro 6 engine are marginal. Regarding any replacement schedule, Euro 6/VI is the latest emission standard and represents standard practice.

Any efforts to actively reduce carbon emissions should therefore be benchmarked against a Euro 6/VI vehicle.

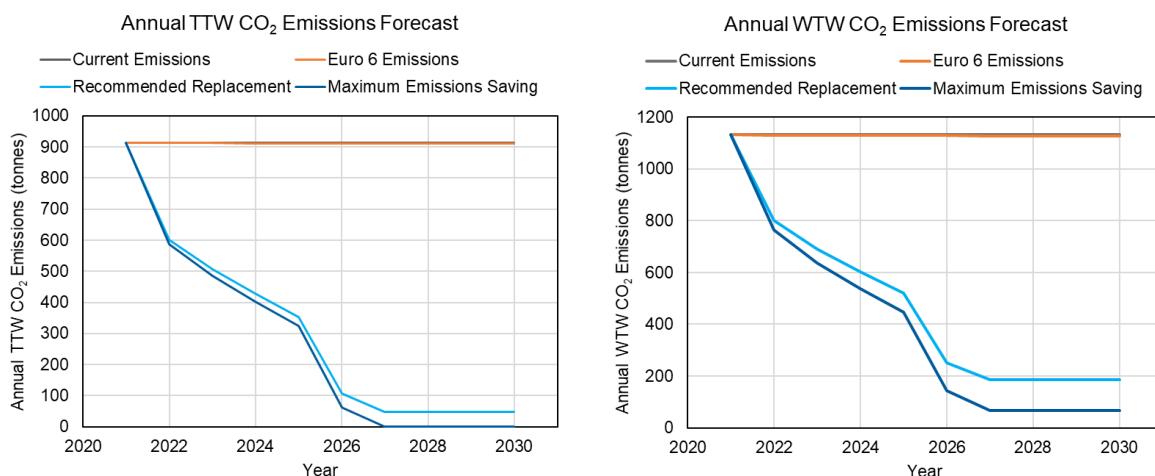


Figure 19 - Annual TTW and WTW CO₂ emissions for different replacement scenarios

⁸ <https://www.smmt.co.uk/reports/co2-report/>

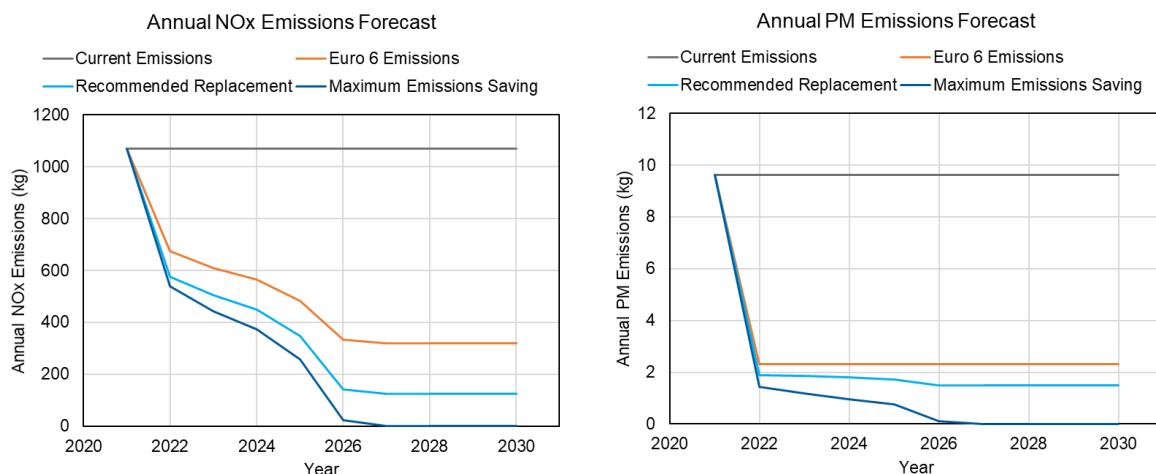


Figure 20 - Annual NOx and PM emissions for different replacement scenarios

The replacement of 53 vehicles in 2021/2022, as identified previously, has the potential to reduce greenhouse gas emissions significantly. It should be noted that the differences between the projected TTW and WTW emissions arise from the fuel supply, which entails the production and distribution of electricity and HVO.

The effect on air quality pollutants is even more pronounced. With many small and medium vans on the fleet currently conforming to Euro 4 standards, their replacement in 2021 significantly reduces NOx and PM emissions from the fleet. This means that in all scenarios there is a considerable drop in PM emissions.

Using HVO as a transition fuel can significantly reduce carbon emissions compared to the Euro 6/VI diesel alternative. While the carbon savings are close to the maximum achievable values, the level of air quality pollutant emissions is unchanged for HVO and any savings relative to the Euro 6/VI lines are due to introduced BEVs.

When the last vehicle gets replaced in 2026/27, the annual WTW CO₂e emissions would be 950 tonnes (see Table 35) lower than the present value of 1,130 tonnes (see Table 6). This is a reduction of 84% in annual emissions.

Table 36, below, provides an outline of the potential annual emission impacts of the switch to the identified vehicle technologies, based on the difference between Euro 6/ VI diesel and BEV or HVO.

Table 36 - Potential Annual Emission Savings Compared to Euro 6/ VI

	Vehicle Category	Annual TTW CO ₂ e Savings (Tonnes)	Annual WTW CO ₂ e Savings (Tonnes)	Annual NOx Savings (Kg)	Annual PM Savings (Kg)
BEV	Small Car	2.0	1.8	2.3	0.02
	Small Van	2.4	2.0	3.8	0.02
	Medium Van	3.9	3.3	3.7	0.01
HVO	Large Commercial SUV	3.6	4.2	0	0
	Small Van	0.9	1.1	0	0
	Large Van	3.6	4.2	0	0
	Large Van (> 3.5t GVW)	2.6	3.0	0	0
	Rigid Truck - 2 axles (7.5t GVW)	8.8	10.1	0	0
	Rigid Truck - 2 axles (18t GVW)	17.9	20.6	0	0
	Rigid Truck - 3 axles (26t GVW)	29.0	33.3	0	0

Table 37, below, provides an outline of the potential annual emission impacts of the switch to the identified vehicle technologies, based on the difference between Euro 4/ IV diesel and BEV or HOV.

Table 37 - Potential Annual Emission Savings Compared to Euro 4/ IV

Vehicle Category		Annual TTW CO ₂ e Savings (Tonnes)	Annual WTW CO ₂ e Savings (Tonnes)	Annual NOx Savings (kg)	Annual PM Savings (kg)
BEV	Medium Van	3.9	3.3	10.0	0.39
HVO	Small Van	0.6	0.7	1.8	0.10
	Large Van	0.8	0.9	1.2	0.07
	Rigid Truck - 3 axles (26t GVW)	4.8	5.5	18.8	0.14

6.3 Deployment Planning

The Recommended Replacement Vehicle analysis outputs presented in this Section, specifically the information outlined in Table 35 can be considered an outline action plan for the deployment of BEV and HVO across the NWLDC fleet. In addition to this outline plan, more detailed vehicle by vehicle information is provided in an accompanying MS Excel spreadsheet which provides further evidence of the potential emission and ownership cost savings that could be achieved through the deployment of the identified low emission technologies.

The plan outlined in Table 35 assumes that NWLDC can readily purchase or lease the relevant vehicle models and specifications required for their operational requirements; the impacts of potential vehicle delivery lead times has not been accounted for as this can differ greatly from manufacturer to manufacturer. Similarly, the impact of any potential delays in deploying the relevant charging infrastructure has not been accounted for.

It will be essential that NWLDC discuss their vehicle and infrastructure needs with relevant vehicle and chargepoint suppliers to gain a clear understanding of the likely timeline for delivery/ installation. This will enable a more accurate vehicle and infrastructure deployment plan can be generated.

7. Food Waste Refuse Disposal Vehicle

This section takes a separate look at the hired Isuzu 7.5t GVW rigid truck which is currently being trialled as part of the NWLDC food waste disposal scheme. Like Section 4.5, this section of the fleet review carries out a low emission vehicle performance review to identify the most likely ZEV, ULEV or LEV replacement technology. The methodology is identical to the previous analyses and described in Section 4.5.

It should be recognised that this analysis has been undertaken using fuel and mileage data from a single vehicle. In addition, Cenex have been informed that the daily duties of this vehicle have changed significantly during its trial period. It is likely that these issues will impact on the accuracy of the results generated through this analysis but will identify potential operational parameters that should be met to ensure the successful transition to low emission technologies.

Table 38, below, lists the performance criteria used for the analysis, which are based on the monitored trial vehicle. Section 7.2 shows a more detailed analysis regarding variations in daily operation (compared to average values).

Table 38 - Average Vehicle Performance Criteria for Rigid Truck (7.5t GVW)

Typical Driving Type	Annual Mileage (miles)	Fuel Consumption (MPG)	Days per Week Used	Ownership Period (years)
Rigid Truck (7.5t GVW)	Mostly regional	10,994	8.9	4

7.1 Low Emission Vehicle Performance Review – Rigid Truck (7.5t GVW)

Figure 13 to Figure 15 show the relative performance of LEV technologies for Rigid Trucks (7.5t GVW). The black error bars in Figure 22 highlight the potential impact of any future removal of the Plug in Truck Grant, while the calculations outline the methodology used to calculate the vehicle depreciation.

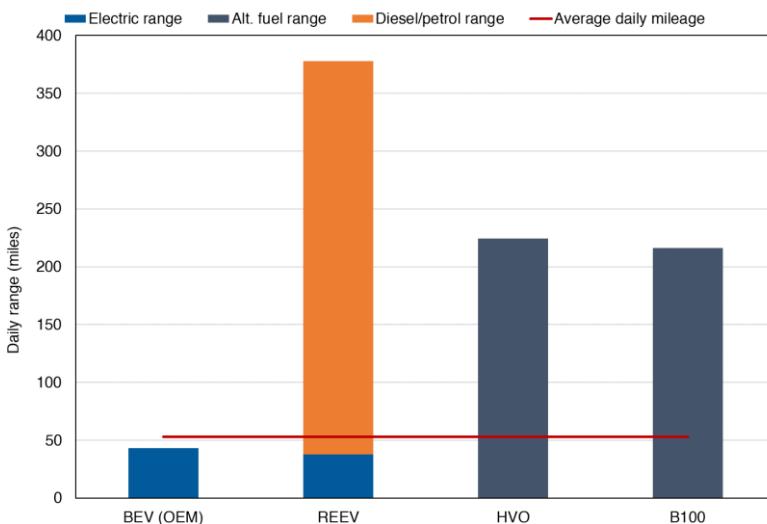


Figure 21 - Operating Range; Rigid Truck (7.5t GVW)

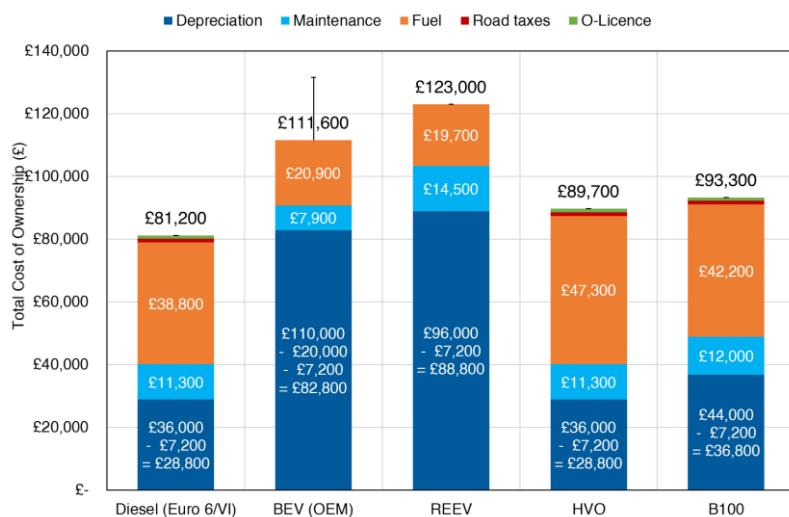


Figure 22 - Total Cost of Ownership; Rigid Truck (7.5t GVW)

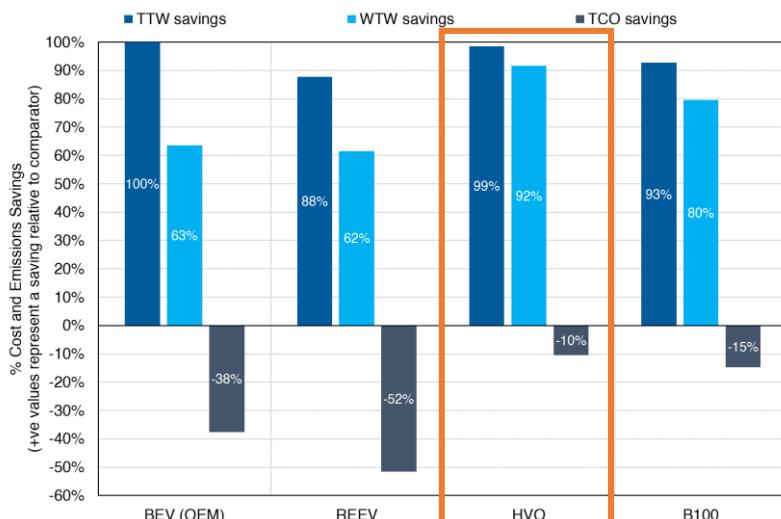


Figure 23 – CO₂e Emissions Savings vs. TCO Difference; Rigid Truck (7.5t GVW)

The increased purchase cost of BEV and REEV is the main influencing factor in TCO.

The HVO operating range is substantially more than the average daily mileage and provides a 92% reduction in WTW CO₂e emissions. However, air quality emissions remain at Euro VI levels.

BEV (OEM)

Criteria	Performance
Operational	<ul style="list-style-type: none"> Estimated real-world range around 43 miles with an 83 kWh battery. The daily mileage seems to exceed the battery range Many of this vehicle category are specialist refuse collection vehicles, which may limit their suitability for battery-electric options due to the lack of available vehicles. Only one OEM produced BEV exists in this vehicle segment. The payload will be reduced due to the additional weight of the batteries. Approximate payload of 4,200 kg.
TCO	<ul style="list-style-type: none"> An increase in purchase costs of £54,000 leads to large depreciation cost increases. Despite significant running cost savings, there is an overall TCO increase of £30,400
Emissions	<ul style="list-style-type: none"> Zero tailpipe emissions. 63% reduction in WTW CO₂ emissions based on the current UK grid energy mix. This will reduce further as the UK grid decarbonises.

REEV

Criteria	Performance
Operational	<ul style="list-style-type: none"> The estimated combined range is far greater than the average daily mileage. Electric-only range approximately 35-45 miles with a 74 kWh battery. 22kW AC on-board charger as standard = 3-5h charge time. Many of this vehicle category are specialist refuse collection vehicles, which may limit their suitability for range extended options due to the lack of available vehicles. Only one REEV exists in this vehicle segment, and it is produced by a low-volume manufacturer. The payload will be reduced due to the additional weight of the batteries.
TCO	<ul style="list-style-type: none"> £60,000 increase in purchase cost. Although running costs are reduced, TCO increases by £41,800.
Emissions	<ul style="list-style-type: none"> Zero tailpipe emissions, when operating in electric mode 62% reduction in WTW CO₂ emissions based on the current UK grid energy mix. This will reduce further depending on how often the vehicle operates in electric mode.

HVO

Criteria	Performance
Operational	<ul style="list-style-type: none"> The estimated range is far greater than the average daily mileage. Refuelling can be done in a similar time to diesel.
TCO	<ul style="list-style-type: none"> No increase in capital cost as the vehicle is the same as a diesel. Increased running costs lead to a TCO increase of £8,500.
Emissions	<ul style="list-style-type: none"> 92% reduction in WTW CO₂ emissions. Air quality pollutant emissions equivalent to Euro VI.

FAME (B100)

Criteria	Performance
Operational	<ul style="list-style-type: none"> The estimated range is far greater than the average daily mileage. Refuelling can be done in a similar time to diesel. Additional fuel storage and handling requirements.
TCO	<ul style="list-style-type: none"> £8,000 increase in capital cost. Increased maintenance requirements. Increased running costs lead to a TCO increase of £12,100.
Emissions	<ul style="list-style-type: none"> 80% reduction in WTW CO₂ emissions. Air quality pollutant emissions equivalent to Euro VI.

7.2 Analysis of daily operation

NWLDC provided monitored data covering daily vehicle operations for the food waste trial vehicle, which allow for a more detailed investigation to be undertaken. Figure 24 – Monitored daily distances for the food waste trial Figure 24 illustrates the daily driven distances of this vehicle.

The left-hand side chart represents the data as a timeseries; the effects of the Covid-19 pandemic are evident as there are fewer trips from April 2020 through to September. However, from November 2020, it seems regular service has been reinstated.

On average, a battery electric 2-axle rigid truck with 7.5t GVW has an electric range of about 61 miles. However, this range depends on the vehicle operation. The duty cycle of the food waste disposal truck could lower the range to 43 miles (dashed line in Figure 24, consistent with Figure 21). Even when assuming the average value, the truck runs into range limitations. Up to 35% of the daily trips within a year could not be performed without some form of additional charging; Table 39 lists the detailed results from this analysis.

The right-hand side chart in Figure 24 indicates that a BEV range around 100 miles would be required to achieve greater than 95% of all recorded mileages. However, this is about twice the average BEV range of such vehicles.

Figure 24 reveals severe range limitations for a battery-electric option. REEV or HVO provide enough range and could also significantly reduce carbon emissions. Therefore, switching to HVO would provide a transitory option until BEVs with larger ranges are available.

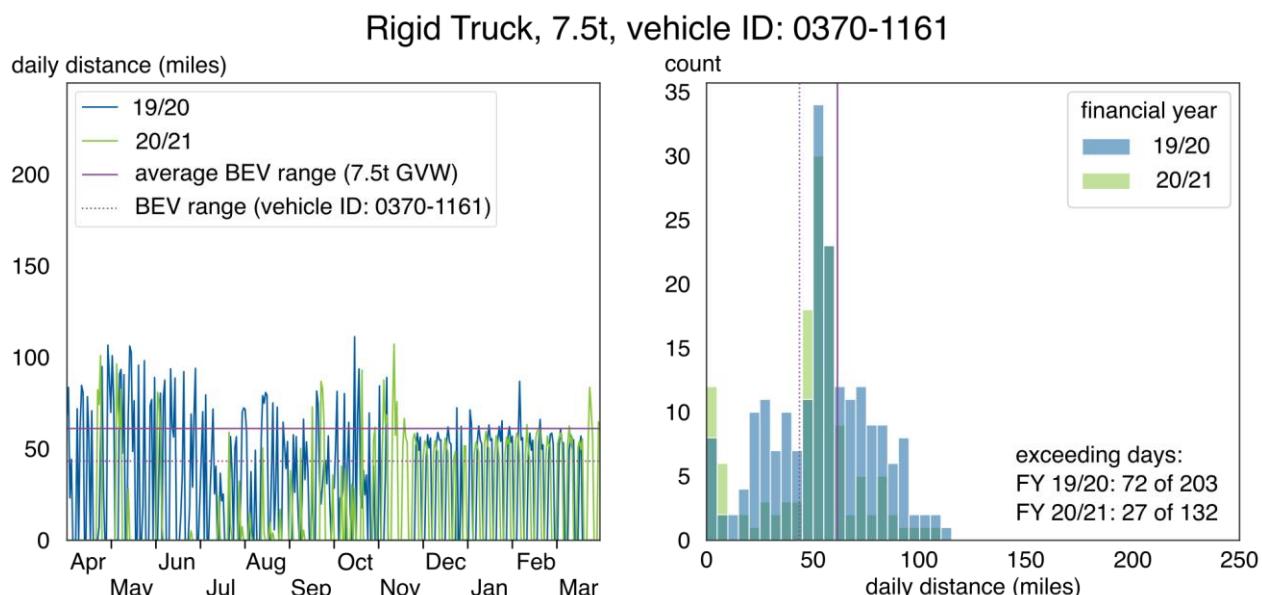


Figure 24 – Monitored daily distances for the food waste trial vehicle.

Table 39 –Exceeding daily trips for food waste disposal vehicle.

Fleet Number	Vehicle Type	Department	Usable Battery Capacity (kWh)	Average BEV Range (Miles)	FY 2019/2020		FY 2020/2021	
					Number of Daily Trips Exceeding BEV Range	Number of Daily Trips	Number of Daily Trips Exceeding BEV Range	Number of Daily Trips
0370-1161	Rigid Truck	food waste trial vehicle	75	61	72	203	27	132

8. Recommended Next Steps and Implementation Guidance

The Recommended Replacement Vehicle analysis outputs presented in Section 6, specifically the information outlined in Table 35 can be considered an outline action plan for the deployment of BEV and HVO across the NWLDC fleet. In addition to this outline plan, more detailed vehicle by vehicle information is provided in an accompanying MS Excel spreadsheet which provides further evidence of the potential emission and ownership cost savings that could be achieved through the deployment of the identified low emission technologies.

The plan outlined in Table 35 assumes that NWLDC can readily purchase or lease the relevant vehicle models and specifications required for their operational requirements; the impacts of potential vehicle delivery lead times has not been accounted for as this can differ greatly from manufacturer to manufacturer. Similarly, the impact of any potential delays in deploying the relevant charging infrastructure has not been accounted for.

It will be essential that NWLDC discuss their vehicle and infrastructure needs with relevant vehicle and chargepoint suppliers to gain a clear understanding of the likely timeline for delivery/ installation. This will a more accurate vehicle and infrastructure deployment plan to be generated.

This section provides a summary of the recommended next steps for NWLDC required to implement those LEVs highlighted as candidate replacement vehicles. The actions outlined below are based on Cenex's recommended approach to deploying LEVs within a fleet of:

Trial → Review → Assess → Deploy

This approach is recommended as the analysis and results contained within this report are based on historical fleet and vehicle performance and operational data and therefore may not fully reflect the current operations experienced within NWLDC. Undertaking trials of relevant LEVs within the selected fleet operations will enable a more accurate assessment of possible day to day impacts to be undertaken. These can then be reviewed and adapted to ensure additional LEVs can be deployed with minimum impact on service provision.

It is recognised that NWLDC may wish to accelerate the deployment of LEVs within their fleet; while this ambition is to be applauded Cenex would still recommend a period of vehicle trials to ensure that their implementation does not adversely impact on service delivery.

The below recommendations and actions are presented in order of priority (although many will occur in parallel) with an initial focus on those vehicles that can be replaced by BEV and HVO most easily before targeting the harder to transition vehicles. This results in a phased transition, which as outlined above is in line with Cenex's recommended approach. Appendix C, along with the accompanying MS Excel spreadsheet should be used by NWLDC to identify those operational vehicles that can be transitioned to BEV and HVO in the first instance.

Supporting justifications are provided below each recommendation. Where appropriate, additional implementation recommendations are provided. These typically relate to operational considerations or measures to increase the uptake of LEVs (with a focus on ZEVs and ULEVs).

The recommendations in this section are of most relevance over the next five years with any occurring after these timescales considered closer to an outline strategy to 2030.

6. **Implement battery electric cars and light commercial vehicles (i.e. small cars and small and medium vans) along with the associated electric vehicle charging infrastructure according to the current vehicle replacement schedule, if not sooner.**
 - a. Confirm which specific vehicle models meet the required operational specifications in terms of payload, towing capacity and minimum viable battery capacity required to meet day to day mileage variation. For a given vehicle model this is a trade-off between cost, payload, and range (smaller batteries = lower cost, higher payload, and lower operating range). It should be recognised that the analysis in this report has been based on average daily mileage and does not include the impact of additional factors (cabin heating, towing, etc.).
 - i. BEVs have been highlighted as potentially suitable replacements for:

1. 100% of small cars (45 kWh battery)
 2. 29% of small vans (40 kWh battery)
 3. 100% of medium vans (75 kWh battery)
- b. Where possible, consider specifying vehicles with optional on-board AC chargers with increased power ratings, to enable higher rates of vehicle charging to occur (e.g. 11 kW or 22 kW vs. 7 kW).
- c. Undertake a short-term managed vehicle trial of between 4 – 8 weeks in each identified vehicle segment to confirm operational suitability and to verify the potential running cost and emissions savings.
- i. Vehicles should initially be trialled within lower mileage applications with the implementation advised by real world performance and day to day mileage variation considered before a more detailed implementation phase is undertaken, this will ensure that all relevant preparations are made for their introduction.
- d. Plan and rollout a home charging pilot scheme, including the installation of appropriate 7 kW chargers, with targeted drivers to confirm applicability, operational suitability and to verify the running cost and emissions savings.
- i. Details of how to manage such a trial, including operational and deployment considerations, is provided in the accompanying Home Charging Review report.
- e. Procure and install 22 kW AC chargepoints at the depot locations identified during the infrastructure review.
- i. Engage with a certified installer to undertake detailed site assessments and discuss power supply capacity with the DNO.
 - ii. Any deployment of charging infrastructure should take into consideration any potential future changes to depot locations.
- f. Investigate the potential to reduce the ownership period of the remaining non-BEV vans from 7 years to 4 years to ensure that the results of the above electric vehicle trial can be implemented as quickly as possible.
- i. This may result in new Euro 6 diesel vehicles being deployed across the fleet for a short period of time. However, this approach will ensure that the NWLDC have sufficient time to assess the possible impacts of deploying BEV across this vehicle segment, considering the operational requirements of these vehicles.
- 7. Investigate the feasibility of using renewable diesel (HVO) as an interim solution across all remaining vehicle segments to provide immediate WTW CO₂e emissions reductions.**
- a. Contact fleet operators currently using HVO to discuss operational experiences, implications and to verify potential cost increases.
 - i. Cenex can provide details or make introduction to such organisations if required.
 - b. Contact relevant vehicle manufacturers to discuss verify any potential warranty and maintenance changes.
 - c. Contact relevant fuel suppliers to discuss supply requirements such as volumes, delivery, costs, etc.
 - i. Cenex can provide details or make introduction to such organisations if required.

- d. A recent study by the Zemo Partnership explored the opportunity for high blend renewable fuels to decarbonise heavy duty vehicles over the next decade and beyond. The renewable fuels covered were biodiesel, hydrotreated vegetable oil (HVO) and biomethane – considering blends of more 20% renewable fuel content⁹

8. Prepare for the potential introduction of ULEV HGVs (i.e. RCVs, Food Waste Disposal, etc.) beyond 2025; vehicle segments without recommended replacement ULEVs account for 45% of the current fleet. This is primarily due to the relative immaturity of ULEV HGVs and the resulting increase in additional capital costs.

It is reasonable to expect that the availability, purchase cost, and capabilities of ULEV rigid trucks and large vans will improve significantly by NWLDC's next major replacement date. Despite this it is suggested that NWLDC should be proactive in preparing for the potential introduction of additional ULEVs from this date.

- a. Undertake the further analysis of journey profiles and daily routes within the relevant vehicle categories to assess and verify the suitability of BEV as a replacement technology.
 - i. Such an assessment should take into considerations any proposed changes to collection routes and the potential for double shifting of vehicles. Such operational changes will have additional implications on the deployment of charging infrastructure and associated depot power demands.
- b. Where possible undertake vehicle trials within those operations identified as suitable for BEV deployment.
 - i. BEVs are currently the only technology that could be deployed at scale across the HGV segments within the next 3 – 5 years and have potential to provide the lowest running costs of all LEVs studied within the large van and rigid truck vehicle segments. The main challenges associated with these vehicles are the limited availability of appropriate variants, the increased purchase costs, the availability of appropriate charging infrastructure and the potential impact on the depot power supply.
- c. The majority of rigid trucks are due for replacement from FY2024 onwards, therefore this date is considered critical to achieving NWLDC's 2030 aspirations. Any vehicles replaced after this point will likely remain on the fleet until at least 2031.
 - i. NWLDC should formally review ULEV options again in 2023; this review would likely include a much wider selection of ZEVs including BEV, FC REEV and FCEV.

9. NWLDC should consider the process of assessing, trialling, and implementation of ULEVs across the fleet as a continuous one, depending on the requirements of different vehicle segments.

10. Consider operational improvements that could increase the uptake of ULEVs.

- a. Confirm specific towing requirements and investigate the feasibility of introducing operational changes to reduce this requirement for potential ULEV replacement vehicles (e.g. designation of dedicated towing vehicles, moving any towing requirement to ULEV technologies or vehicle segments with increased capabilities such as pickup trucks).
- b. Review and, if necessary, optimise the number of vehicles on the fleet to increase utilisation.

⁹ https://www.zemo.org.uk/assets/lowcvreports/Market_opportunities_decarbonise_HDV_using_HBRF_2021.pdf

9. Appendix A – Fleet Review References

Table 40 shows a table of references used during the fleet review. It should be noted that wherever possible data provided by the fleet takes priority over supplementary data sources (such as baseline fuel economy) and likewise, independent data takes priority over information provided by suppliers.

Table 40 - Table of References

Parameter	Reference
Vehicle Details	Driver and Vehicle Licensing Agency (DVLA) https://ukvehicledata.co.uk/dvla-data-api
Annual Mileage	Driver and Vehicle Standards Agency (DVSA) https://www.gov.uk/check-mot-history
Baseline Fuel Economy	Emissions Analytics – Passenger Vehicles and LCVs https://www.emissionsanalytics.com/
	Low Carbon Vehicle Partnership (LowCVP) – HGVs https://www.lowcvp.org.uk/
Greenhouse Gas Emissions Factors and Energy Content	UK Government https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2020
Air Quality Pollutant Emissions Factors	National Atmospheric Emissions Inventory (NAEI) https://naei.beis.gov.uk/data/ef-transport
Low Emission Vehicle Energy Consumption (Examples from the public domain)	Cenex – ULEV passenger vehicles and LCVs https://www.cenex.co.uk/ Cenex, Emissions Analytics and LowCVP – LCVs and HGVs Unpublished testing of plug-in commercial vehicles completed on behalf of LoCITY in 2019 Dedicated to Gas - Assessing the Viability of Gas Vehicles Emissions Testing of Urban Delivery Commercial Vehicles Emissions Testing of Gas-Powere Commercial Vehicles
Vehicle Costs Purchase Cost Maintenance Costs Predicted Residual Values	Fleet News and Commercial Fleet – Passenger vehicles and LCVs https://www.fleetnews.co.uk/car-running-costs-calculator https://www.commercialfleet.org/tools/van/running-costs/ Logistics UK (formerly the FTA) – HGVs (diesel only) https://logistics.org.uk/distribution-costs Vehicle Suppliers and Fleet Operators – Any remaining technologies
Fuel Prices	AA – Diesel, petrol and LPG https://www.theaa.com/driving-advice/driving-costs/fuel-prices Department for Business, Energy and Industrial Strategy (BEIS) – electricity https://www.gov.uk/government/statistical-data-sets/gas-and-electricity-prices-in-the-non-domestic-sector Low Emission Fuel Suppliers – natural gas, hydrogen and biofuels

10. Appendix B – NWLDC Maximum Emission Savings Results

Table 41 shows the Maximum Emissions Saving Scenario with a focus on ZEVs as these make the largest combined greenhouse gas and air quality emission savings.

Table 41 - Maximum Emissions Saving Replacement Summary Table

	Small Car	Small Van	Medium Van	Large Van	Large Van - (> 3.5t GVW)	Rigid Truck - 2 axles (18t GVW)	Rigid Truck - 2 axles (7.5t GVW)	Rigid Truck - 3 axles (26t GVW)	Large Commercial SUV	Total
Replacement Technology	BEV (OEM)									HVO
Number of Vehicles	4	7	48	11	1	7	3	16	2	99
% of Vehicle Segment	100%	100%	100%	100%	100%	100%	75%	100%	100%	100%
Additional Capital Cost (£)	£32,000	£43,200	£375,400	£266,300	£60,000	£1,638,000	£162,000	£4,576,000	£0	£7,152,900
Difference in Running Costs (£)	-£19,900	-£28,700	-£380,500	-£84,800	-£7,200	-£208,400	-£52,500	-£712,500	£4,500	£1,490,000
Difference in Residual Values (£)	£12,600	£3,700	£31,100	£83,400	£0	£0	£0	£0	£0	£130,800
Difference in TCO (£)	£500	-£10,800	£36,200	-£98,100	-£52,800	-£1,429,600	-£109,500	-£3,863,500	-£4,500	-£5,532,100
Ownership Period (years)	7	7	7	7	7	7	7	7	7	7
% of Fleet TTW CO₂ Savings	1%	1%	20%	5%	0%	15%	3%	54%	1%	100%
% of Fleet WTW CO₂ Savings	1%	1%	15%	5%	0%	15%	3%	54%	1%	94%
% of Fleet NOx Savings	3%	5%	55%	8%	0%	5%	2%	22%	0%	99%
% of Fleet PM Savings	3%	3%	31%	4%	0%	9%	3%	45%	0%	98%
Number of 7 kW Chargepoints	0	0	43	0	0	0	0	0	0	43
Number of 22 kW Chargepoints	4	7	5	11	1	7	3	16	4	58
Number of 50 kW Chargepoints	0	0	0	0	0	0	0	0	0	0
Infrastructure Capital Cost	£14,200	£24,900	£60,800	£39,100	£3,600	£24,900	£10,700	£82,300	£0	£260,500

10.1 Replacement Vehicle Schedule

	Financial Year									
	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
Small Car (BEV)	3	1	0	0	0	0	0	0	0	0
Large Commercial SUV (HVO)	0	0	0	0	0	0	0	0	0	0
Small Van (BEV)	5	1	0	0	1	0	0	0	0	0
Medium Van (BEV)	26	2	7	0	13	0	0	0	0	0
Large Van (BEV)	9	1	1	0	0	0	0	0	0	0
Large Van (> 3.5t GVW) (BEV)	0	0	0	0	1	0	0	0	0	0
Rigid Truck - 2 axles (7.5t GVW) (BEV)	0	0	1	0	2	0	0	0	0	0
Rigid Truck - 2 axles (18t GVW) (BEV)	0	0	0	5	1	1	0	0	0	0
Rigid Truck - 3 axles (26t GVW) (BEV)	9	1	2	0	4					
Vehicle Replacements	53	7	11	5	22	1	0	0	0	0
Cumulative % of Fleet Replaced by LEV	54%	61%	72%	77%	99%	100%	100%	100%	100%	100%
Additional Vehicle Capital Costs (£)	£3,050,105	£340,033	£704,950	£1,170,000	£1,653,835	£234,000	£0	£0	£0	£0
Infrastructure Cost (£)	£140,425	£29,800	£23,757	£17,757	£44,963	£3,551	£0	£0	£0	£0
Annual Running Cost Savings (£)	£100,614	£112,868	£137,815	£160,006	£208,328	£212,879	£212,879	£212,879	£212,879	£212,879
Annual TTW CO₂ Savings (tonnes)	433.3	489.9	595.7	696.9	896.7	917.5	917.5	917.5	917.5	917.5
Annual WTW CO₂ Savings (tonnes)	499.4	569.4	691.6	817.1	1045.4	1071.3	1071.3	1071.3	1071.3	1071.3
Annual NOx Savings (kg)	166.3	184.5	225.7	239.3	318.9	319.9	319.9	319.9	319.9	319.9
Annual PM Savings (kg)	1.1	1.3	1.6	1.7	2.3	2.3	2.3	2.3	2.3	2.3

11. Appendix C – NWLDC logger data evaluation

Table 42 compares the average BEV ranges by vehicle type with the recorded distances for each vehicle within the financial years 2019/2020 and 2020/2021. It is accepted that the provided data for this analysis did not cover a full year, however this analysis should provide an initial insight into the applicability of vehicles for the first phase of electric vehicle deployment.

The below table has been colour coded, to enable NWLDC to identify relevant vehicles: **Red** (exceeding range); **Amber** (no range exceedance but less than 20 miles remaining range); **Green** (no range exceedance with more than 20 miles remaining range). It is recommended that those vehicles highlighted in **Green** are investigated as a priority.

Table 42 – List of daily trips that exceeding battery range by vehicle

Fleet Name	Vehicle Type	Department	Usable Battery Capacity (kWh)	Avg. BEV Range (miles)	FY 2019/2020			FY 2020/2021		
					Number of Daily Trips Exceeding BEV Range	Number of Daily Trips	Worst Case Remaining Range (miles)	Number of Daily Trips Exceeding BEV Range	Number of Daily Trips	Worst Case Remaining Range (miles)
626	Small Car	Enforcement Team	45	161						
627	Small Car	Enforcement Team	45	161						
628	Small Car	Enforcement Team	45	161						
629	Small Car	Office Pool Vehicle	45	161						
679	Small Van	Office Pool Vehicle	36	93						
680	Small Van	Garage	36	93						
681	Small Van	Garage Pool Vehicle	36	93						
682	Small Van	Parks Department	36	93						
684	Small Van	Parks Department	36	93						
686	Small Van	Commercial Team	36	93						
687	Small Van	Pest Control	36	93						
700	Medium Van	Housing Maintenance	68	125	0	133	12.2	0	127	28.9
701	Medium Van	Housing Maintenance	68	125	1	164	-7.0	2	232	-12.6
702	Medium Van	Housing Maintenance	68	125	0	130	13.4	0	235	7.9
703	Medium Van	Housing Maintenance	68	125	0	138	31.6	0	174	45.0
704	Medium Van	Housing Maintenance	68	125				0	89	61.8
705	Medium Van	Housing Maintenance	68	125				0	8	54.0
706	Medium Van	Housing Maintenance	68	125	0	139	3.6	0	169	17.9
707	Medium Van	Housing Maintenance	68	125	0	123	39.9	0	156	42.9
708	Medium Van	Housing Maintenance	68	125	0	130	15.2	0	190	38.2
709	Medium Van	Housing Maintenance	68	125	0	145	23.1	0	213	33.2
710	Medium Van	Housing Maintenance	68	125	2	114	-4.5	0	221	11.5
711	Medium Van	Housing Maintenance	68	125	0	102	13.9	0	76	48.0
712	Medium Van	Housing Maintenance	68	125	0	88	21.4	0	205	4.4
720	Medium Van	Refuse Department	68	125	3	223	-6.1	2	200	-7.1
730	Medium Van	Housing Maintenance	68	125	0	151	36.2	0	206	20.6

Fleet Name	Vehicle Type	Department	Usable Battery Capacity (kWh)	Avg. BEV Range (miles)	FY 2019/2020			FY 2020/2021		
					Number of Daily Trips Exceeding BEV Range	Number of Daily Trips	Worst Case Remaining Range (miles)	Number of Daily Trips Exceeding BEV Range	Number of Daily Trips	Worst Case Remaining Range (miles)
731	Medium Van	Housing Maintenance	68	125	0	141	38.1	0	208	30.7
732	Medium Van	Housing Maintenance	68	125	0	53	38.5	0	188	30.4
733	Medium Van	Housing Maintenance	68	125	0	131	53.5	0	143	47.7
734	Medium Van	Housing Maintenance	68	125	0	102	48.0	0	192	27.8
735	Medium Van	Housing Maintenance	68	125	0	151	4.4	2	184	-49.1
736	Medium Van	Housing Maintenance	68	125	0	140	91.3	0	207	67.7
737	Medium Van	Housing Maintenance	68	125	11	134	-23.3	2	189	-12.8
738	Medium Van	Housing Maintenance	68	125	0	153	27.6	0	251	16.9
739	Medium Van	Housing Maintenance	68	125	3	120	-15.7	0	185	17.0
740	Medium Van	Housing Maintenance	68	125	0	69	37.1	0	159	54.1
741	Medium Van	Housing Maintenance	68	125	0	119	35.5	0	41	49.7
742	Medium Van	Housing Maintenance	68	125	2	64	-32.7	1	149	-3.8
743	Medium Van	Housing Maintenance	68	125	5	140	-141.1	0	189	35.5
744	Medium Van	Housing Maintenance	68	125	0	131	40.6	0	166	37.8
745	Medium Van	Housing Maintenance	68	125	0	119	63.1	0	164	63.1
746	Medium Van	Housing Maintenance	68	125	0	111	27.2	1	68	-4.0
748	Medium Van	Housing Maintenance	68	125	0	135	19.7	1	145	-31.2
749	Medium Van	Housing Maintenance	68	125	0	163	18.6	0	247	6.8
750	Medium Van	Housing Maintenance	68	125	0	129	46.4	0	199	23.3
751	Medium Van	Housing Maintenance	68	125	0	166	61.8	0	235	73.6
752	Medium Van	Housing Maintenance	68	125	0	134	32.2	0	212	48.2
777	Medium Van	Garage Pool Vehicle	68	125				0	0	0.0
779	Medium Van	Housing Maintenance	68	125				0	74	23.8
780	Medium Van	Housing Maintenance	68	125	0	131	25.9	0	151	4.0
782	Medium Van	Housing Maintenance	68	125	1	131	-0.5	0	231	27.5
783	Medium Van	Enforcement Team	68	125	0	0	0.0	0	0	0.0
784	Medium Van	Housing Maintenance	68	125	0	110	55.1	0	172	20.2
785	Medium Van	Street Cleansing	68	125	0	221	6.8	0	259	13.6
786	Medium Van	Housing Maintenance	68	125	0	136	19.5	0	224	26.3
787	Medium Van	Housing Maintenance	68	125	0	0	0.0	0	62	43.3
788	Medium Van	Housing Maintenance	68	125	0	127	8.9	0	194	13.5
789	Medium Van	Housing Maintenance	68	125	0	37	40.2	0	174	65.3
790	Medium Van	Housing Maintenance	68	125	0	153	53.2	0	211	68.6
721	Large Van	Refuse Department	45	52	143	211	-104.7	127	229	-84.0

Fleet Name	Vehicle Type	Department	Usable Battery Capacity (kWh)	Avg. BEV Range (miles)	FY 2019/2020			FY 2020/2021		
					Number of Daily Trips Exceeding BEV Range	Number of Daily Trips	Worst Case Remaining Range (miles)	Number of Daily Trips Exceeding BEV Range	Number of Daily Trips	Worst Case Remaining Range (miles)
797	Large Van	Garage Pool Vehicle	45	52						
798	Large Van	Parks Department	45	52						
799	Large Van	Parks Department	45	52						
800	Large Van	Parks Department	45	52						
801	Large Van	Parks Department	45	52						
802	Large Van	Parks Department	45	52						
803	Large Van	Street Cleansing	45	52	2	279	-56.4	42	263	-26.6
804	Large Van	Parks Department	45	52						
805	Large Van	Parks Department	45	52						
806	Large Van	Street Cleansing	45	52	194	335	-29.6	99	353	-61.6
807	Large Van	Parks Department	50.4	52						
810	Rigid Truck	Commercial Team/Housing	75	61	38	51	-73.7	63	141	-51.9
811	Rigid Truck	Refuse Department	75	61	97	135	-80.2	93	140	-105.2
812	Rigid Truck	Street Cleansing	75	61	89	171	-57.0	72	132	-57.8
827	Rigid Truck	Street Cleansing/Parks	270	66	9	93	-39.5	10	60	-38.2
867	Rigid Truck	Refuse Department	250	55	10	150	-16.2	35	200	-27.3
868	Rigid Truck	Refuse Department	250	55	33	210	-22.9	21	199	-28.0
870	Rigid Truck	Refuse Department	250	55	2	198	-13.8	12	212	-19.6
871	Rigid Truck	Refuse Department	250	55	16	204	-15.3	36	211	-20.4
878	Rigid Truck	Refuse Department	250	55	3	209	-11.3	29	205	-23.7
879	Rigid Truck	Refuse Department	250	55	1	207	-3.1	40	208	-35.1
880	Rigid Truck	Refuse Department	270	66	120	207	-43.9	105	212	-54.3
881	Rigid Truck	Refuse Department	270	66	114	206	-42.5	105	212	-46.8
882	Rigid Truck	Refuse Department	270	66	148	247	-63.1	143	231	-51.0
883	Rigid Truck	Refuse Department	270	66	47	205	-39.6	76	226	-52.1
884	Rigid Truck	Refuse Department	270	66	93	206	-35.2	104	209	-37.0
885	Rigid Truck	Refuse Department	270	66	130	203	-45.8	116	201	-46.9
886	Rigid Truck	Refuse Department	270	66	128	205	-30.7	113	210	-59.4
888	Rigid Truck	Refuse Department	270	66	20	63	-44.4	29	182	-30.3
889	Rigid Truck	Refuse Department	270	66	10	133	-17.2	19	184	-21.4
894	Rigid Truck	Refuse Department	270	66	70	183	-47.0	48	130	-71.9
895	Rigid Truck	Refuse Department	270	66	10	183	-39.8	36	182	-43.1
896	Rigid Truck	Refuse Department	270	66	15	186	-38.4	10	174	-34.5
897	Rigid Truck	Refuse Department	270	66	16	204	-33.2	4	136	-4.9

Fleet Name	Vehicle Type	Department	Usable Battery Capacity (kWh)	Avg. BEV Range (miles)	FY 2019/2020			FY 2020/2021		
					Number of Daily Trips Exceeding BEV Range	Number of Daily Trips	Worst Case Remaining Range (miles)	Number of Daily Trips Exceeding BEV Range	Number of Daily Trips	Worst Case Remaining Range (miles)
898	Rigid Truck	Refuse Department	270	66	180	215	-52.6	144	197	-50.4
899	Rigid Truck	Street Cleansing	250	55	6	127	-42.1	1	88	-6.6
856	Rigid Truck	Street Cleansing/ Parks	270	66	9	93	-39.5	10	60	-38.2
0370-1161	Rigid Truck	Food Waste Trial Vehicle	75	61	72	203	-50.2	27	132	-46.1

12. Appendix E – Alternatively Fuelled Vehicle Derogations

A 2018 UK Government licensing derogation allows Category B license holders to drive an alternatively fuelled vehicle that weighs up to 4.25t (as opposed to 3.5t GVW)¹⁰. The existing derogation will remain in place until at least 2023. The conditions for this derogation are:

- The licence holder must undertake a minimum of five hours training by a registered instructor on the driving of an alternatively fuelled vehicle.
 - “registered instructor” means a person who is on the National Register of LGV instructors or the National Vocational Driving Instructors Register.
- The vehicle must be driven for the purpose of transporting goods.
- The vehicle must not have a trailer attached.
- The vehicle must not be driven outside of the territory of Great Britain.

For HGVs, a 2017 amendment increased the maximum allowable weight of an alternatively fuelled HGV by 1,000kg¹¹. The conditions are:

- A type or individual approval has been granted to the vehicle under the Framework Directive which provides evidence that the weight of the alternative fuel powertrain exceeds the weight of a conventional powertrain by a specified amount.
- The weight of the alternative fuel power train is included in the maximum permitted gross or train weight specified on any plates required by regulation 66(a) or regulation 70(b) of the 1986 Regulations.

10 https://www.legislation.gov.uk/ksi/2018/784/pdfs/ksi_20180784_en.pdf
11 https://www.legislation.gov.uk/ksi/2017/881/pdfs/ksi_20170881_en.pdf

13. Appendix F – Funding and Managing Vehicle Trials

Where it is not currently possible or economically viable to deploy a significant number of LEVs at a depot or fleet level there can still be numerous benefits to running a trial of an individual or small number of vehicles as follows:

- Validate any assumptions made during initial fleet analysis.
- Gain real-world experience with both the vehicle and required infrastructure (recharging and ease of use), validate the real-world technical capabilities of the vehicle (range, payload) and gain driver feedback.
- Quantify the real-world operating and maintenance costs.
- Provide a competitive advantage and a positive company image by being proactive in supporting the low emission transport agenda.

Vehicle trials can either be self-funded or can make use of public funding. Funding calls are often announced by Innovate UK, The Office for Low Zero Vehicles and through EU funding streams such as EU Horizon 2020.

To maximise learnings and ensure good value for money (particularly when public funds are used) vehicle trials should adhere to the following process:

1. **Plan and allocate resources:** allocation of sufficient financial and staffing resources for the successful delivery of the trial.
2. **Define output criteria:** definition of key metrics and how to monitor them such as fuel consumption, range, driver perceptions, costs and practicality. Consideration of baseline for comparison purposes.
3. **Minimise sources of variation:** to ensure repeatability of the trials sources of variation should be considered including driver, route(s) and season. It may be desirable to control some of these parameters, such as operating in urban vs. rural environments, to measure the vehicle performance across the entire fleet.
4. **Drive cycle development or Duty cycle selection:** For large fleets it may be desirable to define a fleet wide drive cycle to represent vehicle usage patterns which can be used to assess numerous technologies on a chassis dynamometer in controlled conditions. Alternatively, smaller fleets may choose to select a vehicle which is running on their preferred duty cycle and route for detailed analysis.
5. **Data collection:** consider manual (such as fuel and mileage records) or automatic (such as telemetry and fuel monitoring devices) collection of data.
6. **Secure vehicle and fuel supply:** finalise and secure supply of vehicle and infrastructure before commencing trial.
7. **Data analysis and project meetings:** data should be reviewed on an ongoing basis during the trial to highlight and resolve any issues.
8. **Partnership approach:** it may be possible to enter into partnership with vehicle manufacturers, fuel suppliers and fleet operators to reduce the individual cost burden of running the trial.
9. **Reporting:** a comprehensive written report should accompany the results of the trial; additional dissemination events or workshops are also worth considering to gain third party input.

14. Appendix G – Low Emission Technology Factsheets

Battery Electric Vehicles

Technology Introduction	<p>A battery electric vehicle (BEV or EV) stores energy in a battery (usually lithium-ion) and delivers its power to the vehicle's wheels through an electric motor. Braking energy can be captured by the electric motor, through regenerative braking, and stored as electrical energy in the battery.</p> <p>Most battery electric vehicles are available through major OEMs and smaller low volume manufacturers; however, there are a growing number of vehicle conversion companies who can convert a standard commercial vehicle to run on electric power.</p>	 <p>An OEM manufactured battery electric large van.</p> <p>Source: Ford UK</p>								
Availability	<p>Cars: Available from OEMs in most vehicle form factors.</p> <p>Small Vans: Available from most OEMs.</p> <p>Large Vans: Available from a growing number of OEMs.</p> <p>Rigid Trucks: Available from early adopter OEMs as well as low-volume manufacturers such as EMOSS and Magtec.</p> <p>Tractor Units: Not available in the UK.</p>									
Cost (vs. Diesel)	<ul style="list-style-type: none"> Battery electric vehicles are currently more expensive to purchase. This is largely due to the cost of batteries and as such the cost premium tends to grow considerably for heavier vehicles with larger batteries. Residual values are currently uncertain. Due to a reduced number of moving parts, maintenance costs are reduced. Fuel costs are significantly reduced as BEVs are more efficient than diesel vehicles so require less energy and electricity is cheaper than diesel. 	<table border="1"> <tr> <td>Capital</td> <td>+</td> </tr> <tr> <td>Maintenance</td> <td>-</td> </tr> <tr> <td>Fuel</td> <td>-</td> </tr> <tr> <td>Residual Value</td> <td>-</td> </tr> </table>	Capital	+	Maintenance	-	Fuel	-	Residual Value	-
Capital	+									
Maintenance	-									
Fuel	-									
Residual Value	-									
Operational Performance	<ul style="list-style-type: none"> Most electric vehicles have a real-world range of 80 – 200 miles on a single charge depending on battery size. This will reduce if the vehicle is driven aggressively or with high heater use in winter. However, vehicle range can be increased by using specialist routing software to optimise daily journeys. The time taken to fully charge an electric vehicle depends on the size of the battery and the power rating of the charging infrastructure. A full charge typically takes between 30 mins (rapid charge) and 8 - 10 hours (standard charge). The payload on electric vehicle is lower than on a diesel vehicle due to the additional weight of the batteries. A payload reduction of around 5% – 30% can be expected, depending on the vehicle type and battery size. However, load volume is not generally changed. 									
Environmental Performance	<p>Electric vehicles produce zero tailpipe emissions. This makes them ideal for improving air quality in our cities and reducing CO₂ emissions. They can offer CO₂ savings of up to 70% even when the carbon intensity of electricity production is considered.</p>									
Case Studies	<p>Electric vehicles have been deployed by many British councils, British Gas, DPD, Mitie, Severn Trent Water, Warburtons and many more.</p>									
Further Information	https://www.zap-map.com/live/ for a map public charging locations.									

Hydrogen (H₂)

Technology Introduction	<ul style="list-style-type: none"> Hydrogen is taking its first steps to becoming commercially available as a road transport fuel in the UK. Hydrogen can be used to power a vehicle by burning it in an engine or to generate electricity through a fuel cell (FCEV). There is currently a limited but growing public hydrogen refuelling station network. Hydrogen is stored on a vehicle in compressed gas cylinders. 	 <p>An FCEV rigid truck on a Swiss trial. Source: Hyundai</p>								
Availability	<p>Cars: A limited number of hydrogen fuel cell vehicles are available, such as the Toyota Mirai and Hyundai Nexo.</p> <p>Small Vans: Fuel cell range extenders can be fitted to battery electric vans which generate electricity from on-board hydrogen to charge their batteries. These are available in the UK through Arcola Energy.</p> <p>Large Vans: Diesel vans converted to operate on hydrogen and diesel (dual-fuel) are available from ULEMCO.</p> <p>Rigid Trucks: Diesel trucks converted to operate on hydrogen and diesel (dual-fuel) are available from ULEMCO. FCEVs are currently in the early stages of European trials.</p> <p>Tractor Units: Not available in the UK.</p>									
Cost (vs. Diesel)	<p>Hydrogen vehicles are currently more expensive to purchase and operate than their fossil fuel counter parts. Most hydrogen vehicle deployments are subsidised through UK and EU funding programmes to allow technology demonstration and development.</p> <p>Savings accrued through daily use of a zero emission H₂ powered vehicle in the London Congestion Zone can reduce the total cost of ownership to a similar level to a conventional vehicle.</p>	<table border="1"> <tr> <td>Capital</td> <td>+</td> </tr> <tr> <td>Maintenance</td> <td>+</td> </tr> <tr> <td>Fuel</td> <td>+</td> </tr> <tr> <td>Residual Value</td> <td>-</td> </tr> </table>	Capital	+	Maintenance	+	Fuel	+	Residual Value	-
Capital	+									
Maintenance	+									
Fuel	+									
Residual Value	-									
Operational Performance	<ul style="list-style-type: none"> Hydrogen cars and dual-fuel vehicles have a similar range to their fossil fuel equivalents of 300 - 800 km depending on vehicle size and tank options. Hydrogen range extenders typically double the range of an electric vehicle. Payload and load space of range extended hydrogen vans are often reduced (by around 10%) as the fuel cell and tank components are normally located within the load space. Dual-fuel hydrogen vehicles offer the same load space, but payload is reduced by around 150kg for vans and 300kg for trucks. 									
Environmental Performance	<ul style="list-style-type: none"> Hydrogen releases no tailpipe CO₂ when used to power a vehicle, and when used in a fuel cell only water vapour is emitted. When hydrogen is combusted alongside other fuels, such as diesel, the hydrogen proportion reduces the vehicle's tailpipe emissions. The fuel life cycle CO₂ emissions of hydrogen vans depend on how the hydrogen is manufactured and the technology used on the van: they can be worse than diesel when the hydrogen is manufactured from fossil fuels (brown hydrogen); or have a very low carbon intensity when made from renewable green hydrogen. 									
Case Studies	Hydrogen fuel cell cars are operated by fleets such as Green Tomato Cars (as taxis) and the Metropolitan Police. Range extended and dual fuel vehicles are operated by fleets such as Aberdeen City Council and the Commercial Group.									
Further Information	https://www.zap-map.com/live/ for a map of hydrogen refuelling station locations.									

Natural Gas (CNG, LNG, Biomethane)

Technology Introduction	<ul style="list-style-type: none"> Natural gas-powered vehicles run on either Compressed Natural Gas (CNG) or Liquefied Natural Gas (LNG). A dedicated gas vehicle uses CNG or LNG in a spark ignited internal combustion engine similar to a petrol engine. Volvo's Dual Fuel LNG technology uses a typical compression ignition engine and a blend of natural gas and diesel. Whilst CNG and LNG are fossil fuels, Biomethane is the renewable and sustainable form. Biomethane is produced from organic waste and can be directly used in gas powered vehicles. Biomethane is available in compressed and liquefied forms. 	 <p><i>LNG tractor unit refuelling</i></p> <p>Source: NGV Network</p>
Availability	<p>Cars: Not available in the UK.</p> <p>Small Vans: Not available in the UK.</p> <p>Large Vans: Available in most body configurations from Iveco.</p> <p>Rigid Trucks: Available from Iveco, Volvo, and Mercedes in varying configurations.</p> <p>Tractor Units: Available from Iveco, Scania, and Volvo</p>	
Cost (vs. Diesel)	<ul style="list-style-type: none"> Gas vehicles cost a premium price from around £5k (vans) to around £30k (depending on vehicle class and gas tank size). Maintenance costs increase and the residual value of the vehicles is lower due to limited infrastructure and demand for second-hand vehicles. Fuel consumption increases due to a reduction in engine efficiency between a diesel compression ignition engine and petrol spark ignition engine vehicles. Fuel price can be significantly cheaper leading to an overall cost saving if an attractive fuel supply deal is available. 	Capital + Maintenance + Fuel - Residual Value -
Operational Performance	<ul style="list-style-type: none"> CNG range of between 300 – 800 km depending on vehicle and tank size. LNG range can be over 1,000 km dependent on fuel tank sizes. Load space is the same as diesel equivalent. Payload is marginally reduced (by around 200kg for vans to 750kg for trucks). 	
Environmental Performance	<ul style="list-style-type: none"> Fossil natural gas vehicles have similar or better CO₂ emissions but when operated on 100% biomethane they offer around 85% WTW CO₂ emission savings compared to diesel. Dedicated gas vehicles generally produce lower noise than Euro VI diesel. Air quality performance between Euro VI gas and diesel vehicles is similar. 	
Case Studies	Natural gas vehicles operated by the John Lewis Partnership, Tesco, Ocado, Asda, Kuehne + Nagel, Great Bear, Muller Wiseman and more.	
Further Information	<p>www.gasvehiclehub.co.uk provides a maps of gas refuelling stations and further information on the vehicle availability and making the switch to gas vehicles.</p> <p>http://www.ngvnetwork.co.uk/ The natural gas vehicle network website provides information promoting natural gas vehicles as a transport solution</p>	

Liquefied Petroleum Gas (LPG)

Technology Introduction	<ul style="list-style-type: none"> Liquified petroleum gas (LPG) is a fossil fuel extracted alongside natural gas and is also a by-product of the oil refining process. LPG is stored on vehicles under pressure as a liquid. A dedicated LPG vehicle uses LPG in spark ignited (petrol) engine to power the vehicle. A dual fuel LPG vehicle simultaneously combusts diesel and LPG in a compression ignition (diesel) engine. 									
Availability	Although LPG conversions are available from mainstream manufacturers in Europe, here in the UK you have to have a dedicated LPG system retrofitted to a petrol van, or a dual fuel LPG system retro-fitted to a diesel truck.									
Cost (vs. Diesel)	<p>Dedicated LPG:</p> <ul style="list-style-type: none"> Retro-fit conversion costs start from around £1k. There is a marginal increase in maintenance costs. LPG fuel cost is low; however fuel consumption increases due to the engine efficiency loss between diesel (CI) engine and petrol (SI) engine vehicles. <p>Dual fuel LPG:</p> <ul style="list-style-type: none"> Conversion costs range from £4.5 - £7.5k depending on GVW. Maintenance costs increase by around £360 per annum. LPG fuel is much lower cost than diesel. 	<table border="1"> <tr> <td>Capital</td> <td>+</td> </tr> <tr> <td>Maintenance</td> <td>+</td> </tr> <tr> <td>Fuel</td> <td>-</td> </tr> <tr> <td>Residual Value</td> <td>~</td> </tr> </table>	Capital	+	Maintenance	+	Fuel	-	Residual Value	~
Capital	+									
Maintenance	+									
Fuel	-									
Residual Value	~									
Operational Performance	<ul style="list-style-type: none"> LPG vehicles offer similar duties and performance to regular vehicles due to the long range available between refuelling events. Refuelling is easy, there are nearly 1,500 refuelling stations offering LPG across the UK suitable for vans. Trucks that cannot fit under a forecourt canopy would normally be refuelled from a bunkered supply of fuel at a depot. The vehicles retain their original refuelling system and can switch back to petrol or diesel operation if LPG is not available. Payload is similar to a regular vehicle. 									
Environmental Performance	<ul style="list-style-type: none"> Dedicated LPG vehicles offer similar CO₂ emissions compared to diesel vehicles, with lower noise operation. LPG powered vans offer improved CO₂ emissions compared to petrol vans. Dual-fuel LPG vehicles offer similar or better CO₂ emissions compared to diesel vehicles, with lower noise operation. Bio-LPG is a renewable and sustainable version of LPG that can significantly reduce CO₂ emissions. 									
Case Studies	LPG vehicles are used by Humberside Police Force, Grass Hopper Couriers, Clear Channel UK, Nobel foods and more.									
Further Information	<p>For advice and information about converting to LPG including a list of approved installers and UK refuelling stations see DriveLPG: www.drivelpg.co.uk</p> <p>More information on the use of LPG as an automotive fuel can be found via UK LPG, the trade association for the LPG industry in the UK: https://www.uklpg.org/</p> <p>Locations of current LPG refuelling stations within the UK can be found via MyLPG: https://www.mylpg.eu/stations/united-kingdom/</p>									

Biodiesel (FAME)

Technology Introduction	<p>Biodiesel, also known as FAME (Fatty Acid Methyl Esters), is a renewable fuel produced from vegetable crops or used cooking oil. It has similar properties to fossil fuel diesel and is already present in regular diesel purchased at public forecourts up to 7% blend.</p> <p>High blend biodiesel usually contains at least 20% biodiesel. Common blend strengths are B20 (20% biodiesel), B30 (30% biodiesel) and B100 (100% biodiesel).</p>	 <p>An HGV using biodiesel. Source: McDonald's</p>								
Availability	<ul style="list-style-type: none"> All diesel vehicles sold within the EU must be warranted to run on BS EN 590 diesel fuel, which can contain up to 7% biodiesel. Many manufacturers design their vehicles to operate on higher biodiesel blends, normally up to a 30% blend (B30). For example, Citroen and Peugeot warrant their range of high-pressure diesel injection engines to run on B30 biodiesel blends. Truck manufacturers such as Mercedes, DAF, Scania, Dennis Eagle, and Volvo also warrant various blends up to B100 depending on vehicle model. 									
Cost (vs. Diesel)	<ul style="list-style-type: none"> Operating on biodiesel incurs slightly greater costs (~3%) dependent on the biodiesel blend. Some manufacturers require a biodiesel upgrade package to be purchased with the vehicle which involves a negligible cost increase. Maintenance frequency also increases with biodiesel use. Fuel consumption may decrease due to the lower energy content of biodiesel. 	<table border="1"> <tr> <td>Capital</td> <td>~</td> </tr> <tr> <td>Maintenance</td> <td>~</td> </tr> <tr> <td>Fuel</td> <td>~</td> </tr> <tr> <td>Residual Value</td> <td>~</td> </tr> </table>	Capital	~	Maintenance	~	Fuel	~	Residual Value	~
Capital	~									
Maintenance	~									
Fuel	~									
Residual Value	~									
Operational Performance	<ul style="list-style-type: none"> Similar range and performance to a regular diesel vehicle, maintains the ability to run on diesel which can be used in the same tank. Payload and load space are unaffected. Biodiesel blends are normally provided as bunkered supplies to a fleet depot. Fuel is organic and has a shelf life of around 3-4 months. Fuel quality requires monitoring and lower blends (~B20) or heated fuel tanks are normally used during the winter months to improve cold temperature flow characteristics. 									
Environmental Performance	<ul style="list-style-type: none"> Biofuel use can offer significant reductions in carbon emissions. Blends of 25% to 100% biodiesel offer emission improvements of 16% to 68% WTW, with greater savings if the biodiesel is manufactured from used cooking oil. You should ensure that biodiesel used is from sustainable sources. Biodiesel manufactured from used cooking oil has a very low environmental impact as it is a waste material and does not require food crops to be grown to produce it. Biodiesel vehicles normally emit less particulate matter with similar, or marginally decreased, NOx emissions. 									
Case Studies	Biodiesel vehicles are operated by fleets such as McDonalds, Environment Agency, Gateshead Council and many more.									
Further Information	See the LowCVP Renewable Fuels Guide for more information: https://www.lowcvp.org.uk/assets/reports/RenewableFuelsGuide_March2020.pdf									

Renewable Diesel (HVO)

Technology Introduction	<p>Hydrotreated vegetable oil (HVO) is a paraffinic fuel that is chemically similar to conventional fossil fuel diesel. It is classed as a 'drop-in' fuel, which means it can be substituted for conventional fossil fuel diesel with no impact on operational requirements. HVO can be produced from virgin vegetable oil, typically crude palm oil, and waste feedstock such as UCO and waste vegetable oils.</p> <p>UK suppliers of HVO include Green Biofuels and Prema Energy. These companies import HVO produced in continental Europe by Neste.</p>	 <p>An RCV in Hackney operating on HVO.</p>								
Availability	As HVO is a drop-in fuel its use has no impact on maintenance or warranty. All major truck OEMs approve 100% HVO for use in their vehicles as long as the fuel meets European Standard EN15940.									
Cost (vs. Diesel)	<ul style="list-style-type: none"> As HVO is a drop-in fuel it can be used in diesel vehicles. Therefore, the costs of purchasing and maintaining the vehicles is the same as diesel. The residual value of the vehicles will also be identical to that of a diesel vehicle. No specialist equipment is needed to store HVO. The cost per litre of HVO is typically higher than diesel. 	<table border="1"> <tr> <td>Capital</td> <td>=</td> </tr> <tr> <td>Maintenance</td> <td>=</td> </tr> <tr> <td>Fuel</td> <td>+</td> </tr> <tr> <td>Residual Value</td> <td>=</td> </tr> </table>	Capital	=	Maintenance	=	Fuel	+	Residual Value	=
Capital	=									
Maintenance	=									
Fuel	+									
Residual Value	=									
Operational Performance	<ul style="list-style-type: none"> Similar range and performance to a regular diesel vehicle, maintains the ability to run on diesel which can be used in the same tank. Payload and load space are unaffected. HVO is not currently available at retail fuel forecourts, although HVO suppliers can provide and install refuelling infrastructure at depots. HVO can be stored in the same way and has the same storage life as regular diesel. There is no need for any specialist equipment. 									
Environmental Performance	<ul style="list-style-type: none"> HVO use can offer significant reductions in carbon emissions. WTW CO₂ savings of around 91% are expected from the use of HVO instead of diesel. The GHG emission savings of HVO varies depending on the type of feedstock. Efforts are being made to increase the volume of HVO produced from waste based raw materials. 									
Case Studies	Currently the UK market for HVO is very small, its use is more prevalent in Europe. HVO is used by the London Borough of Hackney, Luckett's Travel and Red Funnel.									
Further Information	See the LowCVP Renewable Fuels Guide for more information: https://www.lowcvp.org.uk/assets/reports/RenewableFuelsGuide_March2020.pdf									

UK ULEV Waste & Recycling Vehicle Deployment Status

Technology	Deployment Status
Battery Electric Vehicle 	<p>Largest Single Deployment (to date)</p> <ul style="list-style-type: none"> • Biffa¹² / Manchester City Council – 27 vehicles. • Vehicles produced by Electra Commercial Vehicles. • £10m investment (£370,000 per vehicle¹³). <p>Other Known Deployments</p> <ul style="list-style-type: none"> • At least 12 local authorities with 1 or 2 vehicles each including City of London, Nottingham and Newport.
Fuel Cell Electric Vehicle Demonstration vehicles coming soon	<p>Largest Single Deployment (to date)</p> <ul style="list-style-type: none"> • Fuel cell electric trucks have not been used in the UK. <p>Other Known Deployments</p> <ul style="list-style-type: none"> • Glasgow City Council¹⁴ – £10.5m agreed for 19 vehicles. • Arcola Energy awarded ~£685k for the first vehicle¹⁵. • Aberdeen City Council – 1 vehicle to be delivered by Q2 2021 under the HECTOR project¹⁶.
Natural Gas Vehicle 	<p>Largest Single Deployment (to date)</p> <ul style="list-style-type: none"> • Liverpool City Council¹⁷ – 20 vehicles. • Mercedes-Benz Econic NGT 2630L (CNG). • £3.4m investment (~£170,000 per vehicle). <p>Other Known Deployments</p> <ul style="list-style-type: none"> • Bradford¹⁸ (formerly Leeds) – £5.5m plan to install a grid connected CNG station in 2021/22 for 77 HGVs, including ~54 RCVs over the next seven years.
Hydrogen Dual Fuel 	<p>Largest Single Deployment (to date)</p> <ul style="list-style-type: none"> • Glasgow City Council¹⁹ – 20 gritters (by winter 2021). • ULEMCo to convert half of existing fleet, remainder to be new vehicles. • Supported by Transport Scotland funding. <p>Other Known Deployments</p> <ul style="list-style-type: none"> • Cheshire East, Grundon, Aberdeen and Fife.
Renewable Diesel (HVO) and High Blend Biodiesel (B100) 	<p>Largest Single Deployment (to date)</p> <ul style="list-style-type: none"> • London Borough of Hackney²⁰ – 100 vehicles (HVO). • Considered a cost-effective option for reducing greenhouse gas emissions despite higher fuel costs. • Used biodiesel up to B100 for several years. <p>Other Known Deployments</p> <ul style="list-style-type: none"> • Babergh²¹ District Council (proposed to 2023).

¹² <https://www.biffa.co.uk/media-centre/news/uks-largest-fleet-of-electric-waste-vehicles-launches-in-manchester>

¹³ [EST Fleet Review - Electric Refuse Collection Vehicles, EST \(2019\)](#)

¹⁴ <https://fuelcellsworlds.com/news/worlds-largest-fleet-of-hydrogen-powered-bin-lorries-to-arrive-in-glasgow/>

¹⁵ [The Conversion of a Council RCV to Hydrogen Fuel Cell, Glasgow City Council \(2020\)](#)

¹⁶ [HECTOR Project, Life N Grab Hy Conference \(2021\)](#)

¹⁷ <https://airqualitynews.com/2020/03/12/liverpools-waste-vehicles-to-be-powered-by-biomethane/>

¹⁸ [Advanced Fuel Centre, City of Bradford Metropolitan District Council \(2020\)](#)

¹⁹ <https://ulemco.com/delivering-hydrogen-fuelled-gritters-to-glasgow-cc/>

²⁰ [The Renewable Fuels Guide, Zemo Partnership and Cenex \(2021\)](#)

²¹ [Transfer of the Council's Vehicle Fleet to HVO, Babergh District Council \(2021\)](#)

15. Appendix H – Infrastructure Considerations

15.1 Electric Vehicle Charging Infrastructure

Electric vehicle chargepoints can output AC and / or DC electricity ranging from 3.7 kW to 22 kW AC (using a 230V / 16A domestic supply and 400V / 32A three phase supply respectively) or 50+ kW DC. Figure 25 shows three common connector standards that are typically used for charging of plug-in vehicles.



Seven pin 'Type 2' Plug



Combo 2 CCS Plug



CHAdemo Plug

Figure 25 - Common Electric Vehicle Connector Types

Electric vehicle charging speeds are dependent on several factors including but not limited to:

- Chargepoint power output (kW)
- On-board vehicle charger power rating (kW, for AC charging only)
 - Charging power is limited to the minimum of the chargepoint power output or the on-board vehicle charger power rating
- Battery capacity (kWh) and starting state of charge (%)

Charging rates vary from slow chargers which can take more than 12 hours to completely replenish a battery to rapid chargers which can provide 80% charge in 30 minutes.

Table 43 summarises electric vehicle chargepoint types, typical locations and provides indicative hardware costs. More detail on electric vehicle chargepoints can be found in the UK EVSE Procurement Guide²².

Table 43 - Electric Vehicle Chargepoint Types

	Charging Time (50 kWh battery)	Vehicle Connector Type	Typical Locations	Indicative Hardware Costs*
AC Standard - 7kW to 11kW	5 – 7 hours	Type 1	Domestic, Workplace, On-street, Public Car Park	£750 - £5,000
		Type 2		
AC Fast - 11kW or 22kW	2 – 5 hours	Type 2	Domestic, Workplace, On-street, Public Car Park	£1,800 - £5,000
AC Rapid - 43kW	~1 hour	Type 2	Workplace, On-Street, Public Car Park, Motorway Services	£15,000 - £30,000
DC Rapid - 50kW	~1 hour	CCS, CHAdMO		
DC Ultra-rapid - 150kW	20 minutes	CCS, CHAdMO	Charging Hub, Public Car Park, Motorway Services	> £30,000

* excluding VAT

²² <https://www.r-e-a.net/wp-content/uploads/2020/03/Updated-UK-EVSE-Procurement-Guide.pdf>

Chargepoint Installation Process

Once it is decided which chargepoints are needed, then the process of planning, installation and procurement begins. Contracting the services of a reputable certified installer will help with this process and includes:

- Testing and surveying the power supply of your site to determine the available capacity i.e. the number and type of chargepoints it could support.
- Liaising with the distribution network operator (DNO) on any upgrades needed to support the charging capacity that has been identified.

Getting good information on these parameters early in the planning process will support informed decision making. Cenex's Energy Systems and Infrastructure team has experience in managing or supporting both activities, if appropriate.

The number of vehicles being charged is closely linked to downtime because fleets where many EVs charge for longer periods of time require a greater number of lower-powered chargepoints. On the other hand, fleets where many vehicles charge at different times and for shorter periods of time may need fast or rapid chargepoints to ensure vehicles receive an adequate charge before the next vehicle arrives or the next shift begins.

A site survey should be conducted to determine the supply and any spare capacity available (the difference between actual load used and the maximum available) before vehicles or infrastructure are acquired. If electrical capacity limitations are identified on a site where many EVs are planned to operate from, it is important to consider that these limitations could quickly become an issue, regardless of the type of chargepoint used.

For example, a very similar amount of available capacity would be required to run a fleet of 15 EVs in the following configurations:

- One 50 kW rapid charger, with EVs scheduled to charge one-by-one;
- Two 22 kW fast and one 7 kW slow charger, all being used at the same time; or
- Seven 7 kW slow chargers, all being used at the same time.

This means that electrical capacity should be considered, ideally even before EVs are procured.

When it comes to locating chargepoints, there are a number of key factors to take into account, which Cenex or an experienced installer can advise on. Air flow to charging equipment is critical for preventing overheating and ensuring safe and effective working of the power electronics. Trailing cables can also create trip hazards and unnecessary obstructions. This can be minimised for slow and fast charging by installing non-tethered units where users provide their own charging cables. This also reduces the requirement to provide both type 1 and 2 connectors to the chargepoint. Where tethered (non-detachable) charging cables are employed, provision should be made for safe storage when not in use. Furthermore, the placement of the chargepoint should not present any unnecessary obstructions.

Figure 26 shows the two main mounting methods for electric vehicle chargepoints.

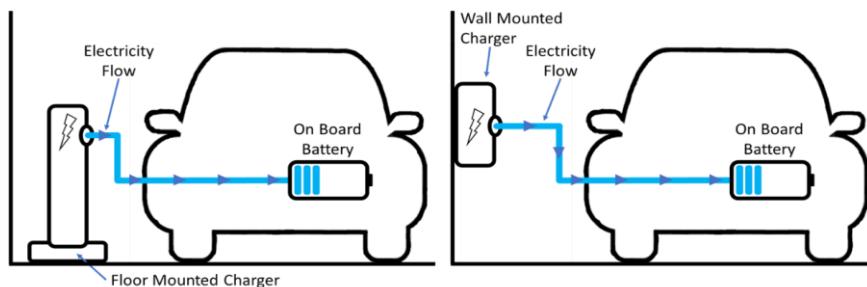


Figure 26 - Typical Mounting Methods for EV Chargepoints

Indoor EV charging tends to favour wall mounted units, which take up less space and can be fed using cabling on the surface of walls and ceilings. For central areas within a floor, floor mounted chargepoints may need to be used as wall space is not available. Where floor-mounted chargepoints are used, impact

barriers or kerbing may be worth installing to protect the chargepoint for accidental damage by moving vehicles.

The success of chargepoint installations hinge on the successful cooperation between multiple stakeholders. Table 44 outlines the high priority stakeholders and the recommended steps required to ensure delivery can be achieved on time and within budget.

Table 44 – Stakeholder Engagement Recommendations

Recommendations	
DNO	Ensure the DNO is engaged as early as possible. Reinforcement costs to the network required for the installation will be passed onto the user. Any grid upgrades required will impact the delivery timescale. Engagement can be carried out through the installer assuming this is agreed before works begin.
	Some chargepoint installations may require the installation of a new electrical supply point which is completed by the energy supplier. Disruption can be reduced by early engagement.
	The landlord should be notified of the project, permission is required to start the work on site.
	There may be a requirement for legal agreements, which will carry a financial impact in addition to increasing delivery timescales.
Internal Stakeholders	Health and safety representatives at the organisation should be notified well in advance of works starting to allow for additional procedure to be developed if required. Facilities, energy and fleet managers will need to cooperate to ensure a smooth and effective installation

Installation Costs

Before engaging a charge point installer, it is advisable to first develop a clear strategy for the location and power of chargers required for the site. This will prevent issues with re-quoting or receiving tenders for inadequate or differing scopes of work.

The cost of an installation can be greatly impacted by several factors, including:

- **Distance from electrical supply** - A greater distance requires more excavation and electrical cabling. These are two of the highest cost aspects of installation so should be minimised where possible. Electrical cabling diameter will also increase with distance, adding further cost.
- **Ground type** - If cabling to the chargepoint is to be run underground this will require excavating and replacing the ground. Different ground types could have a significant impact on the cost, with excavating road typically costing more than double that of excavating turf or soil.
- **Demarcation of parking bays** - the addition of bay painting, protective barriers and signage can often be missed off an installers original price, resulting in delays and additional costs to rectify post project. Therefore, it is important to consider any requirements for demarcation prior to engaging with an installer.

Table 45 shows typical installation cost items and indicative costs for each.

Table 45 - Typical Chargepoint Installation Costs

Typical Costs	
Excavations	Turf: ~£120 per meter; Pavement: ~£200 per meter; Road: ~£250 per meter
Earthing	£300 - 500 per pit
Electrical Cabling	£40 - 50 per meter
Signage	£75 - 100 per sign
Road Markings	£75 - 150 per bay
Protective Barriers	£200 - 300 per bay

Grid Upgrade Costs

DNOs are responsible for ensuring that the local electricity network has the capacity and reliability to meet demand. Increases in demand by a customer can require the DNO to carry out network upgrades.

Costs vary significantly depending on the characteristics of the network, the additional demand required and whether the site is owned or leased. Large upgrades can take six months or more, and can be very costly, so early engagement with the DNO to agree timescales and secure funding is essential.

Although the latest decarbonisation plan from Ofgem proposes to give DNOs greater leeway to decide on upgrades to enable the future electrification of heat and transport, the funding model that DNOs operate under means the customer making the request shoulders the cost burden. Many customers are unable to pay these costs so seek alternative technical measures to manage within existing constraints until the connection is upgraded by someone else.

Table 46 shows indicative costs and timescales for various upgrades ranging from small (70 kVA) to large (1,000+ kVA).

Table 46 – Indicative Grid Upgrade Costs and Timescales

	Small	Medium	Large
Power	Up to 70 kVA	200 to 1,000 kVA	Above 1,000 kVA
Number of charge points	<ul style="list-style-type: none"> • 1-3 fast, or • 1 rapid 	<ul style="list-style-type: none"> • 10-50 fast, • 4-20 rapid, or • 1-6 ultra-rapid 	<ul style="list-style-type: none"> • 50+ fast, • 20+ rapid, or • 6+ ultra-rapid
Approximate connection time	8-12 weeks	8-12 weeks	6 months +
Approximate connection cost	£1,000 - £3,000	£4,500 - £75,000	£75,000 - £2 million

Alternative Power Supply Options

It is possible to avoid paying for grid upgrade using alternative power supply options such as:

- **Load management**
 - Using controllable hardware or switches and a series of business rules to ensure that the load from chargers never exceeds a pre determined level.
 - Implemented as standard in many available chargepoint solutions ('smart charging').
- **On site generation and storage**
 - On site generation (e.g. solar PV) and battery storage can reduce the overall demand of the installation by trickle charging batteries which then accommodate peaks in demand.

Load Management

The most common way to manage a constrained connection is through load management. This involves using controllable hardware or switches and a series of business rules to ensure that the load from chargers never exceeds a pre determined level. This is implemented as standard in many chargepoint solutions available on the market (usually referred to as 'smart charging') and involves measuring demand of other loads on site in order to calculate the available capacity for chargers. Charger powers are modulated accordingly to ensure that any capacity threshold is not breached. Attention should be paid to the load management strategy for instance are some chargers turned on/off, is the power varied across chargers or are certain chargers given priority in order to ensure it meets NWLDC needs.

Timed connections These give a different approach which acknowledges that constraint is more than simply the total current carrying capacity of the wire to the site. Network constraints change in time and space, so there may be set times when demand must be constrained in one location but other periods when a higher draw can be permitted. This minimises the DNO upgrade work required to meet the fluctuating demand but must be coupled with load management technologies. This service is not currently available from all DNOs and terminology can vary between regions.

Multiple connections A large site may be supplied by more than one substation, so the DNO may be able to provide the necessary additional capacity at a cheaper cost elsewhere on the estate. This option would normally be highlighted by a survey.

Alternatively, other organisations sharing the same connection or substation may also need additional capacity. If applicable, an arrangement with such organisations may be possible to spread costs.

On-site Generation and Storage

In areas where network constraints are significant, systems involving on-site generation such as solar PV and battery storage may be beneficial. This can be used to reduce the overall demand of the installation by trickle-charging batteries which then accommodate any peaks in demand. Additional revenue may be gained from generation assets or cost-savings as demand is managed in accordance with variable tariffs.

Additionally, the electrical topology should be carefully examined in order to reduce losses associated with on-site storage. Some chargepoints come equipped with in-built battery storage which can be charged on low power and then supplement the existing grid connection to deliver high kW rapid charging. Whilst more compact, these do limit the regularity with which single chargepoints can be used, potentially leading to multiple vehicle swaps to free up parking spaces with charged chargepoints. An alternative approach is to install a single large battery on a site which feeds a series of chargers. The most common systems charge and discharge on AC to allow interconnection with existing equipment and wiring on-site. The size of the battery, charging power and discharging power can vary significantly according to the specific make and model of the battery. It should be noted that this may also make any grid connection requests more complex because the DNO has to consider that on-site storage may export back to the grid. The downside of this approach is that electricity stored has to undergo AC/DC conversion three times when rapid charging is required. Firstly AC>DC for the storage, then DC>AC when releasing power and finally AC>DC at the chargepoint for rapid charging.

Therefore, a less common but electrically optimised solution would be to install a battery storage system which feeds DC directly to rapid chargers. This would bring the advantage of the battery-backed rapid chargers together with the benefit of a single large battery, without the efficiency losses of multiple conversions between AC and DC.

Solar PV

Efficiency: The higher a solar panel's efficiency, the more energy it will generate, relative to its size. Modern commercial solar panel efficiency is typically 16 –20%. However, you should also consider the size of your roof: if you do not have much roof space, then you will need to buy a small number of the most energy efficient panels you can afford. If you have a large roof you can install more panels of a lower efficiency, reducing your upfront costs. Other factors which affect how much energy a solar panel can generate are:

- Seasonal variations – more electricity will be generated in the summer rather than winter.
- Weather variations – more electricity will be generated on a sunny day as opposed to a cloudy one.
- Daily variations – electricity generation will peak at noon and obviously not occur at night
- Panel orientation – electricity generation will be optimised with a south-facing panel at a tilt angle appropriate for the latitude of the location (typically around 30°from horizontal in the UK)
- Shading – the panels should be situated to avoid any shading from surrounding buildings or trees as well as self-shading (being in the shadow of an adjacent panel) as this will reduce the electricity generated.

Cost: Due to advancements in the technology the cost of solar panels has reduced significantly in recent years. An average business could have a system of around a 5-9kW output but a commercial operation with large land or roof space could install a system with an output of 25kW to even as much as 200kW.

Table 47 - Indicative costs for solar PV systems

Commercial PV System Size	Typical Cost
<9 kW	£8,000 – £14,500
10 kW	£15,000 – £17,000
25 kW	£40,000 – £43,500
50 kW	£70,000 – £74,000

Installation: It usually takes between 2 and 5 days to install solar panels, depending on the size of the panels required and the complexity of the system. Scaffolding will need to be erected around the premises prior to the solar panel installation so that workers can access the roof. Most installers will arrange this, but they may require that this is organised by the site owners.

Exporting to the Grid: Solar panel owners can benefit from the Smart Export Guarantee (SEG) scheme. This requires electricity suppliers to pay their customers for any electricity generated from renewable sources which they export into the grid. Table 48 shows some indicative prices from 2020.

Table 48 - SEG prices for UK energy suppliers, 2020.

Energy Supplier	SEG price (p/kWh)
E.ON / Npower	3-5.5
Octopus	5.5
EDF	3.5
SSE	3.5
OVO	4
British Gas	1.5
Bulb	5.38

Battery Storage

At times of high generation and low demand for renewable energy sources, integrated energy storage can allow a site to be energy self-sufficient by capturing the electricity when it is readily available and saving it for a time when it is useful.

While the use of an energy storage system can reduce your fuel bills and carbon emissions, the savings are dependent on the system installed and how it is used. Most energy storage systems offer smart operations, allowing you to keep track of your energy use online and to decide when to charge your storage unit and when to draw power from it.

Energy storage systems manufactured using lithium-ion batteries are the best on the market, offering fast charging and high capacity. The cost of such a system generally ranges from £200,000 to £600,000, depending on variables such as the capacity of the battery, material, lifespan, and installation process.

Capacity: the market standard battery size ranges from 1-13MWh. A battery's 'useable capacity' is the percentage of a battery's energy that can be used before having to recharge, otherwise it can be damaged. It is thus less than the 'total capacity'.

Power: the higher a battery's power rating, the more devices it can power. A high-capacity battery with a low power rating will store a lot of energy but will not be able to discharge it at a high rate. A standard battery's power rating typically ranges from 2-5kW.

Depth of Discharge: if a battery's full capacity is continually used before recharging, its total capacity will be reduced over time. A battery's depth of discharge dictates how much of the battery's capacity should be used before recharging. Most modern lithium-ion batteries come with a depth of discharge of 90-95%.

Warranty: every battery comes with a guaranteed number of 'cycles', with one 'cycle' being one complete discharge and one complete recharge. Most operations use about 50% of the battery capacity before charging it back up to 100%; this would count as half a cycle. Every battery also comes with a product warranty, which is usually 10 years.

15.2 Natural Gas Refuelling Infrastructure

Natural gas refuelling can take place either on-site at depots (with an installed refuelling station), or at a commercial natural gas station. Natural gas refuelling typically occurs at either a gas grid connected CNG station or by using a station that is supplied by CNG / LNG delivered by road tanker.

All major station suppliers now offer biomethane certified under the Renewable Transport Fuel Obligation (RTFO) scheme. This ensures that the fuel is produced from renewable sources and allows reporting of the CO₂ savings by the transport operator (the fuel dispensed into the vehicle is balanced with biomethane injected into the grid elsewhere). Any additional cost due to this certification is included in the gas price used during the fleet review (historically 3 p/kg).

Additional details about natural gas stations, including current UK availability, can be found on the Gas Vehicle Hub²³, managed by Cenex.

Gas Grid Connected Stations (CNG Only)

Natural gas is extracted from the gas grid and conditioned before being compressed into storage tanks. Grid connected stations are cost effective for delivering large volumes of CNG, but the suitability of the connection depends on the pressure and distance from the network.

- Higher pressure = lower compression costs but potentially greater distance (e.g. higher connection costs)

CNG is dispensed at 200 bar or 250 bar using an NGV1 (cars and some LCVs) or NGV2 (HGV) connector. Refuelling is convenient, safe and takes a similar amount of time to a diesel vehicle at a fast fill station (in comparison to a plug-in electric vehicle). Slow fill stations, which compress gas directly into the vehicle tanks, can be suitable for some applications.

Figure 27 shows the typical configuration of a CNG station.



Figure 27 - Typical CNG Station Configuration (Source: US Environmental Protection Agency, Image: CNG Fuels Station, Warrington)

Mother and Daughter Arrangement

A ‘mother and daughter’ station arrangement can be used when a gas grid connection is not feasible, or additional flexibility is required, or for fleets with low natural gas usage. In this arrangement the daughter

²³ <https://gasvehiclehub.org/>

station is supplied by CNG using a tanker or consists of a CNG tube trailer, coupled to a dispenser. The mother station, often grid connected, supplies CNG as and when required.

LNG Stations

LNG is not available via a grid connection, instead LNG is delivered to stations by tanker from LNG terminals such as the Isle of Grain. LNG stations consist of low-pressure cryogenic storage tanks and a fuel dispenser. LNG can be dispensed with the aid of a cryogenic pump or by the pressure difference between the station and vehicle storage tanks.

LNG stations may suffer from very slow fuel loss as heat ‘boils off’ the stored LNG and increases pressure in the storage tank. As such, modern stations have vent capture systems to prevent leakage. Stations are designed to ensure an optimal storage capacity that allows for regular LNG deliveries to maintain a low temperature in the storage tank.

LNG is dispensed at 3 bar to 8 bar using an JC Carter or Mactrotech connectors.

Figure 28 shows the typical configuration of an LNG station.

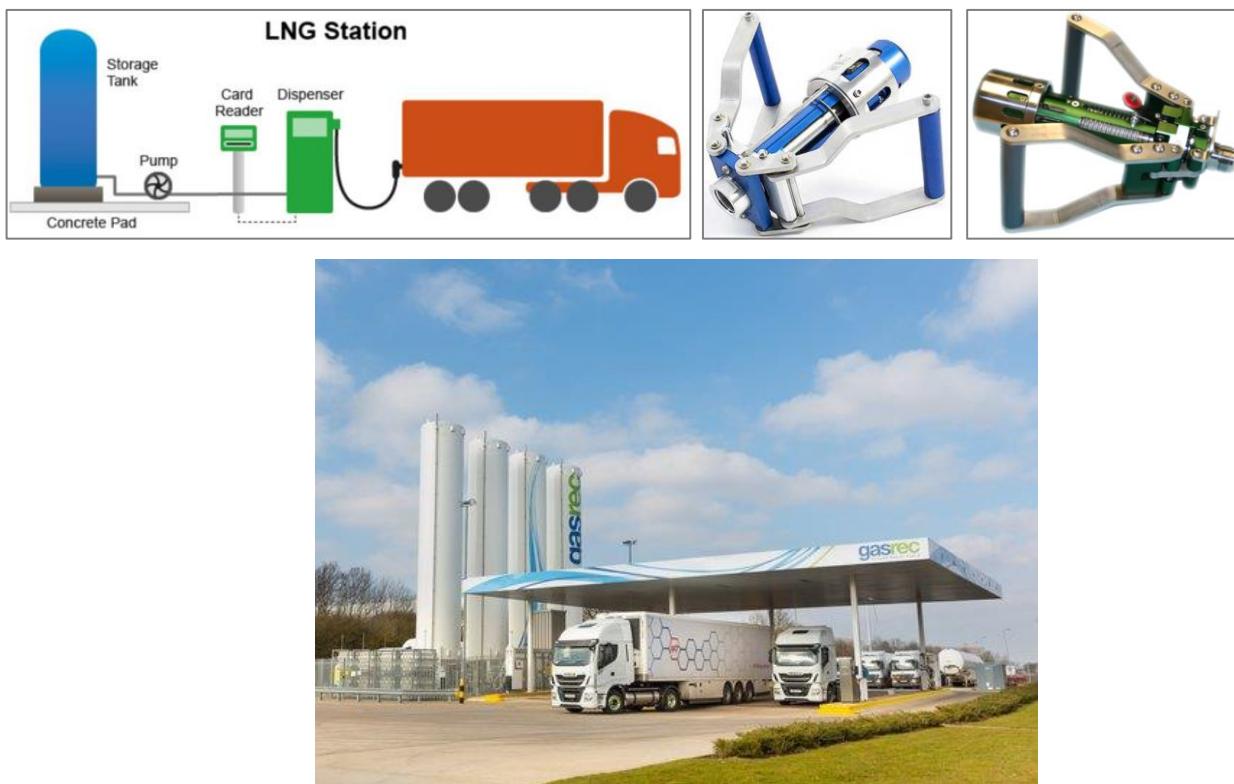


Figure 28 – Typical LNG Station Configuration (Source: US Environmental Protection Agency, Image: Gasrec Station, Daventry International Rail Freight Terminal)

Access Arrangements

There are currently ~11 public access natural gas stations in the UK (CNG and LNG), these stations are typically openly accessible, available 24/7 and require either an account with the station operator or provide payment via a key fob.

All other stations have some form of access restrictions. Stations located on customer depot sites typically require third parties to make prior arrangements to access these facilities.

Options for Funding Depot Based Natural Gas Stations

There are two options for funding depot based natural gas stations:

1. **A gas station supplier installs and operates the refuelling station.** This reduces capital outlay and risk, but a marginally higher price is paid per kilo dispensed. Contracts include agreed prices for fuel and maintenance, helping fleets forecast ongoing expenditure.

- a) Station suppliers rely on demand for an acceptable business case: an indicative cost for grid connected public CNG station = >£1.95m with a minimum viable natural gas demand of ~900 kg per day
 - b) Gas price = fuel duty + wholesale gas price (variable) + station CAPEX + station OPEX + profit
2. **The fleet pays for and operates the station.** This provides the cheapest cost per kilo gas dispensed but requires substantial upfront capital and the fleet takes on the risk of making the station viable.

As previously discussed, vehicle total cost of ownership relies heavily on the provision of low-cost gas. Advantageous fuel duty of 24.7 p/kg until 2032, compared to 57.95 p/litre for diesel, provides some stability in fuel price.

Natural Gas Station Installation Process

To install depot based natural gas stations, fleets need to first assess the following:

- The distance from the refuelling station to the national gas grid – this will have a significant impact on installation costs. CNG station providers can carry out the necessary site survey.
- The number of vehicles to be refuelled and the time of day they will use the station. This will determine the number of dispensers required and the required refuelling speed.
- Availability of space for storage tanks, compression systems and dispensers.
- The distance from the refuelling station to a suitable electricity connection, as this will also influence the cost of the installation.

Table 49 shows the key processes and timescales involved in station delivery as reported by Element Energy.

Table 49 - Natural Gas Station Installation Process

	Process	Tasks	Timeline
Site Concept	Establish demand	Engage with local fleets to assess appetite for a shared station	↓
↓	Identify suppliers	Tender for suppliers, define contract for equipment and gas supply	6 months
	Identify site	Identify potential locations and arrange site surveys	↓
	Site design	Security arrangements, layout drawings, design work (for civils and station), safety assessment	
	Planning and consent	Submit planning application	10 months
	Site preparation and civil works	Carry out civil works (electrics, pipework, firewalls)	↓
	Installation and commissioning	Installation, testing and commissioning	
Site Operation	Operation and maintenance	Day to day station operation, servicing and maintenance	18 months

15.3 Biodiesel Fuel Use and Storage Considerations

Vehicle Operational Considerations

Biodiesel has a lower energy content than diesel (~8%) resulting in slightly higher fuel consumption at higher blends.

Biodiesel requires more fuel management than regular diesel. It absorbs more water than diesel and can be susceptible to microbial growth, additives are added to fuel tanks to prevent fuel filter blockages. Manufacturers also recommend increased fuel filter and oil inspections.

Biodiesel can gel or wax at cold temperatures. Depending on the feedstock, B100 can start to be affected at temperatures as high as 10°C. Low temperature waxing can be controlled and eliminated through interventions such as fuel additives, feedstock control and varying seasonal blends.

Biodiesel Infrastructure Considerations

Although the basic components used for refuelling high blend biodiesel are the same as diesel there are several operational changes that must be considered in infrastructure design and maintenance before use. The specific properties of the fuel that result in increased infrastructure and fuel management considerations are as follows:

- Long term storage stability / oxidation – fuel quality can degrade over a period of months resulting in increased acidity, increased viscosity and the formation of deposits in filters.
- Microbial contamination – bacteria can grow if water accumulates, draining of tanks and use of biocides may be required to avoid formation of ‘sludge’.
- Cleaning / solvent effect – methyl esters in biodiesel have a cleaning effect which can flush any existing deposits in the fuel system after transitioning from diesel to biodiesel.
- Materials compatibility – biodiesel can degrade certain materials used for hoses and gaskets.
- Low temperature operability – biodiesel may freeze or gel at typical winter temperatures, this can lead to poor flow properties and even difficulties pumping from the fuel tank. Low temperature flow additives, lower blends or heated fuel systems may be required in some climates.

Additional fuel management to address these challenges is often required, Shell provides the following ‘housekeeping’ guidance to its customers using B100 and blends above 10%:

- Is the construction material of your tanks, fuel lines, hoses and seals suitable?
- Is your system able to store biodiesel at the required temperature?
 - Follow the temperature requirements for storage.
- Is your system clean and dry and have you removed excess deposits?
 - Drain water from tanks regularly (dependant on turnover at your site). Recording of water content, quantity of water drained, and any abnormal observations will help to monitor the effectiveness of the housekeeping.
 - Check your filters periodically.
 - Consider stability checks if biodiesel is stored for longer periods.
 - Consider testing for microbial contamination at certain occasions.

Biodiesel Fuel Costs

High volumes of biodiesel are required to guarantee economic delivery. Fuel suppliers typically require a minimum on-site delivery of 10,000 litres and as biodiesel has a shelf of 3-4 months this equates to 30,000 to 40,000 litres a year. Additional delivery charges may also be applicable at lower volumes.

15.4 Hydrogen Refuelling Stations

The installation of a hydrogen refuelling station (HRS) typically involves a number steps, some of which are dependent on preceding activities, whereas others may be undertaken in parallel.

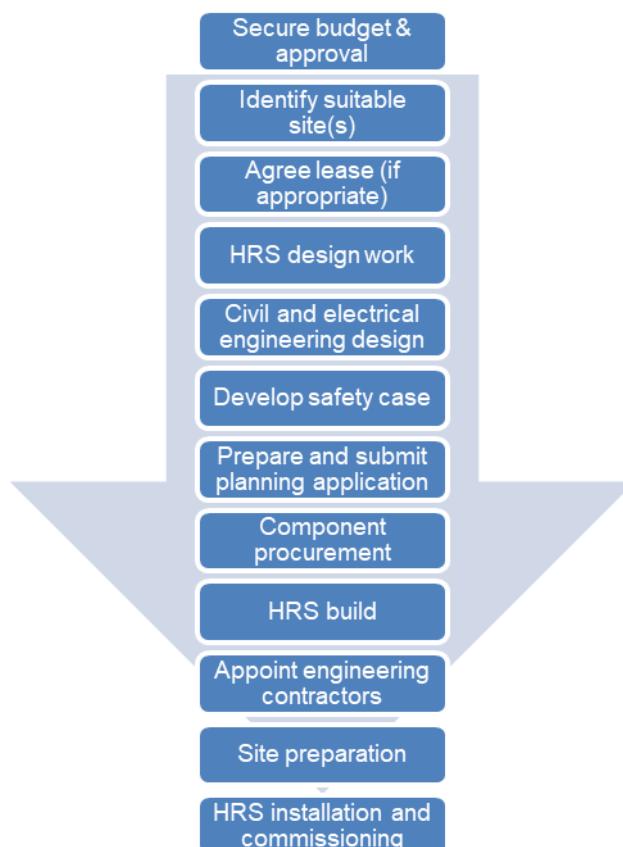
Given the low number of HRS in the UK today, it is difficult to characterise the installation process in terms of a typical installation time. However, experience from several pre-commercial demonstration projects suggests that a period of eighteen months or more from project start to station commissioning is not unusual.

Most HRS installed to date in the UK have been through projects with an element of public funding. Given the poor business case for HRS during the early years of FCEV commercialisation, it is likely that some form of support will continue to be required for a number of years.

Budgeting therefore involves establishing a breakdown of the total costs (capex and opex), securing grant funding as necessary, and agreeing a budget allocation between partners.

Challenges in this process include determining costs (until a site is selected and detailed design work completed it can be difficult to assess the total installation costs), and uncertainty over future demands for hydrogen (which affects revenues and the overall business case for investment).

The figure below shows a typical HRS design, development and installation process.



The technical design of hydrogen refuelling stations is becoming increasingly standardised. Most HRS are based on a modular arrangement, with three principal elements:

- The main skid, housing any on-site production equipment, the hydrogen compressor, control equipment, and a small amount of high-pressure storage.
- Bulk hydrogen storage – bottles / tubes / vertical tanks. Bottles of compressed hydrogen offer insufficient storage capacity for most HRS. Vertical tanks around 20m high are being installed in a number of HRS in Germany. These are preferred over tubes when space is at a premium as they offer a lower footprint solution.
- Hydrogen dispenser (which may include pre-cooling equipment depending on distance from the main skid). This is generally the only part of the station that is publicly accessible.

Costs for HRS installations are difficult to calculate as they depend on many factors, as outlined previously.

Most HRS installations are part funded through government grants, due to the high cost and risks associated with the deployment. As an example, Logan Energy has been chosen as the partner to supply two publicly accessible hydrogen refuelling stations in Teesside, as part of a £2.25m project. The initial four-year contract is part of a government project, funded by the Office for Low Emission Vehicles' (OLEV) Hydrogen for Transport Fund, which aims to deliver five new hydrogen refuelling stations across the UK.

15.5 Example Infrastructure Costs

To put the vehicle total cost of ownership and energy demand results in context, this subsection provides a summary of typical costs for permanent depot based refuelling infrastructure and electric vehicle charging infrastructure.

This is based on publicly available reports supplemented by previous Cenex studies.

Table 50, Table 51 and Table 52 show example infrastructure costs for compressed natural gas, hydrogen and electric vehicle charging, respectively.

Table 50 - Example Infrastructure Costs; Compressed Natural Gas Stations

Source	Description
<u>City of Bradford Metropolitan District Council (2020)</u>	<ul style="list-style-type: none"> • Council owned Household Waste Recycling Facility. • 77 HGVs including RCVs (+ 3rd party access to improve business case, also considering mother and daughter station arrangements). • Estimated CNG station cost = £1.6m to £1.8m. • Gas grid connection = £0.5m. • 500 kVA power supply = £0.25m (contingency). • Total additional capital (including vehicles, site prep etc.) = £5.5m • Funding = £0.77m loan, fuel cost savings = £2.3m by 2027, royalties at 5p / kg = £1.4m by 2027, other = £0.025m
<u>Cenex (2020)</u>	<ul style="list-style-type: none"> • Private depot based CNG station (10,000 kg capacity) • Estimated CNG station cost = £0.51m (approx. costs for compressors, dispensers, civils and other installation costs). • Estimated CNG price = £0.91 / kg at 1,000 kg a day and £0.79 / kg at 2,500 a day (including base fuel cost, capital payback over ten years, operating costs, fuel duty, excludes operator profit).
<u>Element Energy (2015)</u> <u>Transport & Travel Research (2011)</u>	<ul style="list-style-type: none"> • CNG station (5,000 kg capacity). • Estimated CNG station cost = £0.47m. • Estimated CNG price = £0.69 / kg at 5,000 kg a day.

Table 51 - Example Infrastructure Costs; Hydrogen Refuelling Stations

Source	Description
<u>Department of Energy (2020)</u>	<ul style="list-style-type: none"> • Capital equipment cost estimates for 111 grant funding proposals submitted to the California Energy Commission. • 700-bar fuelling capability for passenger and light commercial vehicles, stations supplied by tube trailers or liquid hydrogen tanks. • Median capacity = 1,500 kg / day. • Median capital cost = \$1.9m (£1.34m).
<u>Logan Energy (2020)</u>	<ul style="list-style-type: none"> • £2.25m contract to supply two publicly accessible hydrogen refuelling stations for cars and vans in Teesside. • £1.3m funding from the Hydrogen for Transport Programme.
<u>Element Energy (2015)</u>	<ul style="list-style-type: none"> • Hydrogen refuelling station cost (1,000 kg / day) = £1.3m (2025)

Table 52 - Example Infrastructure Costs; Electric Vehicle Charging

Source	Description
<u>Cenex (2021)</u> <u>UK EVSE</u>	<ul style="list-style-type: none">• 22 kW AC chargepoints = £0.33m (ground mounted, dual output including typical installation costs).• 50 kW DC chargepoints = >£1.8m (ground mounted, single output including typical installation costs). Not recommended.• Grid power supply upgrade = £0.05m to £0.5m but can be higher.• Excludes annual operating costs such as back office / control systems and maintenance.

16. Appendix I – Grant Funding Options

Low Emission Vehicle Plug-in Grant

A discount on the purchase cost of a brand new low-emission vehicle is available through the government's plug-in grant scheme. The grant is applied by the dealer and is included in the purchase cost of the vehicle. The grant amount depends on the category of the recipient vehicle. Only vehicles that have been approved by the government are eligible, even if the vehicle otherwise meets the emissions criteria.

Category	CO ₂ emissions limit (g/km)	Zero emission distance (miles)	Percentage of purchase paid by grant	Maximum grant value
Cars	50	70	35%	£2,500
Vans (<2.5t GVW)	50	60	35%	£3,000
Vans (2.5 – 3.5t GVW)	50	60	35%	£6,000
Small Trucks (>3.5 – 12t GVW)		60	20%	£16,000
Large Trucks (>12t GVW)		60	20%	£25,000

Notes (Truck Grants):

- Grants for Small Trucks are available for the first 250 orders placed per financial year and are limited to 10 per customer.
- Grants for Large Trucks are available for the first 100 orders placed per financial year and are limited to 5 per customer.

Electric Vehicle Charging Infrastructure Grants

There are three UK Government schemes that provide financial support to assist with the installation of electric vehicle charge points. Depending on the exact use case of each vehicle, different schemes may be most appropriate.

Grant Scheme	Details
Workplace Charging Scheme (WCS)	<ul style="list-style-type: none"> Voucher-based scheme that provides support towards up-front costs of the purchase and installation of chargepoints at workplaces. Covers 75% of costs up to a maximum of £350 for each socket for up to 40 sockets across all sites. Authorised installer claims voucher from the Office for Low Emission Vehicles (OLEV) following installation.
Electric Vehicle Homecharge Scheme (EVHS)	<ul style="list-style-type: none"> Aimed at private plug-in vehicle owners (registered keeper, lessee or have primary use of the vehicle) to their home. 75% grant funding contribution towards the cost of one chargepoint and its installation up to a maximum of £350. Includes "Individuals who are named by their employer as the primary user of an eligible vehicle for at least six months".
On-Street Residential Chargepoint Scheme (ORCS)	<ul style="list-style-type: none"> Grant funding for local authorities towards the cost of installing on-street residential chargepoints. Grant set at £6,500 funding per chargepoint. "The location(s) will meet current or anticipated future demand".

Workplace Charging Scheme (WCS)

Any business, charity or public authority is eligible to claim this grant towards the cost of installing EV chargepoints provided they have dedicated off-street parking for staff or fleet use only.

Electric Vehicle Homecharge Scheme (EVHS)

The scheme allows for third party contributions so the cost of charger and installation at an employee's home can be covered by the employer in this way.

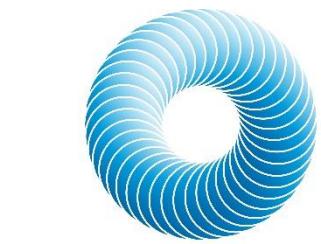
The installation address must have designated private off-street parking which is suitable for chargepoint installation. If an individual moves to a new address, they must contact the DVLA to notify them. They can request permission to take their chargepoint with them but OLEV will not contribute to the costs of moving the chargepoint to a new address.

Benefit in Kind Tax Considerations

For BEVs newly registered after April 2020, company cars for personal use will pay no Benefit in Kind (BIK) tax. The tax rate will rise to 1% in April 2021, then to 2% in April 2022, until in 2023 the BIK tax rates are realigned. This means that for the next three years significant tax savings are available from the use of a pure-electric company vehicle.

Additionally, according to the Income Tax Earnings and Pensions Act 2003 s149(4), electricity is not treated as a transport fuel. As a result, no benefit in kind tax arises if an employer:

- Pays to charge a pure-electric company vehicle.
- Pays for a chargepoint to be installed at the employee's home to charge the company vehicle.
- Pays for a charge card to allow individuals access to commercial or local authority charging points.



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Cenex
Holywell Building,
Holywell Park,
Ashby Road,
Loughborough,
Leicestershire,
LE11 3UZ

Tel: +44 (0)1509 642 500
Email: info@cenex.co.uk
Website: www.cenex.co.uk
Twitter: @CenexLCFC
LinkedIn: Cenex



Lowering your emissions
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PROJECT **REPORT**

Specialist Fleet Review

North West Leicestershire
District Council

August 2021

Prepared for:

Claire Preston
Waste Services Team Manager
North West Leicestershire District Council

Claire.Preston@nwleicestershire.gov.uk
Tel: 01530 454663

Prepared by:

Robert Anderson
Senior Fleet Specialist
Cenex

Approved by:

Steve Carroll
Head of Transport
Cenex

Company Details

Cenex
Holywell Building
Holywell Park
Ashby Road
Loughborough
Leicestershire
LE11 3UZ

Registered in England No. 5371158

Tel: 01509 642 500
Email: info@cenex.co.uk
Website: www.cenex.co.uk

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Document Revisions

No.	Details	Date
1	Initial release, for Cenex Review	16/06/2021
2	Peer reviewed copy for release	24/06/2021
3	Final release	06/08/2021

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Abbreviations

BEV	Battery Electric Vehicle
CH ₄	Methane
CI	Compression Ignition
CNG	Compressed Natural Gas
CO ₂	Carbon Dioxide
CO _{2e}	Carbon Dioxide Equivalent
DF	Dual Fuel
DNO	Distribution Network Operator
FAME	Fatty Acid Methyl Ester
FC REEV	Fuel Cell Range Extended Electric Vehicle
FCEV	Fuel Cell Electric Vehicle
GVW	Gross Vehicle Weight
GWP	Global Warming Potential
HGV	Heavy Goods Vehicle
HRS	Hydrogen Refuelling Station
HVO	Hydrotreated Vegetable Oil
ICE	Internal Combustion Engine
LCV	Light Commercial Vehicle
LEV	Low Emission Vehicle
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
MPV	Multi-Purpose Vehicle
N ₂ O	Nitrous Oxide
NO	Nitric Oxide
NO ₂	Nitrogen Dioxide
NOx	Oxides of Nitrogen
PHEV	Plug-in Hybrid Electric Vehicle
PM	Particulate Matter
PTO	Power Take-Off
RCV	Refuse Collection Vehicle
REEV	Range Extended Electric Vehicle
RRV	Resource Recovery Vehicle
RTFO	Renewable Transport Fuel Obligation
SI	Spark Ignition
TCO	Total Cost of Ownership
TTW	Tank-to-Wheel
ULEV	Ultra-Low Emission Vehicle
WTW	Well-to-Wheel
ZEV	Zero Tailpipe Emission Vehicle

1. Executive Summary

Low emission options for specialist equipment and plant are at a lower level of product maturity and availability than those used in road vehicles. Therefore, the evaluation of specialist fleet options within North West Leicestershire District Council (NWLDCC) and the resulting implementation strategy and recommendations in this report have been undertaken at higher level than that used for other operational road vehicles.

The focus of this high level review was aimed at mobile specialist fleet items; hand tools and similar items were deemed out of scope.

Methodology

This specialist fleet review is based on relevant operational data supplied by NWLDCC supplemented by supplier interviews. The review was delivered through the following steps which commenced upon receipt of initial fleet data following a project initiation meeting delivered via a web conference.

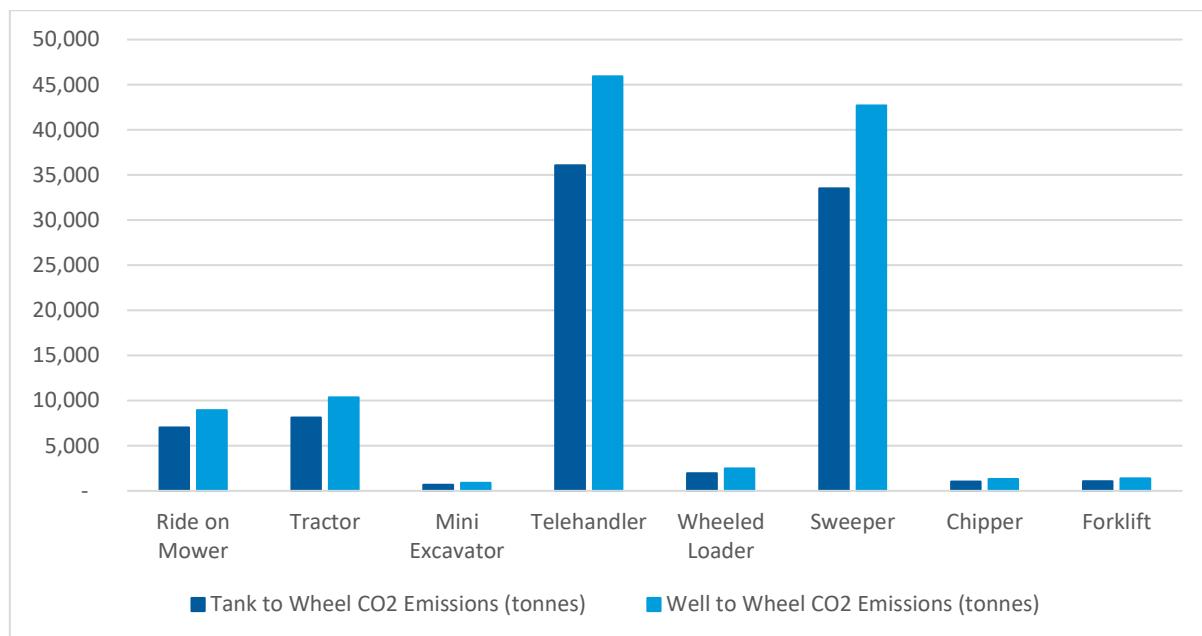
- Summary of Current Specialist Fleet: using the data provided, Cenex segregated the list into key groups, with each group baselined to show the current position including the number of units, fuel consumption, and carbon emissions.
- Low Emission Technology Options: The currently available (2021) lower carbon technology options are then reviewed for each identified equipment group commenting on the effect of the alternative options on product fit, emissions, operability, ease of refuelling, and cost. Other alternatively fuelled lower carbon technology options, expected to be available in 2030, are examined based on technology trends and development road maps.
- Recommended Replacement Technologies: based on the outcomes of the Technology Options review, recommendations are presented identifying those options that could be implemented into the NWLDCC specialist fleet through trials to establish capability and performance of alternative options in 2021.

Summary of Current Plant Equipment

There are 20 specialist fleet vehicles on the NWLDCC fleet, dominated by Mowers, Sweepers, Telehandlers and Tractors. The specialist fleet operates primarily on diesel, with fuel consumption data provided on a per vehicle basis where available, outlined in the table below.

	Number	Fuel Consumption (litres/ annum)
Ride on Mower	6	3,234
Tractor	3	3,748
Mini Excavator	1	318
Telehandler	3	16,632
Wheeled Loader	1	895
Sweeper	4	15,454
Chipper	1	470
Forklift	1	500
Total	20	41,251

The annual carbon dioxide emissions associated with specialist fleet operations have been derived using the 2020 UK Government GHG Conversion Factors for Company Reporting. Based on these calculations, the NWLDCC emits some 91 tonnes of Tank to Wheel (TTW) and 117 tonnes of Well to Wheel (WTW) CO₂ emissions. The figure below illustrates the annual WTW CO₂ emissions associated with each specialist fleet category; the majority of emissions are associated with the use of telehandlers and sweepers due to a combination of high usage patterns and high fuel consumption.



Recommended Options

The completed Low Emission Technology Options review has indicated that biodiesel, hydrotreated vegetable oil (HVO), electric and alternative hydrocarbon fuels such as compressed natural gas (CNG) and biomethane (bio-CNG) have some applicability across the identified groups of specialist fleet vehicles.

However, both biodiesel and CNG/ bio-CNG are likely to experience increased costs in terms of capital and operational expenditure. These alternative options have therefore not been recommended for further investigation. In terms of HVO, while there is an operating expenditure increase compared to diesel this is expected to be outweighed by the emission reduction, and operational benefits of this fuel coupled with no impact on capital expenditure. While electric is significantly more expensive, in terms of capital expenditure, than the equivalent diesel variant, with some operational changes required, these should be outweighed by the emission reduction, and operational expenditure benefits of this technology.

It is therefore recommended that NWLDC further investigate the options to trial electric variants of the following specialist fleet equipment:

- Ride on Mowers
- Tractors
- Telehandlers
- Compact & Truck Mounted Sweepers

Where electric variants prove incompatible with existing working practices within NWLDC the use of HVO is recommended as an alternative.

However, prior to the wider deployment of low emission alternatives, it is recommended that NWLDC undertake a more detailed investigation into the operational, environmental, and economic impacts of those options highlighted. This would include the development of appropriate total cost of ownership (TCO) models similar to those generated through the main operational fleet review. In addition, such deployments need to take into consideration the outcomes of the operational fleet review in terms of charging and refuelling infrastructure provision to ensure that vehicles can maintain their operational duties.

It is further recommended that NWLDC remain attentive to relevant innovation demonstration opportunities from funded research and development programmes, for example through Innovate UK or the Advanced Propulsion Centre.

2. Specialist Fleet Review

Low emission options for specialist equipment and plant are at a lower level of product maturity and availability than those used in road vehicles. Therefore, the evaluation of specialist fleet options within North West Leicestershire District Council (NWLDC) and the resulting implementation strategy and recommendations in this report have been undertaken at higher level than that used for other operational road vehicles.

The focus of this high level review was aimed at mobile specialist fleet items; hand tools and similar items were deemed out of scope.

It should be recognised that in the Budget 2020, the UK Government announced that it will remove the entitlement to use duty discounted 'red' diesel from non-agricultural NRMM in April 2022, therefore the NWLDC specialist equipment fleet will be required to transition to standard road diesel at a duty rate of 57.95ppl compared to the current 11.14ppl for red diesel.

2.1 Methodology

This specialist fleet review is based on relevant operational data supplied by NWLDC supplemented by supplier interviews. The review was delivered through the following steps which commenced upon receipt of initial fleet data following a project initiation meeting delivered via a web conference.

- Summary of Current Specialist Fleet: using the data provided, Cenex segregated the list into key groups, with each group baselined to show the current position including the number of units, fuel consumption, and carbon emissions. Where fuel consumption data was not available estimated fuel consumption and associated emission factors have been applied.
- Low Emission Technology Options: The currently available (2021) lower carbon technology options are then reviewed for each identified equipment group commenting on the effect of the alternative options on product fit, emissions, operability, ease of refuelling, and cost. Other alternatively fuelled lower carbon technology options, expected to be available in 2030, are examined based on technology trends and development road maps.
- Recommended Replacement Technologies: based on the outcomes of the Technology Options review, recommendations are presented identifying those options that could be implemented into the NWLDC specialist fleet through trials to establish capability and performance of alternative options in 2021.

2.2 Equipment Baselineing

The baselining process allows the usage, fuel consumption, emissions, and operating patterns to be understood before the low emission vehicle technology assessment takes place. The baselining process also allowed for the identification of those items of equipment that were the highest carbon emitters, and therefore the focus of the alternative technology review.

There are 20 pieces of specialist fleet vehicles on the NWLDC fleet as highlighted in Table 1; these have been categorised according to nearest equipment type.

Item	Number
Ride on Mower	6
Tractor	3
Mini Excavator	1
Telehandler (e.g. Yard Vehicles)	3
Wheeled Loader (e.g. Cat Loader)	1
Sweeper	4
Chipper	1
Forklift	1

Table 1 - Numbers of Specialist Equipment

It is noted that NWLDC operate a HIAB/crane, which is associated with a Tipper on the operational fleet. As the HIAB is operated via a power-take off coupling it is difficult to accurately calculate the emissions associated with its operational use. This piece of equipment has, therefore, been discounted as part of this review.

2.3 Estimated Fuel Consumption and Emissions

The NWLDC specialist fleet operates primarily on diesel, with fuel consumption data provided on a per vehicle basis where available. Where fuel consumption data was not available it was estimated based on the engine size of the equipment and similar equipment operations.

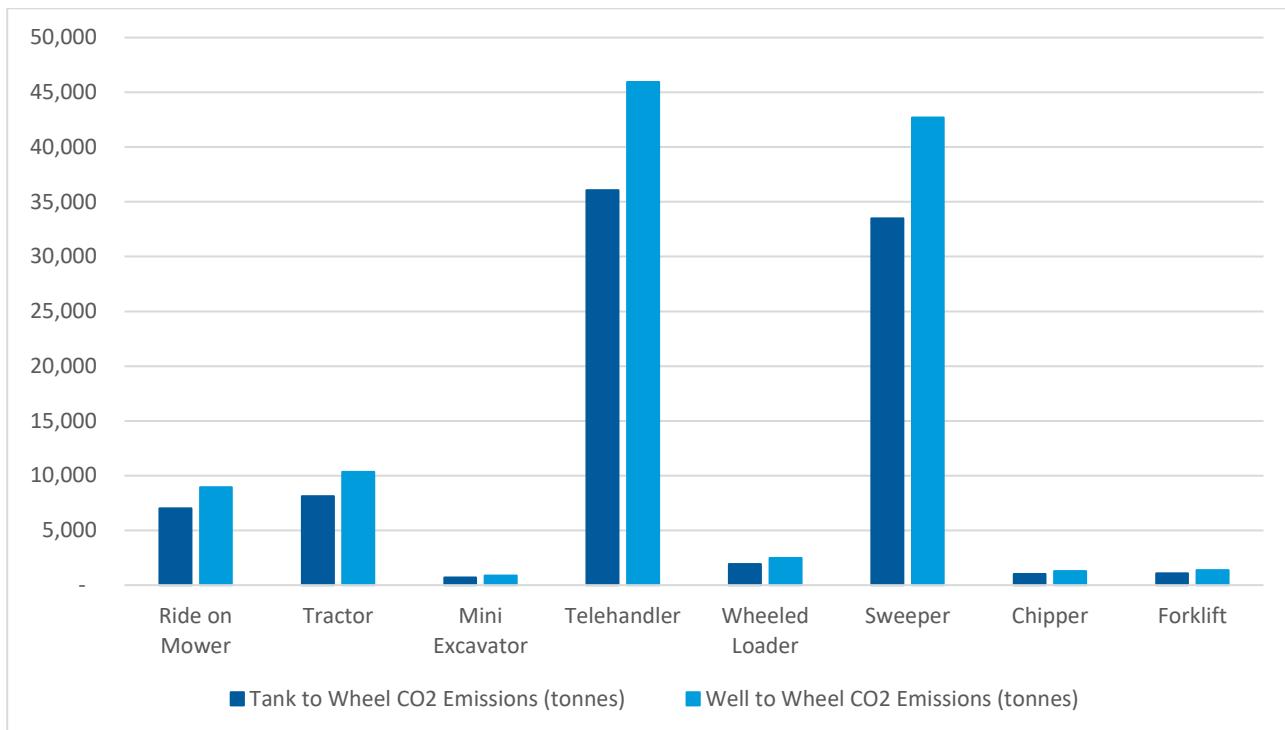
The calculated fuel consumption for the NWLDC specialist fleet is outlined in Table 2.

Table 2 - Estimated Annual Fuel Consumption

	Number	Fuel Consumption (litres/ annum)
Ride on Mower	6	3,234
Tractor	3	3,748
Mini Excavator	1	318
Telehandler	3	16,632
Wheeled Loader	1	895
Sweeper	4	15,454
Chipper	1	470
Forklift	1	500
Total	20	41,251

The annual carbon dioxide emissions associated with specialist fleet operations have been derived using the 2020 UK Government GHG Conversion Factors for Company Reporting. Based on these calculations, the NWLDC emits some 91 tonnes of Tank to Wheel (TTW) and 117 tonnes of Well to Wheel (WTW) CO₂ emissions. Sweepers and Telehandlers are the largest emitters, accounting for around 78% of fuel consumption and emissions, with Mowers and Tractors also identified as significant emitters. These four vehicle categories have been taken forward for a more detailed assessment as part of this review.

Figure 1, below illustrates the annual TTW and WTW CO₂ emissions of each specialist equipment type within the NWLDC fleet.

Figure 1 – Specialist Fleet Annual CO₂ Emissions

2.4 Regulatory Emission Standards

Emission standards for specialist equipment and plant machinery is known as Non-Road Mobile Machinery (NRMM); these standards have traditionally lagged behind road transport in terms of emission reduction. However, recent action is addressing this in part, due to legislative pressures to clean up all aspects of modern society to reach key regional, national, and global emission targets. NRMM regulations are an internationally standardised set of emission controls, with the date when a piece of plant machinery was manufactured determining which standard a given item of machinery must comply with.

At the time of writing Stage V is in effect, with Figure 2 illustrating the reduction in permitted emissions per emission stage for high power NRMM diesel engines.

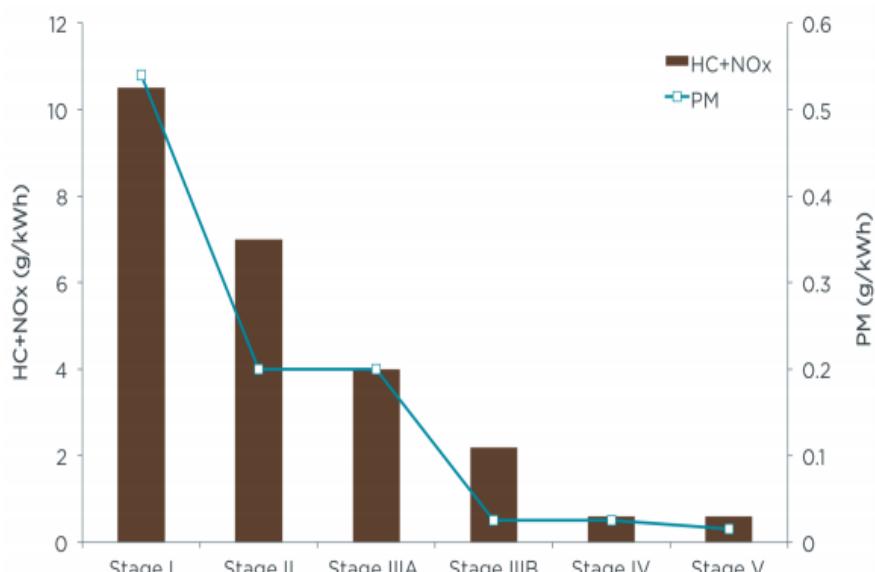


Figure 2 - NRMM Emission Reduction Standards

The latest Stage V engines offer increased fuel efficiency compared to previous emission stage compliant engines. For example, Scania Stage V engines are noted to report up to a 5% reduction in fuel costs compared to their Stage IV compliant engines. Off cycle emission control is also further controlled by Stage V regulation which has effectively mandated Diesel Particulate Filters on all but the lowest power engines.

The current NWLDC specialist fleet emission stages are shown below in Figure 3. It should be recognised that the replacement of older early-stage equipment with Stage V equipment will both reduce regulated emissions (CO, NOx, HC & PM) and is highly likely to reduce the machines CO₂ emissions.

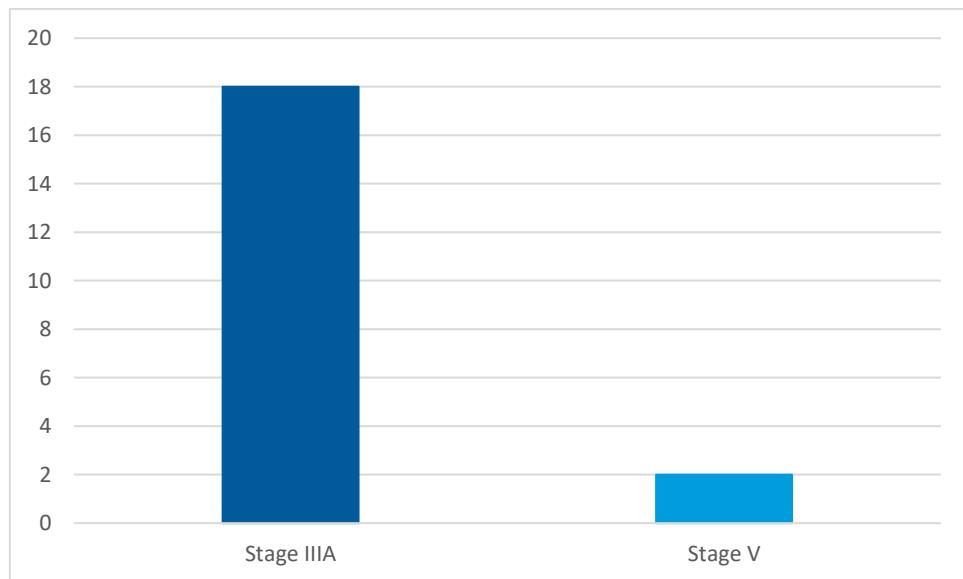


Figure 3 – NWLDC Specialist Equipment Emission Stages

2.5 Low Emission Technology Options Review

This section assesses the lower carbon alternative technologies available for each of the identified specialist equipment categories. Each category of has been assessed regarding their suitability against the following fuels/powertrain options.

- Bio & synthetic diesels (biodiesel (FAME) & hydrotreated vegetable oil (HVO))
- Diesel-electric hybrid
- Electric
- Alternative hydrocarbon (HC) fuel (e.g. CNG, Bio-CNG)
- Hydrogen

The low emission technologies review firstly presents the identified equipment category and its operational requirements. Next the review examines each of the above technology options, where the maturity of the alternative technology is assessed to focus the review on eligible options. This assessment of eligible technologies examines:

- Operational restrictions and benefits
- Range
- Refuelling/ recharging time
- Emission reduction potential
- Cost (operational and capital)

An example of this assessment, for Mowers is presented below, with assessments of the other identified specialist fleet vehicle categories outlined in Appendix A – Alternative Technology Data Tables.

Specialist Fleet Category: Mowers	
	 
No of Vehicles	4 units
Typical Operating Pattern	Seasonal, spring to autumn. Mowing of playing fields and park lands.
Technology Maturity	<ul style="list-style-type: none"> Biodiesel (FAME & HVO): Available Diesel-Electric Hybrid: Not available Electric: Available Alternative Fuel (HC): limited CO₂ benefit, some air quality improvement. Hydrogen: Not available <p>Options for detailed review: Biodiesel (FAME & HVO) and Electric.</p>
Operational Restrictions and Benefits	<ul style="list-style-type: none"> Biodiesel: FAME: Increased maintenance regime, mineral diesel fuel and engine flush required before use, fuel quality requires monitoring and managing. HVO: drop in fuel equivalent to diesel. Electric: Reduced maintenance regime, some potential performance improvements over diesel/petrol equivalent.
Range	<ul style="list-style-type: none"> Biodiesel: Like-for-like replacement (~75 miles on a 15 litre tank). Electric: Mean Green have large electric mowers with (claimed) up to 7-hour operational time.
Refuelling/ Recharging Time	<ul style="list-style-type: none"> Biodiesel: Same as diesel. Electric: 7 hours at 240v 13 amps, Mean Green (standard outlet).
Emission Reduction	<ul style="list-style-type: none"> Biodiesel: FAME: Variable depending on blend (approx. 18% WTW and 23% TTW CO₂ reduction available from B25 blend). Engine design, fuel quality and operational cycles essential in assessing total emission with biodiesel – with some authors reporting increases in emitted NOx, particulates and CO. HVO: approx. 91% WTW CO₂ reduction available. Electric: Zero TTW emissions, WTW CO₂ emissions depend on energy generation, with ~50-60% reductions based on current grid mix.
Additional Notes	<ul style="list-style-type: none"> Biodiesel: FAME: Manufacturer approaches vary depending on emission stage for example all John Deere engines can use biodiesel blends. Stage V engines operated within the European Union may use blends up to 8 percent (B8). Concentrations up to 20 percent (B20) can be used for all other John Deere engines providing the biodiesel used in the fuel blend meets European Standard (EN) 14214. HVO: May require manufacturer approval before use. Electric: Operational information suggests charging will not limit operations. Mean Green is a small manufacturer, quality and reliability should be investigated.

Specialist Fleet Type: Mowers	
Costs	<ul style="list-style-type: none"> Diesel: At the Budget 2020, the government announced that it will remove the entitlement to use red diesel from non-agricultural NRMM in April 2022 Biodiesel: FAME: Equipment Costs: For high biodiesel blend use manufacturers may require a biodiesel upgrade package to be installed, typically costing a few hundred pounds. For B100 use, the vehicles require a conversion to include a simple system for warming the fuel. Various conversions are available either at factory or retrofitted. These typically cost from £6,500 - £8,000 per vehicle but may not be available for small equipment items. Fuel Costs: Comparable to Road Diesel. Maintenance Costs: Some vehicle manufacturers suggest modified routines such as increased fuel filter and oil changes. Infrastructure Costs: Biodiesel blends up to B30 can be stored in and dispensed from existing infrastructure for diesel vehicles at no extra cost. B100 however needs to be kept at an appropriate temperature to ensure it remains liquid in the colder months. This will result in some additional energy costs. FAME has a shelf life of around 3 months so requires constant usage to ensure fuel quality is maintained. HVO: Equipment Costs: No impact on vehicle cost. Fuel Costs: Cost of fuel per litre is typically 10-15p/l higher than diesel. Maintenance Costs: Maintenance costs are identical to that of diesel vehicles. Infrastructure Costs: No specialist equipment is needed to store HVO. FAME and HVO fuel costs rely on minimum order quantities which need to be factored into any wider deployment of these fuels across the operational fleet. Electric: Equipment Costs: significantly higher than diesel. Fuel Costs: significantly lower than diesel. Maintenance Costs: Lower than that of identical diesel mowers. Infrastructure Costs: Slow charge (13A) no cost; higher charging rates will require specific infrastructure at additional cost.

A 'Traffic Light' approach was utilised to summarise the above alternative technology review. This approach rates the suitability of the identified alternative technology options in the following areas: Operational, Emissions, Capital Expenditure (CapEx) and Operational Expenditure (OpEx) in a **RED AMBER GREEN** traffic light matrix, as shown in Table 3.

Table 3 - Plant Equipment Traffic Light Criteria

Factor	Red	Amber	Green
Operational	Fails to meet operational requirements	Meets some operational requirements	Meets all operational requirements
Emissions	Higher CO ₂ emission (in comparison to Stage-V)	Reduced CO ₂ emission (in comparison to Stage-V)	Zero emissions at tailpipe
CapEx	Significantly higher plant + infrastructure CapEx	Broadly similar plant + infrastructure Capex	Potential CapEx saving (in comparison to Stage-V)
OpEx	Significantly higher operating costs	Broadly similar operating costs	Lower operating costs (in comparison to Stage-V)

Note, where the technology was not deemed eligible for the specialist equipment group or there is no information available the Cell will be shown in GREY. The summary traffic light analysis for the Mowers group is shown below in Table 4.

The assessments for the other relevant specialist fleet groups can be found in Appendix A – Alternative Technology Data Tables.

Table 4 - Traffic Light Analysis - Mowers

Fuel	Factor	Mowers
Biodiesel	Operational	Orange
	Emissions	Green
	CapEx	Red
	OpeEx	Orange
HVO	Operational	Green
	Emissions	Green
	CapEx	Green
	OpeEx	Orange
Diesel-Electric Hybrid	Operational	Grey
	Emissions	Grey
	CapEx	Grey
	OpeEx	Grey
Electric	Operational	Green
	Emissions	Green
	CapEx	Red
	OpeEx	Green
Alternative Hydrocarbon-based Fuels	Operational	Grey
	Emissions	Grey
	CapEx	Grey
	OpeEx	Grey
Hydrogen	Operational	Grey
	Emissions	Grey
	CapEx	Grey
	OpeEx	Grey

The summary traffic light analysis for all selected NWLDC specialist fleet categories is shown in Table 5 below.

Table 5 – NWLDC Specialist Fleet Summary Traffic Light Analysis

Fuel	Factor	Sweeper	Mowers	Telehandler	Tractor
Biodiesel	Operational	Orange	Orange	Orange	Orange
	Emissions	Green	Green	Green	Green
	CapEx	Red	Red	Red	Red
	OpeEx	Orange	Orange	Orange	Orange
HVO	Operational	Green	Green	Green	Green
	Emissions	Green	Green	Green	Green
	CapEx	Green	Green	Green	Green
	OpeEx	Orange	Orange	Orange	Orange
Diesel-Electric Hybrid	Operational	Grey	Grey	Grey	Grey
	Emissions	Grey	Grey	Grey	Grey
	CapEx	Grey	Grey	Grey	Grey
	OpeEx	Grey	Grey	Grey	Grey
Electric	Operational	Orange	Green	Green	Orange
	Emissions	Green	Green	Green	Green
	CapEx	Red	Red	Red	Red
	OpeEx	Green	Green	Green	Green
Alternative Hydrocarbon-based Fuels	Operational	Orange	Grey	Grey	Orange
	Emissions	Green	Grey	Grey	Green
	CapEx	Red	Grey	Grey	Red
	OpeEx	Orange	Grey	Grey	Orange
Hydrogen	Operational	Grey	Grey	Grey	Grey
	Emissions	Grey	Grey	Grey	Grey
	CapEx	Grey	Grey	Grey	Grey
	OpeEx	Grey	Grey	Grey	Grey

2.6 Recommendations

This section of the report makes recommendations based on the traffic light assessment of the alternative technologies that could be currently deployed (from 2021 onwards) for each identified specialist equipment group within the NWLDC fleet.

The traffic light review has indicated that biodiesel, HVO, electric and alternative hydrocarbon fuels (in this case CNG) have some applicability across the identified groups of specialist equipment. However, both biodiesel and CNG are likely to experience increased costs in terms of Capital expenditure (e.g. machine modification and fuel storage infrastructure) and Operational expenditure (e.g. additional maintenance requirements). These alternative options have therefore not been recommended for further investigation.

In terms of HVO, while there is an Operating Expenditure increase compared to diesel this is expected to be outweighed by the emission reduction, and operational benefits of this fuel coupled with no impact on capital expenditure.

While electric options are significantly more expensive, from a capital expenditure, than the equivalent diesel variant, with some operational changes required, these should be outweighed by the emission reduction, and operational expenditure benefits of this technology.

It is therefore recommended that NWLDC further investigate the options to trial electric variants of the following specialist fleet equipment:

- Ride on Mowers
- Tractors
- Telehandlers
- Compact & Truck Mounted Sweepers

Where electric variants prove incompatible with existing working practices within NWLDC the use of HVO is recommended as an alternative.

However, prior to the wider deployment of low emission alternatives, it is recommended that NWLDC undertake a more detailed investigation into the operational, environmental, and economic impacts of those options highlighted. This would include the development of appropriate total cost of ownership (TCO) models similar to those generated through the main operational fleet review. In addition, such deployments need to take into consideration the outcomes of the operational fleet review in terms of charging and refuelling infrastructure provision to ensure that vehicles can maintain their operational duties.

It is further recommended that NWLDC remain attentive to relevant innovation demonstration opportunities from funded research and development programmes, for example though Innovate UK or the Advanced Propulsion Centre.

Small items further analysis: It is noted the small non-wheeled plant items, such as chainsaws, were out of scope for this study. A further technology review would present the zero emission options for these small items.

2.7 Future Technologies Review

Considering the longer term, this section examines the direction of low and zero emission technology towards 2030. This will allow a procurement strategy to be identified NWLDC to adopt the relevant low and zero emission specialist fleet items as they come to market.

Figure 4 and Figure 5 below shows the Advanced Propulsion Centre Heavy Goods and Off-Highway Vehicle product technology road map. These road maps are developed by the Automotive Council Technology group, which is a collaboration between the UK Government and industry, where the road maps represent a shared vision of technology developments from UK manufacturers and suppliers and provide a consensus both to facilitate collaboration and to help inform policy making in technology support.

The relevant areas of the maps have been highlighted, from which the following can be seen:

- **Low and medium power NRMM:** Electrification is likely to be widespread, with reduced cost and increased operability. Hydrogen fuel cell technology may be available for machines requiring rapid refuelling or high levels of utilisation.
 - BEV total cost of ownership likely to be close to diesel.
 - Fuel cell total cost of ownership likely to remain above diesel (excluding infrastructure costs)
- **Medium to high power NRMM:** Some electrification likely, ICE with alternative fuels and Fuel cells for high utilisation or specific fleet operations.
 - BEV total cost of ownership likely to be above diesel.
 - Alternative HC fuels are cost effective, with local fuel supply they can be net zero in a closed loop. Infrastructure requires operational scale.
 - Fuel Cell total cost of ownership likely to remain above diesel (excluding infrastructure costs).

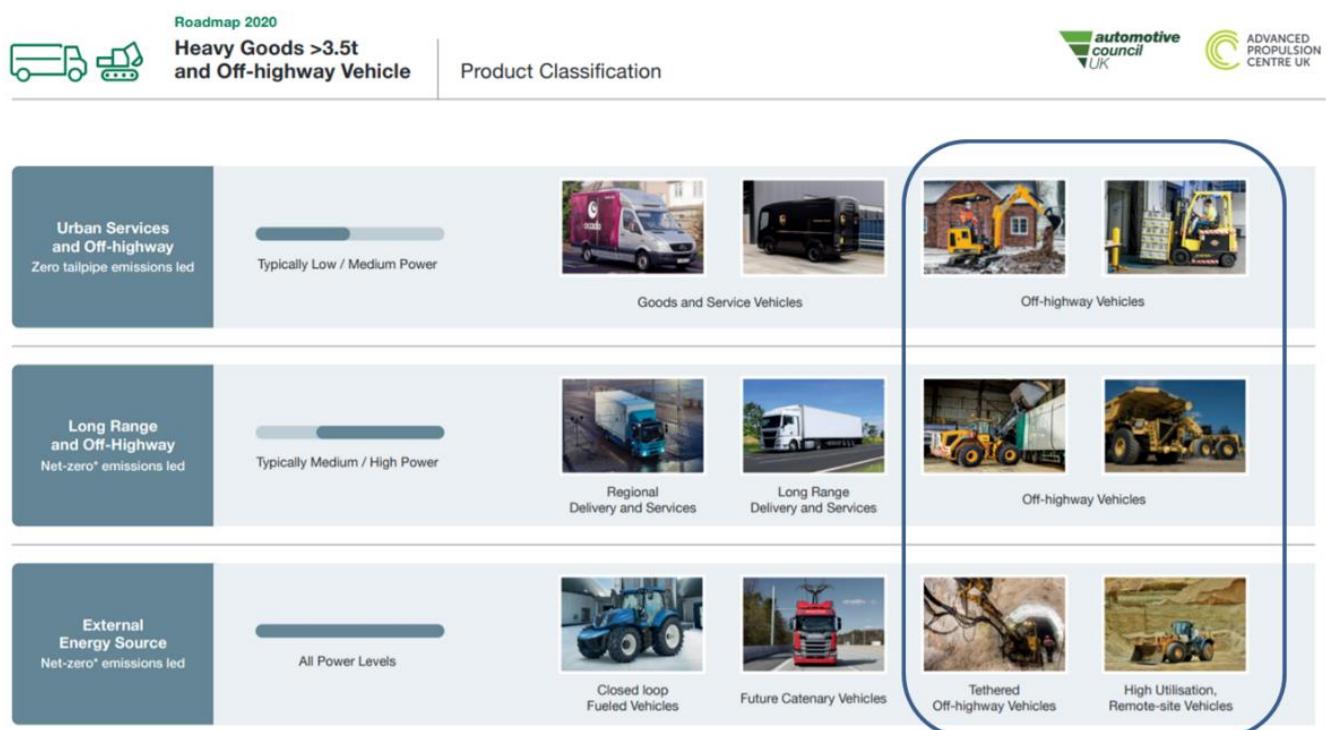


Figure 4 - APC Roadmap - Product Classification

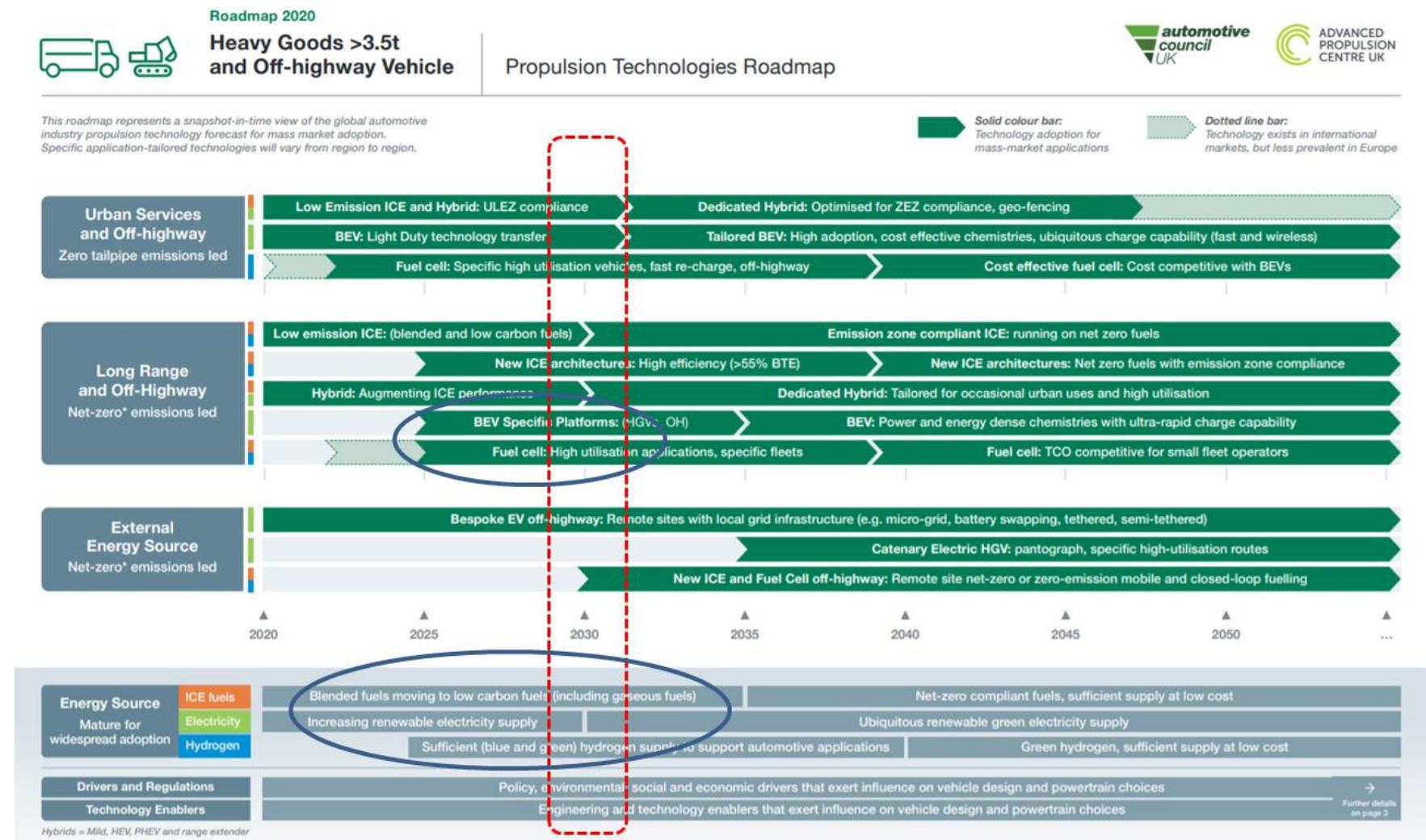


Figure 5 - APC Roadmap - Propulsion Technologies

3. Appendix A – Alternative Technology Data Tables

Specialist Fleet Category: Telehandler	
	
No of Vehicles	3 units
Typical Operating Pattern	Year round, depot loading e.g. salt loading for road spreading
Technology Maturity	<ul style="list-style-type: none"> Biodiesel (FAME & HVO): Available. Diesel-Electric Hybrid: Past product, reduced case with EV available. Electric: Available. Alternative fuel (HC): After-market CNG only. Hydrogen: Not available. <p>Options for detailed review are Biodiesel (FAME & HVO) & Electric.</p>
Operational Restrictions and Benefits	<ul style="list-style-type: none"> Biodiesel: FAME: Increased maintenance regime, mineral diesel fuel and engine flush required before use, fuel quality requires monitoring and managing. HVO: drop in fuel equivalent to diesel. Electric: Reduced maintenance and operating costs thanks to the elimination of many service points compared to diesel machines. Operational time is limited, see below.
Operating Time	<ul style="list-style-type: none"> Biodiesel: Same as diesel. Electric: JCB 525-60E Indicative run time: 8 hours, 24 kWh battery.
Refuelling/ Recharging Time	<ul style="list-style-type: none"> Biodiesel: Same as diesel. Electric: JCB 525-60E 240V 8 hours (standard outlet) or 415V rapid charge available, 60 mins for 80% (additional infrastructure required).
Emission Reduction	<ul style="list-style-type: none"> Biodiesel: FAME: Variable depending on blend (approx. 18% WTW and 23% TTW CO₂ reduction available from B25 blend). Engine design, fuel quality and operational cycles essential in assessing total emission with biodiesel – with some authors reporting increases in emitted NOx, particulates, and CO. HVO: approx. 91% WTW CO₂ reduction available. Electric: Zero TTW emissions, WTW CO₂ emissions depend on energy generation, with ~50-60% reductions based on current grid mix.
Additional Notes	<ul style="list-style-type: none"> Biodiesel: FAME: Manufacturer approaches vary depending on emission stage for example all John Deere engines can use biodiesel blends. Stage V engines operated within the European Union may use blends up to 8 percent (B8). Concentrations up to 20 percent (B20) can be used for all other John Deere engines providing the biodiesel used in the fuel blend meets European Standard (EN) 14214. HVO: May require manufacturer approval before use. Electric: JCB 525-60E used as illustration other options exist.

Specialist Fleet Category: Telehandler	
Costs	<ul style="list-style-type: none">• Diesel: At the Budget 2020, the government announced that it will remove the entitlement to use red diesel from non-agricultural NRMM in April 2022.• Biodiesel: FAME: Equipment Costs: For high biodiesel blend use manufacturers may require a biodiesel upgrade package to be installed, typically costing a few hundred pounds. For B100 use, the vehicles require a conversion to include a simple system for warming the fuel. Various conversions are available either at factory or retrofitted. These typically cost from £6,500 - £8,000 per vehicle. Fuel Costs: comparable to Road Diesel. Maintenance Costs: Some vehicle manufacturers suggest modified routines such as increased fuel filter and oil changes. Infrastructure Costs: Biodiesel blends up to B30 can be stored in and dispensed from existing infrastructure for diesel vehicles at no extra cost. B100 however needs to be kept at an appropriate temperature to ensure it remains liquid in the colder months. This will result in some additional energy costs. FAME has a shelf life of around 3 months so requires constant usage to ensure fuel quality is maintained. HVO: Equipment Costs: No impact on vehicle cost. Fuel Costs: Cost of fuel per litre is typically higher than road diesel. Maintenance Costs: Maintenance costs are identical to that of diesel vehicles. Infrastructure Costs: No specialist equipment is needed to store HVO. FAME and HVO fuel costs rely on minimum order quantities which would need to be factored into any wider deployment of these fuels across the operational fleet.• Electric: Equipment Costs: Research suggests a significant price premium JCB 525-60E ~ 60% higher than diesel equivalent. Fuel Costs: Estimated running cost for operators using an industrial electricity supply, will be around 50% lower than for diesel. Maintenance Costs: Lower than that of identical diesel telehandlers. Infrastructure Costs: Slow charge (13A) no cost; higher charging rates will require specific infrastructure at additional cost.

Fuel	Factor	Telehandler
Biodiesel	Operational	Orange
	Emissions	Green
	CapEx	Red
	OpeEx	Orange
HVO	Operational	Green
	Emissions	Green
	CapEx	Green
	OpeEx	Orange
Diesel-Electric Hybrid	Operational	Grey
	Emissions	Grey
	CapEx	Grey
	OpeEx	Grey
Electric	Operational	Green
	Emissions	Green
	CapEx	Red
	OpeEx	Green
Alternative Hydrocarbon-based Fuels	Operational	Grey
	Emissions	Grey
	CapEx	Grey
	OpeEx	Grey
Hydrogen	Operational	Grey
	Emissions	Grey
	CapEx	Grey
	OpeEx	Grey

Specialist Fleet Category: Tractor	
	
No of Vehicles	3 units
Typical Operating Pattern	Year round, large area grounds maintenance.
Technology Maturity	<ul style="list-style-type: none"> Biodiesel (FAME & HVO): Available. Diesel-Electric Hybrid: Not available. Electric: Small tractor only. Alternative Fuel (HC): Large tractor CNG. Hydrogen: R&D prototypes only. <p>Options for detailed review are Biodiesel (FAME & HVO), Electric & Alternative Fuel (HC).</p>
Operational Restrictions and Benefits	<ul style="list-style-type: none"> Biodiesel: FAME: Increased maintenance regime, mineral diesel fuel and engine flush required before use, fuel quality requires monitoring and managing. HVO: drop in fuel equivalent to diesel. Alternative Fuel (HC): CNG/Bio-CNG tractor requires a CNG/Bio-CNG refuelling station on site or within close driving range. Electric: Reduced maintenance and operating costs thanks to the elimination of many service points compared to diesel machines. Operational time is limited see below. Small tractor only, 15kw electric motor, small and light-duty work.
Operating Time	<ul style="list-style-type: none"> Biodiesel: Same as diesel. Alternative Fuel (HC): CNG/Bio-CNG tractor similar to diesel. Electric: Farmtrac FT25G electric indicative run time: 6 hours.
Refuelling/ Recharging Time	<ul style="list-style-type: none"> Biodiesel: Same as diesel. Alternative Fuel (HC): Same as diesel. Electric: Farmtrac FT25G electric 240V 5 hours (standard outlet).
Emission Reduction	<ul style="list-style-type: none"> Biodiesel: FAME: Variable depending on blend (approx. 18% WTW and 23% TTW CO₂ reduction available from B25 blend). Engine design, fuel quality and operational cycles essential in assessing total emission with biodiesel – with some authors reporting increases in emitted NOx, particulates, and CO. HVO: approx. 91% WTW CO₂ reduction available. Alternative Fuel (HC): approx. 10% WTW CO₂ reduction available from CNG; Bio-CNG CO₂ emissions depend on production route, but typically near zero. Very significant PM & NOx reduction. Electric: Zero TTW emissions, WTW CO₂ emissions depend on energy generation, with ~50-60% reductions based on current grid mix.

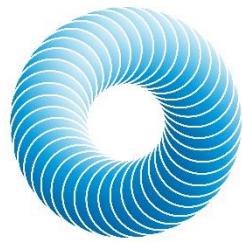
Specialist Fleet Category: Tractor	
Additional Notes	<ul style="list-style-type: none"> Biodiesel: FAME: Manufacturer approaches vary depending on emission stage for example all John Deere engines can use biodiesel blends. Stage V engines operated within the European Union may use blends up to 8 percent (B8). Concentrations up to 20% (B20) can be used for all other John Deere engines providing the biodiesel used in the fuel blend meets European Standard (EN) 14214. HVO: May require manufacturer approval before use. Alternative Fuel (HC): Large tractor, New Holland T6.180 Methane Power, used as illustration only option available. Electric: Farmtrac FT25G electric used as illustration used as illustration only option available.
Costs	<ul style="list-style-type: none"> Diesel: At the Budget 2020, the government announced that it will remove the entitlement to use red diesel from non-agricultural NRMM in April 2022 Biodiesel: FAME: Equipment Costs: For high biodiesel blend use manufacturers may require a biodiesel upgrade package to be installed, typically costing a few hundred pounds. For B100 use, the vehicles require a conversion to include a simple system for warming the fuel. Various conversions are available either at factory or retrofitted. These typically cost from £6,500 - £8,000 per vehicle. These are not likely to be available for small plant like an ATV. Fuel Costs: comparable to Road Diesel. Maintenance Costs: Some vehicle manufacturers suggest modified routines such as increased fuel filter and oil changes. Infrastructure Costs: Biodiesel blends up to B30 can be stored in and dispensed from existing infrastructure for diesel vehicles at no extra cost. B100 however needs to be kept at an appropriate temperature to ensure it remains liquid in the colder months. This will result in some additional energy costs. FAME has a shelf life of around 3 months so requires constant usage to ensure fuel quality is maintained. HVO: Equipment Costs: No impact on vehicle cost. Fuel Costs: Cost of fuel per litre is typically higher than road diesel. Maintenance Costs: Maintenance Costs are identical to that of diesel vehicles. Infrastructure Costs: No specialist equipment is needed to store HVO. FAME and HVO fuel costs rely on minimum order quantities would need to be factored into any wider deployment of these fuels across the operational fleet. Alternative Fuel (HC): Equipment Costs: Research suggests a 10% price premium. Fuel Costs: dependent on CNG/Bio-CNG prices and supply. Infrastructure Costs: Very significant (Minimum £30k), only viable if combined with other users. Electric: Equipment Costs: Research suggests a significant price premium; Farmtrac FT25G electric ~ 100% higher than diesel equivalent. Fuel Costs: Estimated running cost for operators using an industrial electricity supply, will be around 50% lower than for diesel. Maintenance Costs: Lower than that of identical diesel tractor. Infrastructure Costs: Slow charge (13A) no cost; higher charging rates will require specific infrastructure at additional cost.

Fuel	Factor	Tractor
Biodiesel	Operational	Orange
	Emissions	Green
	CapEx	Red
	OpeEx	Orange
HVO	Operational	Green
	Emissions	Green
	CapEx	Green
	OpeEx	Orange
Diesel-Electric Hybrid	Operational	Grey
	Emissions	Grey
	CapEx	Grey
	OpeEx	Grey
Electric	Operational	Orange
	Emissions	Green
	CapEx	Red
	OpeEx	Green
Alternative Hydrocarbon-based Fuels	Operational	Orange
	Emissions	Green
	CapEx	Red
	OpeEx	Orange
Hydrogen	Operational	Grey
	Emissions	Grey
	CapEx	Grey
	OpeEx	Grey

Specialist Fleet Category: Sweeper	
	
No of Vehicles	4 units
Typical Operating Pattern	Year round, inner and outer rounds.
Technology Maturity	<ul style="list-style-type: none"> Biodiesel (FAME & HVO): Available. Diesel-Electric Hybrid: Not available. Electric – Compact and truck mounted. Alternative Fuel (HC) – CNG Hydrogen – R&D prototypes only. <p>Options for review are Biodiesel (FAME & HVO), Electric & Alternative Fuel (HC).</p>
Operational Restrictions and Benefits	<ul style="list-style-type: none"> Biodiesel: FAME: Increased maintenance regime, mineral diesel fuel and engine flush required before storage, fuel quality requires monitoring and managing. HVO: drop in equivalent for diesel fuel. Alternative fuel (HC): CNG/Bio-CNG Sweeper requires a CNG/Bio-CNG refuelling station on site or within close driving range. May have reduced bin/hopper capacity depending on siting of gas tanks. Electric: Reduced maintenance and operating costs thanks to the elimination of many service points compared to diesel machines. Operational time is limited, see below. Compact (45 – 63 kWh battery) and truck mounted (up to 200 kWh battery).
Operating Time	<ul style="list-style-type: none"> Biodiesel: Same as diesel. Alternative Fuel (HC): CNG/Bio-CNG has similar operating time to diesel Electric: Bucher CityCat VS20e (45 kWh) run time of 6 hours; Bucher CityCat V20e (63 kWh) run time of 8 hours; Bucher V65e (200 kWh) available range of 200 km.
Refuelling/ Recharging Time	<ul style="list-style-type: none"> Biodiesel: Same as diesel. Alternative Fuel (HC): Similar to diesel. Electric: Dependant on battery pack; typically, 4-9 hours on 22 kW chargepoint
Emission Reduction	<ul style="list-style-type: none"> Biodiesel: FAME: Variable depending on blend (approx. 18% WTW and 23% TTW CO₂ reduction available from B25 blend). Engine design, fuel quality and operational cycles essential in assessing total emission with biodiesel – with some authors reporting increases in emitted NOx, particulates, and CO. HVO: approx. 91% WTW CO₂ reduction available. Alternative Fuel (HC): approx. 10% WTW CO₂ reduction available from CNG; Bio-CNG CO₂ emissions depend on production route, but typically near zero. Very significant PM & NOx reduction. Electric: Zero TTW emissions, WTW CO₂ emissions depend on energy generation, with ~50-60% reductions based on current grid mix.

Specialist Fleet Category: Sweeper	
Additional Notes	<ul style="list-style-type: none"> Biodiesel: FAME: Manufacturer approaches vary depending on emission stage. Typically Stage V engines operated within the European Union may use blends up to 8 percent (B8), with concentrations up to 20 percent (B20) used providing the biodiesel used in the fuel blend meets European Standard (EN) 14214. Alternative Fuel (HC): Dulevo 6000 CNG used as illustration only, other option are available. Electric: Bucher electric variants used as illustration only, other options are available.
Costs	<ul style="list-style-type: none"> Diesel: At the Budget 2020, the government announced that it will remove the entitlement to use red diesel from non-agricultural NRMM in April 2022 Biodiesel: FAME: Equipment Costs: For high biodiesel blend use manufacturers may require a biodiesel upgrade package to be installed, typically costing a few hundred pounds. For B100 use, the vehicles require a conversion to include a simple system for warming the fuel. Various conversions are available either at factory or retrofitted. These typically cost from £6,500 - £8,000 per vehicle. Fuel Costs: comparable to Road Diesel. Maintenance Costs: Some vehicle manufacturers suggest modified routines such as increased fuel filter and oil changes. Infrastructure Costs: Biodiesel blends up to B30 can be stored in and dispensed from existing infrastructure for diesel vehicles at no extra cost. B100 however needs to be kept at an appropriate temperature to ensure it remains liquid in the colder months. This will result in some additional energy costs. FAME has a shelf life of around 3 months so requires constant usage to ensure fuel quality is maintained. HVO: Equipment Costs: No impact on vehicle cost. Fuel Costs: Cost of fuel per litre is typically higher than road diesel. Maintenance Costs: Maintenance costs are identical to that of diesel vehicles. Infrastructure Costs: No specialist equipment is needed to store HVO. FAME and HVO fuel costs rely on minimum order quantities would ned to be factored into any wider deployment of these fuels across the operational fleet. Alternative Fuel (HC): Equipment Costs: Research suggests a 10% price premium. Fuel Costs: Dependent on CNG/Bio-CNG prices and supply. Infrastructure Costs: Very significant (Minimum £30k), only viable if combined with other users. Electric: Equipment Costs: Research suggests a significant price premium compared to diesel equivalent, dependant on variant and battery capacity. Fuel Costs: Estimated running cost for operators using an industrial electricity supply, will be around 50% lower than for diesel. Maintenance Costs: Lower than that of identical diesel sweeper. Infrastructure Costs: Slow charge (13A) no cost; higher charging rates will require specific infrastructure at additional cost.

Fuel	Factor	Sweeper
Biodiesel	Operational	
	Emissions	
	CapEx	
	OpeEx	
HVO	Operational	
	Emissions	
	CapEx	
	OpeEx	
Diesel-Electric Hybrid	Operational	
	Emissions	
	CapEx	
	OpeEx	
Electric	Operational	
	Emissions	
	CapEx	
	OpeEx	
Alternative Hydrocarbon-based Fuels	Operational	
	Emissions	
	CapEx	
	OpeEx	
Hydrogen	Operational	
	Emissions	
	CapEx	
	OpeEx	



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Cenex
Holywell Building,
Holywell Park,
Ashby Road,
Loughborough,
Leicestershire,
LE11 3UZ

Tel: +44 (0)1509 642 500
Email: info@cenex.co.uk
Website: www.cenex.co.uk
Twitter: @CenexLCFC
LinkedIn: Cenex

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Lowering your emissions
through innovation in transport
and energy infrastructure

PROJECT
REPORT

Electric Vehicle Home
Charging Options Review

NW Leicestershire District
Council

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Prepared for:

North West Leicestershire District Council

Prepared by:



Robert Anderson
Senior Fleet Specialist
Cenex

Approved by:



Steve Carroll
Head of Transport
Cenex

Company Details

Cenex
Holywell Building
Holywell Park
Ashby Road
Loughborough
Leicestershire
LE11 3UZ

Registered in England No. 5371158

Tel: 01509 642 500

Email: info@cenex.co.uk

Website: www.cenex.co.uk

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1. Background and Approach

1.1 Background

Cenex undertook a fleet review for North West Leicesershire District Council (NWLDCC) to assess the operational and economic suitability of ultra-low emission vehicles (ULEVs) and the potential cost and emissions savings associated with their deployment.

The combined fleet consists of some 1,200 vehicles covering a wide range of vehicle segments from small vans to rigid rucks and refuse collection vehicle. Module 1 analysed these vehicles to identify their suitability for replacement by battery electric (BEV) and other low emission vehicle technologies.

However, the switch to BEV is not simply a matter of matching journey characteristics and vehicle type; the charging implications of such a change must also be considered. Since some of the vehicles in the fleet, particularly those associated with Housing Maintenance, are currently taken home overnight, identifying options to allow drivers to charge their vehicles overnight at their homes would dramatically reduce the need for depot-based or on-street charging infrastructure.

Given the overall analysis of the fleet the objective of this work package was to determine:

- What best practice would look like for a home charging scheme.
- Provide recommendations for how such a scheme could work across NWLDCC.
- Outline a trial roll-out of the scheme.

1.2 Methodology

Cenex carried out desk based research, including telephone interviews, with fleet operators that have already investigated home charging to give a range of perspectives on the rollout of home charging schemes for operational vehicles.

Cenex also explored a range of chargepoint providers including: Alfen, ChargeMaster, Chargepoint, Electric Blue, EO Charging, Phoenix Works and Ubitricity to review the types of chargepoint infrastructure and back-office systems available for an employee home charging scheme.

1.3 Chargepoint Equipment Introduction

The following table outlines key definitions¹ and terms used within this report:

Table 1 - Key definitions

Term	Definition
Chargepoint	The stand or wall unit which an EV is plugged into, encompassing one or more sockets or tethered plugs, the user interface, access control, energy metering and circuit protection.
Chargepoint access	Domestic chargepoints are often open access, whereas public chargepoints require some way of recognising different users (such as linking to a smart phone app or users swiping an RFID card).
Back-office system	<p>The back-office functions that control and control access to chargepoints. It is usually hosted on a secure server and typically holds data on locations of, and sends/receives commands to/from, chargepoints on the network.</p> <p>The back-office system also holds information on authorised users (i.e. their RFID card or membership details) in order to enable charging access to the EV user when the system is requested by a chargepoint.</p> <p>A typical add-on feature to a back-office system may include instant access billing where the authorised user is billed for access to a chargepoint.</p>
Smart chargers	<p>Smart charging is the ability for EV supply equipment to control the timing of charging and the power output level in response to a user-defined input or signal.</p> <p>At the most basic level, this allows charging to be scheduled for times when grid demand is lower, and electricity is cheaper.</p>

¹ <http://ukevse.org.uk/resources/procurement-guidance/>

RFID cards	Radio Frequency Identification card. A card holding information that is wirelessly read to identify its user. For chargepoints, an RFID card provides authentication to activate and terminate an EV charging event at equipment with access control.
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2. Company Experiences of Employee Home Charging Schemes

This section provides details of the experiences of a range of organisations in terms of the implementation of electric vehicle home charging schemes.

2.1 Leeds City Council

The Leeds City Council (LCC) van fleet supports a range of departments including property maintenance, highway maintenance, greening, parks, and waste management. LCC has an ambition for all its fleet vehicles to operate using an alternative fuel by 2025. It has been adding electric vehicles (EVs) into its operational fleet since 2016 and has currently deployed more than 40 Nissan eNV200 vans. LCC needs to procure an additional 300 vans to meet its target and intends to acquire electric models in all possible cases. Most vehicles operate on a back-to-base model, so LCC identified capacity constraints at their depots as a potential barrier to accelerated vehicle deployment.

2.1.1 *Pilot study*

LCC undertook a pilot home charging scheme involving 10 employees. Expressions of interest were requested via a Chief Officer Briefing Note, asking for volunteers to take part in the trial. The eligibility requirements for participating stated that employees must:

- Already drive a Council vehicle and (for the pilot only) already take this vehicle home overnight.
- Have off-street parking which they can use for the Council vehicle.
- Agree to have a chargepoint installed at their home.
- Agree to provide feedback on the pilot to LCC.

More than 10 expressions of interest were submitted and LCC was able to identify enough employees who met the above criteria.

The Phoenix Works were commissioned to install the chargepoints and provide the back-office software. 7 kW wall-mounted units were supplied by EO Charging. The Phoenix Works audited participants' homes to ensure they were suitable for installation. LCC paid the cost of hardware and installation directly to The Phoenix Works, so the employees did not get involved in the process or need to pay anything upfront.

During the trial, drivers were paid a flat fee of £3 for each night that they charged the vehicle. This was based on a 'worst case' scenario in which vehicles would be fully discharged before each recharge; in that case, the cost in electricity would still be below £3. Employees submitted claims and were paid weekly in arrears.

2.1.2 *Evaluation and deployment*

Evaluation of the trial found that the trial participants were positive about their experience with the vehicles and the home charging solution. There was no notable internal resistance within the Council; drivers and managers recognised that EVs were a key component of the transport solution for LCC's fleet. This is due in part to a parallel piece of work to get senior officials and Councillors bought into using EVs and supportive of their deployment within the fleet. Union representatives also endorsed the scheme based on the positive feedback from drivers.

LCC is preparing a wider roll-out of the scheme. The criteria for participation in this stage of the deployment state that employees must:

- Already drive a Council vehicle.
- Have off-street parking which they can use for the Council vehicle.
- Agree to have a chargepoint installed at their home.
- Provide evidence showing their current electricity tariff (pence per kWh).

LCC is currently undertaking a procurement exercise for various charging solutions, including this home charging scheme. When this evidence was collected, installations were scheduled to take place from 2019 onwards.

The significant change for the full scheme deployment compared to the pilot concerns the reimbursement mechanism for drivers' electricity consumption. The chargepoint software will be specified so that LCC can use a web-based portal to remotely monitor the energy consumption of each chargepoint. This is already a feature of the chargepoints installed by The Phoenix Works, and whoever provides network services for the full deployment will also be required to provide this service. The Phoenix Works charges LCC a fee of £100 per year for the use of the telemetry in the charger and the portal to monitor electricity use. Drivers will submit a utility bill or other proof of the rate they pay for electricity in pence per kWh. LCC will use the energy consumption data and cost information to accurately reimburse employees for the electricity used. Payments will be provided every four weeks in arrears.

The scheme proposes that the chargepoints would remain the property of LCC; this means they can be removed by the Council if an employee terminates employment or stops participating in the scheme for any reason. Drivers sign an agreement binding them to the key terms of the scheme; the driver agreement is provided in Appendix A: Leeds City Council Driver Agreement.

2.1.3 Next steps and remaining challenges

As part of its drive to roll out BEVs and home charging across the fleet, LCC is working to make BEVs the default vehicle type for new employees. As part of the interview process, potential new starters are asked whether they would be happy to drive an EV and have a domestic chargepoint installed.

LCC recognises that this scheme is not suitable for all vehicles, employees and duty cycles. There are three challenges which remain to be addressed:

- EVs are not provided to staff who don't have off-street parking. While various solutions such as lamppost chargers are in trial and early deployment stages, these are not considered suitable for widespread deployment.
- A small number of vehicles are shared between two or more operatives. These vehicles are considered outside the scope of the current home chargepoint scheme, as infrastructure would need to be installed at more than one property. LCC will need to assess how many such examples there are and what the costs and benefits are of installing additional chargepoints.
- While the increased range of the latest Nissan eNV200 has made deployment easier, the increased cost is placing additional pressure on Council budgets. There may be a need to acquire other vehicles such as the Renault Kangoo Z.E. which has a lower specification (e.g. no rapid charging capability) but offers a significant cost saving.

2.2 Transport for London

Transport for London (TfL) operates a diverse fleet of around 1,000 pool cars and vans. Vehicles operate from depots across the capital and are used to support a wide range of jobs including maintenance of public transport assets, lineside tree clearing and movement of lost property. Duty cycles are mixed, with vehicles either returning to base or being taken home by employees at the end of a shift.

TfL is working towards the aim set out in the Mayor's Transport Strategy for all cars to be zero emission capable by 2025 at the latest, and all newly purchased vans (below 3.5 tonnes) to be zero emission capable from 2025 onwards. It should be noted that the financial implications of the coronavirus pandemic mean that this target is currently under review.

The duty cycles of most vehicles, with relatively low daily mileages in an urban environment, is well suited to the adoption of plug-in vehicles. Access to charging infrastructure is their greatest challenge, with two use cases posing a particular difficulty:

- Depots where multiple vehicles would need to be charged at the same time and place, placing constraints on the available electricity supply.
- Vehicles which are already taken home by employees after a shift and therefore can't be charged at the depot.

TfL scoped out a home charging scheme, where chargepoints would be provided at employees' homes for use with operational cars and vans. The challenges identified by TfL's review were as follows:

- Vehicles are not allocated to a single named individual; each vehicle is typically shared between several employees at a department or depot. TfL was, therefore, unable to identify enough vehicles that are taken home by the same driver each night. They would need to install chargepoints at multiple homes for each vehicle, to cover all permutations of duty cycles and shift patterns.

- Many employees don't have off street parking and therefore would not be able to install a chargepoint for their sole use. Some drivers have on-street public infrastructure nearby, but there was no way to ensure that these chargepoints would be available when required.
- Concerns were raised about the capital cost of infrastructure. First, the total cost would be high because installations would be required at multiple properties for each vehicle. Second, it was unclear what would happen in the event of an employee leaving TfL. In this instance, TfL couldn't confirm that they would be able to recover costs or remove the chargepoint.
- TfL was unable to devise a suitable scheme for managing the cost of electricity consumption from the chargepoint. They were concerned that employees would need to pay the bill upfront and then reclaim back the cost. Drivers' representatives, including union officials, argued that employees should receive compensation for being 'out of pocket' in the period between paying the bill and being reimbursed by TfL.
- Issues were raised around liability and insurance costs in the event of a defective chargepoint or installation causing fire or other damages to a property.

TfL concluded that the drawbacks identified would outweigh any potential benefits, so at this time their proposed scheme has not been taken forward.

2.3 Centrica²

When Centrica Business began the process of electrifying its fleet of 14,000 vehicles – the third largest commercial fleet in the UK – the distributed energy and power company faced several challenges. As well as the significant hurdle of electrification of their own fleets, the company also planned to launch Centrica Electric Vehicle Services (CEVS) to help other businesses tackle the challenges of transitioning to the EV future.

Centrica Business sought a scalable, smart and user-friendly EV charging software to manage both of these tasks and after a procurement exercise, Driivz was selected.

All EV fleets need to be primed and ready to overcome general EV obstacles, such as the availability of chargers, cost of charging, ability to prioritize which cars are charged first and whether drivers can charge at home. The Driivz service provides Centrica Business' own fleet and those of its customers a self-service portal to manage their account, set up payment plans, and be directed to available Centrica chargepoints.

Centrica compensates drivers for home charging, using the Driivz billing system, and has also linked its Hive Active Heating smart product to offer a combined mobility and heating package to CEVS customers.

CEVS has been running since the beginning of 2019, with fleet drivers from Centrica Business and its customers being able to charge at home, at work and on the road, based on the Driivz charging solution.

The next steps for the project are to analyse and use data to futureproof against potential issues with energy supply and demand as customer demand grows. Centrica Business is also aiming to allow its customers to integrate their EV chargers with existing energy infrastructure to generate, store and manage their own power, plus access local energy management services.

2.4 British Gas

As part of its commitment to become a net zero organisation, British Gas, has committed to electrify its 12,000 strong operational fleet by 2025, five years earlier than originally planned.

In addition to the 1,000 Vauxhall Vivaro-e vans purchased in 2020, British Gas has recently ordered an additional 2,000 models, representing the largest commercial EV order in the UK to date. All 3,000 electric vehicles will be on the road by 2022.

While engineers can volunteer to have the new vans during the rollout, the company is prioritising high pollution areas to help lower emissions, or where existing vans need replacing. The engineers will receive a charger installation at their homes, which will be managed as part of a home charging scheme. It is unknown whether this will use Centrica's Driivz solution or take advantage of its 2019 announcement of a partnership with Ford and Bord Gáis Energy that will allow Ford customers across the UK and Ireland to benefit from lower energy prices for overnight charging.

2.5 Mitie

In August 2020, Mitie Group selected Mina³ for a trial to support the transition to an all-electric fleet, using Mina's software to manage, monitor and pay for electric vehicle charging at employees' homes. Mitie are currently trialling the Mina 'EV fuel card' system with a test group within their 500+ EV fleet.

² For further information, see <https://driivz.com/>

³ For further information, see <https://www.mina.energy/>

Previously, Mitie had stated that a major barrier to mass EV adoption within their fleet was the management of home charging at employee houses. Mina's software integrates with existing chargepoints at employee homes and their home energy supplier to offer payment for energy consumed to charge the EV via an online dashboard. Mitie's fleet manager can also view the amount of energy used, which helps avoid the need for the expense forms previously used by employees to claim-back the energy used to charge their EVs.

In addition, drivers are able to input a personal/ business mile split into their driver portal, which is recorded using a separate tracking tool to help ensure that businesses only pay for business miles and likewise that employees don't end up paying for business mileage in their domestic energy bill.

It is expected that the fleets will save money by benefiting from drivers charging at home too, thanks to the low cost per kWh of domestic energy compared to public or business charging.

Cenex discussed with Mina's representatives about their solution and found out that they offer their platform services with a fee of 2p/kWh to 5p/kWh that is consumed depending on the vehicle volume.

3. Home Charging Scheme Recommendations

Home charging is likely to account for up to 80% of all charging done by EV drivers, including those who drive an EV for business purposes. Therefore, this section gives an overview of the solutions available.

3.1 Charging powers

Most EV drivers have a choice of two options for charging at home either by installing a dedicated EV chargepoint or by using a standard 3 pin household plug.

Home chargepoints typically have a power rating of 3.7 kW or 7 kW, with the UK Government proposing a minimum 7kW chargepoint for residential buildings. Some early home installations are 3.6 kW chargepoints but today the majority of the installations are 7 kW. Expected increases in battery sizes and technology developments could make chargepoints less powerful than 7 kW obsolete for future car models, so these should be avoided.⁴

3.2 Connector types

Typically, charging units are wall-mounted and available either with a tethered Type 2 cable which can be plugged straight into the car or with a Type 2 socket for use with the vehicle's own charging cable.

Table 2 - Key facts on domestic chargepoint types

Charger Type	Charge Time	Connection Type	Miles of range added per hour of charging
Slow (AC) 2.3 – 3.7kW	0-100% in 10-12 hours	3-Pin Plug  	Up to 15 miles
Fast (AC) 7kW	0-100% in 4-6 hours	Type 2 (Mennekes)  	Up to 30 miles

3.3 Chargepoint providers

There are many models of domestic chargepoint available from several reputable manufacturers. Cenex interviewed a selection of hardware providers and network operators to get an industry-wide perspective on the potential for offering an employee home charging scheme.

All interviewees acknowledged that issues associated with charging multiple EVs at the same place and time (i.e. depot based) is becoming more common as vehicles reach mass adoption. They are increasingly

⁴ <https://www.gov.uk/government/consultations/electric-vehicle-chargepoints-in-residential-and-non-residential-buildings>

developing solutions to mitigate this challenge, including smart charging, and giving customers better remote visibility and control of charging events.

Results of this qualitative data collection exercise suggest that there are hardware and software solutions available in the market to support a home charging scheme, with remote visibility of energy consumption and ability to reimburse drivers accurately for the electricity used.

The information below is taken from the interviews with a select group of companies. Cenex has not undertaken independent market research into the products and services described. However, all the chargepoint providers had products that supported employee home charging schemes and provided online visibility of energy use.

A summary of relevant experience is detailed by the manufacturers is provided in the table below.

Table 3 - Chargepoint manufacturer experience

Company	Hardware Provided	Provides Back-office?	Installation?
Alfen	Their own smart chargers	Any chargepoint management system	Sub-contracted
Chargemaster	Their own smart chargers	POLAR app	Sub-contracted
Chargepoint	Their own smart chargers	Chargepoint app and dashboard System automatically reimburses employees based on kWh use.	Sub-contracted
Electric Blue	Their own smart chargers	Electric Blue back office can be linked to vehicles' telematics systems to monitor mileage and energy consumption. This means there is no need for drivers to manually enter odometer readings	Sub-contracted
EO Charging	Their own smart chargers	EO Web Portal RFID cards can be used to differentiate between work and personal vehicles	Sub-contracted
The Phoenix Works	All types of manufacturers	The Phoenix Works portal – monthly flat fee of 10£/charger	They are primarily an installer
Ubitricity	Their own smart chargers	Ubitricity/Siemens back office	Sub-contracted

3.4 Vehicle Sharing

Some vehicles may be shared by employees so the overnight location may not always be the same. In these instances, it would need to be ensured that appropriate charging infrastructure is installed at all sites where the vehicle may be parked overnight.

3.5 Type of Parking

Ideally, employees would have off-street parking where a standard 7 kW chargepoint can be connected directly to their home electricity supply.

For those without off-street parking, various solutions such as lamppost chargers are in trial and early development stages but are not considered suitable for widespread deployment by an employer.

Alternatively, these employees could make use of public charging infrastructure, providing there is availability in proximity to where they live. However, this solution relies on these public chargepoints being available when required and relevant chargepoint access cards being provided. It is also likely to be a much more expensive mode of charging.

3.6 Reimbursement Mechanism

When charging at home there needs to be a method for reimbursing employees for the cost of the electricity that they have used. This requires a back-office system connected to the chargepoints with an associated web-based portal through which the relevant manager (e.g. fleet, energy, etc.) would be able to remotely monitor the energy consumption from charging events of all drivers. Some systems offer automatic reimbursement of employees based on tracked charging session data.

- For reimbursement, drivers usually have to submit proof of their electricity tariff. There is a risk that employees might claim for personal use, so procuring a robust system is important.
- Smart cables such as that developed by Ohme⁵ or Ubitricity⁶ can connect to an existing chargepoint and identify the vehicle being charged to record the energy use and allow accurate reimbursement. The smart cables feature an electricity meter and mobile power contract enabling fleet managers to monitor and report the cost of charging at fleet and individual vehicle level, calculate home charging expenses and view CO₂ emissions and savings.
- There are hardware and software solutions (Mina⁷, Chargepoint⁸) available in the market to support a home charging scheme, with remote visibility of energy consumption and ability to reimburse drivers accurately for the electricity used. The idea behind these solutions is that employees' chargepoints are integrated in a platform and the software operator is linked directly to their energy suppliers. All the drivers need to do is plug in and the employer gets a single invoice for all energy used.

3.7 Providing home chargepoints to employees

3.7.1 Grant schemes

The installation of home chargepoints is incentivised by Government funding under the Electric Vehicle Homecharge Scheme (EVHS)⁹ administered by The Office for Zero Emission Vehicles (OZEV). The EVHS scheme provides funding for 75% of the total cost of the purchase and installation (up to a maximum threshold) of a chargepoint providing AC power between 3.5 – 22 kW.

From the 1st April 2020, the maximum eligible grant amount was reduced from £500 to £350 to enable a greater number of installations to be funded under the scheme¹⁰. Contributions will cover no more than 75% of the cost of a chargepoint and its installation, and grants will only be available for those that have the unit fully-installed by an OZEV-accredited installer. It has been confirmed that the scheme will continue to run until at least 31st March 2021 to continue to support the UK's transition to electric vehicles.

Individuals assigned a company vehicle or who are named by their employer as the primary user of an eligible EV for at least six months are eligible for the grant. The EVHS allows for third party contributions so the cost of charger and installation could be covered by NWLDC in this way.

Table 4 - Overview of EVHS grant

Domestic chargepoint funding			
Electric Vehicle Homecharge Scheme	1 point per eligible vehicle	75% Maximum grant	£350 (Incl. VAT)

3.7.2 Taxation implications

According to the Income Tax Earnings and Pensions Act 2003 s149(4), electricity is not treated as a transport fuel.¹¹ As a result, no benefit in kind tax arises if an employer:

- Pays to charge a pure-electric company vehicle;
- Pays for a chargepoint to be installed at the employee's home to charge the company vehicle; or
- Pays for a charge card to allow individuals access to commercial or local authority charging points

3.8 Ensuring installation “readiness”

It is recommended that NWLDC engage with an appropriate chargepoint installer and insist that initial surveys of properties are completed to assess whether any upgrades may be required and the likely costs in advance of rollout.

The installation must be undertaken by an OZEV approved chargepoint installer. Installers will advertise if they are an approved installer, and OZEV also maintains a list¹². Note that installers must also be approved by the

⁵ <https://www.ohme-ev.com/>

⁶ <https://www.ubitricity.com/en/mobilecharging-system-2/>

⁷ <https://www.mina.energy/fleet-solutions/>

⁸ <https://www.chargepoint.com/files/brochures/br-fleet.pdf>

⁹ <https://www.gov.uk/government/publications/customer-guidance-electric-vehicle-homecharge-scheme>

¹⁰ <https://www.gov.uk/government/news/update-on-the-infrastructure-grants-schemes>

¹¹ <https://www.gov.uk/government/publications/advisory-fuel-rates/advisory-fuel-rates-from-1-march-2016>

¹² <https://www.gov.uk/government/publications/electric-vehicle-homecharge-scheme-approved-chargepoint-model-list>

chargepoint manufacturer to install their product. This helps to provide additional confidence that the installer has the necessary product knowledge to be able to deliver a good quality and compliant installation.

In summary, the key responsibilities for the customer and installer are listed below (note that OZEV is currently reforming the EVHS claim process with the intention of reducing the administrative effort and time for grant funds to be released, so the below responsibilities are subject to change):

- Provide evidence of the vehicle ownership or order details.
 - Note that the chargepoint can be installed up to 4 months ahead of the date of delivery or start date of usage of the vehicle.
 - The customer guidance gives details of the acceptable proof that the customer is the vehicle's registered keeper or has ordered the vehicle.
 - If the vehicle is a company car, then the customer is responsible for obtaining proof that they are/will be the primary user for the minimum period of 6 months from their employer. A template form is provided in the OZEV customer guidance document.
- Provide any necessary information to the installer concerning the property electrical system and parking arrangement.
 - This may remove the need for the installer to do a survey prior to performing the installation and can help to reduce the cost to the customer.
 - The exact process will vary by installer.
- Provide details of the installation address and contact information for the primary user.
- Make a declaration to allow the installer to claim the EVHS grant for their installation.
- Provide approval that the installation costs are as agreed with the installer.
 - It is acceptable for a third party, such as an employer such as NWLDC, to contribute to the cost of the chargepoint installation.
 - In this case the customer must verify the source and amount of this contribution(s).

Installer responsibilities:

- Complete the chargepoint installation ensuring compliance with BS 7671 and the IET Code of Practice for Electric Vehicle Charging Installations.
- Provide a breakdown of installation costs to the customer and for the grant claim.
 - A template for this is again provided in the installer and customer guidance documents.
- Declare that the installation has been completed and is compliant with the terms laid out by OZEV for the EVHS grant.
- Complete an Electrical Installation Certificate (EIC) as per BS 7671 and Building Regulations compliance certificate for the installation.
- Provide the installation evidence required by OZEV – at the time of writing this is a photo of the installed chargepoint serial number and the property off-street parking.
- Notify the relevant Distribution Network Operator (DNO) of the installation works.

If NWLDC are interested in installing chargepoints at employees' homes, then all the above responsibilities for the employee as the end customer remain valid. However, the employer can assist by developing a relationship with the installer to start the process. A professional installer will then guide the customer through the process. The employer may wish to give additional guidance to their employees including assistance with completing the necessary claim forms and evidence, in particular concerning the details of the company vehicle for which the chargepoint is being provided.

Note that if the employer wishes to make a contribution to the cost of the chargepoint, it may be necessary to get a quote from the installer for the installation, to first understand the remaining costs that will not be covered by the grant fund as this may vary with installation address, even if the chargepoint hardware being installed is the same.

The supply and installation of a home chargepoint which is approved by OZEV and hence eligible for grant funding typically costs in the region of £400 to £1200. The variation in cost is mostly dependent on the chargepoint model selected. More expensive models will offer additional functions and features such as:

- Solar power compatibility.
- Timing functions.
- Mobile app integration
- Load management devices.
- More aesthetic designs or reduced size.
- Customisable options and colours.

The table below shows a breakdown of typical home chargepoint hardware and installation costs:

Table 5 - Typical hardware and installation costs

Cost Element	Typical Cost Range (£)
Chargepoint unit cost	250 – 800
Other electrical equipment costs (including cabling, switchgear, distribution equipment)	50 – 150
Other eligible costs (such as site surveys)	0 – 100
Labour costs	100 – 300

The cost of hardware is only guidelines and subject to change. The cost of installing a chargepoint depends very much on the individual situation such as whether an energy supply exists and has enough capacity or needs upgrade, how far the installation is from a suitable energy supply and what surface the chargepoint is to be mounted. These may be factors which will impact whether a particular home is selected for home charging.

3.9 Liability for home chargepoints

Cenex recommends that NWLDC only pay for damages to home chargepoints due to general wear and tear and not due to misuse.

NWLDC should encourage employees and train them in proper use of chargepoint equipment to avoid any damages due to misuse (e.g. not dropping the cable, not leaving the cable uncoiled etc). The chargepoint provider may issue such guidelines themselves.

If the installed home chargepoint remains property of NWLDC, this means they can be removed if an employee terminates employment, moves to a new property or stops participating in the scheme for any reason.

4. Recommendations

NWLDC face similar challenges to LCC and other organisations around providing enough charging infrastructure to support widescale BEV uptake.

It is therefore recommend that NWLDC plan, deliver and evaluate a trial of home EV charging for their operational fleet. This section proposes a methodology for such a trial based on the information gathered from stakeholders involved in this research. It also explains how to transition from a trial into a wider deployment phase, assuming the trial is successful.

4.1 Plan the Trial

4.1.1 Consider an industry partner

Chargepoint providers may be enthusiastic to support a home chargepoint scheme trial since they recognise the need to demonstrate that their products and services can support fleets with mass adoption of EVs.

There may also be potential for private sector funding for the trial including provision of hardware. Working with an industry partner could potentially leverage funding to reduce the cost of running a trial. We recommend contacting more than one potential supplier to compare proposals.

NWLDC may wish to involve Cenex in a privately funded trial, to ensure data monitoring is robust and impartial.

4.1.2 Scale and duration

Decide how many vehicles and drivers should be involved. A trial with 10 – 50 employees, as undertaken by LCC, should be enough to generate plenty of data and driver feedback, and identify any potential challenges.

The trial should be run for several months to allow any initial problems to be addressed and for drivers to get fully accustomed to the technology. The intention should be for the scheme to continue through the vehicle lifecycle, with an evaluation after six months.

4.1.3 Select hardware and back office system

7 kW wall-mounted chargepoints are best suited to this type of charging. Slower (3 kW) chargers are available but would mean vehicles would need to be plugged in for around 12 hours to receive a full charge. This means charging could not be scheduled to take advantage of cheap electricity tariffs.

As mentioned before, OZEV administers a grant scheme which offers up to 75% off the total capital costs of qualifying chargepoints and associated installation costs (capped at £300 including VAT). All home chargepoints funded by this grant must use innovative ‘smart’ technology from July 2019. This means chargepoints must be able to be remotely accessed, and capable of receiving, interpreting, and reacting to a signal. This is a helpful piece of legislation for home charging as it means all of the offerings on the market have the capability to report their consumption for billing and monitoring purposes.

Specify a back-office system which supports remote monitoring of energy consumption and shows when charging events take place. It is vital to have a remote web portal to track electricity consumption to ensure compliance, ensuring drivers are not overclaiming or not being fully reimbursed. Some systems offer automatic reimbursement of employees based on tracked charging session data. We recommend specifying this as ‘desirable’ rather than ‘essential’, as it may restrict your procurement to a small number of suppliers. Likewise, consider specifying the ability to remotely control and schedule charging.

NWLDC will need to determine the best route for procuring hardware and installation services. Ideally there will be a framework in place which can be used for purchasing 7 kW wall-mounted chargepoints. However, if an industry partner has been appointed for a private sector funded trial, they may supply hardware directly, without the need to undertake a competitive procurement exercise.

As outlined in Section 2, many of the suppliers Cenex contacted provide the necessary remote visibility of energy consumption.

4.1.4 Reimbursement mechanism

The trial should consider how to automate the process of reimbursement to reduce driver and fleet administration.

Reimbursements can either be provided as a flat fee per charging event, as in the LCC trial, or an accurate reimbursement using energy consumption data, as per the full LCC deployment. The former is easier to administrate and provides a small incentive to drivers to take part. Our understanding, based on LCC’s experience, is that there would be no tax implications if the vehicle is not driven to the same place of work each day, and the employee can’t use the chargepoint for their own vehicle. This mechanism is somewhat similar to paying Approved Mileage Allowance Payments (AMAP rates) to grey fleet drivers, which are provided irrespective of exact fuel consumption. However, we strongly recommend seeking verification from your tax office to ensure compliance with the relevant legislations.

While the flat fee approach is straightforward and could be used to get a trial set up, we recommend using accurate reimbursement when deploying at-scale. As shown in Section 3.6, hardware and software are available to facilitate this approach, and it provides clarity and fairness to drivers and NWLDC.

It is worth mentioning that many electricity suppliers are starting to offer tariffs specifically targeted at EV drivers which charge higher electricity price tariffs at peak times and lower tariffs at off-peak times. In the case of the employer offering a fixed fee for EV use, the employee would be able to maximise their benefit by switching to an EV energy tariff if they wanted. However, as we recommend that employers reimburse for actual EV energy consumption, this will go in the employer’s favour, but the employee may lose out as they have a high day time tariff. More information about EV tariffs can be found at Appendix B: EV Tariffs.

4.1.5 Monitoring and evaluation

Define the criteria that will be used to evaluate the trial and the methods for data collection. This should include quantitative data such as energy consumption and cost, as well as qualitative feedback from drivers and department managers. Feedback could be gathered via email, internal meetings, or workshops.

4.1.6 Stakeholder engagement

Once NWLDC have planned the trial, the next step is to secure support from key internal stakeholders. One of the features underpinning LCC’s success was the positive feedback received about the trial from operational departments, drivers, senior managers, and Unions. Undertake a stakeholder engagement exercise as early as possible to achieve buy-in across and at all levels of the organisation. Ideally, identify a senior manager to act as sponsor for this project. Meet with managers from operational departments and union representatives to explain the purpose of the trial and what is involved.

Key points to note are:

- The trial is voluntary, so no drivers are being forced to change their working practices or have a chargepoint installed.
- Drivers will benefit from having an EV to use for commuting to and from work: vehicles are quiet, comfortable and easy to drive.
- Facilitating widespread EV deployment is a key part of achieving the objectives of the Go Ultra Low programme.
- Deployment of home charging will save the council money by avoiding the need to fund expensive network upgrades at the depot.

4.2 Select participants

Survey drivers to determine who is eligible and gather expressions of interest. At a minimum, drivers will need to have off-street parking and have a vehicle which is allocated solely for their use. NWLDC may wish to set other criteria for participation but be mindful that additional criteria will reduce the pool for potentially eligible drivers. Assuming no other criteria are imposed, drivers can be categorised into three groups:

- Group 1: Have off-street parking, an assigned vehicle, and are willing to participate.
- Group 2: Have off-street parking, an assigned vehicle, but have reservations about participating.
- Group 3: Either don't have off-street parking or share a vehicle with another employee.

Drivers from group one, plus drivers who already have an allocated EV, should be taken forward for participation in the trial. Until the survey has been undertaken, it is not possible to say how many employees will be in this group. The list of drivers and assigned vehicles will need to be cross-referenced against the fleet review to identify cases where a vehicle is due for replacement. Identify a cohort of around ten vehicles and employees that meet these criteria. These individuals will need to sign an agreement, including agreeing to provide structured feedback.

4.2.1 Launch the trial and evaluate

Once underway, the trial should run for several months before carrying out a formal evaluation. Interim evaluation of driver and manager experiences and monitoring of energy consumption data is recommended to ensure any potential problems can be rectified during the trial. After six months, evaluate the trial using the criteria identified. Check that vehicles have been able to meet operational needs and that any concerns from departmental managers, drivers and/or union representatives are collated and addressed.

The business case for EVs should be updated with a 'home charging scheme business case' to include cost of electricity from employees' homes, any additional commuting mileage of the vehicles, cost of hardware and support. This can be compared to the current diesel vehicle business case to evidence the cost saving available.

Communicate findings throughout the organisation and, assuming the pilot was successful, secure funding for wider deployment.

4.2.2 Wider deployment

Wider roll-out of the scheme should be undertaken until all the drivers in group one (see 4.2) have an EV and a home chargepoint. At the same time, any new employees that have off-street parking should be provided with an EV as a default, with a home chargepoint installed. Their interest and eligibility for participating in the scheme can be assessed during the recruitment process.

Drivers in group two (those who met the criteria but were unwilling to participate in the survey) may change their views once a successful pilot has been undertaken. Survey these individuals again to assess appetite for involvement in the scheme.

4.2.3 Further considerations

Drivers in group three, with either no off-street parking or without an assigned vehicle, are a more challenging cohort for a home charging scheme.

- For drivers without off-street parking, local authorities can apply for OZEV funding to help with the costs of procuring and installing on-street chargepoints for residential use. Applicants need to secure a minimum of 25% of capital funds via sources other than OZEV funding. Note that chargepoints must be accessible to local residents, rather than for the sole use of NWLDC employees, so this is likely to only be an option if there is a back-up chargepoint nearby.
- NWLDC will need to undertake further analysis to determine whether it is viable to provide chargepoints to support vehicles which are shared by two or more employees. It may be possible for

two drivers to share an EV with only one of them having access to a chargepoint. This could potentially work if the vehicle has a high range, covers short daily distances, and one staff member takes the vehicle home more often than the other.

5. Conclusions

This report has reviewed the contrasting approaches and outcomes at LCC, TfL and other examples, with a successful trial and deployment in the first, and a decision not to pursue a home charging scheme after challenges with the second. Operationally, there are differences between those two fleets which partly account for the different outcomes. For example, TfL has a substantial number of vehicles which are shared between more than one employee, and fewer drivers with access to off-street parking. These conditions make offering a home charging solution more challenging. It is likely that the NWLDC operations are more like LCC than TfL and would therefore be well suited to a home charging scheme.

A second key difference between LCC and TfL is the ownership of this activity by an individual with the ability to drive it forward and secure buy-in across and at all levels of the organisation. If NWLDC can follow this approach, and bring departmental managers, senior managers and Unions on board, we see no reason why they should not be able to implement a home charging scheme themselves.

Currently more and more fleets offer a home charging scheme for operational vehicles. Chargepoint operators already provide software to facilitate this approach, for example with remote visibility of energy consumption. This is likely to develop further, for example with automated reimbursement and increased scheduling of charging events. From our review of the market we conclude that the systems currently available are already able to support the type of home charging scheme proposed here.

To achieve their ambition to run a zero emission fleet, NWLDC will need to implement innovative measures to provide their fleet with enough supporting charging infrastructure. Installing chargepoints at drivers' homes, while challenging, would overcome the barriers around constraints and unlock the potential for fleet BEV deployment.

We recommend NWLDC proceed with a home charging trial as outlined in this report.

6. Appendix A: Leeds City Council Driver Agreement

6.1.1 *Introduction*

This document constitutes an agreement between you and Leeds City Council which sets out the terms and conditions of the home charging of the electric van that you use in the course of your work.

6.1.2 *The Charge Unit*

- You agree for the charging unit to be installed in a suitable position in your property to allow charging of the vehicle within your boundary and off the road.
- The charging unit will remain the property of Leeds City Council.
- You will be responsible for ensuring that the charge unit is used correctly, and you will follow any guidance provided on the use and maintenance of the charge unit.
- Any problems with the device should be immediately reported to Fleet Services who will carry out any necessary repairs.
- The charge unit be made available at all times for the LCC fleet vehicle and its charging requirements.
- If the charge unit is deliberately damaged or misused, then this will become a conduct issue and be dealt with under the Council's disciplinary procedures.
- Use of the charge unit is there to be used at the employee's discretion. However, only works for the fleet vehicle charge will be reimbursed as per the agreement.

6.1.3 *Length of Agreement*

The charging unit will remain on site for the length of the vehicle's life cycle (6 years) or until the agreement is terminated by either party.

6.1.4 *Charging Costs and Payment*

Your electricity usage will be recorded by the charging unit which will be accessible via a web portal by yourself, the council and the company operating the charging unit. A monthly summary of the electricity used will be sent by the company to Business Support Services who will check this against expected usage. This sum will then be included in your monthly pay.

6.1.5 *Driver Responsibility*

By signing this agreement, you agree to maintain the charger in good order and keep the electric vehicle charged to suit your needs.

6.1.6 *Termination of the Agreement*

You may terminate this agreement by informing your line manager in writing that you no longer want to participate in the scheme.

Leeds City Council may terminate this agreement for any one or more of the following reasons:

- Ending the pilot agreement.
- Due to outcome of any disciplinary procedures.
- The ending of your employment with Leeds City Council.

On termination of the agreement for any reason Leeds City Council will attend at your property to remove the chargepoint and make good.

Writing termination within the 3 months.

By signing this agreement, I confirm I have read, understood, and agree to the above terms and conditions.

Signature

Name

Job Title

Date

Fleet Strategy Review – Home Charging

Signature	
Name	
Line Manager	
Date	

7. Appendix B: EV Tariffs

Previously, the only way to save money on electric vehicle charging was by making use of the Economy 7 or Economy 10 tariffs, charging overnight when electricity was cheapest. However, some suppliers are now introducing targeted electric vehicle tariffs (EV tariffs).

With no EV tariff in place, for a typical electric car with 60kWh battery and around 200-mile range, charging your car at home from empty to full will cost about £7.80 on an average tariff. With an EV tariff or an Economy tariff giving cheaper overnight electricity, combined with intelligent charging control, you could halve this cost. This means it's important that EV owners consider switching to a focused EV tariff to keep costs down.

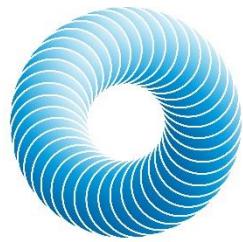
Further details of currently available EV tariffs are provided in the table below.

Table 6 - EV Home Energy Tariffs (as per Sep '20)

Supplier	Tariff Name	Cost	Other benefits
British Gas	Electric Drivers Nov 2021	Standard: 20p/kWh Off-peak: 4.7p/kWh	<ul style="list-style-type: none"> Free smart meter installation, if you haven't got one already For dual fuel, smart meter customers 5 hours of lower priced electricity 00:00-05:00 every day (35 hours per week)
Ecotricity	Green Electricity + EV	Standard: 16.54p/kWh Off-peak: 10.31p/kWh	<ul style="list-style-type: none"> 1/2 price Electric Highway charging Discounted home chargepoint
EDF Energy	GoElectric Nov21	Standard: 12.75p/kWh Off-peak: 8p/kWh Peak: 19.9p/kWh	<ul style="list-style-type: none"> 5,000 free miles when you also lease an electric vehicle through EDF Save up to £210 on the single rate version (No Smart meter required) Half-Price off-peak charging 21:00-07:00 Mon-Fri, and all day Sat-Sun (with a compatible smart meter)
E.On	Fix and Drive v9	Standard: 17.81p/kWh Off-peak: 10.9p/kWh Peak: 20.67p/kWh	<ul style="list-style-type: none"> 850 free EV mile reward equivalent to £30 Carbon offset gas Cheaper overnight charging 00:30-07:30 every day (49 hours per week)
Good Energy	EV Driver 4	Standard: 16.27p/kWh Off-peak: 12.2p/kWh Peak: 16.34p/kWh	<ul style="list-style-type: none"> Standard, Economy 7 & Economy 10 available Three tariffs depending on meter set-up
Octopus Energy	Octopus Go	Off-peak: 5p/kWh Peak: 13.33p/kWh	<ul style="list-style-type: none"> 50% cheaper than typical Economy 7 night time rate Smart friendly API: Automatically charge when it's cheapest with a smart charger or cable Upgrade to 100% carbon offset gas with Supergreen Octopus 4 hours off-peak electricity 00:30-04:30 every day (28 hours per week)

Table 7 - EV Home Energy Tariffs (as per Sep '20) – Con't

Supplier	Tariff Name	Cost	Other benefits
OVO Energy	EV Everywhere	Standard: 15.89p/kWh Off-peak: 10.33p/kWh Peak: 17.78p/kWh	<ul style="list-style-type: none"> Polar Plus membership 2 Year Fixed Energy plan 7 hours off-peak electricity, typically 00:00-07:00 every day (49 hours per week)
Tonik	Home & Smart EV	Standard: 10p/kWh Off-peak: 4.17p/kWh	<ul style="list-style-type: none"> Charge your EV with 8,000 miles for only £80 Two rate meter or compatible smart meter Get a Zappi installed by us and receive £100 reward credit on selected tariffs, inc our EV tariff 7 hours of cheaper overnight energy, every day (49 hours per week)



cenex

**Lowering your emissions
through innovation in transport
and energy infrastructure**



Transport



**Energy
Infrastructure**



**Knowledge
& Enterprise**

Cenex
Holywell Building,
Holywell Park,
Ashby Road,
Loughborough,
Leicestershire,
LE11 3UZ

Tel: +44 (0)1509 642 500
Email: info@cenex.co.uk
Website: www.cenex.co.uk
Twitter: @CenexLCFC
LinkedIn: Cenex

NORTH WEST LEICESTERSHIRE DISTRICT COUNCIL

CABINET – TUESDAY, 21 SEPTEMBER 2021



Title of Report	CARAVAN FIT & PROPER PERSON FEES POLICY	
Presented by	Cllr Andrew Woodman Portfolio Holder for Community Services	
Background Papers	None	Public Report: Yes
		Key Decision: Yes
Financial Implications	Contained within Appendix 2	
	Signed off by the Section 151 Officer: Yes	
Legal Implications	Legal advice has been provided on the report and draft policy by Legal Services	
	Signed off by the Monitoring Officer: Yes	
Staffing and Corporate Implications	None	
	Signed off by the Head of Paid Service: Yes	
Purpose of Report	To seek the following: Approval of the continued use of the fee structure for Fit & Proper Person checks for owners of residential park home sites	
Reason for Decision	The Mobile Homes (Requirement for Manager of Site to be Fit and Proper Person) (England) Regulations 2020	
Recommendations	<p>THAT CABINET:</p> <ol style="list-style-type: none"> 1. APPROVES THE CONTINUED USE OF THE FEES POLICY FOR FIT & PROPER PERSON CHECKS FOR OWNERS OF RESIDENTIAL PARK HOME SITES 2. DELEGATES AUTHORITY TO THE HEAD OF COMMUNITY SERVICES TO ANNUALLY REVIEW AND AMEND THE FEES POLICY FOR FIT & PROPER PERSON CHECKS FOR OWNERS OF RESIDENTIAL PARK HOME SITES 	

1.0 BACKGROUND

- 1.1 In 2014, the Caravan Site and Control of Development Act 1960 (CSCDA 1960) was amended by the Mobile Homes Act 2013 (MHA 2013) to provide greater protection to occupiers of residential caravans (park homes). This amendment allowed councils to charge site owners a fee for new site licences, annual fees for administering and monitoring of existing sites and fees for amendments or transfers of existing licences. This also ensured that there were controls in place to manage the historical exploitation of occupiers e.g. by controlling who they bought their gas from and charging a premium as well as improving standards. The Council introduced a fee structure in line with the legislation and guidance.
- 1.2 The Council currently has 12 caravan sites across the district, of which 8 are charged an annual fee and this brings approximately £1000 income per annum. ~~As a council~~ The number of caravan sites within the district has remained fairly stable year on year and therefore officers do not anticipate any applications from sites that officers are not aware of.
- 1.3 The Mobile Homes (Requirement for Manager of Site to be Fit and Proper Person) (England) Regulations 2020 (the “Regulations”), require the manager of a site to be a fit and proper person. Local authorities are accordingly required to implement the fit and proper person test for mobile home site owners, or the person appointed to manage the site, unless they are eligible for an exemption under the Regulations. The Regulations set out a number of factors that Local Authorities must take into account in determining if an application is a fit and proper person.
- 1.4 The fit and proper person test applies to “relevant protected sites” other than non-commercial family-occupied sites. A “relevant protected site” is a site, which requires a site licence under the CSCDA 1960 and which is not solely for holiday purposes or is otherwise not capable of being used all year round e.g. a residential mobile park home. The fit and proper person requirement will ensure that site owners, or their managers, have integrity and follow best practice. Additionally, it provides the safeguards that such individuals will not pose a risk to the welfare or safety of persons occupying mobile homes on the site i.e. park home owners.
- 1.5 A fit and proper person is someone who is deemed suitable to manage the site. To check this the following information is required as part of the application process:
- Details of the site
 - Applicant details
 - Site manager details (where applicable)
 - Whether the responsible person has committed any offence involving fraud or other dishonesty, violence, arson or drugs or listed in Schedule 3 to the Sexual Offences Act 2003 (offences attracting notification requirements);
 - Whether the responsible person has contravened any provision of the law relating to housing, caravan sites, mobile homes, public health, planning or environmental health or of landlord and tenant law;
 - Whether the responsible person has contravened any provision of the Equality Act 2010 in, or in connection with, the carrying on of any business;
 - Whether the responsible person has harassed any person in, or in connection with, the carrying on of any business;
 - Whether the responsible person is, or has been within the past 10 years, personally insolvent;
 - Whether the responsible person is, or has been within the past 10 years, disqualified from acting as a company director; and

- Whether the responsible person has the right to work in the United Kingdom.

2.0 SETTING THE FEE

- 2.1 Provisions in the Regulations relating to fees came into force on 1 July 2021. In order to be able to charge a fee to recover the Council's costs in determining these applications, the Council needed to have adopted and published a Fees Policy before 1 July 2021. This is because applications from existing sites could be received from 1 July 2021, so without a fee policy, the Council would have to charge a zero fee if an application was received.
- 2.2 The adoption of a Fee Policy is a Cabinet function. It would have been possible to prepare a report to go to Cabinet on 8 June 2021 in time to publish the Fees Policy by 1 July 2021, however, the final Government guidance on the Regulations had not been published at that time and it was preferable to await this guidance which was published on 4 June 2021.
- 2.3 A decision was therefore made to ask the Chief Executive to use emergency powers to delegate the function to approve and publish a Fees Policy for the consideration and determination of Fit & Proper Person Checks under the Mobile Homes (Requirement for Manager of Site to be Fit and Proper Person) (England) Regulations 2020 to the Head of Community Services.
- 2.4 This decision was made on 25 June 2021. A copy of the decision can be found in **Appendix 1**.
- 2.5 The Head of Community Service approved the Fee Policy on 28 June 2021. A copy of the current Fee Policy can be found in **Appendix 2**.
- 2.6 It is anticipated that the Council will receive 5 fit and proper person applications. This will bring in an income of £1,312.90. To date officers have received a number of enquiries about the application process, but officers have not as yet received any applications. Existing site owners have until 1 October 2021 to apply, thereafter officers will consider options for non-compliance within the Regulations.

Policies and other considerations, as appropriate	
Council Priorities:	<ul style="list-style-type: none"> - Local people live in high quality, affordable homes - Our communities are safe, healthy and connected
Policy Considerations:	N/A
Safeguarding:	N/A
Equalities/Diversity:	N/A
Customer Impact:	N/A
Economic and Social Impact:	Occupiers of residential park home sites will be reassured that they are operated by a fit and proper person.
Environment and Climate Change:	N/A
Consultation/Community Engagement:	N/A
Risks:	<p>The Fees Policy allows the team to recover the costs associated with the fit and proper person application and registration process.</p> <p>The Fee Policy will be reviewed annually.</p>
Officer Contact	<p>Paul Sanders Head of Community Services paul.sanders@nwleicestershire.gov.uk</p>

Chief Executive Decision Record

Decision Title
Delegation of the function to approve and publish a fees policy for the consideration and determination of Fit & Proper Person Checks under the Mobile Homes (Requirement for Manager of Site to be Fit and Proper Person) (England) Regulations 2020 to the Head of Community Services.
Decision Details
<p>The Mobile Homes (Requirement for Manager of Site to be Fit and Proper Person) (England) Regulations 2020 (“the Regulations”) introduced a fit and proper person test for mobile home site owners or the person appointed to manage the site. Local Authorities are able to charge a fee for determining applications. Provisions in the Regulations relating to fees come into force on 1 July 2021. In order to be able to charge a fee to recover our costs in determining these applications, we need to have adopted and published a fees policy before 1 July 2021.</p> <p>It would have been possible to prepare a report to go to Community Scrutiny Committee on 19 May 2021 and Cabinet on 8 June 2021, however, final Government guidance on the Regulations has not been published yet.</p> <p>Therefore, as it is preferable to await this guidance, it will consequently not be possible to take a report to Community Scrutiny Committee and Cabinet in time for the fees policy to be approved and published before 1 July 2021.</p> <p>If a fees policy is not published, the Council will not be able to charge a fee for the consideration and determination of fit & proper person checks. If a fees policy is later published and fees are introduced, this could lead to complaints and/or challenges relating to the fairness of the fees, as persons that apply late (after the fees policy is introduced) will need to pay the fee, whereas persons that apply early (when the fees policy has not yet been adopted) will not have to pay the fee (and therefore go through the same process but for free).</p> <p>It is therefore proposed that the Chief Executive rely on her powers under Part 3, Section 7 paragraph 4.1.4 of the Constitution to allow the Head of Community Services to approve a fees policy to be published on or before 1 July 2021 to allow the Council to recover its costs associated with determining applications under the Regulations from 1 July 2021.</p> <p>Applications will then be determined by Environmental Protection Team Manager by applying the relevant test within the Regulations and by applying the published Fees Policy. The Environmental Protection Team Manager will determine applications relying on the power under Part 3, Section 7 paragraph 5.4.9 of the Constitution which has been delegated to her.</p> <p>A report will then be taken to Cabinet on 21 September 2021 to approve the proposed fees policy.</p> <p>It is recommended that the Chief Executive, until a report can be taken to the above meetings, allows the Head of Community Services to approve and publish a fees policy for the consideration and determination of Fit & Proper Person applications to enable fees for Fit & Proper Person Applications to be charged from 1 July 2021.</p>
Reason for Decision
To allow the Head of Community Services to approve and publish a fees policy under the Regulations to enable the Council to recover its costs for the consideration and determination of applications for Fit & Proper Person checks under the Regulations.
Source of Delegation

Enter the relevant paragraph in the Constitution or details of the Committee that delegated authority for this decision.

Council's constitution – Part 3, Section 7 paragraph 4.1.4

Type of Decision



Key Decision



Non-Key Decision

List of Background Papers

If the background papers are likely to contain exempt or confidential information, please indicate which paragraph(s). Paragraphs detailed below. Documents should be included with the form or made clear where the documents can be viewed.

None

What alternative options were considered when making the decision?

Obtaining Cabinet authority to delegate the function of approving and publishing a fees policy for the consideration and determination of Fit & Proper Person Checks to the Head of Community Services. However, this would have required taking a report to Community Scrutiny Committee on 19 May 2021 and Cabinet on 8 June 2021 without the benefit of final Government guidance was published which to date has not been published.

Alternatively, the Council could wait until Government Guidance is published before introducing a fees policy. However, this would mean that, from 1 July 2021 to the date the fees policy is published, the Council would not be able to charge a fee and recover costs associated with the applications and determinations and it could leave the Council open to challenge if it initially did not charge a fee (as it had not published a fees policy) then later introduced a fee, after reports were taken to Cabinet.

What conflicts of interest were declared by any executive members consulted which relates to the decision?

N/A

Decision Made By

Name ... Bev Smith ... Signature... 

Date Decision Made

25.07.2021

Date Decision Published

25.07.2021

NOTE:-

Confidential Information Exemption Paragraphs

Paragraph 1 – Information relating to any individual

Paragraph 2 – Information which is likely to reveal the identity of an individual

Paragraph 3 – Information relating the financial or business affairs of any particular person
(including the authority holding that information)

Paragraph 4 – Information relating to any consultations or negotiations, in connection with any labour relations matter arising between the authority of the Minister of the crown and employees of, or office holders under the authority

Paragraph 5 – Information in respect of which a claim to legal professional privilege could be maintained in legal proceedings.

Paragraph 6a – Information which reveals that the authority proposes to give under any enactment a notice under or by virtue of which requirements are imposed on a person.

Paragraph 6b – Information which reveals that the authority proposes to make an order or direction under an enactment

Paragraph 7 – Information relating to any action taken or to be taken in connection with the prevention, investigation or prosecution of crime.

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The Mobile Homes (Requirement for Manager of Site to be Fit and Proper Person) (England) Regulations 2020 (as amended)

Fee Structure for Fit & Proper Person Checks for Owners of Residential Park Home Sites in North West Leicestershire

June 2021

Contents

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1. Introduction

- 1.1 In 2014, the Caravan Site and Control of Development Act 1960 (CSCDA 1960) was amended by the Mobile Homes Act 2013 (MHA 2013) to provide greater protection to occupiers of residential caravans (park homes). This amendment allowed councils to charge site owners a fee for new site licences, annual fees for administering and monitoring of existing sites and fees for amendments or transfers of existing licences. North West Leicestershire District Council (NWLDLDC) introduced a fee structure in line with the legislation and guidance.
- 1.2 The Mobile Homes (Requirement for Manager of Site to be Fit and Proper Person) (England) Regulations 2020 (the “Regulations”), require the manager of a site to be a fit and proper person. Local authorities are accordingly required to implement the fit and proper person test for mobile home site owners, or the person appointed to manage the site, unless they are eligible for an exemption under the Regulations. The Regulations set out a number of factors that Local Authorities must take into account in determining if an application is a fit and proper person.
- 1.3 The fit and proper person test applies to “relevant protected sites” other than non-commercial family-occupied sites. A “relevant protected site” is a site, which requires a site licence under the CSCDA 1960 and which is not solely for holiday purposes or is otherwise not capable of being used all year round. The fit and proper person requirement will ensure that site owners, or their managers, have integrity and follow best practice. Additionally, it provides the safeguard that such individuals will not pose a risk to the welfare or safety of persons occupying mobile homes on the site i.e. park home owners.

2. Fees for Fit and Proper Persons Register Applications

- 2.1 The Regulations, made on 23 September 2020, allow local authorities to receive applications from site owners, or the person appointed to manage the site, from 1 July 2021 up to and including 30 September 2021.
- 2.2 The Regulations permit the local authorities to determine the fee for an application for someone to be added to the register of fit and proper persons. Fees should only cover the costs (or part of the costs) incurred by a local authority in carrying out their functions under the Regulations.
- 2.3 Site owners will be required to submit a completed application from 1 July until October 2021 (3 months) and pay the fee, outlined below, to NWLDLDC which will also include any additional fees such as an annual site fee.
- 2.4 Under the Regulations a fee can be charged for
 - Initial enquiries;
 - letter writing/ telephone calls etc to make appointments and requesting any documents or other information from the site owner or from any third party in connection with the fit and proper process;
 - sending out forms;
 - updating files/ computer systems and websites;

- processing the application fee;
- land registry searches;
- time for reviewing necessary documents and certificates;
- preparing preliminary and final decision notices;
- review by manager or lawyers of applications; representations made by applicants or responses from third parties;
- updating the public register;
- carrying out any risk assessment process considered necessary; and
- reviews of decisions or in defending appeals.

3. Fee Structure

- 3.1 There are two options for calculating fees
- Option 1 – A fixed initial application fee
 - Option 2 – Risk based fee assessment
- 3.2 Option 1, a fixed initial application fee is the preferred option as there are no sites currently within North West Leicestershire that are of greater risk to others. Therefore in charging one set fee it will be fair across the whole District.
- 3.3 The cost of an application will therefore be £262.58 per application. The cost of this is shown in Appendix A.
- 3.4 Each registration will last for a maximum of 5 years. Once expired a new application will need to be submitted. The cost of this will be £262.58 again as all processes and checks will need to be repeated.

4. Exemptions

- 4.1 In certain circumstances, the local authority may determine that no fee is required to be paid.
- 4.2 An appointed manager fee - This is where the local authority is provided with the site owner's consent to appoint an individual to manage a site. The costs associated with this should be reasonable and are recoverable from the site owner. In the event that NWLDC have to appoint a person to manage a site the costs incurred by NWLDC will be recovered from the site owner in accordance with the Regulations. Costs that can be recovered will depend on the agreement made between NWLDC and the site owner.

5. Revising Fees

- 5.1 The local authority may revise its Fees Policy and will be required to publish the revised policy. Any changes will need to be justifiable and reasonable, ensuring full transparency for site owners.

- 5.2 The purpose of publishing the Fees Policy is to show that the fees imposed by NWLDC are fair and transparent so that anyone required to pay a fee can understand the charges.
- 5.3 Fees will be revised on an annual basis along with NWLDC's other fees and charges.

6. When Fees are Payable

- 6.1 A local authority is not required to consider an application for entry on the register unless that application is accompanied by the correct fee. If the correct fee is not paid, the application will not be valid and the site owner could be in breach of the Regulations.
- 6.2 If a local authority decides not to approve an application the applicant is not entitled to a refund of the fee paid.
- 6.3 The annual fee must be set as a condition to any entry being added to the register. The condition should state the amount and date by which the annual fee payment is due, also stating that failure to make such payment will be a breach of the condition and may lead to legal proceedings being issued.

Appendix A

Detail	Officer	Hourly rate	Time (mins)	Cost
Receipt of application and entry onto uniform	Technical Support Officer	£49.97	10	£8.33
Process application fee	Call Centre	£46.01	10	£7.67
Check application is valid (i.e. compulsory questions complete, correct fee included, correct fee paid)	Technical Support Officer	£49.97	20	£16.66
Check validity of any supporting documentation provided (e.g. DBS check)	Technical Support Officer	£49.97	20	£16.66
Follow up any missing paperwork	Technical Support Officer	£49.97	20	£16.66
Land registry search (officer time)	Technical Support Officer	£49.97	10	£8.33
Land registry search (Cost)	-	-	-	£6
Review application and evidence	Env Health Officer	£79.09	60	£79.09
Draft and issue preliminary decision	Env Health Officer	£79.09	30	£39.55
Draft final decision	Env Health Officer	£79.09	20	£26.36
Final decision signed off by management	Team Manager	£105.06	10	£17.51
Update uniform & public register	Env Health Officer	£79.09	15	£19.76
Total			225	£262.58

Title of Report	CORPORATE DISPOSALS POLICY	
Presented by	Cllr Bayliss Portfolio Holder for Housing, Property and Customer Services	
Background Papers	<u>Corporate Scrutiny Report – Jan 2021</u>	Public Report: Yes Key Decision: Yes
Financial Implications	<p>The proposed new consolidated Corporate Disposals Policy will provide a single governance environment to control the disposal of all surplus assets by the Council. This will ensure all disposals take place in a transparent way that maximises the Value For Money return to the Council.</p> <p>Signed off by the Section 151 Officer: Yes</p>	
Legal Implications	<p>The policy sets out a unified approach to disposals of assets, and provides for the unique issues for some types of disposal to comply with additional legislation. The bringing together of the disposal policies helps to solidify and simplify the control environment and addresses the updated constitutional issues.</p> <p>Signed off by the Monitoring Officer: Yes</p>	
Staffing and Corporate Implications	<p>No direct staffing or Corporate implications bar those covered in the report.</p> <p>Signed off by the Head of Paid Service: Yes</p>	
Purpose of Report	To approve a consolidated disposal policy document which will provide a robust governance framework for all land, property and other surplus asset disposals to be actioned.	
Reason for Decision	To approve an updated and consolidated disposal policy document	
Recommendations	THAT CABINET APPROVE THE CORPORATE DISPOSALS POLICY ATTACHED AS APPENDIX 1	

1. Background

- 1.1 The Corporate Disposals Policy attached as Annex A to this report has been produced in response to a Capital Accounting internal audit recommendation that we bring together into one document our approach to disposals of all surplus assets.
- 1.2 Historically the Council have operated separate policies for the disposal of Housing Revenue Account (HRA) and General Fund (GF) land and property assets, despite there being considerable overlap in the processes used to arrive at disposal decisions and subsequently the method of disposal. There is also a need to have a consistent and

clearly documented policy approach to the disposal of other surplus plant and equipment. Bringing these three areas together in one document will provide a more robust governance framework within which to make these decisions, and make clear the delegated authority thresholds applicable to the various types of disposal activity.

- 1.3 The aim of the new policy is to ensure that decisions to dispose of assets are made in a comprehensive and consistent way, and that the disposal process is transparent, and maximising the income from sales where this is the required outcome. Funds released from disposals will be available within the Council's overall budget to support reinvestment in alternative assets or to support service provision.
- 1.4 The Council is under a duty to secure Best Value when disposing of its assets, and for some specific types of asset (eg Land) it is under further restrictions such as the Local Government Act 1972 (as amended) section 123 ; "*a council shall not dispose of land under this section... for a consideration less than the best that can reasonably be obtained*". There are other restrictions on some disposals which are case specific – eg if the Council were to dispose of Open Space etc. where different restrictions apply. Where possible these have been included in the policy, but as the policy is generic in nature these individual issues will be addressed on a case by case basis. This is done through engaging legal services as part of any significant disposal process ensuring that we follow the correct process in individual cases and is directly referred to in the policy.
- 1.5 Corporate Scrutiny Committee considered the draft Corporate Disposals Policy at their meeting on Wednesday 21 January 2021 and an extract from the minutes of that meeting is attached at Annex B. A number of minor amendments to add clarity have been made to the draft policy document following the Scrutiny meeting. Comments regarding the focus on gaining income, whilst are acknowledged are in contradiction to the legislation that the Council must accord set out above. Hence no changes have been made in this regard.
- 1.6 The recommendation is adoption of the new strategy by Cabinet.

Policies and other considerations, as appropriate	
Council Priorities:	<ul style="list-style-type: none"> - Support for businesses and helping people into local jobs - Local people live in high quality, affordable homes - Our communities are safe, healthy and connected
Policy Considerations:	Replaces HRA Disposal Policy (approved 2015), and GF Disposal Policy (approved 2008).
Safeguarding:	None direct
Equalities/Diversity:	None Direct
Customer Impact:	None Direct, unless acting as a possible purchaser – covered in report
Economic and Social Impact:	The Council has a duty to achieve best value and for land disposals the best price. These issues have been addressed in the policy
Environment and Climate Change:	None direct
Consultation/Community Engagement:	Draft policy has been to Corporate Scrutiny and comments are incorporated. No other consultation has been undertaken, but all legislation will be complied with at the time of any disposal.
Risks:	Failure to dispose of assets in a consistent and

	transparent way introduces a risk of not achieving value for money from disposals and/or negative public perception of the Council.
Officer Contact	Andy Barton Strategic Director Andy.barton@nwleicestershire.gov.uk

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CORPORATE DISPOSAL POLICY 2021

Section 1 - Statement of Purpose

- 1.1 The purpose of this policy is to establish a clear framework within which North West Leicestershire District Council (the Council) will dispose of its surplus and under-used assets and ensures that requests to purchase Council owned assets are dealt with in a fair, transparent and consistent manner. Such assets will include Housing Revenue Account (HRA) and General Fund (GF) properties and land, IT equipment, general equipment, machinery, tools and vehicles. The disposal policy will be supported by operational procedures, which will give the details of the process of disposing of the respective assets. It replaces all previous policies covering these issues.
- 1.2 All assets have been acquired to address a general or specialist needs, such as housing, business accommodation, public amenity and for use to provide a service i.e. equipment and vehicles used across the Council.
- 1.3 This policy and procedures have been produced to provide officers with clear guidance in one place on the required process to follow when disposing of Council assets.
- 1.4 For ease of reference this document is broken down to cover disposal of assets and equipment falling into three distinct groupings;
 - A. Land and property (major capital assets both HRA and GF)
 - B. Surplus or obsolete IT equipment
 - C. General equipment, surplus supplies, machinery and tools
- 1.5 Although this Policy will normally be followed, there will be occasions where the approach may need to be changed, particularly for larger, more complex land/property disposals or when it is significantly in the financial interest of the Council to do so. In essence, each asset disposal is to be treated on its own merits and nothing in this Policy will bind the Council to a particular course of action in respect of a disposal. Alternative methods of disposal not specifically mentioned in this Policy may be used where appropriate, subject to obtaining the necessary authority, which will normally be via the scheme of delegation or Cabinet. Some disposals may also be covered by individual case specific legislation. Where this is the case and a conflict occurs legislation will over ride this policy.

Definitions

- 1.6 The definition of assets are as follows:

'Property' and "Building' includes part of a building and any structure or part of a structure, but does not include a moveable dwelling or associated structure or part of a moveable dwelling or associated structure.

"Land" includes any land holding of the council, and its associated titles.

'Machinery', 'tools' and 'vehicles' includes any vehicle purchased as the Council's fleet and any machinery and equipment used for council employees to undertake their roles or to maintain or delivery of council services. This includes ICT equipment.

- 1.7 For the purposes of this Policy, "a disposal" of land & buildings means the disposal of any freehold, by sale or exchange, of Council owned land/property (including buildings) and any disposal by the granting of a lease or licence for a period greater than 7 years. Leases of 7 years or less or assignment of a term which has not more than 7 years to run are not covered by this Policy, as they are exempt from the statutory requirement to obtain best consideration as set out in ¹⁸⁵ Local Government Act 1972 as amended.

- 1.8 A “disposal of other assets” means the sale or gifting of any other holding as set out above.
- 1.9 “Surplus land” means any land that is no longer required for the main purposes that the council held/holds it and/or it does not have an independent highest and best use and may or may not contribute value to the asset holdings.
- 1.10 “Underused land” may be that that whilst is in use, its not used to its maximum or for its prime purpose and therefore may be suitable for disposal.

Section 2 - Land and Property Asset Disposals

Overriding Principles & Approach

- 2.1 The Council has wide discretion to dispose of its assets in any manner it wishes, subject to the provisions under sections 123 and 127 of the Local Government Act 1972 and section 87-89 of the Localism Act 2011. For some HRA disposals, the secretary of state's permission is required.
- 2.2 The way the Council manages its land/property assets can have a significant impact both on the quality of services delivered to the public and the local environment. Effective asset management is essential in bringing a flexibility to land and property assets so that the delivery of the Council's goals and objectives are realised in a sustainable manner, at the right time and on budget. This can best be achieved by maintaining an effective and current Asset Management Strategy that in conjunction with this policy should be the main driver in identifying assets for disposal.
- 2.3 The council holds land and property assets under either its General Fund and Housing Revenue Account (HRA). Different and specific rules apply to both sets of holdings, however in general the disposal of surplus property is prudent where it is surplus to requirements. This can be to free up resources to deliver the Council's wider objectives, or there may be circumstances in which a disposal is considered the best way to achieve the strategic objectives of the Council itself.
- 2.4 There are in general less strict rules on the disposal of General Fund assets. In regards to HRA assets, unless there are exceptional circumstances, the Council will primarily dispose of HRA land or property to increase capital receipts to support the HRA Asset Management Strategy, or if the disposal will benefit one or more of the following:
- A. The overall investment in the Council's existing HRA stock and assets to maintain good quality homes;
 - B. Strategic housing regeneration, development or redevelopment;
 - C. Investment in new build and/or acquisitions of good quality affordable housing;
 - D. Environmental improvements to housing estates;
 - E. Improved provision of housing services and/or delivery of the Council's Housing Strategy;
 - F. Revenue or capital income generation to the HRA;
- 2.5 All dealings in the Council's landed assets shall be conducted in accordance with the Local Government Act 1972 and other relevant legislation. Since the 1972 Act, government policy has also introduced the concepts of Community Asset Transfer, community rights in respect of Assets of Community Value, and recognition of the Social Return on investment. The Localism Act 2011 further extends rights and powers for communities and individuals. Any proposed disposals under the terms of this legislation will be completed through the relevant policies and procedures.
- 2.6 The Council will annually publish details of land/property that it has declared surplus to requirements in compliance with the Local Government Transparency Code 2015.

- 2.7 The day-to-day process for asset disposal will be via recommendations by the Asset Management Group (AMG) (or an Officer acting under the delegated authority of that Group) to the Director/Chief Executive or Cabinet (depending on value). The AMG is made up of representatives from legal, planning, leisure, cultural & community services, property & estates, and finance.
- 2.8 When considering potential disposals the Group will:
 - A. Satisfy itself that the land or property in question is either surplus or under-used
AND
 - B. Have due regard to the presumptions and priorities of the council.
AND
 - C. Follow the most appropriate legal route to complete the disposal.
- 2.9 The Council Constitution sets out that the disposal of an asset valued under £30,000 needs approval by the Chief Executive or Strategic Directors. Any asset over £30,000 needs Cabinet approval. The only exception is where the asset or disposal has been specifically identified in the annual budget and the disposal previously been approved by Council.

The Means of Identification of Surplus or Under Used Land/Property Assets

- 2.10 Through the control of the Asset Management Group (AMG), surplus or under-used land/property may be identified as being suitable for disposal by a variety of initiatives including but not limited to:
 - A. Undertaking an asset management review and therefore identifying land surplus to requirements ;
 - B. The identification of development opportunities;
 - C. The outcome of a corporate property portfolio review and therefore identifying land surplus to requirements;
 - D. Following a direct approach from an interested party / purchaser;
 - E. Where a disposal has been identified as helping to deliver other Council objectives such as the provision of housing in the District;
 - F. Where management of the land/property is considered suitable for community ownership or has been determined as an 'asset of community value' and disposed of as such.
 - G. Through declaring certain sites as being surplus to requirements
- 2.11 For the HRA, the Housing AssetsTeam Manager will be responsible for completing due diligence on HRA properties.
- 2.12 The Property Services Manager will carry out due diligence on land and commercial/corporate buildings.
- 2.13 Property Services will action all disposals of GF and HRA land and properties on behalf of Asset Management Group.

- 2.14 Under the Local Government Transparency Code 2015, Councils are required to publish details of all their landholdings (with certain exceptions) at least annually.
- 2.15 Land and property asset disposal assessment will normally be made with reference to the matrix below. This will not be the exclusive source of justification a disposal decision if circumstances dictate an alternative approach is more economically advantageous.

Weighting	1	2	3	4	5
Type of Asset	Core Business	Operational	Strategic Holding	Investment	For Disposal
Operational Fit	Excellent	Good	Fair	Poor	Unacceptable
Utilisation	Very High	High	Reasonable	Poor	Unacceptable
Condition	Excellent	Good	Fair	Poor	Unacceptable
Occupation Costs	Economic	Below Average	Average	Above Average	Uneconomic
Best Use Value	Yes	Partly	50/50	No	Inappropriate
Cost of disposal and to vacate	Low	Affordable	Marginal	Unacceptable	Too High
Market Demand	Strong	Good	Marginal	Unlikely	None

- 2.16 Scoring each property asset against the above criteria will produce a weighting that will identify those properties that it would be most advantageous for the Council to consider for rationalisation – the higher the score, the less compelling the case for retention. Within the context of this process the Council will endeavour to realise, within a reasonable timescale, all surplus land and property identified for disposal within its portfolio subject to the following criteria:
- 2.17 To ensure that the disposal does not have a negative impact on the Corporate Plan:
- The terms of any transaction are supported by an independent Valuation.
 - Best financial consideration being obtained unless social, environmental or economic benefits are provided in lieu.
 - The method of disposal will be determined on a case-by-case basis by the Asset Management Group.
 - Any leasehold disposal transfers all liabilities to the tenant (Full Repairing and Insuring) wherever possible.
- 2.18 Normally, an Officer acting under delegated powers will choose the method of disposal which provides best consideration unless the Asset Management Group authorises the taking into account of other considerations including social, environmental and economic benefits, which best secure the desired objectives/outcomes for the land and/or property.

- 2.19 To support this, an option appraisal may be undertaken to assesses the capital and revenue implications of alternative disposal option that includes the impact of the current economic conditions (e.g. should the asset be held until market conditions improve?) and the taxation implications following advice from the Council's Designated Section 151 Officer or representative.
- 2.20 In undertaking option appraisals for other than routine or low-value disposals, an officer acting under delegated powers will seek advice from Legal Services and external surveyors and/or a valuer, where deemed necessary, on the method of disposal.

Due Diligence

- 2.21 Through the matrix scoring shown in 2.15 above, due diligence will be carried out by classifying each asset prior to any disposal and will include but not limited to:
 - A. The expected revenue loss from the disposal of the asset for future years
 - B. A current market valuation
 - C. The market demand for an asset
 - D. The capital and revenue costs of an asset
 - E. The net savings following the disposal
 - F. The Net Present Value of the asset
 - G. The cost of disposal and to vacate
 - H. The legal title of the property
 - I. Planning and Building Regulation compliance for the existing use and proposed purpose, including the potential designated use in the Local Plan
 - J. The impact upon Zero Carbon delivery

Disposal Options

- 2.22 The process for disposing of an asset shall be determined at the time of the decision to dispose being made, and will represent the most economically advantageous option, having regard to costs of disposal and achieving the best return for the Council
 - A. Open market disposal - through an agent or direct marketing
 - B. Formal bids - after advertising
 - C. Auction – online or through auction house
 - D. Private Treaty Sale - negotiating with a single third party to agree terms for the disposal and will be used where there is only one purchaser.

Section 3 - Disposal, Reuse and Recycling of ICT Equipment

- 3.1 The procedure for the disposal, reuse and recycling of ICT equipment is to ensure that the Council fully:
 - A. Complies with current legislation

- B. Meets software license obligations
 - C. Reduces risk of sensitive data being released to unauthorised persons
- 3.2 The Council and its employees have a responsibility under several EU Directives including the Landfill Directive, the Waste Electronic & Electrical Equipment Directive (WEEE) and the Hazardous Waste Directive to ensure that the final disposal of all waste electronic and electrical equipment is both responsible and traceable. In order to meet this obligation it is the responsibility of the Council to ensure that a compliant disposal process is in place. In the event that these regulations are amended or superseded following the completion of the EU Exit process, the new requirements will apply.
- 3.3 Due to compliance risks associated with inappropriate disposal of electronic equipment, the Council requires items such as desk top PCs, laptops, tablet computers etc with data holding capacity to be recorded in the ICT Hardware Inventory and subsequently in the Disposals Inventory when disposed of. This is to record ownership and any subsequent transfer of equipment in order to assist with the traceability of the equipment through the stages of its lifetime and final disposal. It is the responsibility of the ICT Team Manager to maintain the inventories.

Reuse of Surplus IT Equipment within the Council

- 3.4 All unwanted ICT equipment must be returned to ICT. If unwanted equipment is still useable ICT follows a general policy of internal cascading of surplus equipment within the Council. If no use can be found within the Council for unwanted equipment or it is no longer functioning the ICT may use such equipment for parts.
- 3.5 ICT equipment must never be disposed of through other general waste routes. It is illegal to mix computer waste with general waste or to landfill untreated computer waste.
- 3.6 ICT equipment will not be donated to charities unless the disposal company takes on full responsibility for disposal of the equipment because otherwise this puts responsibility and liability on to the Council to ensure that the equipment is kept track of and returned to the Council to ultimately dispose of as it is still legally as being owned by the Council.
- 3.7 If no use can be found within the Council for unwanted equipment it must be disposed of as follows:
- A. The items disposed of must be moved from the ICT Hardware Inventory to the Disposals Inventory with the details of the disposal method, date disposed and authoriser.
 - B. Data storage must have all software and data removed or must be destroyed

Section 4 - Disposal of General Equipment, Surplus Supplies, Plant, Machinery and Tools

- 4.1 Assets which are surplus to requirements, redundant or obsolete can be considered for sale if the item is considered to have some use.
- 4.2 Plant and equipment should be disposed by one of the following routes detailed below.
- A. Auction House sale
 - B. Online Auction sale (including eBay and Gum Tree)
 - C. Public notice and process of Sealed Bids (for example, advertisement on the Council's website and/or social media, and/or in local newspaper and management of bidding process)

- D. Specialist disposals contractor
- E. Donation to Charity
- F. Gift to Partner Organisation

- 4.3 The disposal route selected should be based on an assessment of a likely market and the likelihood that the sale proceeds recovered will outweigh officer time in preparing and advertising the asset for sale.
- 4.4 The estimated value of an item and subsequent selling price should be established through market research and identification of similar assets of a similar age and condition.
- 4.5 The decision to dispose of an item of plant or equipment, the fixed sale price (or reserve price) and the route by which the item is disposed should be sought in line with the value of the asset and the council's authorisations limits as set out below (or as amended by the constitution current at the point of disposal).

Value	Authorisation
Above £100k	Cabinet
Up to £99,999	Chief Executive or Relevant Director
Up to £49,999	Heads of Service
Up to £24,999	Team Managers

- 4.6 Items of plant and equipment should be clearly advertised as "sold as seen". For any items where there may be a specific Health and Safety consideration, advice must be sought from the council's Health and Safety Officer.
- 4.7 Items to be advertised for sale via an online auction site should be referred to Property Services who will manage the sale process.
- 4.8 Once a sale of an item has been agreed Finance should also be notified for insurance purposes. The relevant Team Manager should ensure that the relevant inventories are updated with the disposal information so that there is an appropriate audit trail regardless of the disposal method chosen.
- 4.9 All disposal of all other non IT general equipment will be subject to valuation. The value of the item(s) will need to be estimated as accurately as possible to ensure that the correct method of disposal is used. The following methods can be applied to estimate the value of the item(s):
 - a. By obtaining a quotation or preliminary bid.
 - b. Previous knowledge and experience.
 - c. Research (internet, trade publications, other reports).
- 4.10 It is important to ensure that details such as values, item descriptions etc., are accurately recorded and evidenced to ensure a clear audit trail of the disposal process.
- 4.11 Once the value of the item(s) for disposal has been estimated, officers need to check this against the conditions set out below.
- 4.12 Re-Use or Relocation - Assets can be re-used or relocated to other departments or service areas within the council. The items can be advertised through the council's internal bulletin board found on the council's intranet site, Council wide email or where appropriate through raising the awareness of the Corporate Leadership Team.
- 4.13 As with the disposal of surplus IT equipment, officers must take reasonable steps to ensure that items to be disposed of are disposed of in such a way that the risk to the council is appropriately mitigated. Risks may include:

- A. Third party claims (where injury is caused by using the disposed of item).
- B. Breaches of legislation
- C. Reputational damage (arising from adopting environmentally unfriendly disposal routines).

4.14 Accurate records must be kept documenting asset disposals. In order to demonstrate good practice a record of all asset disposals by any method must be made and should include the following information:

- A. Item description including the make, model, serial number, etc.
- B. Is an item antique, collectable or a listed building item?
- C. Estimated value of item to be disposed including supporting evidence.
- D. Method of disposal (auction, recycled etc.).
- E. Date of disposal.
- F. Reason for disposal (obsolete, broken beyond economical repair)
- G. Name of officer authorising disposal.
- H. Sale receipts (retained for audit).

4.15 Items to be disposed of may be subject to VAT. Generally, VAT is charged at the standard rate of 20%, however, there are exceptions to this, for example when goods are sold to specific types of organisations. Where applicable the VAT element must be recorded. For further information and advice the Finance team should be contacted.

4.16 All sales of assets should be accompanied by a receipt and a completed Disclaimer. The Disclaimer should be signed and completed by both the council officer and the purchaser, with the original being retained by the council and a copy given to the purchaser for their records.

4.17 All assets sold or otherwise disposed of must be reported to the Finance team and all income should be paid in to the department's relevant budget code.

4.18 All equipment disposals and sales should follow this approved procedure and look to obtain best consideration:

Estimated Asset Sale Value (£)	Category	Procedure to be followed
0 – 5,000	Value for money	<ul style="list-style-type: none"> • Relocation to other service areas within NWLDC <ul style="list-style-type: none"> • Obtain quotes from outside agents. • Sell to staff by means of a sealed bid (the decision to sell to staff should be authorised by the appropriate Head of Service.)
5,000 – 30,000	Verbal quotations	Officers must seek and document at least three

		competitive quotes from purchasers or by placing a public advertisement.
30,000 – 100,000	Written quotations	All equipment assets that fall into this category must be notified to Head of Finance (Section 151 Officer) and their approval received before quotations are sought.
100,000 and above	Competitive Tender	Where an equipment asset has a value in excess of £100K Cabinet approval will be required and all such disposals must be reported to the Head of Finance in advance of any action been taken to dispose of the asset.

Section 5 - Disposal of Vehicles

- 5.1 Disposal of vehicles may be due to the item being over their economic life and costing more to maintain. The Transport Manager will make recommendations for replacing the fleet vehicles in accordance with the Fleet Strategy. Council vehicle disposals will be managed by the Transport Manager with a view to maximising the resale value or minimising the whole of life cost of vehicles. Council owned vehicles will normally be disposed through public auction.

Section 6 – Other relevant considerations

Money Laundering

- 6.1 All transactions related to HRA and GF land and property and all equipment sales should be carried out in accordance with the Council's Anti-Money Laundering Policy.

Internal and External Audit

- 6.2 Auditable records of all disposals will need to be maintained and accessible by the Council's Internal Audit function and External Audit to verify actions/values and how the authority made the decision to dispose. Any appointment of a third party consultant during any stage of a disposal process must reserve the right of access to their records in relation to the transaction.
- 6.3 The relevant Director must approve any disposal to an Elected Member, Member of Staff, or a close relative of either prior to completion.

Equality and Diversity

- 6.4 We aim to ensure that our policies and procedures are fair and transparent; and that we work towards achieving balanced and sustainable communities in accordance with our equality and diversity goals.

Monitoring and Review

- 6.5 This policy will be reviewed on a triannual basis to ensure it continues to be efficient and effective and in line with the Council's strategy and returns on asset values (Net Present Value calculation).

ENDS

ANNEX B

EXTRACT MINUTES of a meeting of the CORPORATE SCRUTINY COMMITTEE held in the Remote Meeting using Microsoft Teams on WEDNESDAY, 6 JANUARY 2021

Present: Councillor R Boam (Chairman)

Councillors D Bigby (Substitute for Councillor R Johnson), A J Bridgen, G Hoult, J Hoult, S Sheahan, N Smith and M B Wyatt

Portfolio Holders: Councillors R D Bayliss and N J Rushton

Officers: Mr A Barton, Mrs T Bingham, Mr T Delaney, M D'Oyly-Watkins, Mr C Lambert, Mrs R Wallace and Miss E Warhurst

22. CORPORATE DISPOSAL POLICY

The Head of Housing presented the report to Members.

Councillor R D Bayliss, as Housing and Customer Services Portfolio Holder, spoke in support of the report.

During discussion a concern was raised that the previous policy document was not available for comparison purposes and therefore a request for deferral was made to allow Members to review both documents simultaneously. The Strategic Director assured Members that this document now reflected the many changes to the constitution that had occurred since the policy was last reviewed, and included everything from the previous policy, plus improvements. He explained that it would not have been constructive to show comparison documents as the policy had been totally revised, he therefore advised Members against deferral.

A further debate was held on the suggested deferral of the item and by a majority, it was concluded that the item would remain on the agenda.

During discussion, the following comments were made by Members:

- Concerns were raised regarding the focus of the policy to gain income. It was felt that as a public body the primary focus of the Council was not to make money but to serve the community.
- Concerns were raised in relation to the disposals of community assets and HRA assets as it was felt that the criteria listed was not strict enough. It meant that practically anything could be sold for any reason and this would not be beneficial to the communities.
- A comment was raised that paragraph 2.10 of the policy should be reconsidered as it was the opinion that it did not make clear how to identify surplus or under used land/property assets.
- The Corporate Portfolio Holder took on board the comments made but overall felt that the policy was sound and would be reporting as such to Cabinet.
- In response to the comments made, the Head of Housing explained that this policy would be considered alongside the Disposals Policy, particularly when considering the assets of community value. In relation to the criteria within the policy, Members

were informed that this was felt the most flexible approach for the Council, the majority of which were brought forward from the previous policy.

In response to further questions, the Head of Housing explained that there were several source documents used to form the structure of the policy, but it was a document in its own right which had evolved over some time. Also, the thresholds for disposals had been amended to align with the constitution, this could be revisited in the future but would involve a subsequent process as part of a constitutional review. Finally, the policy did not include a reference to the external valuer as commercial and third-party valuers were now used, these are totally independent from the in-house team.

The Chairman thanked Members for their input and confirmed all comments would be provided to Cabinet when considering the report.

NORTH WEST LEICESTERSHIRE DISTRICT COUNCIL

CABINET – TUESDAY, 21 SEPTEMBER 2021



Title of Report	CORPORATE GOVERNANCE POLICIES - ANNUAL REVIEW	
Presented by	Councillor Nicholas Rushton Corporate Portfolio Holder	
Background Papers	<u>Minutes from Audit and Governance Committee Meeting 21/07/2021</u>	Public Report: Yes Key Decision: Yes
Financial Implications	The update of policies will protect the Council's finances. Signed off by the Section 151 Officer: Yes	
Legal Implications	The update of policies will ensure compliance with current Legislation. Signed off by the Monitoring Officer: Yes	
Staffing and Corporate Implications	Any staffing or corporate implications are detailed in the policies. Signed off by the Head of Paid Service: Yes	
Purpose of Report	To provide Cabinet's comments on the Council's Revised Governance Policies	
Reason for Decision	To ensure that the council has an up to date suite of governance policies in place reflecting the law and best practice.	
Recommendations	<p>THAT CABINET:</p> <ol style="list-style-type: none"> 1. NOTE THE COMMENTS FROM THE AUDIT AND GOVERNANCE COMMITTEE ITS MEETING ON THE 21 JULY 2021 2. APPROVE THE CORPORATE GOVERNANCE POLICES LISTED IN PARAGRAPH 2 	

1.0 BACKGROUND

- 1.1 The Council is responsible for ensuring that its business is conducted in accordance with the law and appropriate standards. In discharging this responsibility the Council has in place arrangements for governance of its affairs and staff.

1.2 The following documents constitute the Council's suite of Corporate policies:

Policy	Last reviewed
Anti-Fraud and Corruption Policy	2020
Anti-Money Laundering Policy	2020
RIPA Policy	2020
Information Management	2020
Data Protection Policy	2020
Confidential Reporting (Whistleblowing) Policy	2020
ICT & Cyber Security Policy	2020
Risk Management Strategy	2020
Local Code of Corporate Governance	2020

2.0 POLICY REVIEWS

- 2.1 The policies have been reviewed by a team comprising Legal, Internal Audit, ICT, the Monitoring Officer, the Strategic Director of Housing and Customer Services, the Data Protection Officer and the Section 151 Officer.

The main changes to each policy are summarised below:

2.2 Anti-Fraud and Corruption Policy

There have been no changes in legislation that affect this policy since the previous review and, therefore, only minimum amendments have been made, namely the temporary update of the Section 151 officer details and the change to the review of the policies from bi-annually to annually.

2.3 Anti-Money Laundering Policy

There have been no changes in legislation that affect this policy since the previous review and, therefore, only minimum amendments have been made, namely the temporary update of the Section 151 officer details and the change to the review of the policies from bi-annually to annually.

2.4 Confidential Reporting (Whistleblowing Policy)

There have been no changes in legislation that affect this policy since the previous review and, therefore, only minimum amendments have been made, namely the temporary update of the Section 151 officer details and the change to the review of the policies from bi-annually to annually.

2.5 Risk Management Policy

There have no changes to this policy as it has been performing well. The Committee has received regularly updates in line with the policy. The Risk Register will also be reported along with the 6 monthly and annual MTFP/S process to ensure that these are considered along with budgetary implications.

2.6 RIPA Policy

There have been three changes to this policy.

Paragraph 6.1 has been amended to reflect the fact that the drone is not intentionally used for surveillance, rather it is used for investigations.

Paragraph 6.1 has also been amended to include a statement that when the drone is used in residential or highly populated areas notification that the drone is be used will be published on the Council's website prior to the flight. This is to ensure that use of the drone is not covert, and thus use of the drone for an investigation, does not become covert surveillance.

Paragraph 6.2 has been removed from this policy. This paragraph related to the use of the Council owned drone for publicity purposes at public events. Such use of the drone is not for investigative purposes, therefore is not captured by RIPA, hence the paragraph has been removed.

Other amendments are typographical.

2.7 Information Management Policy

There have been no changes to this Policy.

2.8 Data Protection Policy

There have been no changes to this Policy.

2.9 ICT & Cyber Security Policy

There has been one change to this Policy to reflect the Zurich Insurance cover for IT requirement as part of homeworking and how staff should keep their equipment safe when working in an agile manner.

2.10 Local Code of Corporate Governance

There have been no changes to this Policy.

3.0 **COMMENTS FROM AUDIT AND GOVERNANCE COMMITTEE**

This Report along with the appended policies were taken to the Audit and Governance Committee on the 21 July 2021. The minutes of this committee can be found by following the link in the background papers.

The Audit and Governance Committee did not propose any amendments to the policies and resolved that that they be noted ahead of consideration by Cabinet.

Policies and other considerations, as appropriate	
Council Priorities:	Our communities are safe, healthy and connected
Policy Considerations:	All those detailed within this report.
Safeguarding:	Whistleblowing, surveillance using RIPA and Protecting people's data are all considered to be

	safeguarding our communities.
Equalities/Diversity:	The opportunity for whistleblowing helps to ensure any risk of inequality or lack of diversity can be highlighted.
Customer Impact:	Anti-fraud, anti-money laundering and corruption will protect the customer from financial impact.
Economic and Social Impact:	Anti-fraud, anti-money laundering and corruption will protect the customer from economic impact.
Environment and Climate Change:	N/A
Consultation/Community Engagement:	N/A
Risks:	Risk Management Policy
Officer Contact	Dan Bates Head of Finance Dan.Bates@nwleicestershire.gov.uk



ANTI-FRAUD AND CORRUPTION POLICY

A guide to the Council's approach to preventing fraud and corruption and managing suspected cases

Version Control

Version No.	Author	Date
2.1	Anna Wright, Senior Auditor	September 2015
2.2	Lisa Marron, Audit Manager	October 2019
2.3	Kerry Beavis, Senior Auditor	May 2020
2.4	Kerry Beavis, Senior Auditor	June 2021

**Version 2.4
June 2021**

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ANTI-FRAUD AND CORRUPTION POLICY

1. INTRODUCTION

- 1.1 North West Leicestershire District Council has a duty to ensure that it safeguards the public money that it is responsible for. The Council expects the highest standards of conduct and integrity from all that have dealings with it including staff, members, contractors, volunteers and the public. It is committed to the elimination of fraud and corruption and to ensuring that all activities are conducted ethically, honestly and to the highest standard of openness and accountability so as to protect public safety and public money.
- 1.2 All suspicions or concerns of fraudulent or corrupt practise will be investigated. There will be no distinction made in investigation and action between cases that generate financial benefits and those that do not. Any investigations will not compromise the Council's commitment to Equal Opportunities or the requirements of the Human Rights Act or any other relevant statutory provision.

2. SCOPE

- 2.1 This policy provides an overview of the measures designed to combat any attempted fraudulent or corrupt act, whether attempted internally or externally. The policy is designed to:
- encourage prevention;
 - promote detection;
 - ensure effective investigation where suspected fraud or corruption has occurred;
 - prosecute offenders where appropriate; and
 - recover losses in all instances of fraud or financial irregularity where possible.

3. DEFINITIONS

3.1 Fraud

- 3.1.1 The Fraud Act 2006 is legislation that has been introduced in order to provide absolute clarity on the subject of fraud. Section 1 of the Act introduced a new general offence of fraud and three ways of committing it:
- fraud by false representation;
 - fraud by failing to disclose information; and
 - fraud by abuse of position.

3.1.2 Fraud by false representation requires:

- dishonesty;
- an intent to make gain or cause loss; and
- the person makes the representation knowing that it is or might be untrue or misleading.

3.1.3 Fraud by failing to disclose information requires:

- dishonesty;
- an intent to make gain or cause loss; and

- failure to disclose information where there is a legal duty to disclose.

3.1.4 Fraud by abuse of position requires:

- dishonesty;
- an intent to make gain or cause loss; and
- abuse of a position where one is expected to safeguard another person's financial interests.

3.2 Corruption

3.2.1 Corruption is a form of dishonesty or criminal activity undertaken by a person or organisation entrusted with a position of authority, often to acquire illicit benefit.

3.3 Bribery

3.3.1 Broadly the Bribery Act 2010 defines bribery as giving or receiving a financial or other advantage in connection with the "improper performance" of a position of trust, or a function that is expected to be performed impartially or in good faith.

3.4 Money Laundering

3.4.1 Money laundering describes offences involving the integration of the proceeds of crime, or terrorist funds, into the mainstream economy. Whilst the risk of money laundering to the Council is relatively low and the provision of The Money Laundering Regulations 2007 do not strictly apply to the Council, the Council has adopted an AntiMoney Laundering policy as good practice. This policy supports staff in complying with the money laundering provisions included within the Proceeds of Crime Act 2002 and the Terrorism Act 2000.

4. CULTURE

4.1 We have determined that the culture and tone of the organisation will be one of honesty and opposition to fraud and corruption. We will not tolerate malpractice or wrongdoing in the provision of our services and are prepared to take vigorous action to stamp out any instances of this kind of activity. The fight against fraud and corruption can only be truly effective where these acts are seen as anti-social unacceptable behaviour and whistle blowing is perceived as a public-spirited action.

4.2 The prevention/detection of fraud/corruption and the protection of public money are responsibilities of everyone, both internal and external to the organisation. The Council's elected members and employees play an important role in creating and maintaining this culture. They are positively encouraged to raise concerns regarding fraud and corruption, immaterial of seniority, rank or status, in the knowledge that such concerns will wherever possible be treated in confidence. The public also has a role to play in this process and should inform the Council if they feel that fraud/corruption may have occurred. The Nolan Committee on Standards in Public Life set out the seven guiding principles (Appendix A) that apply to people who serve the public.

4.3 Concerns must be raised when members, employees or the public reasonably believe that one or more of the following has occurred or is in the process of occurring or is likely to occur:

- a criminal offence;
- a failure to comply with a statutory or legal obligation;
- improper or unauthorised use of public or other official funds;
- a miscarriage of justice;
- maladministration, misconduct or malpractice;
- endangering an individual's health and/or safety;
- damage to the environment; and
- deliberate concealment of any of the above.

4.4 The Council will ensure that any allegations received in any way, including by anonymous letter or telephone call, will be taken seriously and investigated in an appropriate manner. The Council has a [Confidential Report \(Whistleblowing\) policy](#) that sets out the approach to these types of allegation in more detail.

4.5 The Council will take action against those who defraud the Council or who are corrupt or where there has been financial malpractice. There is, of course, a need to ensure that any investigation process is not misused and, therefore, any abuse (such as employees raising malicious allegations) may be dealt with as a disciplinary matter.

4.6 Where fraud or corruption has occurred due to a breakdown in the Council's systems or procedures, the Head of Service will ensure that appropriate improvements in systems of control are implemented in order to prevent re-occurrence.

5. RESPONSIBILITIES

5.1 Responsibilities of Elected Members

5.1.1 As elected representatives, all members of the Council have a duty to protect the Council and public money from any acts of fraud and corruption. This is done through existing practice, compliance with the Members' Code of Conduct, the Council's Constitution including Financial Regulations and Standing Orders and relevant legislation.

5.2 Responsibilities of the Monitoring Officer

5.2.1 The Monitoring Officer is responsible for ensuring that all decisions made by the Council are within the law. The Monitoring Officer's key role is to promote and maintain high standards of conduct throughout the Council by developing, enforcing and reporting appropriate governance arrangements including codes of conduct and other standards policies.

5.3 Responsibilities of the Section 151 Officer

5.3.1 The Head of Finance has been designated as the statutory officer responsible for financial matters as defined by s151 of the Local Government Act 1972. The legislation requires that every local authority in England and Wales should 'make arrangements

for the proper administration of their financial affairs and shall secure that one of their officers has the responsibility for the administration of those affairs'.

5.3.2 Under the Head of Finance's responsibilities, 'proper administration' encompasses all aspects of local authority financial management including:

- compliance with the statutory requirements for accounting and internal audit;
- managing the financial affairs of the Council;
- the proper exercise of a wide range of delegated powers both formal and informal;
- the recognition of the fiduciary responsibility owed to local tax payers.

Under these statutory responsibilities the Section 151 Officer contributes to the antifraud and corruption framework of the Council.

5.4 Responsibilities of Employees

5.4.1 Each employee is governed in their work by the Council's Standing Orders and Financial Regulations, and other codes on conduct and policies (Employee Code of Conduct, Health and Safety Policy, ICT and Cyber Security Policy). Included in the Employee Code of Conduct are guidelines on Gifts and Hospitality, and advice on professional and personal conduct and conflicts of interest. These are issued to all employees when they join the Council. Appropriate disciplinary procedures will be invoked where there is a breach of policy.

5.4.2 Employees are responsible for ensuring that they follow instructions given to them by management, particularly in relation to the safekeeping of the assets of the Council.

5.4.3 Employees are expected always to be aware of the possibility that fraud, corruption and theft may exist in the workplace and be able to share their concerns with management.

5.5 Role of the Leicestershire Revenues and Benefits Partnership Fraud Investigation Team

5.5.1 The Fraud Team based at the Leicestershire Revenues and Benefits Partnership are responsible for the investigation of all revenues and benefit related alleged/suspected fraud cases. Due to the specialised nature of these investigations, a separate sanctions policy has been developed that covers all aspects of the investigation process.

5.6 Role of the External Auditors

5.6.1 Independent external audit is an essential safeguard of the stewardship of public money. This is currently carried out by Mazars LLP through specific reviews that are designed to test (amongst other things) the adequacy of the Council's financial systems and arrangements for preventing and detecting fraud and corruption. It is not the external auditor's function to prevent fraud and irregularities, but the integrity of public funds is at all times a matter of general concern. External auditors are always alert to the possibility of fraud and irregularity, and will act without undue delay if grounds for suspicion come to their notice.

5.7 Role of the Public

5.7.1 This policy, although primarily aimed at those within or associated with the Council, enables concerns raised by the public to be investigated, as appropriate, by the relevant person in a proper manner.

5.8 Conflicts of Interest

5.8.1 Both elected members and employees must ensure that they avoid situations where there is a potential for a conflict of interest. Such situations can arise with externalisation of services, internal tendering, planning and land issues etc. Effective role separation will ensure decisions made are seen to be based on impartial advice and avoid questions about improper disclosure of confidential information.

6. PREVENTION AND DETERRENCE

6.1 Responsibilities of the Senior Management Team

6.1.1 Managers at all levels are responsible for the communication and implementation of this policy. They are also responsible for ensuring that their employees are aware of the Council's policies and procedures relating to financial management and conduct and that the requirements are being met. Managers are expected to create an environment in which their staff feel able to approach them with any concerns they may have about suspected irregularities. Special arrangements may be applied from time to time for example where employees are responsible for cash handling or are in charge of financial systems and systems that generate payments, for example payroll or the Council Tax system. These procedures should be supported by relevant training.

6.1.2 Management has responsibility for the prevention of fraud and corruption within all departments. It is essential that managers understand the importance of soundly designed systems which meet key control objectives and minimise opportunities for fraud and corruption. They are responsible for assessing the potential for fraud and corruption within their own department's activities and for implementing appropriate strategies to minimise this risk.

6.1.3 The Council recognises that a key preventative measure in dealing with fraud and corruption is for managers to take effective steps at recruitment stage to establish, as far as possible, the honesty and integrity of potential employees, whether for permanent, temporary or casual posts and agency staff. The Council's formal recruitment procedures contain appropriate safeguards in the form of written references, the verification of qualifications held and employment history. Disclosure and Barring Service (DBS) checks are undertaken for employees working with or who may have contact with children and vulnerable adults.

6.2 Role of Internal Audit

6.2.1 Internal Audit plays a preventative role in trying to ensure that systems and procedures are in place to prevent and deter fraud and corruption. Internal Audit may be requested to investigate cases of suspected financial irregularity, fraud or corruption, except Benefit fraud investigations and Single Person Discount fraud, in accordance with agreed procedures. Within the Financial Procedures Rules in the Constitution, representatives of Internal Audit have the authority to:

- enter any Council owned or occupied premises or land at all times (subject to any legal restrictions outside the Council's control);
- have access at all times to the Council's records, documents and correspondence;
- require and receive such explanations from any employee or member of the Council as he or she deem necessary concerning any matter under examination; and
- require any employee or member of the Council to produce cash, stores or any other Council owned property under their control.

Internal Audit liaises with management to recommend changes in procedures to reduce risks and prevent losses to the Authority.

6.3 Working with Others and Sharing Information

6.3.1 The Council is committed to working and co-operating with other organisations to prevent fraud and corruption and protect public funds. The Council may use personal information and data-matching techniques to detect and prevent fraud, and ensure public money is targeted and spent in the most appropriate and cost-effective way. In order to achieve this, information may be shared with other bodies for auditing or administering public funds including the Cabinet Office, the Department of Work and Pensions, other local authorities, National Anti-Fraud Network, HM Revenues and Customs, and the Police.

6.4 National Fraud Initiative (NFI)

6.4.1 The Council participates in the National Fraud Initiative (NFI). This requires public bodies to submit a number of data sets, for example payroll, Council Tax, and accounts payable (but not limited to these) which is then matched to data held by other public bodies. Any positive matches (e.g. an employee on the payroll in receipt of housing benefit) are investigated.

6.5 Data Sharing

6.5.1 In the interests of protecting the public purse and the prevention and detection of fraud, members of staff are actively encouraged to report any instances of fraud. We have published fair processing notices on our website and also display this information in our public areas, notifying members of the public that we will share information held between departments and other third party organisations as appropriate in order to prevent and detect crime.

6.6 Training and Awareness

6.6.1 The successful prevention of fraud is dependent on risk awareness, the effectiveness of training and the responsiveness of staff throughout the Council. The Council recognises that the continuing success of this policy and its general credibility will depend in part on the effectiveness of training and awareness for members and employees and will therefore take appropriate action to raise awareness levels.

6.7 Disciplinary Action

- 6.7.1 The Council's Disciplinary Procedures will be used to facilitate a thorough investigation of any allegations of improper behaviour by employees. Theft, fraud and corruption are serious offences which may constitute gross misconduct against the Council and employees will face disciplinary action if there is evidence that they have been involved in these activities, including benefit fraud. Disciplinary action will be taken in addition to, or instead of, criminal proceedings depending on the circumstances of each individual case.
- 6.7.2 Members will face appropriate action under this policy if they are found to have been involved in theft, fraud or corruption against the Authority. Action will be taken in addition to, or instead of criminal proceedings, depending on the circumstances of each individual case but in a consistent manner. If the matter is a breach of the Members' Code of Conduct then it will be dealt with under the arrangements agreed by the Council in accordance with the Localism Act 2011.

6.8 Prosecution

- 6.8.1 In terms of proceedings the Council will endeavour to take action in relevant cases to deter others from committing offences against the Authority. Any prosecution will be in accordance with the principles contained within The Code for Crown Prosecutors.

6.9 Publicity

- 6.9.1 The Council will optimise the publicity opportunities associated with anti-fraud and corruption activity within the Council. Wherever possible, where the Council has suffered a financial loss action will be taken to pursue the recovery of the loss.
- 6.9.2 All anti-fraud and corruption activities, including the update of this policy, will be publicised in order to make employees and the public aware of the Council's commitment to taking action on fraud and corruption when it occurs.

7. DETECTION AND INVESTIGATION

- 7.1 Although audits may detect fraud and corruption as a result of the work that they are undertaking, the responsibility of the detection of financial irregularities primarily rests with management. Included within the audit plans are reviews of system controls including financial controls and specific fraud and corruption tests, spot checks and unannounced visits.
- 7.2 In addition to Internal Audit, there are numerous systems and management controls in place to deter fraud and corruption but it is often the vigilance of employees and members of the public that aids detection. In some cases frauds are discovered by chance or 'tip-off' and the Council will ensure that such information is properly dealt with within its Confidential Reporting (Whistleblowing) policy.
- 7.3 The Council is committed to the investigation of all instances of actual, attempted and suspected fraud committed by employees, members, consultants, suppliers and other third parties and the recovery of funds and assets lost through fraud.
- 7.4 Any suspected fraud, corruption or other irregularity should be reported to Internal Audit. The Audit Manager will decide on the appropriate course of action to ensure that any

investigation is carried out in accordance with Council policies and procedures, key investigation legislation and best practice. This will ensure that investigations do not jeopardise any potential disciplinary action or criminal sanctions.

7.5 Action could include:

- investigation carried out by Internal Audit staff;
- joint investigation with Internal Audit and relevant directorate management;
- directorate staff carry out investigation and Internal Audit provide advice and guidance;
- referral to the Police.

7.6 The responsibility for investigating potential fraud, corruption and other financial irregularities within the Council lies mainly (although not exclusively) with the Internal Audit section.

8. RAISING CONCERNs

8.1 All suspected or apparent fraud or financial irregularities must be raised, in the first instance, directly with the manager or if necessary in accordance with the Council's [Confidential Reporting \(Whistleblowing\) Policy](#). Advice and guidance on how to pursue matters of concern may be obtained from the Council's nominated contact points who are:

- Chief Executive: bev.smith@nwleicestershire.gov.uk Telephone 01530 454500
- Monitoring Officer: elizabeth.warhurst@nwleicestershire.gov.uk Telephone 01530 454762
- Section 151 Officer: dan.bates@nwleicestershire.gov.uk Telephone 01530 454707
- Audit Manager: lisa.marron@nwleicestershire.gov.uk Telephone 01530 454728

9. Review

9.1 This policy will be reviewed annually or if legislation changes if this is sooner,

APPENDIX A

THE SEVEN PRINCIPLES OF PUBLIC LIFE

Selflessness

Holders of public office should take decisions solely in terms of the public interest. They should not do so in order to gain financial or other material benefits for themselves, their family, or their friends.

Integrity

Holders of public office should not place themselves under any financial or other obligation to outside individuals or organisation that might influence them in the performance of their official duties.

Objectivity

In carrying out public business, including making public appointments, awarding contracts or recommending individuals for rewards and benefits, holders of public office should make choices on merit.

Accountability

Holders of public office are accountable for their decisions and actions to the public and must submit themselves to whatever scrutiny is appropriate to their office.

Openness

Holders of public office should be as open as possible about all the decisions and action that they take. They should give reasons for their decisions and restrict information only when the wider public interest clearly demands.

Honesty

Holders of public office have a duty to declare any private interests relating to their public duties and to take steps to resolve any conflicts arising in a way that protects the public interest.

Leadership

Holders of public office should promote and support these principles by leadership and example.

Committee on Standards in Public Life - The Nolan Report (1995)



ANTI-MONEY LAUNDERING POLICY

**A guide to the Council's anti-money
laundering safeguards and reporting
arrangements**

Version Control

Version No.	Author	Date
2.1	Anna Wright, Senior Manager	September 2015
2.2	Kerry Beavis, Senior Auditor	May 2020
2.3	Kerry Beavis, Senior Auditor	June 2021

**Version 2.3
June 2021**

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ANTI-MONEY LAUNDERING POLICY

1. INTRODUCTION

1.1 The Council is committed to the highest possible standards of conduct and has, therefore, put in place appropriate and proportionate anti-money laundering safeguards and reporting arrangements. Although local authorities are not directly covered by the requirements of the Money Laundering and Terrorist Financing (Amendment) Regulations 2019, they are bound by the Proceeds of Crime Act 2002 and the Terrorism Act 2006, both of which place a number of duties and responsibilities on local authorities and employees and members of the same, in order that they do not find themselves subject to criminal prosecution.

2. SCOPE OF THE POLICY

2.1 This policy applies to all employees, whether permanent or temporary, and members of the Council. Its aim is to enable employees and members to respond to a concern they have in the course of their dealings for the Council. Individuals who may have a concern relating to a matter outside work should contact the Police.

3. DEFINITION OF MONEY LAUNDERING

3.1 Money laundering is a term designed to cover a number of offences. These offences relate to the improper handling of funds that are the proceeds of criminal acts, or terrorist acts, so that they appear to come from a legitimate source. It relates to both the activities of organised crime but also to those who benefit financially from dishonest activities such as receiving stolen goods. The Proceeds of Crime act 2002 (POCA), as amended by the Serious Organised Crime and Police Act 2005, creates a range of criminal offences arising from dealing with proceeds of crime.

The four main offences that may be committed under money laundering legislation are:

- concealing, disguising, converting, transferring or removing criminal property from anywhere in the UK;
- entering into or becoming concerned in an arrangement which a person knows or suspects facilitates the acquisition, retention, use or control of criminal property by or on behalf of another person;
- acquiring, using or possessing criminal property*;
- entering into or being concerned in an arrangement which facilitates the retention or control by or on behalf of another person of terrorist property ** by concealment, removal, transfer or in any other way.

It is also an offence to attempt, conspire or incite to commit any of the above offences and to aid, abet, counsel or procure the commission of any of the above offences.

* Criminal property is something which constitutes a person's benefit from criminal conduct or represents such benefit; it is not limited to money and there is no minimum amount.

** Terrorist property includes money or other property likely to be used for terrorism, proceeds of terrorist acts, and proceeds of acts carried out for the purposes of terrorism.

There are also two ‘third party’ offences:

- failing to disclose information relating to money laundering offences (in respect of both criminal property and terrorist property) where there is reasonable grounds for knowledge or suspicion ***; and,
- tipping off or informing someone who is, or is suspected of being involved in money laundering activities, in such a way as to reduce the likelihood of or prejudice an investigation.

*** It is important to note that whilst the disclosure obligations and tipping off offences in relation to criminal property will not always strictly apply to local authorities all individuals and businesses have an obligation to report knowledge, reasonable grounds for belief or suspicion about the proceeds from terrorism, proceeds of acts carried out for the purposes of terrorism or likely to be used for terrorism, where that information has come to them in the course of their business or employment.

3.2 The Terrorism Act made it an offence of money laundering to become concerned in an arrangement relating to the retention or control of property likely to be used for the purpose of terrorism, or resulting from acts of terrorism.

3.3 Although the term ‘money laundering’ is generally used to describe the activities of organised crime for most people it will involve a suspicion that someone they know, or know of, is benefiting financially from dishonest activities.

3.4 Potentially very heavy penalties (unlimited fines and imprisonment up to fourteen years) can be handed down to those who are convicted of one of the offences above.

4. REQUIREMENTS OF THE MONEY LAUNDERING LEGISLATION

4.1 The main requirements of the legislation are:

- to appoint a money laundering reporting officer;
- maintain client identification procedures in certain circumstances;
- implement a procedure to enable the reporting of suspicions of money laundering;
- maintain record keeping procedures.

5. THE MONEY LAUNDERING REPORTING OFFICER (MLRO)

5.1 The Council has designated the Section 151 Officer as the Money Laundering Reporting Officer (MLRO). She can be contacted on 01530 454707 or at dan.bates@nwleicestershire.gov.uk.

In the absence of the MLRO or instances where it is suspected that the MLRO themselves are involved in suspicious transactions, concerns should be raised with the Deputy Section 151 Officer. She can be contacted on 01530 454492 or at anna.wright@nwleicestershire.gov.uk.

6. CLIENT IDENTIFICATION PROCEDURES

- 6.1 Although not a legal requirement, the Council has developed formal client identification procedures which must be followed when Council land or property is being sold. These procedures require individuals and, if appropriate, companies to provide proof of identity and current address.

If satisfactory evidence is not obtained at the outset of a matter, then the transaction must not be progressed and a disclosure report, available on the intranet, must be submitted to the Money Laundering Reporting Officer.

All personal data collected must be kept in compliance with the Data Protection Act 2018.

7. REPORTING PROCEDURE FOR SUSPICIONS OF MONEY LAUNDERING

- 7.1 Where you know or suspect that money laundering activity is taking/has taken place, or become concerned that your involvement in a matter may amount to a prohibited act under the Act, you must disclose this as soon as practicable to the MLRO. The disclosure should be within 'hours' of the information coming to your attention, not weeks or months.

- 7.2 Your disclosure should be made to the MLRO using the disclosure form, available on the intranet.

The report must include as much detail as possible including:

- full details of the person involved;
- full details of the nature of their/your involvement;
- the types of money laundering activity involved;
- the dates of such activities;
- whether the transactions have happened, are ongoing or are imminent;
- where they took place;
- how they are undertaken;
- the (likely) amount of money/assets involved; and
- why, exactly, you are suspicious.

Along with any other available information to enable the MLRO to make a sound judgement as to whether there are reasonable grounds for knowledge or suspicion of money laundering and to enable her to prepare her report to the National Crime Agency (NCA), where appropriate. You should also enclose copies of any relevant supporting documentation.

- 7.3 If you are concerned that your involvement in the transaction would amount to a prohibited act under sections 327-329 of the Proceeds of Crime Act 2002, then your report must include all relevant details, as you will need consent from the NCA, via the MLRO, to take any further part in the transaction – this is the case even if the client gives instructions for the matter to proceed before such consent is given. You should therefore make it clear in the report if such

consent is required and clarify whether there are any deadlines for giving such consent e.g. a completion date or court deadline.

- 7.4 Once you have reported the matter to the MLRO you must follow any directions she may give you. You must NOT make any further enquiries into the matter yourself, any necessary investigation will be undertaken by the NCA. Simply report your suspicions to the MLRO who will refer the matter on to the NCA if appropriate. All members of staff will be required to co-operate with the MLRO and the authorities during any subsequent money laundering investigation.
- 7.5 Similarly, at no time and under no circumstances should you voice any suspicions to the person(s) whom you suspect of money laundering, even if the NCA has given consent to a particular transaction proceeding, without the specific consent of the MLRO; otherwise you may commit a criminal offence of 'tipping off'.
- 7.6 Do not, therefore, make any reference on a client file, to a report having been made to the MLRO - should the client exercise their right to see the file, then such a note will obviously tip them off to the report having been made and may render you liable to prosecution. The MLRO will keep the appropriate records in a confidential manner.

8. CONSIDERATION OF THE DISCLOSURE BY THE MONEY LAUNDERING REPORTING OFFICER

8.1 Upon receipt of a disclosure report, the MLRO must note the date of receipt on her section of the report and acknowledge receipt of it. She should also advise you of the timescale within which she expects to respond to you.

8.2 The MLRO will consider the report and any other available internal information she thinks relevant, e.g.

- reviewing other transaction patterns and volumes;
- the length of any business relationship involved;
- the number of any one-off transactions and linked one-off transactions;
- any identification evidence held;

and undertake such other reasonable inquiries she thinks appropriate in order to ensure that all available information is taken into account in deciding whether a report to the NCA is required (such enquiries being made in such a way as to avoid any appearance of tipping of those involved). The MLRO may also need to discuss the report with you.

8.3 Once the MLRO has evaluated the disclosure report and any other relevant information, she must make a timely determination as to whether:

- there is an actual or suspected money laundering taking place; or
- whether there are reasonable grounds to know or suspect that this is the case; and
- whether she needs to seek consent from the NCA for a particular transaction to proceed.

- 8.4 Where the MLRO does so conclude, then she must disclose the matter as soon as practicable to the NCA on their standard report form and in the prescribed manner, unless she has a reasonable excuse of non-disclosure to the NCA (for example, if you are a lawyer and you wish to claim legal professional privilege for not disclosing the information).
- 8.5 Where the MLRO suspects money laundering but has a reasonable excuse for nondisclosure, then she must note the report accordingly, she can then immediately give her consent for any ongoing or imminent transactions to proceed. In cases where legal professional privilege may apply, the MLRO must liaise with the Council's Monitoring Officer to decide whether there is a reasonable excuse for not reporting the matter to the NCA.
- 8.6 Where consent is required from the NCA for a transaction to proceed, then the transaction(s) in question, must not be undertaken or completed until the NCA has given specific consent, or there is deemed consent through the expiration of the relevant time limits in which the NCA must respond and no response has been received.
- 8.7 Where the MLRO concludes that there are no reasonable grounds to suspect money laundering then she shall mark the report accordingly and give her consent for any ongoing or imminent transaction(s) to proceed.
- 8.8 All disclosure reports referred to the MLRO and reports made by her to the NCA must be retained by the MLRO in a confidential file kept for that purpose, for a minimum of five years.
- 8.9 The MLRO commits a criminal offence if she knows or suspects, or has reasonable grounds to do so, through a disclosure being made to her, that another person is engaged in money laundering and she does not disclose this as soon as practicable to the NCA.

9. TRAINING

- 9.1 Officers considered likely to be exposed to suspicious situations, will be made aware of these by their senior officer and provided with appropriate training.
- 9.2 Additionally, all employees and members will be familiarised with the legal and regulatory requirements relating to money laundering and how they affect both the Council and themselves.
- 9.3 Notwithstanding the paragraphs above, it is duty of officers and members to report all suspicious transactions whether they have received their training or not.

10. REVIEW

- 10.1 This policy will be reviewed annually and whenever the relevant legislation changes.

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CONFIDENTIAL REPORTING (WHISTLEBLOWING) POLICY

Policy Statement

Version Control

Version No.	Author	Date
2.1	Kerry Beavis, Senior Auditor	May 2020
2.2	Kerry Beavis, Senior Auditor	June 2021

**Version 2.2
June 2021**

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CONFIDENTIAL REPORTING (WHISTLEBLOWING) POLICY

“North West Leicestershire District Council is committed to the prevention, deterrence, detection and investigation of fraud, corruption and malpractice in all forms. It encourages employees and members of the Council and its contractors who have serious concerns about any aspect of its work, including matters of health and safety, to voice those concerns.”

1. INTRODUCTION

1.1 The Council is committed to the highest possible standards of openness, probity and accountability. In line with that commitment we expect employees, members and others that we deal with, who have serious concerns about any aspect of the Council’s work to come forward and voice those concerns. This Confidential Reporting Policy is intended to encourage and enable employees, members, contractors or suppliers to raise serious concerns **within** the Council rather than overlooking a problem or “blowing the whistle” outside.

1.2 This Policy provides guidance on the way in which concerns may be raised.

This Policy also sets out how matters can be taken further if a person remains dissatisfied with the Council’s response to any concerns raised.

1.3 Employees, members, contractors and suppliers are often the first to realise that there may be something seriously wrong within the Council. However, they may not express their concerns because they feel that speaking up would be disloyal to their colleagues or to the Council, or they perceive that it could harm their chances of future business or their career prospects. They may also fear harassment or victimisation. In such circumstances individuals may consider it to be easier to ignore the concern rather than report what may only be a suspicion of malpractice. This Policy document makes it clear that individuals raising concerns will do so without fear of victimisation, subsequent discrimination or disadvantage.

1.4 It is recognised that, where concerns are raised, most cases will have to proceed on a confidential basis. The Council will do everything it can to protect the confidentiality of those individuals raising concerns. However, there may be times when the person making the complaint can be identified due to the nature of the allegation made and in such cases it will not be possible to keep the identity of the complainant confidential. In addition, there may be times when the Council will believe it is appropriate to let the subject of a complaint know who made any allegation.

1.5 The Council recognises that individuals raising concerns, termed “qualifying disclosures” under the Public Interest Disclosure Act 1998 are entitled to protection under that Act and/or this Policy and may be eligible to compensation if they subsequently suffer victimisation, discrimination or disadvantage. Under the Enterprise and Regulatory Reform Act 2013, any disclosure using the Whistleblowing Policy, within reasonable belief of the worker making the disclosure will only be protected if it is made in the public interest. It must also show one or more of the following:

(a) that a criminal offence has been committed, is being committed or is likely to be committed,

- (b) that a person has failed, is failing or is likely to fail to comply with any legal obligation to which he is subject,
- (c) that a miscarriage of justice has occurred, is occurring or is likely to occur,
- (d) that the health or safety of any individual has been, is being or is likely to be endangered,
- (e) that the environment has been, is being or is likely to be damaged, or
- (f) that information tending to show any matter falling within any one of the preceding paragraphs has been, is being or is likely to be deliberately concealed.

1.6 This policy is designed for workers. Workers include:

- employees; ○ agency workers;
- people that are training with an employer but not employed; and ▪ self-employed workers, if supervised or working off-site.

1.7 The procedures outlined in this Policy **are in addition to** the Council's complaints procedures and other statutory reporting procedures applying to some divisions.

1.8 This Policy has been discussed with the relevant trade unions and has their support.

1.9 The principles of this Policy also apply to concerns of the general public.

2. AIMS AND SCOPE OF THIS POLICY

2.1 This Policy aims to:

- encourage you to feel confident in raising concerns that are in the public interest and to question and act upon your concerns;
- provide avenues for you to raise those concerns and receive feedback on any action taken;
- ensure that you receive a response to your concerns and that you are aware of how to pursue matters if you are not satisfied;
- reassure you that you will be protected from the risk of reprisals or victimisation if you have a reasonable belief that you have made any disclosure in good faith.

2.2 If Council employees have concerns relating to their employment with the organisation, these should be raised under the Council's Grievance Policy. This Policy is intended to cover major concerns that fall outside the scope of other policies and procedures. As stated in paragraph 1.5, these include:

- conduct which is an offence or a breach of law,
- disclosures related to miscarriages of justice,
- health and safety risks, including risks to the public as well as other employees,

- damage to the environment,
- the unauthorised use of public funds,
- possible fraud and corruption, sexual or physical abuse of clients, or
- other unethical conduct.

3. SAFEGUARDS - HARASSMENT OR VICTIMISATION

3.1 The Council is committed to good practice and high standards and aims to be supportive of employees and others using this Policy.

3.2 The Council recognises that the decision to report a concern can be a difficult one to make.
You are legally entitled to protection from unfair treatment if:

- (a) you honestly think what you are reporting is true,
- (b) you believe that you are telling the right person,
- (c) you believe that raising your concerns is in the public interest.

Put simply, if you are acting in good faith when raising any concerns, you should have nothing to fear because you will be doing your duty to your employer, and/or the Council and those for whom the Council provides a service. In the event that the concerns raised are substantiated, you will be ensuring that bad practice / unethical behaviour / illegal conduct is curtailed.

3.3 The Council will not tolerate any harassment or victimisation (including informal pressures) against individuals who raise concerns in good faith under this Policy and will take appropriate action to protect those who raise a concern in good faith and, where necessary, will take action against those subjecting any complainant to harassment, victimisation or any other pressures as a result of raising concerns.

3.4 Any investigation into allegations of matters listed in paragraph 2.2 of this Policy will not influence, or be influenced by, any disciplinary, redundancy or similar procedures which may already affect either the person raising the concerns or the individual(s) who are the subject of those concerns.

4. CONFIDENTIALITY

4.1 All attempts will be made to ensure any concerns raised will be treated in confidence and to protect your identity if you so wish. The Council cannot ensure your confidentiality if you have informed others of any alleged concerns.

4.2 In addition, there may be times when the identity of the person making the complaint is clear due to the nature of any allegations made. In such cases, the Council cannot take any steps to protect your identity. You will, however, still be entitled to the same protection against harassment, victimisation and other pressures as if your identity remained confidential.

4.3 In a small number of cases, the Council may find it is appropriate to disclose your identity to the person who is the subject of any complaint. It will, however, inform you of this before doing so. Again, you will receive the same protection against harassment, victimisation and other pressures as if your identity had remained confidential.

4.4 You should note that, whilst every effort will be made to protect your identity, the Council may, at an appropriate time ask you to come forward as a witness. If you do become a witness in any case, you will be entitled to the same protection against harassment, victimisation and other pressures that you are entitled to when making the initial complaint under this Policy.

5. ANONYMOUS ALLEGATIONS

5.1 This Policy aims to protect those raising concerns and, therefore, it is hoped that any person raising concerns will do so in their own name whenever possible.

5.2 Whilst any concern will be taken seriously, those expressed anonymously will carry less weight but will be given consideration by the Council; an investigation into the matters raised will be investigated at the discretion of the Council.

5.3 In exercising this discretion the factors to be taken into account will include:

- the nature and seriousness of the issues raised,
- the apparent credibility of the concern, and
- the probable likelihood of being able to confirm the allegation from attributable sources.

5.4 If the Council does not know who has made an allegation, it will not be possible for the Council to offer reassurance and protection to the individual.

6. UNTRUE ALLEGATIONS

6.1 If an allegation is made in good faith, but is not confirmed following an investigation by the Council, no action will be taken against the person making the allegation. This should encourage those who have concerns to raise it in the appropriate manner without fear of any reprisals.

6.2 If, however, an allegation is made frivolously, maliciously or for personal gain, disciplinary action may be taken against the person making that allegation where appropriate.

7. HOW TO RAISE A CONCERN

7.1 Advice and guidance on how to pursue matters of concern may be obtained from the Council's nominated contact points who are:

- Chief Executive: bev.smith@nwleicestershire.gov.uk Telephone 01530 454500
- Monitoring Officer: elizabeth.warhurst@nwleicestershire.gov.uk Telephone 01530 454762

- Section 151 Officer: dan.bates@nwleicestershire.gov.uk Telephone 01530 454707
- Audit Manager: lisa.marron@nwleicestershire.gov.uk Telephone 01530 454728

7.2 Concerns may be raised verbally or in writing, to any of the above named individuals. If raising a concern in writing, it should be addressed to the named individual at the:

Council Offices
 North West Leicestershire District Council
 Whitwick Road
 Coalville
 Leicestershire
 LE67 3FJ

Clearly mark the envelope "Confidential".

If you wish to make a written report you are invited to use the following format:

- the background and history of the concern (giving relevant dates);
- the reason why you are particularly concerned about the situation.

7.3 If you wish to make a verbal report of any concerns that you have identified, you are invited to contact one of the officers named at paragraph 7.1 above to arrange a mutually convenient appointment. When arranging an appointment, it would be helpful if you could mention that you would like to speak to them about a matter under the Confidential Reporting Policy.

7.4 When making a verbal report, you are invited to set out the facts using the same format identified at paragraph 7.2 above.

7.5 The earlier you express any concerns the easier it is for the Council to investigate and take any relevant action.

7.6 Although you are not expected to prove beyond doubt the truth of an allegation, you will need to demonstrate to the person contacted that there are reasonable grounds for your concern.

7.7 You may wish to consider discussing your concern with a colleague or trade union representative first and you may find it easier to raise the matter if there are two (or more) of you who share any concerns.

7.8 You may invite your trade union, professional association representative or a member of staff to be present during any meetings or interviews in connection with the concerns you have raised.

7.9 If you feel unable to raise your concerns directly with the Council, you should report the matter to a "prescribed person". This will ensure that your legal rights are protected. The list of prescribed persons can change and so up to date information can be obtained by accessing an online brochure entitled

"Whistleblowing: list of prescribed people and bodies-“ available at www.gov.uk.

8. HOW THE COUNCIL WILL RESPOND

8.1 The Council will respond to your concerns but within the constraints of maintaining confidentiality or observing any legal restrictions. In any event, a confidential record of the steps taken will be kept in accordance with the Data Protection Act 2018.

8.2 The Council may also ask to meet with you in order to gain further information from you. Do not forget that testing out your concerns is not the same as either accepting or rejecting them. It is sometimes necessary to test out any concerns raised in order to identify how strong any evidence may be.

8.3 Where appropriate, the matters raised may be:

- investigated internally,
- referred to the police,
- referred to the external auditor,
- made the subject of an independent enquiry.

Following any of the action above, a concern may be upheld or may be dismissed.

8.4 In order to protect individuals and those accused of misdeeds or possible malpractice, the Council will undertake initial enquiries to decide whether an investigation is appropriate and, if so, what form it should take. In most cases, it is anticipated that these initial enquiries will be completed within ten working days of an allegation being made. The overriding principle which the Council will have in mind when deciding what steps to take is whether the matter falls within the public interest. Any concerns or allegations which fall within the scope of any other specific procedures (for example, misconduct or discrimination issues) will normally be referred to the relevant service area for consideration under those procedures.

8.5 Some concerns may be resolved by agreed action without the need for investigation. If urgent action is required this will be taken before any investigation is conducted.

8.6 Within seven working days of a concern being raised, the nominated contact will write to you:

- acknowledging that the concern has been received,
- indicating how we propose to deal with the matter,
- giving an estimate of how long it will take to provide a final response,
- telling you whether any initial enquiries have been made,
- supplying you with information on staff support mechanisms, and
- telling you whether further investigations will take place and if not, why not.

8.7 The amount of contact between the officers considering the issues and you will depend on the nature of the matters raised, the potential difficulties involved

and the clarity of the information provided. If necessary, the Council will seek further information from you.

- 8.8 Where any meeting is arranged, off-site if you so wish, you can be accompanied by a trade union or professional association representative or a friend.
- 8.9 The Council will take steps to minimise any difficulties which you may experience as a result of raising a concern. For instance, if you are required to give evidence in criminal or disciplinary proceedings the Council will arrange for you to receive advice about the procedure.
- 8.10 The Council accepts that you need to be assured that the matter has been properly addressed. Thus, subject to legal constraints, we will inform you of the outcome of any investigation.

9. THE RESPONSIBLE OFFICER

- 9.1 The Chief Executive has overall responsibility for the maintenance and operation of this Policy. That officer maintains a record of concerns raised and the outcomes (but in a form which does not endanger your confidentiality) and will immediately notify the Monitoring Officer and Section 151 Officer of all issues raised under this Policy and will report as necessary to the Council.

10. HOW THE MATTER CAN BE TAKEN FURTHER

- 10.1 This Policy is intended to provide you with an avenue within the Council to raise concerns. The Council hopes you will be satisfied with any action taken. If you are not, and if you feel it is right to take the matter outside the Council, the following are possible contact points:

- one of the “prescribed persons”
- your trade union
- your local Citizens Advice Bureau
- relevant professional bodies or regulatory organisations
- a relevant voluntary organisation (Public Concern at Work - 020 7404 6609)
- the Police.

- 10.2 If you take the matter outside the Council, you should ensure that you do not disclose confidential information. Check with one of the Council’s nominated contact points about that (see 7.1).

11. Review

- 11.1 This policy will be reviewed annually and whenever the relevant legislation changes.

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RISK MANAGEMENT POLICY

Policy Statement

Version Control

Version No.	Author	Date
1		December 2014
2		May 2016
3	Andy Barton	May 2020

May 2020

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RISK MANAGEMENT POLICY

1. INTRODUCTION

1.1 The Council has adopted the principles of risk management in order to meet the following objectives:

- to protect the health, safety and welfare of its employees and the communities it serves;
- to protect its property, assets and other resources;
- to protect the services it provides; to maintain its reputation and good standing in the wider community; and
- to deliver its overall objectives and priorities.

2. RISK MANAGEMENT STRUCTURE

2.1 Risk Management is co-ordinated corporately by the Health and Safety Officer and through the Corporate Risk Scrutiny Group (RSG) chaired by a Strategic Director. It also refers and reports to Corporate Leadership Team thereby reaching all services in the Council and ensuring senior management oversight and involvement. Progress on Corporate Risk Management will be reported to members through performance reports to the Audit and Governance Committee. The Corporate Portfolio Holder is the Cabinet member with overall responsibility for risk management, the Leader of the Council.

2.2 Risk management is embedded in the culture of the authority through:

- the continued adoption of the Council's risk management policy statement;
- a nominated officer lead, currently the Head of HR and Organisation Development;
- the Corporate Risk Scrutiny Group and Corporate Leadership Team accountability;
- an established uniform procedure for the identification, analysis, management and monitoring of risk;
- training and briefings in conjunction with appropriate third parties and
- regular monitoring and reporting through the corporate performance management system and control mechanisms.

2.3 The Council is responsible for establishing and maintaining appropriate risk management processes, control systems, accounting records and governance arrangements. Internal Audit play a vital role in advising the Council that these arrangements are in place and operating effectively. Each year the Audit Manager produces a risk-based annual Audit Plan. This is informed by a risk assessment which includes a review of corporate and service risk registers, and consultation with key stakeholders and senior management. The Plan is developed to deliver a programme of internal audits to provide independent assurance to senior management and members. Internal audit undertake a risk based approach for individual assignments and gives a rating of the level of assurance that be awarded within each system / business area. This demonstrates the extent to which controls are operating effectively to ensure that significant risks to the achievement of the Council's priorities are being addressed.

3. AIMS OF THE POLICY

3.1 The Council will strive to maintain its diverse range of services to the community and visitors to the North West Leicestershire area. It will protect and continue to provide

these services by ensuring that its assets, both tangible and intangible, are protected against loss and damage. The Council is committed to a programme of risk management to ensure its ambitions for the community can be fulfilled through:

“The identification, analysis, management and financial control of those risks which can most impact on the Council’s ability to pursue its approved delivery plan”.

3.2 The Council is committed to using risk management to maintain and improve the quality of its own services as well as any contribution by partnerships through its community leadership role. The Risk Management Policy has the following aims and objectives:

- to continue to embed risk management into the culture of the Council;
- to promote the recognition of risk within the Council’s defined corporate aims and objectives;
- continue to raise risk awareness within the Council and its partners;
- to manage risk in accordance with best practice;
- to comply with legislation and guidance;
- to improving safety and increase safety awareness;
- to protect Council property, services and public reputation;
- to reduce disruption to services by having effective contingency or recovery plans in place to deal with incidents when they occur;
- to minimise injury, damage, loss and inconvenience to residents, staff, service users, assets, etc arising from or connected with the delivery of Council services;
- to review robust frameworks and procedures for the identification, analysis, assessment and management of risk, and the reporting and recording of events, based on best practice;
- to maximise value for money.

3.3 Regularly through the Risk Scrutiny Group, the Council’s Corporate Leadership Team (CLT) will review the Risk Management Policy and its risk management processes to ensure their continued relevance to the Council. The annual review will also assess performance against the aims and objectives set out above. Completion of the self-evaluation matrix will be a key monitoring tool and a central part of this review. CLT will be accountable to members for the effective management of risk within the Council. This will be achieved through the quarterly reporting of corporate risks to Audit and Governance Committee and Cabinet.

4. RISK MANAGEMENT POLICY

4.1 The overall objective of the Council’s risk management Policy is to ensure that risks to the Council’s objectives, services, employees, partnerships and contractors are identified, recorded, amended, prioritised and then addressed by being treated, tolerated, transferred or terminated. The Policy incorporates:

(a) Identification / Consideration of Risks

- Identifies corporate and operational risks, assesses the risks for likelihood and impact, identifies mitigating controls and allocates responsibility for the mitigating controls.
- Requires the consideration of risk within all service plans and reviews and the regular review of existing risks as identified in the risk register.
- Requires, reports supporting strategic policy decisions and project initiation documents, to include a risk assessment.

- Externally horizon scan for impending risks that may impact the council, communicate the risk to the appropriate risk owner so they can assess for likelihood and impact, identify mitigating controls and allocate responsibility for the mitigating controls.

(b) Development Delivery

- Allocates responsibility for embedding risk management to a senior officer and Member, to jointly champion.
- Embeds risk management into; strategic planning, financial planning, policy making and review, and performance management.
- Requires that an update report arising from the work of the Risk Scrutiny Group is presented to Corporate Leadership Team for discussion and information on a quarterly basis.
- Develops arrangements to monitor and measure performance of risk management activities against the Council's strategic aims and priorities.
- Considers risks in relation to significant partnerships, which requires assurances to be obtained about the management of those risks.

(c) Member Involvement / Responsibility

- Quarterly reports will be produced for Audit and Governance Committee on the management of business risks together with recommendation of appropriate actions.
- Reporting to Cabinet and Portfolio members.

(d) Training / Awareness

- Requires relevant training and tool kits to be given to appropriate staff to enable them to take responsibility for managing risks within their environment.
- Requires the maintenance of documented procedures for the control of risk and the provision of suitable information, training and supervision.
- Develops appropriate procedures and guidelines.
- Considers positive risks (opportunities) and negative risks (threats).
- Facilitates risk management awareness training for all members.

(e) Review

- Maintains and reviews a register of corporate business risks linking them to strategic business objectives and assigning ownership for each risk.
- Requires an annual review of the risk management process, including a report to CLT, localised Risk Registers where necessary and quarterly reporting to the Audit and Governance Committee.
- In the case of new or changing strategic risks, report to Audit and Governance Committee and/or Cabinet through the quarterly performance reporting process.
- Requires each team / department to review their individual Risk Registers as and when required (but no less than quarterly).

(f) Business Continuity

- Develops contingency plans in areas where there is a potential for an occurrence having a catastrophic effect on the delivery of the Council's services.

(g) Insurance

- Ensures the appropriate officer responsible for insurance is notified of any new risks.
- Ensures adequate records are maintained and retained to support the Council's defence against disputed insurance claims.

(h) Controlling the Risks

Traditionally in risk management there are four ways to mitigate the risks to the organisation, these being typically referred to as **Treat, Tolerate, Transfer and Terminate** and are known collectively as the "4 Ts".

- **Tolerate** means the risk is known and accepted by the organisation. In such instances the senior management team should formally sign off that this course of action has been taken.
- **Transfer** means the risk mitigation is transferred i.e. it is passed to a third party such as an insurer or an outsourced provider, although it should be noted that responsibility for the risk cannot be transferred or eliminated.
- **Terminate** means we stop the process, activity, etc or stop using the premises, IT system, etc which is at risk and hence the risk is no longer relevant.
- **Treat** means we aim to reduce the likelihood of the threat materialising or else reduce the resultant impact through introducing relevant controls and continuity strategies.

5. CORPORATE RISK SCRUTINY GROUP

- 5.1 The Corporate Risk Scrutiny Group is made up of technical experts and corporate leads from the Council's Service Areas. Members of the Group act as "champions" for risk within their services and the Group provides a link into the CLT.
- 5.2 The role of the Group is to maintain a formal framework that will assist with the management of risk and business continuity, by developing the corporate lead and advising CLT on the expected outcome. The objectives of the Group are:
- to assess and advise on the reduction of prevailing risks within the Council's services, to the benefit of staff and the public;
 - to discuss, agree and recommend as appropriate, on matters relating to corporate risk policy;
 - to make reports and recommendations to CLT;
 - to discuss operational risks insofar as they relate to matters of cross-directorate interest;
 - to oversee the implementation of the Council's risk management Policy, and to promote a holistic approach to its ongoing management;
 - to promote good risk management practices with the aim of reducing potential liabilities;
 - to consider and identify new risks, and ideas / schemes for risk reduction;
 - to provide a forum to discussion on risk management issues.

These will be achieved through the following:

- the use of the Council's Risk Management reporting system;
- monitoring the Risk Management Policy;
- reviewing the Council's risk register and associated action plans, acting as a forum for examining and rating risks and making recommendations to CLT;

- developing a comprehensive performance framework for risk management, and developing and using key indicators capable of showing improvements in risk management and providing early warning of risk;
- supporting the development and review of internal standards and procedures regarding significant risk areas;
- supporting the development and implementation of relevant training, awareness and education programmes;
- supporting the development and implementation of adequate, relevant and effective reporting, communication and information dissemination systems with managers and staff;
- supporting the effective monitoring and review of near misses, untoward incidents and accidents, legal and insurance claims and verifying that appropriate management action has been taken promptly to minimise the risk of future occurrence;
- supporting the review of the risk register and action plans to ensure that appropriate management action is taken appropriately to tolerate, treat, transfer or terminate the risk;
- monitoring compliance with legal and statutory duties;
- providing progress reports to CLT and members, drawing to their attention significant business risks;
- encouraging localised Risk Registers to be created where necessary, as well as supporting dynamic risk assessment.

6. PROCEDURES

- 6.1 The Council will adopt uniform procedures for the identification, analysis, management and monitoring of risk. These will be embodied in a formal risk management framework, which will be subject to annual review by the Audit and Governance Committee, following consideration by CLT.

The approved framework is set out in Appendix A to this Policy document.

7. FUNDING FOR RISK MANAGEMENT

- 7.1 The annual Service and Financial Planning process will include a review of operational risks and consider the allocation of funds for risk management initiatives as part of the annual budget process. If additional funds are required approval will be sought initially from CLT.

8. BENEFITS OF EFFECTIVE RISK MANAGEMENT

- 8.1 Effective risk management will deliver a number of tangible and intangible benefits to Individual services and to the Council as a whole e.g.

Improved Strategic Management

- Greater ability to deliver against objectives and targets
- Increased likelihood of change initiatives being delivered effectively
- Improved reputation, hence support for regeneration
- Increased confidence to take controlled risks

Improved Operational Managements

- Reduction in interruptions to service delivery: fewer surprises!

- Reduction in managerial time spent dealing with the consequences of a risk event occurring
- Improved health and safety of employees and others affected by the Council's activities
- Compliance with legislation and regulations

Improved Financial Management

- Better informed financial decision-making
- Enhanced financial control
- Reduction in the financial costs associated with losses due to service interruption, litigations, etc.
- Improved containment of insurance premiums

Improved Customer Service

- Minimal service disruption to customers and a positive external image

APPENDIX A

RISK MANAGEMENT FRAMEWORK

(A) What is the framework?

This framework promotes a set of uniform risk management procedures through which directorates will identify, analyse, monitor and manage the risks faced by the Council.

For the purposes of the framework, risk management is defined as “*the identification, analysis, management and financial control of those risks that can impact on the Council’s ability to deliver its services and priorities.*”

Risk management is therefore concerned with better decision making, through a clear understanding of all associated risks before final decisions are made by either members or officers. When risks are properly identified, analysed and prioritised it is possible to formulate action plans that propose management actions to reduce risk or deal adequately with the consequences of the risks should they occur. The underlying aim is to treat, terminate or transfer risk to bring them to an acceptable manageable level within the Council, monitor tolerated risk, ensuring services to the public can be maintained, and that the Council’s priorities can be fulfilled.

Risk management therefore supports the Council’s service planning process by positively identifying the key issues that could affect the delivery of the service objectives.

(B) Why does the Council need to consider risk management as part of its service planning?

All organisations have to deal with risks, whatever their nature. As a general principle the Council will seek to reduce or control all risks that have the potential to:

- harm individuals;
- affect the quality of service delivery or delivery of the council’s priorities;
- have a high potential of occurrence;
- would affect public confidence;
- would have an adverse effect on the council’s public image;
- would have significant financial consequences;
- have a potential for litigation in line with exposure detailed below.

Risk Management cannot therefore be considered in isolation, but needs to be an integral part of decision-making and service planning processes of the Council. Risk management must be fully embedded in:

- service planning,
- performance management,
- best value,
- committee reports.

For this reason risk management is located within the HR and Organisation Development team of the Council, with high level commitment by the Chief Executive to integrate risk management in everything the Council does.

(C) Assessing risk

Once risks have been identified, an assessment of their significance is required. This requires a robust and transparent scoring mechanism to be used uniformly across Council directorates.

Scoring should be a group exercise including managers and frontline employees. This is because people's perceptions vary and this can have an effect on scoring the risk. Employees who experience a risk every day can become complacent and fail to see how serious it may actually be, whilst a group will usually see the wider impact.

A decision on risk ownership is also required. The owner should be at management level and be responsible for ensuring that controls identified to manage the risk are in place and that they are effective. Delegation of responsibility for particular actions to other employees is acceptable, but overall control of risk must remain with management.

Tables 1 and 2 below set out a scoring mechanism for assessing the likelihood and the impact of exposure to risk.

Table 1 - assessing the likelihood of exposure

1. Low	Likely to occur once in every ten years or more
2. Medium	Likely to occur once in every two to three years
3. High	Likely to occur once a year
4. Very High	Likely to occur at least twice in a year

Table 2 - assessing the impact of exposure

1. Min or	Loss of a service for up to one day. Objectives of individuals are not met. No injuries. Financial loss over £1,000 and up to £10,000. No media attention. No breaches in Council working practices. No complaints / litigation.
2. Medium	Loss of a service for up to one week with limited impact on the general public. Service objectives of a service unit are not met. Injury to an employee or member of the public requiring medical treatment. Financial loss over £10,000 and up to £100,000. Adverse regional or local media attention - televised or news paper report. Potential for a complaint litigation possible. Breaches of regulations / standards.

3. Serious	<p>Loss of a critical service for one week or more with significant impact on the general public and partner organisations.</p> <p>Service objectives of the directorate of a critical nature are not met.</p> <p>Non-statutory duties are not achieved.</p> <p>Permanent injury to an employee or member of the public</p> <p>Financial loss over £100,000.</p> <p>Adverse national or regional media attention - national newspaper report.</p> <p>Litigation to be expected.</p> <p>Breaches of law punishable by fine.</p>
4. Major	<p>An incident so severe in its effects that a service or project will be unavailable permanently with a major impact on the general public and partner organisations.</p> <p>Strategic priorities of a critical nature are not met.</p> <p>Statutory duties are not achieved.</p> <p>Death of an employee or member of the public.</p> <p>Financial loss over £1m.</p> <p>Adverse national media attention - national televised news report.</p> <p>Litigation almost certain and difficult to defend.</p> <p>Breaches of law punishable by imprisonment.</p>

(D) Prioritisation of risk

Table 3 brings together in a matrix the likelihood and impact of risk.

Table 3 - a risk matrix

		Likelihood			
		1	2	3	4
Impact	4	4	8	12	16
	3	3	6	9	12
	2	2	4	6	8
	1	1	2	3	4

Based on this matrix, the Council must decide on the level of risk it is prepared to accept as part of its ongoing operations. Any risk above the agreed level should be considered unacceptable and will therefore need to be managed. The risks in the above matrix fall into three zones; red, amber and green. Table 4 sets out the Council's intended response to these risks.

Table 4 - intended responses to risk

Red	Controls and/or mitigating actions are required to reduce the risk to an acceptable level. Effort should be focused on reducing the risk of any items appearing in this zone, hence moving them to the amber or green zone.
Amber	Risks will require ongoing monitoring to ensure they do not move into the red zone. Depending on the resources required to address

	the red risks, it may be appropriate to develop controls/mitigating actions to control these risks.
Green	Existing controls and/or mitigating actions are sufficient and may be excessive. More resource committed to reduce these risks is likely to be wasted. Consideration should be given to relaxing the level of control to release resources for mitigating higher level risks.

(E) Format of the risk register

Annex 1 to this framework provides a standard format.

Corporate Risk Register												
Ref No.	Risk Description	Consequence	Cause	Inherent Risk			Responsibility of	Responsible to	Control Measures	Residual Risk		
				Impact	Likelihood	Rating				Impact	Likelihood	Rating

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CORPORATE POLICY AND PROCEDURE ON THE REGULATION OF INVESTIGATORY POWERS ACT 2000 AND THE INVESTIGATOR POWERS ACT 2016

Version No.	Author	Date
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1.1	Kerryn Woolett	May 2020
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CORPORATE POLICY AND PROCEDURE ON THE REGULATION OF INVESTIGATORY POWERS ACT 2000 AND THE INVESTIGATORY POWERS ACT 2016

1. INTRODUCTION

- 1.1 The Regulation of Investigatory Powers Act 2000 (RIPA) is concerned with the regulation of surveillance and other intelligence gathering by public authorities in the conduct of their legitimate business.
- 1.2 The Investigatory Powers Act 2016 (IPA) sets out the extent to which certain investigatory powers may be used to interfere with privacy. In particular about the interception of communications, equipment interference and the acquisition and retention of **communications data**.
- 1.3 Section 6 of the Human Rights Act 1998 provides that it is unlawful for a public authority to act in a way which is incompatible with a European Convention right. Article 8 of the European Convention on Human Rights says that everyone has the right to respect for their private and family life, their home and their correspondence.
- 1.4 The use of surveillance and other intelligence gathering techniques may amount to an interference with rights protected by Article 8 of the European Convention on Human Rights and could amount to a violation of those rights unless the interference is in accordance with the law.
- 1.5 The aim of RIPA and the IPA is to provide a balance between preserving people's right to privacy and enabling enforcement agencies to gather evidence for effective enforcement action. RIPA provides a statutory framework for the authorisation of certain types of **covert** intelligence gathering which is consistent with the Human Rights Act 1998 and the European Convention on Human Rights. Similarly, the IPA provides a statutory framework for the lawful interception and use of **communications data**.
- 1.6 The Council has approved a policy for tackling fraud and corruption. In limited circumstances the Council may wish to use surveillance techniques or **communications data** for the purpose of enforcing this policy or other of its statutory functions. The requirements of RIPA and the IPA are most likely to apply to those sections of the Council with enforcement / investigatory functions.
- 1.7 Section 27 of RIPA provides that conduct authorised under RIPA will be "lawful for all purposes." This means a person authorised under RIPA is entitled to engage in the conduct which has been authorised under RIPA and the Council will be protected from challenges to both the gathering of, and the subsequent use of, covertly obtained information enabling the Council to show that it has acted lawfully.
- 1.8 RIPA also provides a statutory mechanism for authorising the use of a "**covert human intelligence source**", e.g. undercover agents.
- 1.9 The IPA permits access to **communications data** in specific circumstances.
- 1.10 Non-compliance with RIPA or the IPA may result in:
 - 1.10.1 evidence being disallowed by the courts;
 - 1.10.2 a complaint to the Investigatory Powers Commissioner's Office;

1.10.3 a complaint to the Local Government and Social Care Ombudsman; and/or

1.10.4 the Council being ordered to pay compensation.

It is essential therefore that the Council's policies and procedures, as set out in this document, are followed. A flowchart of the procedures to be followed is at Appendix 1.

2. TYPES OF SURVEILLANCE

2.1 Surveillance includes monitoring, observing, listening to persons, watching or following their movements, listening to their conversations and other such activities or communications. It also includes recording any of the aforementioned activities.

2.2 Surveillance may be "**overt**" or "**covert**".

2.3 Surveillance will be "**overt**" if the act of surveillance is not calculated to be hidden from view, even if the motives of the person undertaking the surveillance remain concealed.

2.4 Most of the surveillance carried out by the Council is done overtly – there is nothing secretive, clandestine or hidden about it. In many cases, officers will be behaving in the same way as a normal member of the public, and/or will be going about Council business openly. Similarly, surveillance will be **overt** if the subject has been told it will happen (e.g. where a noisy householder is warned that noise will be recorded if it continues).

2.5 Surveillance is "**covert**" if, and only if, it is carried out in a manner that is calculated to ensure that persons who are subject to the surveillance are unaware that it is or may be taking place. RIPA regulates two types of **covert** surveillance.

2.6 The first type of **covert** surveillance is "**directed surveillance**". "**Directed surveillance**" means surveillance that is:

2.6.1 **covert**;

2.6.2 not intrusive;

2.6.3 undertaken for the purposes of a specific investigation or specific operation;

2.6.4 undertaken in such a manner as is likely to result in the obtaining of private information about a person (whether or not one specifically identified for the purposes of the investigation or operation); and

2.6.5 undertaken otherwise than by way of an immediate response to events or circumstances the nature of which is such that it would not be reasonably practicable for an authorisation under RIPA to be sought for the carrying out of the surveillance.

2.7 RIPA states that "**private information**" includes any information relating to a person's private or family life. The Home Office Covert Surveillance and Property Interference Revised Code of Practice (latest edition at time of writing was August 2018) states that as a result, "**private information**" is capable of including any aspect of a person's private or personal relationship with others, such as family (which should be treated as extending beyond the formal relationships created by marriage or civil partnership) and professional or business relationships.

- 2.8 RIPA sets out a number of grounds on which an authorisation for **directed surveillance** can be considered necessary. In the case of a Local Authority, only one of these grounds is applicable, that ground is that **directed surveillance** is necessary "for the purpose of preventing or detecting crime or of preventing disorder".
- 2.9 The fact that **covert** surveillance occurs in a public place or on business premises does not mean that it cannot result in the obtaining of private information about a person. Prolonged surveillance targeted on a single person will usually result in the obtaining of private information about that person as well as others that he or she comes into contact or associates with.
- 2.10 An example of **directed surveillance** would be when officers follow a person over a period of time to find out whether they are working at the same time as claiming benefit. Similarly, although town centre CCTV cameras will not normally require a RIPA authorisation, if a camera is directed in such a way as to observe a particular individual, this would amount to **directed surveillance** and an authorisation would be required.
- 2.11 The second type of **covert** surveillance is "**intrusive surveillance**". Surveillance is intrusive if, and only if, it is **covert** surveillance that is carried out in relation to anything taking place on any residential premises or in any private vehicle and involves the presence of an individual on the premises or in the vehicle or is carried out by means of a surveillance device.
- 2.12 A Local Authority cannot carry out **intrusive surveillance** under RIPA. **Intrusive surveillance** can only be carried out by the police and other law enforcement agencies.

3. CONDUCT AND USE OF COVERT HUMAN INTELLEGENCE SOURCES

- 3.1 A person is a **Covert Human Intelligence Source (CHIS)** if he or she establishes or maintains a personal or other relationship with another person in order to covertly obtain or disclose information.
- 3.2 RIPA sets out special rules relating to the management and use of information supplied by a **CHIS** and a duty of care is owed to the **CHIS** in how the information is used.
- 3.3 The conduct or use of a **CHIS** requires prior authorisation. Again, the ground on which a **CHIS** may be used by a Local Authority is "for the purpose of preventing or detecting crime or of preventing disorder."
- 3.4 A RIPA authorisation may not be required in circumstances where members of the public volunteer information to the Council as part of their normal civic responsibilities, however, this will depend on how the information has been obtained. If the person has obtained the information as an 'insider' i.e. in the course of a personal or other relationship or "as a result of the existence of such a relationship" then the person is likely to be a **CHIS**, even if the relationship was not formed or maintained for that purpose.
- 3.5 If the person has obtained the information as an outside observer then he or she is not a **CHIS**.
- 3.6 Where contact numbers are set up by the Council to receive information then it is unlikely that persons reporting information will be **CHISs** and similarly, people who complain about anti- social behaviour, and are asked to keep a diary, will not normally

be **CHISs** because they are not being required to establish or maintain a relationship for a **covert** purpose.

Juvenile CHISs

- 3.7 Special safeguards apply to the use or conduct of juveniles, that is, those under 18 years old, as a **CHIS**. On no occasion should the use or conduct of a **CHIS** under 16 years of age be authorised to give information against their parents or any person who has parental responsibility for them. In other cases, authorisations should not be granted unless the special provisions, contained within the Regulation of Investigatory Powers (Juveniles) Order 2000 (as amended), are satisfied.
- 3.8 Authorisations for juvenile sources should be granted by those listed in the table at Annex A of the Home Office Covert Human Intelligence Sources Revised Code of Practice (latest edition at time of writing was August 2018). In this Council, only the Chief Executive may authorise the use of a juvenile or vulnerable individual as a CHIS. The duration of such an authorisation is four months from the time of grant or renewal (instead of twelve months), and the authorisation should be subject to at least monthly review. For the purpose of these rules, the age test is applied at the time of the grant or renewal of the authorisation.

4. OPEN SOURCE (ONLINE) COVERT ACTIVITY

- 4.1 The use of the internet may be required to gather information during an operation, which may amount to **directed surveillance**. The Home Office Covert Surveillance and Property Interference Revised Code of Practice (latest edition at time of writing was August 2018) advises that simple reconnaissance of websites, that is, preliminary examination with a view to establishing whether a site or its contents are of interest, is unlikely to interfere with a person's reasonably held expectation of privacy and therefore is not likely to require a **directed surveillance** authorisation. However, where there is an intention to use the internet as part of an investigation and private information is likely to be obtained, a RIPA authorisation should be considered. When conducting an investigation which involves the use of the internet factors to consider are:
 - officers must not create a false identity in order to "befriend" individuals on social networks without an authorisation under RIPA;
 - officers viewing an individual's public profile on a social network should do so only to the minimum degree necessary and proportionate in order to obtain evidence to support or refute the suspicions or allegations under investigation;
 - repeated viewing of open profiles on social networks to gather evidence or to monitor an individual's status, must only take place once a RIPA authorisation has been granted and approved by a Magistrate; and
 - officers should be aware that it may not be possible to verify the accuracy of information on social networks and, if such information is to be used as evidence, take reasonable steps to ensure its validity.
- 4.2 Further, where an investigator may need to communicate covertly online, for example, contacting individuals using social media websites without disclosing his or her identity, a **CHIS** authorisation should be considered.

5. USE OF PERSONAL DEVICES FOR BUSINESS USE

- 5.1 Use of a personal device to access the internet or social media for business use, for example, as part of investigation, is still captured by RIPA. Consequently, officers are advised not to use personal devices for business use, particularly using a personal device to access the internet and social media for business use.

6. THE COUNCIL OWNED DRONE

- 6.1 Use of a drone has the potential to capture **private information**. **Collateral intrusion** is also highly likely when using a drone. Therefore, consideration should be given to whether a RIPA authorisation is required. A drone can be a very useful tool to use in an investigation, however, if there is the potential to gather **personal information** the subject of the investigation and/or the landowner will either need to be notified of the use of the drone (such that any use of the drone is not covert) or a RIPA authorisation will be needed. If the drone is to be flown over a residential area or highly populated area, where the potential for **collateral intrusion** is high, notification that the drone will be used will be published on the Council's website prior to the flight.

7. LOCAL AUTHORITY DIRECTED SURVEILLANCE CRIME THRESHOLD

- 7.1 A **Crime Threshold** applies to the authorisation of **directed surveillance** by Local Authorities under RIPA (see article 7A of the Regulation of Investigatory Powers (Directed Surveillance and Covert Human Intelligence Sources) Order 2010). This **Crime Threshold** does not apply to the authorisation of a **CHIS** by a Local Authority.
- 7.2 Local Authorities can only authorise use of **directed surveillance** under RIPA for the purpose of preventing or detecting criminal offences or disorder associated with criminal offences that are:
- 7.2.1 punishable, whether on summary conviction or on indictment, by a maximum term of at least six months imprisonment; or
- 7.2.2 relate to the underage sale of alcohol or tobacco.
- 7.3 If the **Crime Threshold** is not met, though surveillance is still required, a Non-RIPA form should be completed. A Non-RIPA form requires the applicant officer to consider necessity and proportionality as per a RIPA authorisation, however, there is no requirement for approval by a Justice of the Peace.

8. AUTHORISATION PROCESS - DIRECTED SURVEILLANCE AND USE OF A CHIS

Stage 1 - Request for Authorisation

- 8.1 **Directed surveillance** or the use of a **CHIS** can only be authorised by a Local Authority if the authorisation is *necessary* for the purpose of preventing or detecting crime or preventing disorder and the authorised surveillance is *proportionate* to what is sought to be achieved by carrying the surveillance out. When authorising the use of a **CHIS** arrangements also need to be in place for management of the **CHIS** and to ensure the security and welfare of the **CHIS**.
- 8.2 For **directed surveillance** or the use of a **CHIS**, only the approved RIPA forms, available on the Home Office website

(<https://www.gov.uk/government/collections/ripa-forms-2>)

may be used. Any other form will be rejected by the Authorising Officer. The applicant officer should complete the appropriate form providing as much detail as possible then submit to the appropriate Authorising Officer for authorisation.

- 8.3 If in doubt about the process to be followed or the information required in the form, an applicant officer should always seek the advice of the Head of Legal and Commercial Services or the Audit Manager before applying for an authorisation under RIPA.
- 8.4 The applicant officer will be responsible for ensuring that copies of all forms are forwarded to the Audit Manager within seven days of issue. As a control measure the Audit Manager will supply the applicant officer with a referenced copy of the authorisation which they should keep in their department in secure storage. Officers should ensure that material passing between them is sent in such a way that it cannot be read or intercepted by other people.

Stage 2 - Considering an Application for Authorisation

- 8.5 **Directed surveillance** or use of a **CHIS** can only be lawfully carried out if properly authorised and carried out in strict accordance with the terms of the authorisation.
- 8.6 The Secretary of State has specified by statutory instrument (the Regulation of Investigatory Powers (Directed Surveillance and Covert Human Intelligence Sources) Order 2010) that, for any district council in England, Directors, Heads of Service or Service Managers or equivalent are designated persons for the purpose of s.28 and s.29 of RIPA, that is, they may act as Authorising Officers for the purpose of authorising applications for **directed surveillance** or the use of a **CHIS**. In this Council, the Chief Executive and the Directors are designated to act as Authorising Officers under the Constitution (Part 3, Sec 7, Para 3.3). The Chief Executive or Monitoring Officer may designate other officers to act as Authorising Officers, provided these officers are of the level specified by the Secretary of State in the Regulation of Investigatory Powers (Directed Surveillance and Covert Human Intelligence Sources) Order 2010.
- 8.7 Before signing a form seeking authorisation, the Authorising Officer must have regard to this Policy and Procedure, to any relevant Code of Practice, to any advice from the Head of Legal and Commercial Services or the Audit Manager and to any other relevant guidance.
- 8.8 The Authorising Officer must also satisfy himself / herself that the surveillance proposed in the application is:
 - 8.8.1 *in accordance with the law;*
 - 8.8.2 *necessary in the circumstances of the particular case on the ground of preventing or detecting crime or preventing disorder; and*
 - 8.8.3 *proportionate to what it seeks to achieve.*
- 8.9 In considering whether or not the proposed surveillance is proportionate, the Authorising Officer will need to consider:
 - 8.9.1 The seriousness of the crime or disorder which the surveillance seeks to detect and weigh this against the type and extent of surveillance proposed. For minor offences, it may be that surveillance is never proportionate; and

- 8.9.2 whether there are other more non- intrusive ways of achieving the desired outcome. If there are none, the Authorising Officer will need to consider whether the proposed surveillance is no more than necessary to achieve the objective, as the least intrusive method will be considered proportionate by the courts.
- 8.10 The Authorising Officer will also need to take into account the risk of intrusion into the privacy of persons other than the specified subject of the surveillance. This is known as "**collateral intrusion**". Measures must be taken whenever practicable to avoid or minimise, so far as practicable, **collateral intrusion**.
- 8.11 When authorising the conduct or use of a **CHIS** the Authorising Officer must also be satisfied that appropriate arrangements are in place for the management and oversight of the **CHIS**. This must address health and safety issues through a risk assessment. The Authorising Officer must also have regard to any adverse impact on community confidence that may result from the use or conduct of the information obtained.
- 8.12 The authorisation does not take effect until a Justice of the Peace has made an order approving the grant of the authorisation.

Stage 3 - Judicial Approval

- 8.13 If the Authorising Officer is satisfied that the surveillance is *necessary* and *proportionate*, they will instruct Legal Services to seek approval from a Justice of the Peace sitting at the Magistrates' Court.
- 8.14 Legal Services will request a hearing date from the Court. The time taken to obtain a hearing date from the Court will need to be taken into account when scheduling any proposed surveillance.
- 8.15 Urgent approvals should not be necessary.
- 8.16 If the approval is urgent and cannot be handled the next working day then the applicant officer should:
 - 8.16.1 phone the Court's out of hours legal staff contact. You will be asked about the basic facts and urgency of the authorisation. If the police are involved in the investigation you will need to address why the police cannot authorise the application.
 - 8.16.2 If urgency is agreed, then arrangements will be made for a suitable Magistrate to consider the application. You will be told where to attend and give evidence.
 - 8.16.3 Attend the hearing as directed with two copies of the signed RIPA authorisation form.
- 8.17 At the hearing the Council will provide the Court with a copy of the authorisation signed by the Authorising Officer, together with any supporting documents relevant to the matter showing the necessity and proportionality of the authorisation and which contain all the information relied upon. Also included will be a summary of the circumstances of the case.
- 8.18 The hearing will be in private heard by a single Justice of the Peace (Magistrate / District Judge) who will read and consider the application.
- 8.19 On reviewing the papers and hearing the application the Justice of the Peace will determine whether they are satisfied that there were, at the time the authorisation was granted, and continue to be reasonable grounds for believing that the authorisation is

necessary and proportionate. In addition they must also be satisfied that the Authorising Officer had the relevant authority to authorise the Council's own internal authorisation prior to it passing to the Court.

- 8.20 For authorisations for the use of a **CHIS** the Justice of the Peace will also need to be satisfied that there were and are reasonable grounds for believing appropriate arrangements are in place for the management and oversight of the **CHIS**.
- 8.21 The Justice of the Peace may ask questions of the Council in order to satisfy themselves of the necessity and proportionality of the request.
- 8.22 In considering the application the Justice of the Peace may decide to:
 - 8.22.1 grant an Order approving the authorisation or renewal. The authorisation or renewal will then take effect and the Local Authority may proceed to use surveillance in accordance with the authorisation;
 - 8.22.2 refuse to approve the authorisation or renewal. The RIPA authorisation will not take effect and the Local Authority may not use the proposed surveillance. Where an application has been refused the Council may wish to consider the reasons for that refusal. For example, a technical error in the form may be remedied without the need to go through the internal authorisation process again. The Council may then wish to reapply for judicial approval once those errors have been remedied;
 - 8.22.3 refuse to approve the grant or renewal and quash the authorisation or notice. A Justice of the Peace must not exercise its power to quash an authorisation unless the applicant (the Council) has had at least two business days' notice from the date of the refusal in which to make representations.

Stage 4 - Duration and Review

- 8.23 If the Justice of the Peace approves the authorisation, the authorisation will last, in the case of **directed surveillance**, a period of 3 months and, in the case of a **CHIS**, a period of 12 months.
- 8.24 Authorising Officers must then conduct regular reviews of authorisations granted in order to assess the need for the surveillance to continue. Reviews should be conducted on a monthly basis as a minimum. The Authorising Officer may decide that reviews should be conducted more frequently, particularly where a high level of collateral intrusion is likely.
- 8.25 A review involves consultation with the applicant officer and any other persons involved in the surveillance. The applicant officer must give sufficient information about the surveillance and any information obtained by the surveillance for the Authorising Officer to be satisfied that the authorised surveillance should continue. Applicant officers should be pro-active in preparing reports to assist Authorising Officers carry out reviews.

Stage 5 - Renewals

- 8.26 If it appears that the surveillance will continue to be *necessary* and *proportionate* beyond the 3 month period for **directed surveillance** or 12 months for use of a **CHIS**, the authorisation must be renewed.
- 8.27 An application for renewal should be made by the applicant officer by completing the appropriate form which is available from the Home Office website (<https://www.gov.uk/government/collections/ripa-forms--2>). This form should then be submitted to the Authorising Officer who must then consider the matter afresh, including taking into account the benefits of the surveillance to date and any collateral intrusion that has occurred.
- 8.28 The Authorising Officer must be satisfied that it is *necessary* and *proportionate* for the authorisation to continue and that the **Crime Threshold** continues to be met. The authorisation for renewal must then be approved by a Justice of the Peace for it to take effect.
- 8.29 An authorisation may be renewed and approved before the initial authorisation ceases to have effect but the renewal takes effect from the time at which the authorisation would have expired. If necessary, a renewal can be granted more than once.

Stage 6 - Cancellations

- 8.30 The Authorising Officer who granted or last renewed the authorisation must cancel the authorisation if the grounds for granting (or renewing) no longer apply or if the authorisation is no longer *necessary* or *proportionate*.
- 8.31 An authorisation can be cancelled on the initiative of the Authorising Officer following a periodic review or after receiving an application for cancellation from the applicant officer. Forms for the cancellation of **directed surveillance** and use of a **CHIS** are available on the Home Office website (<https://www.gov.uk/government/collections/ripa-forms--2>)

9. COMMUNICATIONS DATA

- 9.1 The term "**communications data**" includes the "who", "when", "where", and "how" of a communication but not the content i.e. what was said or written. It includes the way in which, and by what method, a person or thing communicates with another person or thing. It excludes anything within a communication including text, audio and video that reveals the meaning, other than inferred meaning, of the communication.
- 9.2 It can include the address to which a letter is sent, the time and duration of a communication, the telephone number or e-mail address of the originator and recipient, and the location of the device from which the communication was made. It covers electronic communications including internet access, internet telephony, instant messaging and the use of applications. It also includes postal services.
- 9.3 The acquisition of **communications data** is permitted under Part 3 of the IPA and will be a justifiable interference with an individual's human rights under the European Convention on Human Rights only if the conduct being authorised or required to take place is *necessary* for the purposes of a specific investigation or operation, *proportionate* and *in accordance with law*.
- 9.4 Training should be made available to all those who participate in the acquisition and disclosure of **communications data**.

- 9.5 The Home Office has published the “Communications Data Code of Practice” (latest edition at time of writing was November 2018). This code should be readily available to persons involved in the acquisition of **communications data** under the IPA and persons exercising any functions to which this code relates must have regard to the code.
- 9.6 The IPA stipulates that conduct to be authorised must be *necessary* for one or more of the purposes set out in the IPA. For Local Authorities this purpose is “for the applicable crime purpose” which means:
- 9.6.1 where the **communications data** is wholly or partly events data (events data covers information about time-bound events taking place across a telecommunication system at a time interval, for example, information tracing the origin or destination of a communication that is, or has been, in transmission), the purpose of preventing or detecting serious crime; or
- 9.6.2 in any other case, the purpose of preventing or detecting crime or of preventing disorder.
- 9.7 “Serious Crime” means:
- 9.7.1 an offence for which an adult is capable of being sentenced to one year or more in prison;
- 9.7.2 any offence involving violence, resulting in a substantial financial gain or involving conduct by a large group of persons in pursuit of a common goal;
- 9.7.3 any offence committed by a body corporate;
- 9.7.4 any offence which involves the sending of a communication or a breach of privacy; or
- 9.7.5 an offence which involves, as an integral part of it, or the sending of a communication or breach of a person’s privacy.
- 9.8 A Local Authority may not make an application that requires the processing or disclosure of internet connection records for any purpose.

10. AUTHORISATION PROCESS - COMMUNICATIONS DATA

- 10.1 Acquisition of **communications data** under the IPA involves four roles:

- 10.1.1 The Applicant Officer - The applicant officer is a person involved in conducting or assisting an investigation or operation within a relevant public authority who makes an application in writing or electronically for the acquisition of **communications data**;
- 10.1.2 The Single Point of Contact (SPoC) - The SPoC is an individual trained to facilitate the lawful acquisition of **communications data** and effective co-operation between a public authority, the Office for Communications Data Authorisations (OCDA) and telecommunications operators and postal operators. To become accredited an individual must complete a course of training appropriate for the role of a SPoC and have been issued the relevant SPoC unique identifier. The Home Office provides authentication services to enable telecommunications operators and postal operators to validate SPoC credentials;

- 10.1.3 The Senior Responsible Officer - Within every relevant public authority there should be a Senior Responsible Officer. The Senior Responsible Officer must be of a senior rank in a public authority. This must be at least the same rank as the designated senior officer specified in Schedule 4 of the IPA. Where no designated senior officer is specified the rank of the senior responsible officer must be agreed with the Home Office; and
- 10.1.4 The Authorising Individual - **Communications data** applications can be authorised by three separate categories of individual depending on the circumstances of the specific case. The Authorising Individual for Local Authorities is the authorising officer in the OCDA. Section 60A of the IPA confers power on the IPC to authorise certain applications for **communications data**. In practice the IPC will delegate these functions to his staff. These staff will sit in a body which is known as the OCDA.
- 10.2 An authorisation provides for persons within a public authority to engage in conduct relating to a postal service or telecommunication system, or to data derived from such a telecommunication system, to obtain **communications data**. The following types of conduct may be authorised:
- 10.2.1 conduct to acquire **communications data** - which may include the public authority obtaining **communications data** themselves or asking any person believed to be in possession of or capable of obtaining the **communications data** to obtain and disclose it; and/or
- 10.2.2 the giving of a notice - allowing the public authority to require by a notice a telecommunications operator to obtain and disclose the required data.
- Stage 1 - Making an Application
- 10.3 Before public authorities can acquire **communications data**, authorisation must be given by an Authorising Individual. An application for that authorisation must include an explanation of the necessity of the application.
- 10.4 Necessity should be a short explanation of the investigation or operation, the person and the **communications data** and how these three link together. The application must establish the link between the three aspects to be able to demonstrate the acquisition of **communications data** is necessary for the statutory purpose specified.
- 10.5 When granting an authorisation the authorising individual must also believe that conduct to be proportionate to what is sought to be achieved by obtaining the specified **communications data** – that the conduct is no more than is required in the circumstances. This involves balancing the extent of the interference with an individual's rights and freedoms against a specific benefit to the investigation or operation being undertaken by a relevant public authority in the public interest.
- 10.6 As well as consideration of the rights of the individual whose data is to be acquired consideration must also be given to any actual or potential infringement of the privacy and other rights of individuals who are not the subject of the investigation or operation.
- 10.7 The applicant officer will complete an application form setting out for consideration the necessity and proportionality of a specific requirement for acquiring **communications data**.

- 10.8 The application should record subsequently whether it was authorised by an authorising individual and when that decision was made. Applications should be retained by the public authority and be accessible to the SPoC.

Stage - 2 Consultation with the Single Point of Contact

- 10.9 A SPoC must be consulted on all Local Authority applications before they are authorised.

- 10.10 Amongst other things the SPoC will:

10.10.1 assess whether the acquisition of specific **communications data** from a telecommunications operator or postal operator is reasonably practicable or whether the specific data required is inextricably linked to other data; and

10.10.2 advise applicants on the most appropriate methodology for acquisition of data where the data sought engages a number of telecommunications operators or postal operators.

- 10.11 The National Anti-Fraud Network ('NAFN') is hosted by Tameside Metropolitan Borough Council.

- 10.12 In accordance with section 73 of the IPA, all Local Authorities who wish to acquire **communications data** under the IPA must be party to a collaboration agreement. In practice this means they will be required to become members of NAFN and use NAFN's shared SPoC services. Applicant officers within Local Authorities are therefore required to consult a NAFN SPoC throughout the application process. The accredited SPoCs at NAFN will scrutinise the applications independently. They will provide advice to the Local Authority ensuring it acts in an informed and lawful manner.

- 10.13 In addition to being considered by a NAFN SPoC, the local authority making the application must ensure someone of at least the rank of the senior responsible officer in the local authority is aware the application is being made before it is submitted to an authorising officer in OCDA. The local authority senior responsible officer must be satisfied that the officer(s) verifying the application is (are) of an appropriate rank and must inform NAFN of such nominations. In this Council the Chief Executive is the Senior Responsible Officer and the officers notified to the NAFN (notified in March 2019) as able to verify applications are the Head of Legal and Commercial Services and the Audit Manager.

- 10.14 NAFN will be responsible for submitting the application to OCDA on behalf of the local authority.

Stage 3 - Authorisation of Applications

- 10.15 The (OCDA) performs this function on behalf of the IPC. An authorising officer in OCDA can authorises requests from Local Authorities.

- 10.16 The authorising individual is responsible for considering and, where appropriate, authorising an application for **communications data**. It is their responsibility to consider the application and record their considerations at the time, in writing or electronically in order to show that they have understood the need for the application and considered necessity and proportionality to a standard that will withstand scrutiny. Comments should be tailored to a specific application as this best demonstrates the application has been properly considered.

- 10.17 If the authorising individual believes the acquisition of **communications data** meets the requirements set out in the IPA and is necessary and proportionate in the specific circumstances, an authorisation will be granted. If the authorising individual does not consider the criteria for obtaining the data have been met the application should be rejected and/or referred back to the SPoC and the applicant officer.

Stage 4 - Refusal to Grant an Authorisation

- 10.18 Where a request is refused by an authorising officer in OCDA, the public authority has three options:
- 10.18.1 not proceed with the request;
 - 10.18.2 resubmit the application with a revised justification and/or a revised course of conduct to acquire **communications data**; or
 - 10.18.3 resubmit the application with the same justification and same course of conduct seeking a review of the decision by OCDA. A public authority may only resubmit an application on the same grounds to OCDA where the senior responsible officer or a person of equivalent grade in the public authority has agreed to this course of action. OCDA will provide guidance on its process for reviewing such decisions.

Stage 5 - Duration of Authorisations and Notices

- 10.19 An authorisation becomes valid on the date upon which the authorisation is granted. It is then valid for a maximum of one month. This means the conduct authorised should have been commenced, which may include the giving of a notice, within that month.
- 10.20 Any notice given under an authorisation remains in force until complied with or until the authorisation under which it was given is cancelled.
- 10.21 All authorisations should refer to the acquisition or disclosure of data relating to a specific date(s) or period(s). Any period should be clearly indicated in the authorisation. The start date and end date should be given, and where a precise start and end time are relevant these must be specified.
- 10.22 Where an authorisation relates to the acquisition or obtaining of specific data that will or may be generated in the future, the future period is restricted to no more than one month from the date upon which the authorisation was granted.
- 10.23 Authorising individuals should specify the shortest possible period of time for any authorisation. To do otherwise would impact on the proportionality of the authorisation and impose an unnecessary burden upon the relevant telecommunications operator(s) or postal operator(s).

Stage 6 - Renewal of Authorisations

- 10.24 Any valid authorisation may be renewed for a period of up to one month by the grant of a further authorisation. A renewed authorisation takes effect upon the expiry of the authorisation it is renewing.
- 10.25 Renewal may be appropriate where there is a continuing requirement to acquire or obtain data that will or may be generated in the future. The reasons for seeking renewal

should be set out by the applicant officer in an addendum to the application upon which the authorisation being renewed was granted.

10.26 Where an authorising individual is granting a further authorisation to renew an earlier authorisation, they should:

- 10.26.1 consider the reasons why it is necessary and proportionate to continue with the acquisition of the data being generated; and
- 10.26.2 record the date and, when appropriate to do so, the time when the authorisation is renewed.

Stage 7 - Cancellations

10.27 An authorisation may be cancelled at any time by the Local Authority or OCDA and must be cancelled if, at any time after the granting of the authorisation, it is no longer necessary for a statutory purpose or the conduct required by the authorisation is no longer proportionate to what was sought to be achieved.

10.28 In practice, it is likely to be the public authority that is first aware that the authorisation is no longer necessary or proportionate. In such cases the SPoC (having been contacted by the applicant officer, where appropriate) must cease the authorised conduct.

10.29 A notice given under an authorisation (and any requirement imposed by a notice) is cancelled if the authorisation is cancelled but is not affected by the authorisation ceasing to have effect at the end of one month period of validity.

11. CENTRAL CO-ORDINATION

11.1 The Chief Executive will be the Senior Responsible Officer for the overall implementation of RIPA and the IPA.

11.2 The Head of Legal and Commercial Services will be responsible for:

11.2.1 giving advice and assistance to all staff concerned with the operation of RIPA and the IPA;

11.2.2 arranging training for all staff concerned with the operation of RIPA and the IPA; and

11.2.3 maintaining and keeping up to date this corporate policy and procedure.

11.3 The Audit Manager will be responsible for:

11.3.1 maintaining a central and up to date record of all authorisations;

11.3.2 along with the Head of Legal and Commercial Services, giving advice and assistance to all staff concerned with the operation of RIPA and the IPA; and

11.3.3 allocating reference numbers to authorisations.

12. WORKING WITH OTHER AGENCIES

- 12.1 When another agency has been instructed on behalf of the Council to undertake any action under RIPA, this Council will be responsible for obtaining a RIPA authorisation and therefore this Policy and Procedure must be used. The other agency must then be given explicit instructions on what actions it may undertake and how these actions are to be undertaken.
- 12.2 When another agency (e.g. Police, HMRC, etc):
 - 12.2.1 wish to use the Council's resources (e.g. CCTV surveillance systems) for RIPA purposes, that agency must use its own RIPA procedures and, before any officer agrees to allow the Council's resources to be used for the other agency's purposes he or she must obtain a copy of that agency's RIPA form, a copy of which must be passed to the Audit Manager for inclusion on the central register;
 - 12.2.2 wish to use the Council's premises for their own RIPA action, and is expressly seeking assistance from the Council, the request should normally be granted unless there are security or other good operational or managerial reasons as to why the Council's premises should not be used for the other agency's activities. Suitable insurance or other appropriate indemnities may need to be sought. In such cases, the Council's own RIPA forms should not be used as the Council is only assisting and not involved in the RIPA activity of the other agency.

13. OTHER SOURCES OF INFORMATION

- 13.1 The Home Office has issued Codes of Practice on **directed surveillance, CHISs and communications data**. These Codes of Practice supplement this policy and procedure document and should be used as a source of reference by all officers whose task it is to apply the provisions of RIPA and the IPA and their subordinate legislation.

14. RECORDS MANAGEMENT

- 14.1 The Council must keep a detailed record of all authorisations, judicial approvals, reviews, renewals, cancellations and rejections in the relevant services. A central record of all authorisation forms, whether authorised or rejected, will be maintained and monitored by the Audit Manager.
- 14.2 All Authorising Officers must send all original applications for authorisation to the Audit Manager. Each document will be given a unique reference number, the original will be placed on the central record and a copy will be returned to the applicant officer.
- 14.3 Copies of all other forms used and the judicial approval form must be sent to the Audit Manager bearing the reference number previously given to the application to which it refers.

Service Records

- 14.4 Each service must keep a written record of all authorisations issued to it, and any judicial approvals granted, to include the following:
 - 14.4.1 a copy of the application and a copy of the authorisation together with any supplementary documentation and notification of the approval given by the Authorising Officer;
 - 14.4.2 a record of the period over which the operation has taken place;

- 14.4.3 the frequency of reviews prescribed by the Authorising Officer;
- 14.4.4 a record of the result of each review;
- 14.4.5 a copy of any renewal of an authorisation and any supporting documentation submitted when the renewal was requested;
- 14.4.6 the date and time when any instruction was given by the Authorising Officer, including cancellation of such authorisation;
- 14.4.7 a copy of the order approving or otherwise the grant or renewal of an authorisation from a Justice of the Peace; and
- 14.4.8 the required date of destruction and when this was completed.

Central Record Maintained by the Audit Manager

- 14.5 A central record of all authorisation forms, whether authorised or rejected, is kept by the Audit Manager. The central record must be readily available for inspection on request by the Investigatory Powers Commissioner.
- 14.6 The central record must be updated whenever an authorisation is granted, reviewed, renewed or cancelled. Records will be reviewed after a period of 6 years from the date on which the relevant criminal or civil proceedings file is closed for archive and deleted when no longer necessary.
- 14.7 The central record must contain the following information:
 - 14.7.1 the type of authorisation;
 - 14.7.2 the date on which the authorisation was given;
 - 14.7.3 name / rank of the Authorising Officer;
 - 14.7.4 details of attendances at the Magistrates' Court to include date of attendances at court, the determining Justice of the Peace, the decision of the Justice of the Peace and the time and date of that decision;
 - 14.7.5 the unique reference number (URN) of the investigation / operation. This will be issued by the Audit Manager when a new application is entered in the Central Record. The applicant officer will be informed accordingly and should use the same URN when requesting a renewal or cancellation;
 - 14.7.6 the title of the investigation / operation, including a brief description and names of the subjects, if known;
 - 14.7.7 if the authorisation was renewed, when it was renewed and who authorised the renewal, including the name and rank / grade of the Authorising Officer;
 - 14.7.8 whether the investigation / operation is likely to result in the obtaining of **confidential information** (information is confidential if it is held subject to an express or implied undertaking to hold it in confidence or it is subject to a restriction on disclosure or an obligation of confidentiality contained in existing legislation. Examples might include consultations between a health professional and a patient, information from a patient's medical records; or matters subject to legal privilege);

- 14.7.9 if the authorisation was reviewed, when it was reviewed and who authorised the review, including the name and rank / grade of the Authorising Officer;
- 14.7.10 the date and time that the authorisation was cancelled.
- 14.8 It should also contain a comments section enabling oversight remarks to be included for analytical purposes.
- 14.9 The Audit Manager co-ordinating RIPA and IPA applications ensures that there is an awareness of the investigations taking place. This would also serve to highlight any unauthorised **covert** surveillance being conducted.

Retention and Destruction of Material

- 14.10 Departments must ensure that arrangements are in place for the handling, storage and destruction of material obtained through the use of **covert** surveillance, a CHIS and/or the acquisition of communications data which accord with the Council's Information Management Policy. Records will be reviewed after a period of 6 years from the date on which the relevant criminal or civil proceedings file is closed for archive and must be destroyed as soon as they are no longer necessary. **Confidential material must be destroyed as soon as it is no longer necessary.** It must not be retained or copied unless it is necessary for a specified purpose. Where there is doubt, advice must be sought from the Head of Legal and Commercial Services or the Senior Responsible Officer.

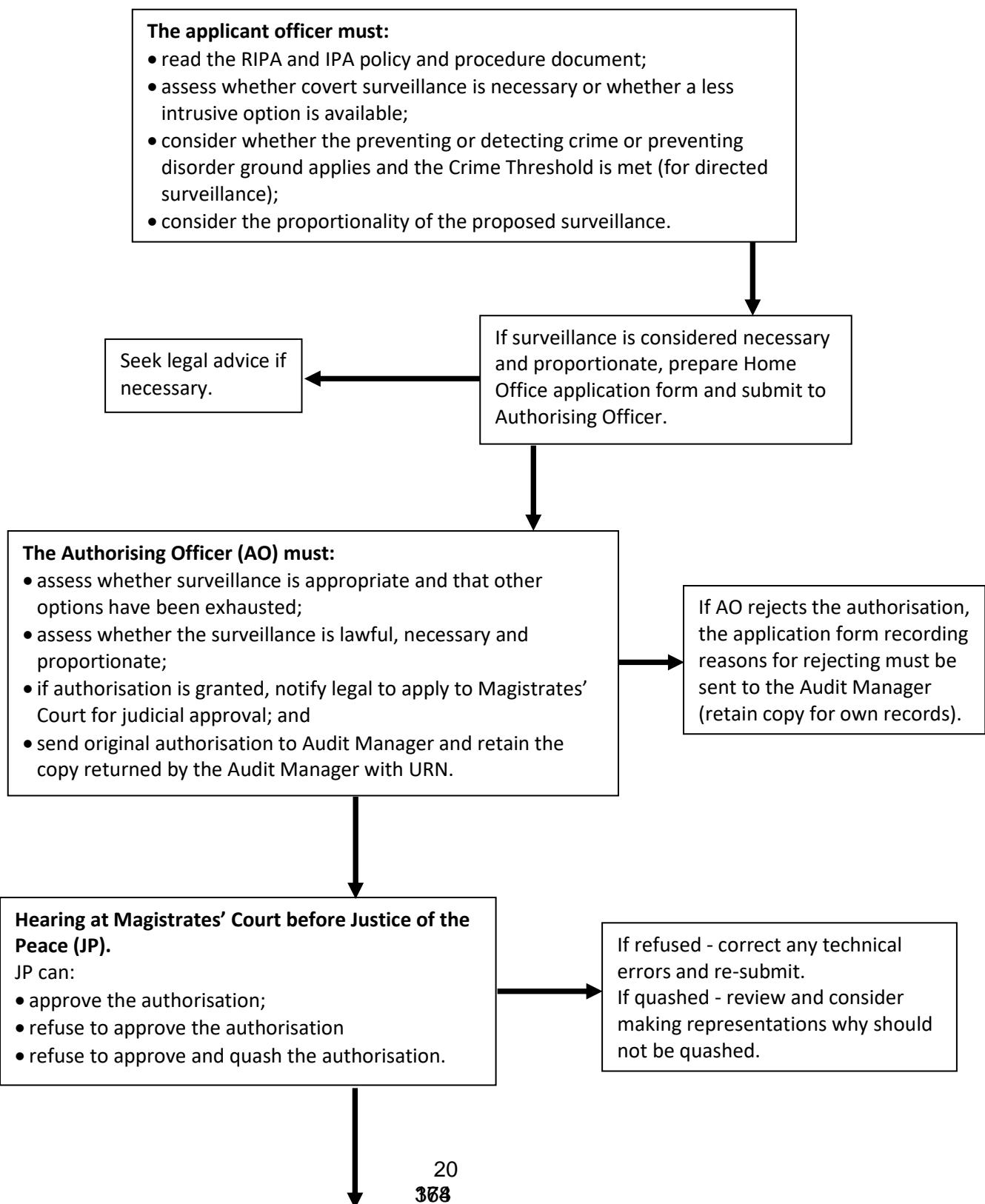
15. REVISION HISTORY

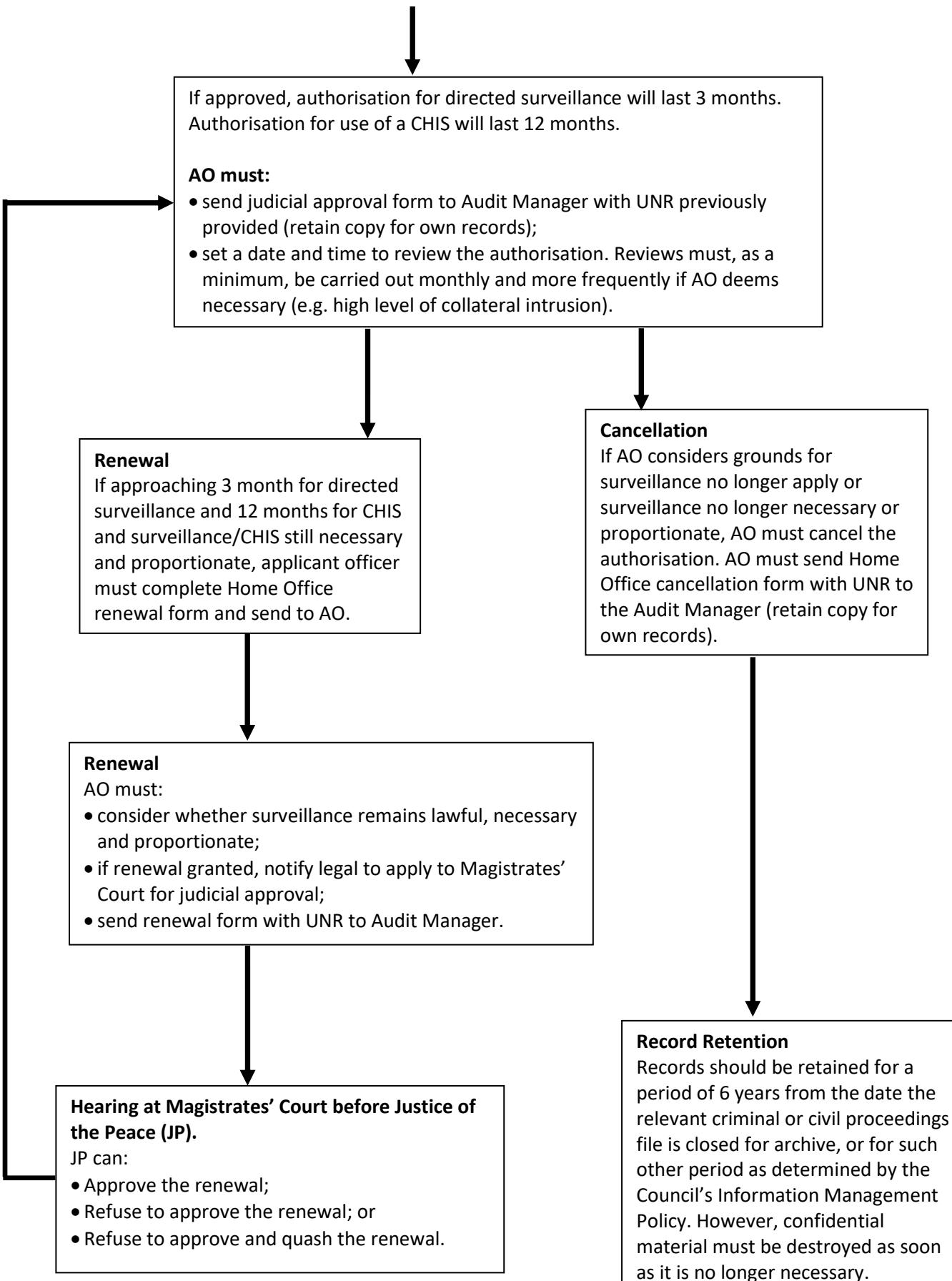
Date	Action
December 2006	ASG Revised
May 2009	ASG Reviewed
June 2010	AW Reviewed and updated
March 2012	ASG Revised
October 2012	HO Guidance issued
September 2013	RH Reviewed and updated
October 2015	DMG Reviewed and updated
9 December 2015	Approved by Audit and Governance Committee
12 January 2016	Approved by Council

APPENDIX 1

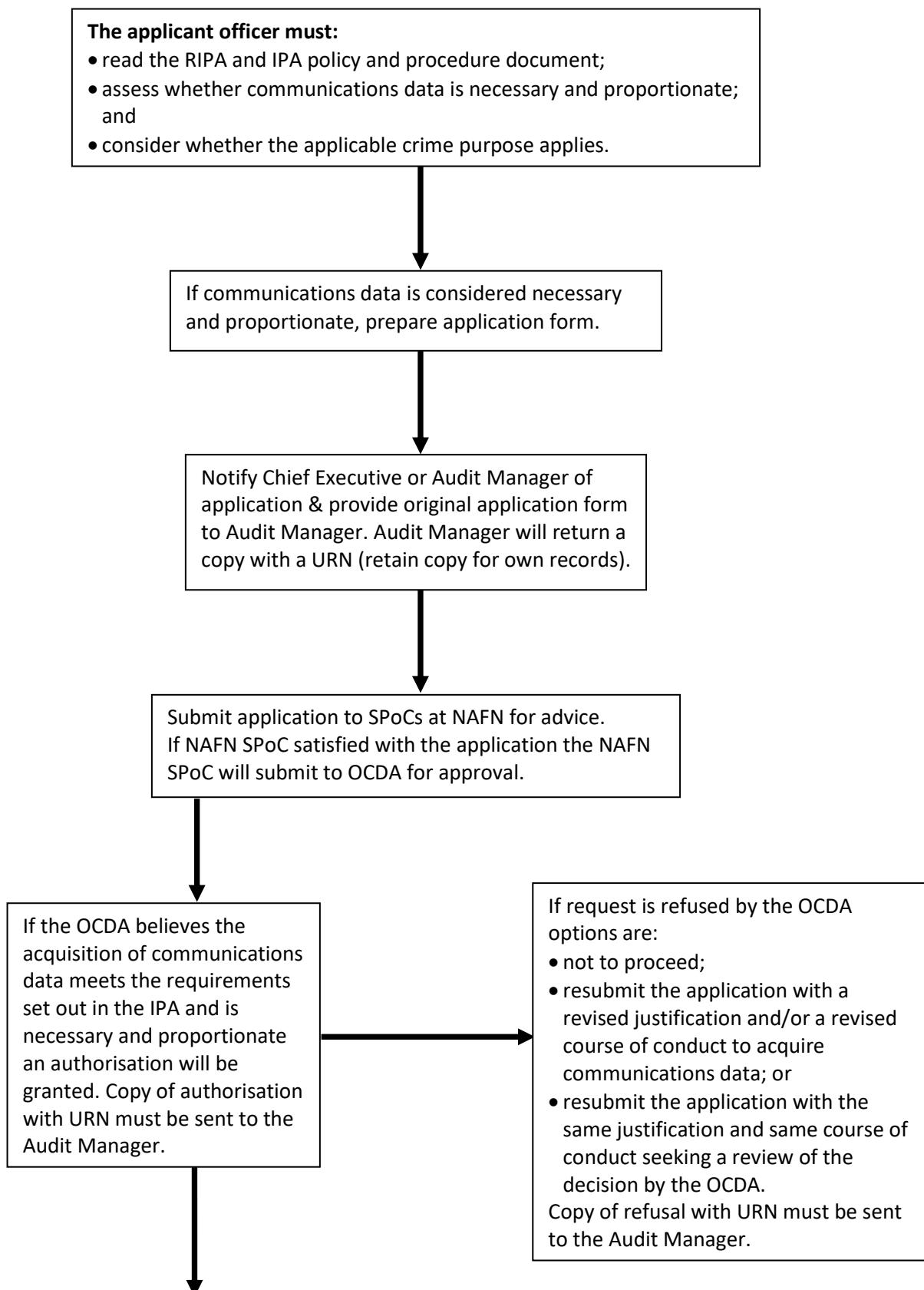
RIPA - AUTHORISATION OF DIRECTED SURVEILLANCE / USE OF A CHIS PROCEDURE

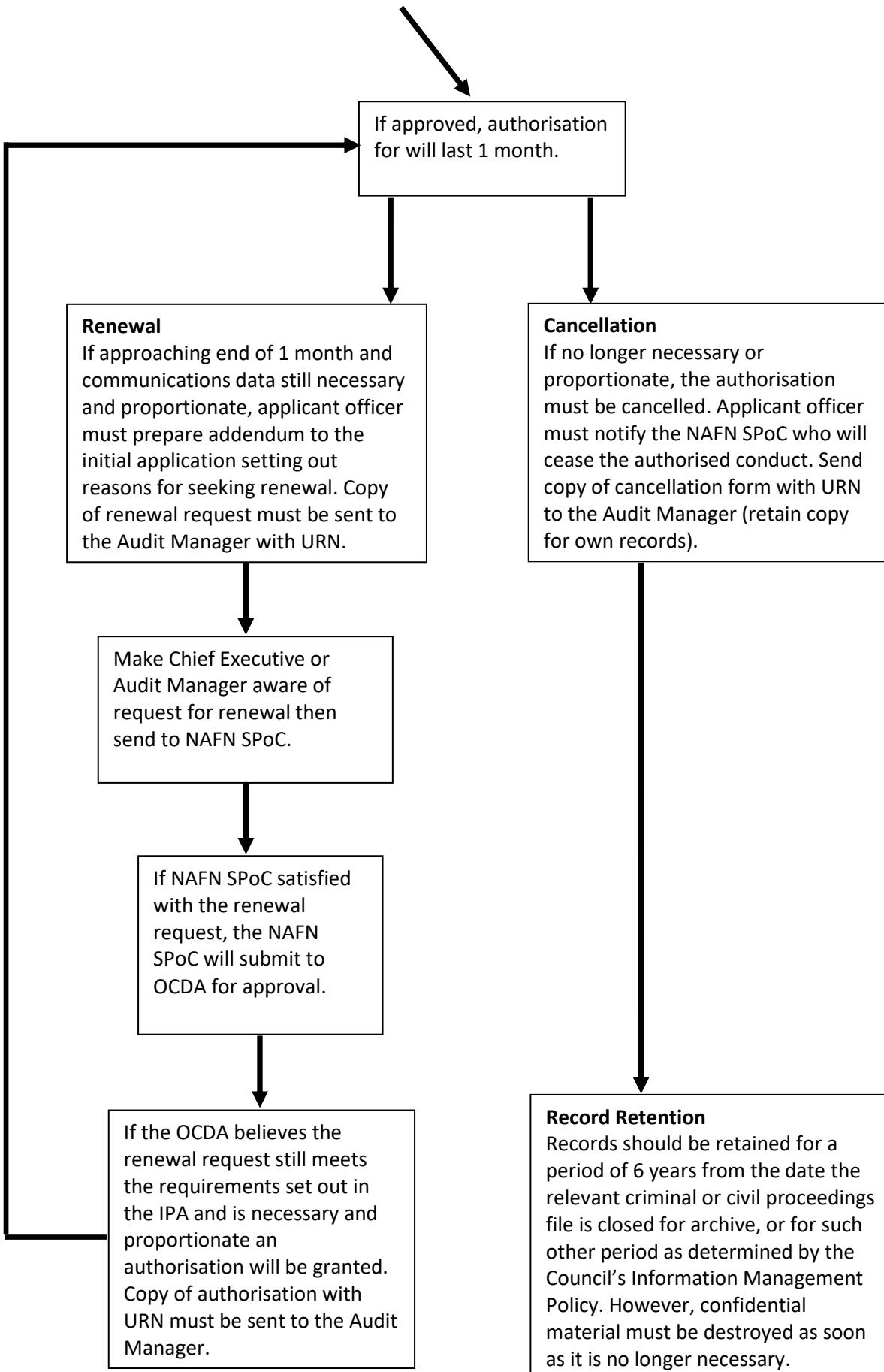
(Note: Note: Only the Chief Executive may authorise the use of a juvenile or vulnerable individual as a CHIS)





IPA - COMMUNICATIONS DATA AUTHORISATION PROCESS





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INFORMATION MANAGEMENT POLICY

Version Control

Version No.	Author	Date	Update Information
V1.0	Lynn Wyeth	20.11.2015	Original Draft
V1.1	Lynn Wyeth	04.12.2015	Amendments by NWLDC incorporated
V1.2	Lee Mansfield	15.12.2015	Amendment made following CLT decision - SIRO
V1.3	Lee Mansfield	02.02.2016	To reference legal as location of the IM team
V1.4	Sabrina Doherty	23.02.2017	Changes made to team structures, functions, roles and responsibilities
V1.5	Andrew Hickling / Louis Sebastian	09.05.2018	Changes made to team structures, functions, roles and responsibilities
V1.6	Nicola Taylor / Mackenzie Keatley	01.07.2020	Change made to team structures, roles and responsibilities, training and support, legislation update

June 2020

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INFORMATION MANAGEMENT POLICY

POLICY STATEMENT

"Information is a vital corporate asset of the Council which is of extremely high value. North West Leicestershire District Council is committed to ensuring that information is efficiently managed and that appropriate policies, procedures, management accountability and structures provide a robust governance framework for information management."

1. INTRODUCTION

1.1 The key areas of Information Management are:

- Records Management;
- Information Risk;
- Information Security;
- Environmental Information Regulations 2004;
- Freedom of Information Act 2000;
- Data Protection Act 2018;
- General Data Protection Regulations;
- Local Government Transparency Code 2015;
- Privacy and Electronic Communication Regulations;
- Public Services Network Code of Connection;
- Payment Card Industry Security Standards;
- Confidentiality.

1.2 This policy is part of a set of information management policies and procedures that support the delivery of an Information Management framework, and should be read in conjunction with these associated documents, listed at section 4.

2. PURPOSE OF THE POLICY

2.1 This Information Management policy provides an overview of the Council's approach to information management, a guide to the procedures in use, and details about the management structures within the organisation.

2.2 This policy enables the Council to ensure that all information is dealt with legally, fairly, securely, efficiently, and effectively.

2.3 This policy ensures that the provisions of the Freedom of Information Act 2000 (FOI), the Environmental Information Regulations 2004 (EIRs), the Data Protection Act 2018 (DPA), the General Data Protection Regulation (GDPR) and the Public Services Network Code (PSN CoCo) are complied with.

3. SCOPE OF THIS POLICY

3.1 This policy, framework and supporting policies apply to:

- all information systems within the organisation (both electronic and paper based);
- all data, information, and records owned by the Council, but also including those held by contractors or partner organisations on behalf of, or as a result of their relationship with, the Council);

- any information that is owned by other organisations, but may be accessed and used by Council employees;
- information in whatever storage format and however transmitted (i.e., paper, voice, photo, video, audio or any digital format. It will also cover formats that are developed and used in the future.);
- all employees of the Council, Council members, temporary workers, volunteers, student placements, etc;
- the employees of any other organisations having access to Council information, for example, auditors, contractors, and other partner agencies where there is no specific information sharing protocol in place,

3.2 The procedures outlined in this Policy are in addition to the Council's complaints procedures and other statutory reporting procedures applying to some divisions.

3.3 This Policy has been discussed with the relevant trade unions and has their support.

4. PROCEDURES AND GUIDANCE

4.1 This Information Management Policy will be strengthened by other associated Council policies / procedures / material including but not limited to:

- ICT Security Policy;
- Request for Information Procedure;
- Security Incident Procedure;
- Records Management Procedure;
- Information Sharing Procedure;
- Whistleblowing Policy;
- RIPA Policy;
- Anti-Money Laundering Policy;
- Employment Practices Code - Information Commissioner's Office.

5. PRINCIPLES OF INFORMATION MANAGEMENT

5.1 The Council understands the need for an appropriate balance between openness and confidentiality in the management and use of information. The Council also understands the need to share information with others in a controlled manner.

5.2 To maximise the value of organisational assets the Council will endeavour to ensure that data is:

- held securely and confidentially;
- obtained fairly and lawfully;
- recorded accurately and reliably;
- used effectively and ethically;
- shared and disclosed appropriately and lawfully;

5.3 To protect the organisation's information assets from all threats, whether internal or external, deliberate or accidental, the Council will ensure:

- information will be protected against unauthorised access;
- confidentiality of information will be assured;
- integrity of information will be maintained;
- information will be supported by the highest quality data;

- regulatory and legislative requirements will be met;
- business continuity plans will be produced, maintained and tested;
- information security training will be mandatory for all staff;
- all breaches of information security, actual or suspected, will be reported via the Security Incident Procedure and investigated by the Data Protection Officer or Information Management Officer;
- significant breaches will be handled with support from Human Resources and/or ICT Manager and/or Legal Services;

6. ROLES AND RESPONSIBILITIES

6.1 Information Asset Owners

6.1.1 Information Asset Owners (IAOs) are Heads of Service who are the nominated owners for one or more identified information assets within the Council. Their role is to understand what information is held, added, removed, how information is moved and who has access and why.

6.1.2 Information Asset Owners will:

- know what information comprises or is associated with the asset, and understand the nature and justification of information that flows to and from the asset;
- know who has access to the asset, whether system or information, why access is required, and ensures access is monitored and compliant with policy;
- understand and address risks to the asset, providing assurance to the Senior Information Risk Owner;
- ensure there is a legal basis for processing data and for any disclosures made;
- refer queries about any of the above to the Information Governance Team.

6.2 Senior Information Risk Owner

6.2.1 From 1 July 2016 the Head of Legal and Commercial Services will become the SIRO.

The SIRO will report to the CLT on all matters relating to Information Management. The SIRO is an executive who is familiar with and takes ownership of the organisation's information risk policy, and acts as advocate for information risk.

6.3 Data Protection Officer

6.3.1 As of the 4 November 2018 the Council appointed a Data Protection Officer.

Under GDPR it is mandatory that a public authority appoint a Data Protection Officer (DPO).

The DPO's tasks are defined in Article 39 of the GDPR.

The DPO Information Management responsibilities include:

- implementing information management procedures and processes for the organisation;
- raising awareness about information management to all staff;
- ensuring that training is provided annually and is completed by all staff;

- co-ordinating the activities of any other staff given responsibilities for data protection, confidentiality, information quality, records management and Freedom of Information;
- conducting internal audits to ensure compliance on an ad-hoc basis;
- ensures the Council is responsible for the continued integrity of datasets and maintains and enforces applications of policies and standards;
- to co-operate with the supervisory authority (ICO).

6.4 Information Governance

6.4.1 Information management is co-ordinated and managed by the Information Governance Team. The Team will:

- assist the Senior Information Risk Owner in the implementation of their key responsibilities and any other matters as deemed appropriate and necessary;
- maintain an awareness of information management issues within the Council;
- review and update the information management policy in line with local and national requirements;
- review and audit all procedures relating to this policy where appropriate on an ad-hoc basis;
- ensure that line managers are aware of the requirements of the policy.

6.5 ICT Team Manager

6.5.1 The ICT Team Manager is responsible for:

- the formulation and implementation of ICT related policies and the creation of supporting procedures;
- developing, implementing and managing robust ICT security arrangements in line with best industry practice, legislation, and statutory requirements;
- effective management and security of the Council's ICT infrastructure and equipment;
- developing and implementing a robust IT Disaster Recovery Plan;
- ensuring that ICT security requirements for the Council are met;
- ensuring the maintenance of all firewalls, secure access servers and similar equipment are in place at all times.

6.6 Head of Service / Team Managers

6.6.1 Heads of Service / Team Managers will take responsibility for ensuring that the Information Management Policy is implemented within their team. All managers will ensure that:

- the requirements of the information management policy framework are met and its supporting policies and guidance are built into local procedures;
- there is compliance with all relevant information management policies within their area of responsibility;
- information management issues are identified and resolved whenever there are changes to services or procedures;
- their staff are properly supported to meet the requirements of information management and security policies and procedures, by ensuring that they are aware of:
 - the policies and procedures that apply to their work area;
 - their responsibility for the information that they use;

- where to get advice on security issues and how to report suspected security incidents.

6.7 Staff

- 6.7.1 It is the responsibility of each employee to adhere to this policy. Staff will receive instruction and direction regarding the policy from a number of sources, including:
- policy / strategy and procedure manuals;
 - their line manager;
 - the legal team;
 - specific training courses;
 - other communication methods, for example, team meetings; and staff intranet.
- 6.7.2 All staff (whether permanent, temporary, voluntary or on any type of placement / training scheme) and members must make sure that they use the Council's IT systems appropriately and adhere to the relevant ICT Policies of the Council. All members of staff are responsible for:
- ensuring that they comply with all information management policies and information security policies and procedures that are relevant to their service;
 - seeking further advice if they are uncertain how to proceed;
 - reporting suspected information security incidents.
- 6.7.3 Staff awareness is a key issue in achieving compliance with Information Management policies. Accordingly there will be:
- mandatory base line training in key information management competencies for all staff;
 - additional support for all employees routinely handling 'personal data' as defined by the Data Protection Act 2018;
 - all information management policies and procedures available on the intranet;
 - staff with specialist knowledge available to advise across the full range of information management areas;
 - communication and updates will be provided to staff regularly;
 - services are encouraged to have an Information Champion to represent their service. Key messages, training and support are provided to the Information Champions who feed this back to their service. Information Champions can raise issues with the group to identify and remedy problems.

7. **MAIN THEMES**

7.1 Openness

- 7.1.1 Non-confidential information which the Council hold will be made available to the public through the Council's website wherever feasible and appropriate.

7.2 Legal Compliance

- 7.2.1 The main legislation applying to information management is the Data Protection Act 2018 and the Freedom of Information Act 2000. The Council will establish and maintain procedures to ensure compliance with the Data Protection Act 2018, the Freedom of Information Act 2000, the Environmental Information Regulations 2004, and the Human Rights Act 1998.

7.3 Information Security

7.3.1 Information security is concerned with the confidentiality, integrity, and availability of information in any format, and the Council must comply with the requirements of the Public Services Network.

7.4 Information and Records Management

7.4.1 To ensure that information and records are effectively managed, and that the Council can meet its information management objectives, there will be a Records Management Policy that sets out the Council's standards for handling information during each phase of the information lifecycle.

7.5 Information Quality Assurance

7.5.1 The Council will undertake or commission regular assessments and audits of its information quality and records management arrangements.

7.5.2 Managers are expected to take ownership of, and seek to improve, the quality of data within their services. Training and awareness-raising sessions appropriate to staff groups will be provided.

7.6 Partnerships and Information Sharing

7.6.1 Any sharing of personal or confidential information with partner agencies or involving individual large transfers of such information will be the subject of a written Information Sharing Agreement (ISA). This will set out the expected process, the standards of security and information handling.

8. RISK

8.1 The Council must ensure it operates within a robust information management framework to reduce the risk of threats such as potential litigation, breach of legislation, or enforcement action from the ICO for failure to respond to information requests adequately.

9. TRAINING

9.1 Appropriate training will be mandatory for all staff.

9.2 All staff will be made aware of their obligations for information management through effective communication programmes.

9.3 Each new employee will be made aware of their obligations for information management during an induction-training programme and will be required to undergo mandatory data protection training before they can pass their probation period.

9.4 Training requirements will be reviewed annually to ensure that staff are adequately trained.

10. COMPLIANCE

- 10.1 Failure to observe the standards set out in this policy may be regarded as serious and any breach may render an employee liable to action under the Council's Disciplinary Procedure, which may include dismissal.

11. FEES AND CHARGES

- 11.1 The Council aims to provide as much information free of charge on the website for customers to download or view at home. The Council may charge in accordance with the charges set out in legislation or statutory guidance and for the cost of disbursements such as photocopying and postage.

12. COMPLAINTS

- 12.1 Any person who is unhappy with the way in which the Council has dealt with their request for information, or how their personal data has been handled, may ask for the matter to be reviewed. All complaints should be in writing to:

- DPO@NWLeicestershire.gov.uk (personal data requests)
- FOI@NWLeicestershire.gov.uk (non-personal information request)
- Data Protection Officer
North West Leicestershire District Council
Whitwick Road
Coalville
Leicestershire
LE67 3FJ

- 12.2 Should the requester / complainant still be unhappy with the outcome of this review they have the right to pursue their complaint to the Data Protection Officer for a formal review. Following the Internal Review, the requester can contact the Information Commissioners Office (ICO, www.ico.org.uk) by writing to:

- accessicoinformation@ico.org.uk
- Information Commissioner's Office
Wycliffe House
Water Lane
Wilmslow
Cheshire
SK9 5AF

13. EQUALITIES IMPACT ASSESSMENT

- 13.1 Equality and diversity issues have been considered in respect of this policy and it has been assessed that a full Equality Impact Assessment is not required as there will be no adverse impact on any particular group.

14. REVIEW OF POLICY

- 14.1 This policy will be reviewed as deemed appropriate, especially in light of any legislative changes, but no less frequently than every 12 months.

14.2 Policy review will be undertaken by the Information Governance Team.



DATA PROTECTION POLICY

Version Awareness

The audience of this document should be aware that a physical copy may not be the latest available version. The latest version, which supersedes all previous versions, is available on our website. Those to whom this policy applies are responsible for familiarising themselves periodically with the latest version and for complying with policy requirements at all times.

Version Control

Version No.	Author	Date Issued	Update Information
V1.0	B Wilson	21.05.2018	Original approved version.
V1.1	N Taylor	28.01.2019	Amended to reflect updated policy.
V1.2	N Taylor	28.05.2020	Updated Sections 4.2, 8.1 and 9.1

May 2020

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DATA PROTECTION POLICY

1. INTRODUCTION

Background

- 1.1 North West Leicestershire District Council (NWLDC) needs to collect person-identifiable information about individuals in order to carry out its functions and fulfil its objectives. Personal data is defined as 'information which relates to a living individual and from which they can be identified, either directly or indirectly'.
- 1.2 Personal data at NWLDC can include employees (present, past and prospective), service users, contractors and third parties, private and confidential information as well as sensitive information, whether in paper, electronic or other form.
- 1.3 Irrespective of how information is collected, recorded and processed person-identifiable information must be dealt with properly to ensure compliance with the Data Protection Act 2018 (DPA) and the General Data Protection Regulations 2018 (GDPR).
- 1.4 The DPA and the GDPR requires NWLDC to comply with the key Data Protection Principles (see Appendix A below) and to notify the Information Commissioner about the data that we hold and why we hold it. This is a formal notification and is renewed annually.
- 1.5 The DPA and the GDPR gives rights to data subjects (people that we hold information about) to access their own personal information, to have it corrected if wrong, in certain permitted circumstances to ask us to stop using it and to seek damages where we are using it improperly (see Appendix C below).
- 1.6 The lawful and correct treatment of person-identifiable information by NWLDC is paramount to the success of the organisation and to maintaining the confidence of its service users and employees. This policy will help NWLDC ensure that all person-identifiable information is handled and processed lawfully and correctly.

Data Protection and the GDPR Principles

- 1.7 NWLDC has a legal obligation to comply with all relevant legislation in respect of data protection and information / IT security. The organisation also has a duty to comply with guidance issued by the Information Commissioners Office.
- 1.8 All legislation relevant to an individual's right to the confidentiality of their information and the ways in which that can be achieved and maintained are paramount to the Council. Significant penalties can be imposed upon the organisation or its employees for non-compliance.
- 1.9 The aim of this policy is to outline how the NWLDC meets its legal obligations in safeguarding confidentiality and adheres to information security standards. The obligations within this policy are principally based upon the requirements of the DPA and GDPR, as the key legislative and regulatory provisions governing the security of person-identifiable information.

- 1.10 Other relevant legislation and guidance referenced and to be read in conjunction with this policy, is outlined together with a brief summary at Appendix B (below).
- 1.11 GDPR requires Public Authorities to appoint a Data Protection Officer. A Data Protection Officer (DPO) is an enterprise security leadership role required by the General Data Protection Regulation (GDPR). Data Protection Officers are responsible for overseeing data protection strategy and implementation to ensure compliance with GDPR requirements.

2. WHAT INFORMATION IS COVERED

- 2.1 Personal data within the respective legislative and regulatory provisions covers ‘any data that can be used to identify a living individual either directly or indirectly’. Individuals can be identified by various means including but not limited to, their address, telephone number or e-mail address. Anonymised or aggregated data is not regulated by the provisions, providing the anonymisation or aggregation of the data is irreversible.

3. POLICY STATEMENT

- 3.1 This document defines the data protection policy for NWLDC. It applies to all person-identifiable information obtained and processed by the organisation and its employees.

It sets out:

- the organisation’s policy for the protection of all person-identifiable information that is processed;
- the responsibilities (and best practice) for data protection;
- the key principles of the DPA and the GDPR.

4. PRINCIPLES

- 4.1 The objective of this policy is to ensure the protection of information NWLDC keeps in accordance with relevant legislation, namely:

- **To ensure notification;**

Annually notified the Information Commissioner about the NWLDC’s use of person-identifiable information.

- **To ensure professionalism;**

All information is obtained, held and processed in a professional manner in accordance with the provisions of the DPA 2018 and the GDPR.

- **To preserve security;**

All information is obtained, held, disclosed and disposed of in a secure manner.

- **To ensure awareness;**

Provision of appropriate training and promote awareness to inform all employees of their responsibilities.

- **Data Subject Access;**

Prompt and informed responses to subject access requests.

- 4.2 The policy will be reviewed periodically by the NWLDC Information Governance Team. Where review and update is necessary due to legislative changes this will be done immediately.
- 4.3 In accordance with the council's equality and diversity policy statement, this procedure will not discriminate, either directly or indirectly, on the grounds of gender, race, colour, ethnic or national origin, sexual orientation, marital status, religion or belief, age, union membership, disability, offending background or any other personal characteristic.

5. SCOPE OF THIS POLICY

- 5.1 This policy will ensure that person-identifiable information is processed, handled, transferred, disclosed and disposed of lawfully. Person-identifiable information should be handled in the most secure manner by authorised staff only, on a need to know basis.
- 5.2 The procedures cover all person identifiable information, electronic or paper which may relate to employees, contractors and third parties about whom we hold information.

6. POLICY

- 6.1 NWLDC obtains and processes person-identifiable information for a variety of different purposes, including but not limited to:
 - staff records and administrative records;
 - Service Users records including the administering of benefits, council tax, housing records, elections, grants, planning applications, licensing applications, etc;
 - matters relating to the prevention, detection and investigation of offences, fraud and corruption;
 - matters relating to the enforcement of primary and secondary legislation;
 - complaints and requests for information.

- 6.2 Such information may be kept in either computer or manual records. In processing such personal data, NWLDC will comply with the data protection principles within the DPA and GDPR.

7. DATA PROTECTION RESPONSIBILITIES

Overall Responsibilities

- 7.1 The Council is the 'data controller' and permits the organisation's staff to use computers and relevant filing systems (manual records) in connection with their duties. The Council has legal responsibility for the notification process and compliance with the DPA and the GDPR.
- 7.2 The Council whilst retaining its legal responsibilities has delegated data protection compliance to the Data Protection Officer.

Data Protection Officer's (DPO) Responsibilities

7.3 The Data Protection Officer's responsibilities include:

- ensuring that the policy is produced and kept up to date.
- Ensuring that the appropriate practice and procedures are adopted and followed by the Council.
- Provide advice and support to the Senior Management Team on data protection issues within the organisation.
- Work collaboratively with Human Resources, the Head of Law and Governance and the Compliance Team to help set the standard of data protection training for staff.
- Ensure data protection notification with the Information Commissioner's Office is reviewed, maintained and renewed annually for all use of person identifiable information.
- Ensure compliance with individual rights, including subject access requests.
- Act as a central point of contact on data protection issues within the organisation.
- Implement an effective framework for the management of data protection.
- Review Retention Schedule annually in January to ensure that it is accurate and up to date.
- Conduct department reviews to ensure that all departments are compliant and act in accordance with the retention schedule.

Line Managers' Responsibilities

7.4 All line managers across the Council's service areas are directly responsible for:

- ensuring their staff are made aware of this policy and any notices;
- ensuring their staff are aware of their data protection responsibilities;
- ensuring their staff receive suitable data protection training.

General Responsibilities

7.5 All NWLDC employees, including temporary and contract staff are subject to compliance with this policy. Under the GDPR individuals can be held personally liable for data protection breaches.

7.6 All NWLDC employees have a responsibility to inform their line manager and the Data Protection Officer of any new use of personal data, as soon as reasonably practicable after it has been identified.

7.7 All NWLDC employees will, on receipt of a request from an individual for information held, known as a subject access request or concerns about the processing of personal information, immediately notify the Compliance Officer.

7.8 Employees must follow the subject access request procedure (see Appendix C below).

8. MONITORING

8.1 Compliance with this policy will be monitored by the Corporate Leadership Team, together with internal audit reviews where necessary.

8.2 The Data Protection Officer is responsible for the monitoring, revision and updating of this policy document on an annual basis or sooner, should the need arise.

9. VALIDITY OF THIS POLICY

- 9.1 This policy will be reviewed at least annually by the Information Governance Team. Associated data protection standards will be subject to an ongoing development and review programme.

APPENDIX A

GENERAL DATA PROTECTION REGULATION 2018 - THE DATA PROTECTION PRINCIPLES

1. **Lawfulness, Fairness and Transparency:** Personal data shall be processed lawfully, fairly and in a transparent manner in relation to individuals.
2. **Purpose Limitation:** Personal data shall be collected for specified, explicit and legitimate purposes and not further processed in a manner that is incompatible with those purposes; further processing for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes shall not be considered to be incompatible with the initial purposes.
3. **Data Minimisation:** Personal data shall be adequate, relevant and limited to what is necessary in relation to the purposes for which they are processed.
4. **Accuracy:** Personal data shall be accurate and, where necessary, kept up to date; every reasonable step must be taken to ensure that personal data that are inaccurate, having regard to the purposes for which they are processed, are erased or rectified without delay.
5. **Storage Limitation:** Personal data shall be kept in a form which permits identification of data subjects for no longer than is necessary for the purposes for which the personal data are processed; personal data may be stored for longer periods insofar as the personal data will be processed solely for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes subject to implementation of the appropriate technical and organisational measures required by the GDPR in order to safeguard the rights and freedoms of individuals.
6. **Integrity and Confidentiality:** Personal data shall be processed in a manner that ensures appropriate security of the personal data, including protection against unauthorised or unlawful processing and against accidental loss, destruction or damage, using appropriate technical or organisational measures.
7. **Accountability:** The controller shall be responsible for, and be able to demonstrate compliance with, the previous six principles.

APPENDIX B

SUMMARY OF RELEVANT LEGISLATION AND GUIDANCE

General Data Protection Regulations (GDPR)

A legal basis must be identified and documented before personal data can be processed. 'Controllers' and 'Processors' will be required to document decisions and maintain records of processing activities.

Human Rights Act 1998

This Act binds public authorities to respect and protect an individual's human rights. This will include an individual's right to privacy (under Article 8) and a service user's right to expect confidentiality of their information at all times.

Article 8 of the Act provides that "everyone has the right to respect for his private and family life, his home and his correspondence". However, this article also states "there shall be no interference by a public authority with the exercise of this right except as is in accordance with the law and is necessary in a democratic society in the interests of national security, public safety, or the economic well-being of the country, for the prevention or disorder or crime, for the protection of health or morals, or for the protection of the rights and freedoms of others".

Each organisation must act in a way consistent with these requirements. It must take an individual's rights into account when sharing personal information about them.

Freedom of Information Act 2000

This Act gives individuals rights of access to information held by public authorities.

Regulation of Investigatory Powers Act 2000

This Act combines rules relating to access to protected electronic information as well as revising the "Interception of Communications Act 1985". The aim of the Act was to modernise the legal regulation of interception of communications, in the light of the Human Rights laws and rapidly changing technology.

Crime and Disorder Act 1998

This Act introduces measures to reduce crime and disorder, including the introduction of local crime partnerships around local authority boundaries to formulate and implement strategies for reducing crime and disorder in that local area. The Act allows disclosure of person-identifiable information to the Police, Local Authorities, Probation Service or the Health Service but only if the purposes are defined within the Crime and Disorder Act. The Act does not impose a legal requirement to disclose person identifiable information and responsibility for disclosure rests with the organisation holding the information.

The Computer Misuse Act 1990

This Act makes it a criminal offence to access any part of a computer system, programs and/or data that a user is not entitled to access. NWLDC issues each employee with an individual user id and password, which will only be known to the individual and must not be divulged to other staff. This is to protect the employee from the likelihood of their inadvertently contravening this Act. NWLDC will adhere to the requirements of the Computer Misuse Act 1990, by ensuring that its staff are aware of their responsibilities regarding the misuse of

computers for fraudulent activities or other personal gain. Any member of staff found to have contravened this Act will be considered to have committed a disciplinary offence and be dealt with accordingly.

The Telecommunications (Lawful Business Practice) (Interception of Communications) Regulations 2000

This Act allows employers to intercept and record communications in certain prescribed circumstances for legitimate monitoring, without obtaining the consent of the parties to the communication.

APPENDIX C

INDIVIDUAL RIGHTS OF THE DATA SUBJECT

1. **The Right to be Informed:** Individuals have the right to be provided with clear and concise information about what an organisation does with their personal data. NWLDC has published Privacy Notices for each of its departments that outline in detail what data we collect, how that data is used, the lawful basis for processing the data and for how long we will retain that data. These can be found on our website at:
https://www.nwleics.gov.uk/pages/data_protection_notice
2. **The Right of Access:** Individuals have the right to access their personal data that is held by an organisation (commonly referred to as Subject Access). You have the right to obtain a copy of your personal data by making a Subject Access Request as detailed below.
3. **The Right to Rectification:** Individuals have the right to have inaccurate personal data rectified, or completed if it is incomplete. You can make a request for rectification as detailed below.
4. **The Right to Erasure:** Individuals have the right to have their personal data erased or 'forgotten' in certain circumstances. These include when the data is no longer necessary for the purpose in which we originally collected or processed it, when we are relying on your consent to process the data and you choose to withdraw that consent, when we are relying on legitimate interests as our basis for processing and you object to this processing (so long as there is no overriding legitimate interest to continue this processing), we have processed the personal data unlawfully, we have to do it to comply with a legal obligation or we have processed the personal data to offer information society services to a child. The Right to Erasure is not an absolute right and only applies in these circumstances listed; however, we will make every effort to assist you. You can make a request for erasure as detailed below.
5. **The Right to Restrict Processing:** Individuals have the right to restrict or suppress the processing of their personal data where they have a particular reason for wanting the restriction. This is not an absolute right and only applies in certain circumstances. When processing is restricted, we are permitted to store the data, but not to use it. This right may apply if you are contesting the accuracy of your data and we are verifying that accuracy, if the data has been unlawfully processed and rather than invoking the Right to Erasure you request restriction instead, if we no longer need the personal data but you need NWLDC to keep it in order to establish, exercise or defend a legal claim, or you object to our processing of your data and we are considering whether our legitimate grounds for processing override your request. You can request the restriction of data processing as detailed below.
6. **The Right to Data Portability:** Individuals have the right to obtain and reuse their personal data for their own purposes across different services. This allows you to move, copy or transfer personal data easily from one IT environment to another in a safe and secure way, without affecting its usability. You have the right to request that we transfer the data you have provided to NWLDC directly to another Data Controller. This right only applies when the lawful basis for processing the information is consent or for the performance of a contract and we are carrying out the processing by automated means (in other words, it excludes paper files). You can make a data portability request as detailed below.

7. **The Right to Object:** Individuals have the right to object to the processing of their data in certain circumstances. You have the absolute right to stop your data being used for direct marketing. You may also object to processing if it is for a task carried out in the public interest, the exercise of official authority vested in us or our legitimate interests (or those of a third party); however, the right to object is not absolute in these circumstances. You can make an objection as detailed below.
8. **Rights in Relation to Automated Decision Making and Profiling:** The GDPR has provisions on making a decision solely by automated means without any human involvement and the automated processing of personal data to evaluate certain things about an individual. All automated decision-making and profiling is subject to the GDPR and NWLDC will identify, when applicable, whether any of our data processing relies solely on automated decision-making or whether we use profiling of any kind. This information is available on our website at:

https://www.nwleics.gov.uk/pages/data_protection_notice

To invoke these rights, simply submit your request to us in writing either by email at dpo@nwleicestershire.gov.uk or to:

North West Leicestershire District Council
Council Offices
Whitwick Road
Coalville
Leicestershire
LE67 3FJ

For all requests, NWLDC will have one calendar month in which to respond.

Document Control

Prepared By	Data Protection Officer
Original Authorisation By	Senior Management
Review Period	One year
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ICT AND CYBER SECURITY POLICY

Version Control

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1.1	Ivan Arkinstall	09.07.2013	Revised
1	Phil Clarke	04.03.2009	Revised

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ICT AND CYBER SECURITY POLICY

FORWARD

North West Leicestershire District Council is dependent upon its Information and Communications Technology (ICT) systems for its normal day to day business activities. It is therefore essential for the continued successful operation of the Council that the confidentiality, integrity and availability of its ICT systems and data are maintained at a high level at all times. There is also an obligation on the Council and all employees to comply with relevant legislation such as the General Data Protection (GDPR) Acts, the Copyright, Designs and Patents Act and the Misuse of Computers Act.

The majority of information used by the Council is now available and kept in an electronic format and this policy is centred on the need to ensure that our technology and IT systems are sufficiently secure to protect the underlying information and suitably protected. This does, however, need to be backed by a wider culture of confidentiality and security of information in any form including direct conversations, telephone conversations and the written word.

It follows that the highest standard of IT security is required within the Council. To achieve this, the ICT Security and Cyber Security Policy has been introduced and everyone who uses IT equipment is expected to read it and ensure that its provisions are complied with. There is also a short summary of this policy containing the main aspects affecting the average user.

The key to ensuring that the Council's data and systems remain secure is to ensure that all staff are aware of their own responsibilities they will be required to:

- acknowledge receipt and understanding of this policy document;
- in the case of staff having access to RESTRICTED data via the Government Connect Secure Extranet (GCSx) or Government Secure Intranet (GSi) will agree to abide by specific ICT security rules regarding such information (see Appendix 2).

Wilful failure to follow the procedures stated in this policy may lead to disciplinary action, prosecution and may also render the person personally liable for the cost of replacing or reinstating damaged or corrupt equipment and data.

The policy will be reviewed periodically (at least annually) and updated by the ICT Manager. If you have any doubts about the meaning of any part of this policy, or believe that it could be improved in any way, please contact the ICT Manager.

POLICY OBJECTIVES

This policy also sets out the overall objective and principles underlying ICT and cyber security at North West Leicestershire District Council and specifies the management arrangements and key responsibilities.

The objective of this ICT and Cyber Security Policy and its supporting policies is to ensure the highest standards are maintained across the Council at all times so that:

- (a) the public and all users of the Council's information are confident of the confidentiality, integrity and availability of the information used and produced.
- (b) Business damage and interruption caused by cyber security incidents are minimised.

- (c) All legislative and regulatory requirements are met.
- (d) The Council's information is used responsibly, securely and with integrity at all times and that this applies to manual and electronic information.

The main objectives of this policy are:

- to ensure adequate protection of all the Council's assets, locations, people, programs, data and equipment, on a cost-effective basis, against any threat which may affect their security, integrity and/or the level of IT service required by the Council to conduct its business;
- to ensure awareness amongst the Council's officers and members of all relevant legislation and that they fully comply with such legislation;
- to ensure awareness within the Council of the need for IT and cyber security to be an integral part of the day to day operation of the Council's business;
- to ensure user security awareness training is in place and all staff have access to that training.

The strategic approach to cyber security is based on:

- consistency of approach with the implementation of key processes and procedures
- the application of recognised security management good practice such as the Cyber Essentials PLUS and ISO/IEC 27000 family of information management systems standards;
- implementation of physical, personal, procedural and technical counter and mitigation measures;
- annual cyber security assessments and risk mitigations of external and internal threats, commonly called ICT security penetration test carried out by a third party CREST/IASME accredited supplier;
- the continuing availability of specialist security advice;
- cyber security is a vital area of concern, with ever increasing threat vector, that will receive the regular attention of senior management, through the risk and management committee and the Corporate Leadership team;
- all users have an essential role to play in maintaining sound IT and cyber security and will be fully supported by attending QTRLY user awareness security training;
- yearly IT audits conducted by an external supplier, to provide assurance on key ICT controls.

SCOPE

This Information Technology and Cyber Security Policy will apply to:

- all the Council's employees, members, contractors, partners and agents;
- all assets owned by the Council;
- information held or owned by North West Leicestershire District Council, any ICT equipment and infrastructure used, and the physical environment in which the information and/or supporting ICT is used;
- all members of the Council who use the Council's ICT facilities;
- employees and agents of other organisations who directly or indirectly support the Council's IT services;
- members of the public using IT resources to access data on Council premises;
- Council's systems in a hosted / cloud environment.

Where access is to be granted to any third party (e.g. contractors, service providers, voluntary agencies, and partners) compliance with this policy must be agreed and documented, following the third party code of connections policy in Appendix 3. A copy of this policy and the summary document will be issued to all the above.

1. SECURITY ORGANISATION

Objective:

To manage information and cyber security within North West Leicestershire District Council to the highest level.

1.1 Responsibilities

The ICT Manager is responsible for:

- assigning security roles and responsibilities;
- co-ordinating the implementation of the security policy across the Council;
- reviewing and if appropriate updating the Security Policy;
- reviewing and monitoring security incidents;
- reviewing third party access and security arrangements;
- monitoring exposure to major threats to information assets;
- agreeing and supporting Council-wide security initiatives;
- ensuring patch management of devices is performed on a monthly basis and monitored.

The security of all hardware situated in departments and sections is the responsibility of the departmental or service manager.

The security of all other hardware, operating systems, PC application, networking, infrastructure and corporate software is the responsibility of the ICT Manager.

Departmental application software is the responsibility of:

Application	System Administrator	System and Data Owner
General Ledger	Financial Planning	Head of Finance
Creditors and Debtors	Exchequer Services	Head of Finance
Payroll	HR	Head of HR and Organisation Development
Revenues and Benefits	Partnership	Head of Customer Services
Housing Management	Strategic Housing	Head of Housing
Housing repairs	Strategic Housing	Head of Housing
Cash Receipting	Exchequer services	Head of Finance
Planning, Building Control	ICT	Head of Planning and Regeneration

Geographic Information System	ICT	Head of Planning and Regeneration
Environmental Health and Licensing	ICT	Head of Community Services
Electoral Registration and Elections	Elections Officer	Head of Legal and Commercial Services
Personnel	HR and Organisation Development	Head of HR and Organisation Development
Land Charges	ICT	Head of Planning Services and Regeneration
Electronic Document Management	ICT	Head of Planning services and Regeneration
Leisure Services Bookings	Business Development manager (Leisure)	Head of Community Services

1.2 Acquisition of Information and Communications Technology

All acquisitions of Information and Communications Technology (ICT) shall be in accordance with Council Procurement Procedures and be co-ordinated by the ICT Manager who shall obtain specialist advice if he considers it appropriate.

All new acquisitions of a corporate nature shall be agreed by the Corporate Leadership Team.

Departmental acquisitions shall be agreed between the appropriate Head of Service and the ICT Manager.

The ICT Manager has delegated authority to replace obsolete equipment in accordance with an agreed replacement program and to upgrade/replace office productivity tools and software within an agreed programme.

All new projects will be in accordance with the Council's corporate project management policies, have associated business case / justification documents and be in accordance with the current ICT strategy / road map.

1.3 Security Information Advice

Specialist advice on information security is available internally from the ICT Manager or Internal Audit.

1.4 Security Incidents

All suspected and actual security incidents shall be reported immediately to the ICT Service desk. Each incident will be recorded, investigated and corrective action implemented where appropriate. If the incident is perceived to be of a serious or urgent nature it will be escalated to the ICT manager or the Head of Customer Services.

The Council has a separate ICT Security Incident Reporting Procedure which gives full details on how to report any security incidents and this includes a copy of the reporting form which you may be asked to complete by the ICT Service desk.

This document is available from within the IT section of the Council Intranet

1.5 Independent Review of Information Security

The content, implementation and practice of this policy will be reviewed independently to provide assurance that organisation practices properly reflect the policy and that the policy is feasible and effective. Independent reviews will be carried out by the internal Audit team and External Auditors (KPMG) or one that has been appointed.

2. SECURITY OF THIRD PARTY ACCESS

Objective:

To maintain the security of organisational ICT facilities and information assets accessed by third parties. Either on premise or hosted environment.

2.1 Identification of Risks from Third Party Connections

Where there is a business need for third party access to ICT facilities and information assets the security implications and requirements will be determined, and controls agreed with the third party.

All new systems will be assessed for risks from third party connections and, where appropriate, controls will be defined in a contract with the third party, as described in Appendix 3.

Arrangements involving third party access, e.g. Support engineers, subcontractors, consultants will be based on a formal contract or security agreement containing, or referring to, all of the necessary security conditions to ensure compliance with the Council's security policy including obtaining an indemnity in respect of any loss caused by erasure or alteration of data or incorrect alteration of programs. The contract should be in place before access to the ICT facilities is provided.

See Appendix 3 for sample security agreement for use by third parties.

The implementation of any changes to systems should be strictly controlled using formal change control procedures. Any third party organisation carrying out work for the Council will be expected to comply with these change control procedures and will ensure that all system changes are documented. The ICT change control policy is available via the ICT intranet page.

All third party access will be controlled and is available to service providers via a secure internet connection using an SSL (secured sockets layer) VPN appliance, or an application such as Team Viewer.

Where reasonably possible, for all access will use multi factor authentication using a soft token delivered via SMS to the user's mobile phone or a mobile app. The remote support user will be given an access code and a onetime use password for that session.

All systems have passwords enabled to ensure only authorised parties can access the Council's ICT, at agreed times and that each third party can only access the relevant systems.

All contractors, consultants or other temporary staff will be issued with a unique user code and password in line with current procedures for the particular system being used. **Under no circumstances should Council staff allow their own user code or password to be used by anyone else.**

In certain circumstances it may be necessary to divulge a password for access by technical support staff and in such cases, it must be changed immediately after the authorised activities are completed. A log of such activity is maintained by the ICT department.

A log of all third party access will be recorded on the Service Desk management system, with a copy of the completed third party access control form. All third parties accessing Council systems or data must have had their own IT Security tested by a trusted third party or hold a valid accreditation such as Cyber Essentials or ISO 27001.

3. ASSETS CONTROL

Objective:

To maintain appropriate protection of organisational assets:

3.1 Inventory of Assets

An inventory of ICT assets shall be maintained by the ICT Manager who shall promptly update it for all acquisitions, disposals, updates and management of our cyber assets (this include transfer of assets to another user). The accuracy of the inventory shall be verified annually in accordance with Financial Procedure Rules. This includes equipment at staff homes for those who are working in an agile manner.

All users must notify ICT if they move an asset to another location, within the Council Offices or a remote site.

4. PERSONNEL SECURITY

Objective:

To reduce the risks of human error, theft, fraud or misuse of facilities:

4.1 General

Security roles and responsibilities for all staff using ICT facilities will be included in job descriptions and contracts where appropriate by the relevant manager. Managers are responsible for ensuring job descriptions or codes of conduct address all relevant security responsibilities.

All potential recruits will be screened by:

- obtaining two satisfactory references;
- confirming academic and professional qualifications.

All employees and third party users of ICT facilities will be required to sign a confidentiality (non-disclosure) undertaking. Revenue Services benefits staff will be subject to recruitment procedures included in the Benefits Anti-Fraud Strategy.

The appointment of employees with access to information classified as PROTECT or RESTRICTED (see Appendix 1) will be subject to the specific Baseline Personnel Security Standards available on request from the Human Resources department.

All users are responsible for the equipment issued to them and information that they have access to. Third party access to ICT equipment and data, without prior arrangement with IT is prohibited. When accessing Council information, they must ensure that they do so in a secure environment and that persons who are not authorised to view said information cannot view it.

4.2 ICT and Cyber Security Training

Objective:

To ensure that users are aware of information security and cyber threats and concerns, and are equipped to comply with and support the Council's security policy in the course of their work:

All users will need to undertake a cyber security user awareness e-learning training module.

All ICT users will be briefed in security procedures and the correct use of ICT facilities by IT staff in order to minimise possible security risks to the confidentiality, integrity and availability of data or services through user error. Managers are responsible for ensuring such training is provided to their staff.

New user accounts will only be established and issued to staff who have received appropriate ICT induction and have been authorised by the relevant Head of Service or Director. All new ICT users will be issued with either a paper copy of the current ICT and Cyber Security Policy or given access to the document on the Council's intranet. They must read the document and sign to acknowledgement the terms and conditions within 2 working weeks otherwise network access will be denied.

All new ICT users who will have access to the Government Connect Secure Extranet (GCSx) or Government Secure Internet (GSi) networks will be also be required to comply with a Personal Commitment Statement pertaining to those services.

Access levels to review / amend / delete data will be determined by the relevant Head of Service in association with the system owner(s) of any ICT applications which the new user intends to use.

All third party suppliers, contractors and temporary staff will be required to read and acknowledge the terms and conditions before being granted access to Council ICT resources.

In the case of third party support companies where individual users may not be easily identifiable a board level representative of the company will be required to acknowledge the terms and conditions.

4.3 Responding to Incidents

Objective:

To minimise the damage from security incidents and malfunctions, and to monitor, learn from and reinforce procedures in the light of such incidents:

A security incident shall mean:

- any event arising from negligence or deliberate default that has, or could have, resulted in loss or damage to the Council's IT systems or data;
- a compromise to the confidentiality, integrity or availability of IT systems or data;
- an action that is in breach of the security policy;
- any cyber security threat or incident.

All security incidents shall be reported immediately to the ICT Service Desk who will pass the calls to the ICT Security Officer or ICT Manager who will instigate an investigation and report any incidents that cause serious loss or damage to the Head of Customer services and the Data protection officer. Any security incident that may have the potential to lead to disciplinary action will involve the appropriate involvement and consultation with the Head of Human Resources and Organisation Development and/or (depending upon the nature of the incident) the Audit Services Manager.

The Council has a separate ICT Security Incident Reporting Procedure which gives full details on how to report any incidents and this includes a copy of the reporting form which you may be asked to complete by the ICT Service desk. This document is available from within the IT section of the Council Intranet. The security incident will also be logged on the ICT Service Desk system.

Any security incident which leads to loss or damage, or wilful abuse of the conditions of this policy may be cause for investigation and, where appropriate, formal action, in accordance with the Council's agreed disciplinary policy.

Any incident or suspected incident must be handled in the manner as laid out in the Council's Incident and Response Policy and Procedures. The above Incident Response Policy and Procedures will be reviewed on a yearly basis.

5. PHYSICAL AND ENVIRONMENTAL SECURITY

Objective:

To prevent unauthorised access, damage and interference to ICT services to prevent loss, damage or compromise to assets and to the confidentiality, integrity or availability of IT systems or data, and interruption to business activities:

5.1 Secure Areas

ICT facilities such as servers, server rooms and hosting facilities, hubs and routers supporting critical or sensitive business activities shall be housed in secure areas, i.e. protected from unauthorised access, damage and interference.

Except for systems specifically intended for public use, ICT facilities should only be available to authorised persons, and wherever possible should be kept away from

public access, and preferably view. Specialised IT equipment should be further restricted to authorised staff only in areas of extra security.

The following specific conditions will apply to such secure areas:

- server rooms will be protected by electronic locking systems or digital locks on all entry points and will always be kept locked;
- access to any hosted / Data Centre facility is only for NWLDC ICT staff, with proof of identification and access granted via a request system or logging portal;
- access to server rooms will be only to ICT support staff or to others acting under their close supervision;
- server rooms will be protected with fire detection and control equipment (FM200 Gas). Such equipment will be integrated into the Council's overall fire detection system;
- servers will be protected by Uninterruptible Power Supplies (UPS) enough to allow continuous working of equipment for a minimum of 2 hours in the event of loss of electrical supply to the rooms;
- server rooms will be regularly monitored to ensure an adequate operating environment for the equipment contained;
- network distribution cabinets will be protected with UPS enough to allow continuous working for a minimum of one hour;
- network distribution cabinets will always be kept locked and access granted only to ICT network support staff or others acting under their close supervision;
- remote access may be allowed to server, network and telephony equipment but will be limited to ICT support staff and specified third party support organisations. (Access by third parties will be subject to agreements specific to the software / equipment concerned and, always, will be with the express permission of ICT staff). This includes completing the Permit to work and Risk assessment documents, for all external contractors requiring access to the server room;
- A complete log of remote access by third party support organisations will be maintained.

5.2 Equipment Security

ICT equipment and cabling should be protected from spillage or leaks and must be sited away from where staff or the public walk and also to minimise opportunities for unauthorised access or removal. Staff should also be warned of the dangers of spilling liquids or food on IT equipment. **Except for laptop and portable computers only IT staff should move, or supervise the moving, of IT equipment.**

All critical ICT equipment shall be protected by an uninterruptible power supply (UPS). UPS equipment should be self-testing and shall also be manually tested by IT staff at least every six weeks and serviced as necessary.

Officers and members should always ensure that computer equipment and screens are positioned to prevent unauthorised viewing of data.

Any faulty ICT equipment shall be reported to the IT section who will arrange for its repair or replacement. **Under no circumstances shall members of staff attempt to repair, move, change equipment or open casings except for printers to replace consumables or clear a paper jam.**

Computers provided by the Council for use at home are for the sole use of that officer or member, no unauthorised third party is allowed access to the computer equipment

for any reason. **The officer or member will be responsible for ensuring that computer is, always, used in accordance with Council conditions of use.**

Laptop, portable computers and smart phones (unless permanently assigned to an officer or member) may be borrowed, with the permission of the officer's manager, from the IT section who will maintain a record of issue and returns. Such equipment must be transported in appropriate carrying cases, such equipment must be transported in appropriate carrying cases and must not be left in clear view. If left in a vehicle it MUST be out of sight. **Officers should treat laptop, smart phones and portable computers as if it were their own possession and uninsured.**

Any laptops, smart phones or computers currently assigned on a permanent basis to an officer or member can be recalled for a software audit on a one-week notice. The officer or member must arrange a mutually convenient time when the computer can be returned to the IT department within that week period. Once the audit has been conducted the IT department will either return the computer or inform the officer or member and arrange a collection time and date.

5.3 Equipment and Data Destruction

Obsolete equipment shall be checked by IT staff and all hard disks will be thoroughly cleansed of data before disposal, whether by sale, donation or destruction. Equipment will normally be disposed of via a third party accredited data disposal organisation who will ensure recycling, where possible. Any PCs disposed of by sale / donation will not include the operating system installed and no application software.

All ICT equipment will be disposed of in accordance with the relevant environmental legislation e.g. WEEE Directives.

A separate procedure document "Managing, Tracking and disposing of ICT assets", is available on the ICT intranet page.

5.4 Remote Access to Systems and Data

Where there is a business need, the Council will allow employees and members to have remote access to data and systems from locations not covered by the Council local and wide area networks. This will include 'roaming' users who with suitable technology are able to access data anywhere and 'fixed point' users such as home workers. Access to systems from non-council devices, will be controlled via multi factor authentication.

The Council will allow such remote users to make use of their own PC equipment subject to meeting minimum security standards including having up to date anti-virus and firewall software.

Remote access to Council systems will only be granted on the Authority of the relevant Head of Service or Director

Remote access will be only available by using multi factor authentication (i.e. the use of a 2 part password). NWLDC operates soft tokens which require the use of a unique personal PIN either sent to the work mobile combination with a dynamically generated pass code or generated with a mobile app.

Specific conditions and responsibilities will apply to those users:

- data must not be stored on non-Council devices used for remote access;
- confidential data must be encrypted on storage devices supplied by the ICT department;
- particular care should be taken with removable storage devices such as USB sticks, etc and if these are used to move or transfer data it must be stored in encrypted format using supplied "Safe Sticks";
- any Council data downloaded or stored on employees' remote users' PC equipment must be kept secure and inaccessible to others. Data must be removed as soon as is practicable when it is no longer required;
- any loss of equipment (own or Council) must be reported immediately to the ICT Service Desk;
- any actual or perceived security threat relating to remote use of Council IT systems must be reported immediately to the ICT Service Desk;
- no RESTRICTED information should ever be used on employees / members own equipment.

When undertaking video or conference calls discussing or displaying Council information, they must ensure that no unauthorised person are privy to that information.

6. COMPUTER AND NETWORK MANAGEMENT

6.1 Operational Procedures and Responsibilities

Objective:

To ensure the correct and secure operation of computer and network facilities:

The ICT Manager is responsible for the management and operation of all servers and networks and associated specialised hardware. Departmental managers are responsible for the safe day to day operation of portable and desktop computers and printers issued to them or their staff.

Appropriate documented procedures for the management and operation of all servers and networks will be established by computer staff.

Clearly documented procedures shall be prepared by computer staff and/or the system administrator for all operational computer systems to ensure their correct, secure operation.

6.2 System Planning and Acceptance

Objective:

To minimise the risk of systems failure:

Advance planning and preparation are required to ensure the availability of adequate capacity and resources.

Acceptance procedures for new systems will include the following:

- performance and computer capacity;
- preparation of error recovery and restart procedures;

- preparation and testing of routine operating procedures;
- evidence that the new system will not adversely affect existing systems, particularly at peak processing times;
- training in the operation or use of new systems;
- formal consideration of the need for ongoing maintenance and support by a third party.

Emergency fall back arrangements should be identified for each system and adequate fall-back arrangements made wherever possible. Fall back arrangements for each system should be fully documented and responsibility for this lies with the relevant system administrator.

6.3 Configuration and Change Management

Objective:

To document and manage the ICT structure and any changes thereto:

Operational changes must be controlled to reduce the risk of system or security failures. The ICT Manager is responsible for ensuring that changes to software or hardware are carried out in a controlled manner and appropriately documented.

A formal change control (and authorisation) is in place which requires significant changes to software and hardware to be assessed, tested and verified before completion. This procedure will apply to anyone making such changes including permanent staff, temporary and contract staff, suppliers and third party support organisations.

All PCs and servers are configured and installed with a standard security configuration, which may be changed only on the authority of the ICT Manager. Any attempts to amend the standard configuration will be logged and monitored.

Specific protective measures are applied to servers accessed by users outside the Council's main network. Such servers are in a separate secure zone of the network known as a de-militarised zone or DMZ.

Please refer to "ICT Server Build Policy" and "ICT PC Build Policy" for full details.

Changes to software and hardware will, wherever possible, be applied in a test environment before being applied to operational systems.

6.4 Protection from Malicious and Unauthorised Software

Objective:

To safeguard the integrity of software and data:

It is essential that special measures, as detailed below, are implemented to prevent the introduction of malicious software such as computer viruses, ransomware and malware or the use of unauthorised software. Using unlicensed software can result in a raid (authorised by the courts) to identify the use of such unlicensed software which can result in a fine, adverse publicity and a block on the use of ANY computers until the licences are paid for or the offending software is removed, resulting in very serious disruption to the organisation's activities.

In extreme cases staff could face imprisonment. A computer virus or similar can cause severe damage to data and hence serious disruption. Every precaution must be taken to protect Council data and programs.

Unauthorised software is software that has not been purchased by, or whose purchase or use has not been agreed by the ICT Manager.

To reduce the risks of infection or use of unauthorised software the following preventive, detective and corrective measures will be instituted:

- **the introduction and/or use of unauthorised software, including screensavers, is prohibited and may lead to the application of relevant, formal disciplinary action;**
- software licences will be complied with at all times;
- Reputable, up to date anti-virus software will be used to detect and remove or isolate viruses and malware;
- **staff or members must not transfer data from their home PC to the Council computers, whether by removable storage media or e-mail, unless their home PC has up to date (i.e. definitions updated within the previous week) anti-virus software and firewall installed. The anti-virus software used must be one verified by the Council's ICT support staff;**
- **removable storage media devices are blocked from being connected to corporate devices;**
- any suspected viruses must be reported immediately to the computer section and, where appropriate, logged as a security incident;
- except where there is a justifiable business reason that has been expressly agreed with the ICT Manager, users should not open unsolicited e-mails from unverifiable sources and especially any attachments as there is a significant risk, they may contain a virus;
- **users must not attempt to download executable files, i.e. program software, from the Internet without prior specific clearance from IT staff;**
- any incoming e-mail that contains executable or compressed attachments will be automatically quarantined and routed to IT staff for checking before delivery to the intended recipient.

USB devices and removable media are not allowed on any machine. Device management software is in place to detect and block this type of activity. ICT can provide encrypted USB "safe sticks" for transfer of data, which is prohibited on all machines.

6.5 Housekeeping

Objective:

To maintain the integrity and availability of IT services:

Housekeeping measures are required to maintain the integrity and availability of services.

Routine procedures will be established by computer staff for taking back-up copies of data, logging events and, where appropriate, monitoring the equipment environment.

Documented procedures for each system shall include:

- data back-up,
- operator logs,
- fault logging,
- environmental monitoring,
- network and application restart procedures,
- change request logs,
- system updates / upgrades.

6.6 Network Management

Objective:

To ensure the safeguarding of information in networks and the protection of the supporting infrastructure:

Appropriate controls must be implemented to ensure the security of data in networks and the protection of connected services from unauthorised access.

Each authorised user will be allocated a unique logon identifier by ICT Support staff and a password that the user must change at least every 90 days. The password must contain at least eight characters including a mixture of three of the following four elements (a complex password):

- lower case alpha characters,
- upper case alpha characters,
- numbers,
- special characters.

The password policy is to be reviewed on a yearly basis following guidance issued by NCSC.

Access to the network is automatically barred after four successive unsuccessful attempts to logon. Users are responsible for ensuring the secrecy and quality of their password and shall be held responsible for all actions recorded against their unique logon identifier.

The ICT Manager is responsible for ensuring the security of the networks.

A separate procedure document is available “Starters and Leavers Process Including Domain Account Administration” on the ICT intranet page.

6.7 Media Handling and Security

Objective:

To prevent damage to assets and interruptions to business activities:

Computer media containing data shall be controlled and physically protected.

Appropriate operating procedures will be established to protect computer media (tapes, disks, cassettes) input / output data and system documentation from damage, theft and unauthorised access.

At least one copy of all computer media containing data or critical software will be stored in media fire safes. A copy of all such media should also be kept securely offsite.

Computers that rarely physically connect to the network such as laptops or computers provided to members and some officers are not covered under our backup policy and data backups of these computers is the responsibility of the member or officer. A means of backing up the computer and a lesson on how to backup data will be provided by the ICT department

6.8 Data and Software Exchange

Objective:

To prevent loss, modification or misuse of data:

Exchanges of data or software between the Council and third parties should be managed in accordance with the data classification table in Appendix 1.

For critical or sensitive data and software, formal agreements, (including software escrow agreements where appropriate) for exchange of data and software (whether electronic or manual) between organisations should be established. These agreements should specify appropriate security conditions which reflect the sensitivity of the information involved, including:

- management responsibilities for controlling and notifying transmission, despatch and receipt,
- minimum technical standards for packaging and transmission,
- courier identification standards,
- responsibilities and liabilities in the event of loss of data,
- data and software ownership and responsibilities for data protection, software copyright compliance and similar considerations,
- technical standards for recording and reading data and software,
- any special measures required to protect very sensitive items
- The use of personal e-mails for sharing of data is prohibited

In order to ensure security of physical media in transit reliable transport couriers should always be used. Packaging should be sufficient to protect the contents from any physical damage during transit and should be in accordance with manufacturers' instructions.

Data in transit should be sealed with tamper proof or evidence devices and have accompanying documentation to list package contents.

All electronic commerce should be in accordance with the Council's Contract Procedure Rules / Financial Procedure Rules and subject to formal contract(s) drawn up between the Council and the trading partner(s), including the specialised areas of communication processes, transaction message security and data storage. Managers will need to obtain the appropriate specialised advice upon, identify and take into account all external and internal requirements affecting this activity. These requirements are likely to include the acts and directives listed in section 9.1 of this policy. Also relevant will be international and local (to other countries) laws and directives, any national or international professional regulations such as accounting practice and tax regimes, any conditions specified by the Council's insurers, fair trade and human rights standards, and the requisite information and technology standards

and controls to preserve the timeliness, accuracy and integrity, security, recoverability and processing of this activity.

6.9 Connection to Other Networks

Objective:

To facilitate use of this means of communication while preventing risks to the Council from inappropriate use:

For operational purposes, the Council will sometimes require access to external networks both to make use of business applications and to exchange data. Access to such networks is only allowed under the following conditions:

- must be authorised by the relevant Head of Service;
- must be agreed by the ICT manager or ICT Security Officer;
- must be protected by a firewall configured to provide protection of all networks concerned;
- must be subject to a suitable data sharing agreement / contract;
- must have protocols in place to protect data in transit and at rest.

6.10 Electronic Mail

Objective:

To facilitate use of this means of communication while preventing risks to the Council from inappropriate use:

Controls to reduce the security risks associated with electronic mail (e-mail) should be implemented covering:

- vulnerability to unauthorised interception or modification. Confidential data should only be sent in encrypted form;
- vulnerability to error, for example incorrect addressing;
- legal considerations such as the need for proof of origin, despatch, delivery and acceptance;
- publication of directory entries;
- remote access to e-mail accounts.

All staff have internal e-mail facilities, and external e-mail will be made available to all members and those officers with the authorisation of their director or head of service.

All use of e-mail shall be in accordance with the Electronic Communications Policy and Guidelines. Users shall avoid responding to unsolicited e-mails from unverifiable sources, and in particular, except where there is a justifiable business reason that has been expressly agreed with the ICT Manager, shall not open such mail or any attachments in such circumstances as there is a significant risk they may contain a virus. IT staff shall monitor usage of e-mail and report any concerns to the appropriate director or head of service.

All e-mail sent to external parties shall contain a standard disclaimer inserted by the e-mail system and in a form approved by the Council's Legal Officer.

All e-mail inbound and outbound will be subject to security scans for spyware, malware and viruses.

Electronic e-mail is not to be used via the Outlook App installed on personal devices.

Forwarding of e-mails to personal e-mail accounts is prohibited.

The use of personal e-mails for sharing of data is prohibited.

6.10.1 Confidential or RESTRICTED Information

Specific conditions apply to the use of RESTRICTED information:

- mail must not be forwarded to lower classification domains i.e. to organisations not within the government secure intranet network (GCSi) or government secure extranet (GCSx)

6.10.2 Use of E-mail Outside the UK

- **Due to the inherent increased security risk of accessing data via non-UK networks mail must not be accessed from outside the UK without the specific authorisation of the relevant Director.**
- Any user planning to do so must be aware of the relevant guidelines issued by FCO regarding the use of mobile telephones and IT services outside the UK.

6.11 Internet

Objective:

To facilitate use of this major source of information while preventing risks to the Council from inappropriate use:

The use of the Internet on the Council's computer systems shall be controlled and monitored to prevent:

- users wasting time and public resources by playing or "surfing" when they are paid to work;
- users accessing sites and importing material which the Council, as a matter of policy, may find unacceptable;
- users accessing sites and importing illegal material;
- users importing a virus or other malicious software and hence compromising the accuracy, availability and confidentiality of Council systems;
- users committing the Council to expenditure in an unauthorised fashion.

Internet access is to be used only for access to sites relevant to work or vocational training during an individual's working hours (this does not apply to members).

For staff in the main Council Offices this will be from 08:00 to 18:00 Monday to Friday. Officers using remote access facilities from home may use the Council's central internet connection between 07:00 and 22:30 on any day.

Personal use of the internet is permitted outside of staff's working hours and is subject to compliance with the Council's "Internet and E-mail Access - Conditions of Use" policy document.

This "Conditions of Use" policy will apply to those Members and Officers accessing the internet to view Web pages or to send / receive e-mails.

Internet access and e-mail is provided via a central connection to the internet which incorporates security features (intrusion detection and intrusion prevention) to safeguard the security and integrity of the Council's IT systems and data. This connection will always be used by Officers and members located at Council offices unless specifically authorised to use other methods. The key terms and conditions are as follows:

- Authority to use the Internet and/or e-mail facility will only be granted by the Chief Executive, Directors, Heads of Service or Service Managers.
- All Officers and Members using the facility will be required to sign the "Conditions of Use" document to confirm that they have read and agree to abide by its conditions. A breach of the conditions of use may result in disciplinary action and/or criminal proceedings.
- All "Conditions of Use" forms must be countersigned electronically or manually, by a designated authorising supervisor and completed documents will be held by the IT section and Human Resources section.
- All users of the facility will be issued with their own unique User ID and password and users will be deemed responsible for any activity logged against the user ID so User IDs and passwords should not be disclosed to other persons.
- The Council maintains logs of activity on our central Internet connection and may analyse and monitor those logs and all internet traffic.

Copies of the 'conditions of use' form are available on the Council's intranet or are available from the ICT department.

All access to the Internet will be traceable to an originating user ID, both currently and retrospectively.

All access and attempted access to the Internet will be logged by the IT section, and comprehensive information on usage, including the time and length of visits, will be supplied on request or in the event of concerns by the ICT Manager, to a user's director or head of service or Chief Executive in the case of members.

The IT section has implemented and maintains an automatic method for restricting which Internet sites may be accessed. No user shall attempt to access an Internet site which, from its address, may reasonably be considered to contain pornographic material or any other material prohibited by the "Conditions of use" policy. The corporate leadership team will define which sites are not to be accessed and any deliberate attempt to access such site/s will be considered in accordance with the disciplinary procedure.

Intrusion protection system (IPS) is in place, to detect, monitor, analyse and alert on attempted cyber-attacks.

Access to restricted and prohibited sites is automatically monitored and reports of activity will be made available to the user's director or head of service. A monthly security review will be conducted to ensure security and compliance, led by the ICT security officer.

The IT section has implemented and maintains a resilient security gateway device or “firewall” (software and hardware facilities) to control and vet and filter, incoming data to guard against recognised forms of Internet assaults and malicious software.

Only IT staff may download software, including freeware from the Internet. This does not apply to documents, i.e. Word, Excel, PDF format.

7. SYSTEM ACCESS CONTROL

7.1 Business Requirements for System Access

Objective:

To control access to business information:

Access to computer services and data should be controlled on the basis of business requirements, but accesses granted to a system should not compromise situations where separation (segregation) of duties is important.

Each system administrator will set up the system access rights of each user or group of users according to authorised business needs. Update access rights should be restricted to the minimum number of people commensurate with the need to maintain service levels.

System access controls are reviewed by Internal Audit during their routine systems audit work programme.

Domain privileged access will be reviewed periodically.

7.2 User Access Management

Objective:

To prevent unauthorised computer access:

Formal procedures will be developed for each system by the system administrator to cover the following:

- formal user registration and de-registration procedure for access to all multi-user IT services;
- restricted and controlled use of special privileges;
- Allocation of passwords securely controlled;
- ensuring the regular change and where appropriate quality and complexity of passwords;
- regular review of user access rights and privileged access rights;
- controlled availability of master passwords in emergencies.

A separate procedure document is available “Starters and Leavers Process Including Domain Account Administration” on the ICT intranet page.

User access will be suitably administered to ensure that the type of account granted to employees is such that it allows them to perform their day-to-day user activities and prevents access to any sensitive information not required for the purpose of undertaking their duties.

Ensuring members of staff, contractors and third party access to information systems does not exceed the needs of the role on a 'need to know' basis; that their use of ICT is appropriate and the starter, leaver and amendments changes are properly processed and authorised.

Network accounts which have not been logged into for 90 days will be reviewed and actioned taken. This activity will occur every 90 days to ensure accounts are disabled in quick and secure manner.

7.3 User Responsibilities

Objective:

To prevent unauthorised computer access:

Effective security requires the co-operation of authorised users. Users must comply with Council policies, standards and procedures regarding access controls, in particular the use of passwords and the security of equipment.

In order to maintain security users must:

- **not** write passwords down where others may readily discover them;
- **not** tell anyone else their password/s;
- **not** use obvious passwords such as their name;
- **not** let other people observe when entering their password;
- use a password with at least eight characters in it including numeric or special characters;
- promptly change their password if they suspect anyone else may be aware of it;
- log out of applications if they will be away from their desk for any length of time;
- 'lock' their PC when away from their desk to prevent it being used by others (by using Ctrl + Alt + Del keys or the Windows key + L key);
- if working at home the device must be shut down at the end of the day, so that security polices can be applied on next start up and stored in a secure location, when not in use;
- follow the Council's ICT security policy (including reading and signing confidentiality and conditions of use agreements);
- restart PCs and laptops as required after the application of security updates;
- report security incidents to the ICT Service Desk;
- not to open e-mails containing suspicious attachments;
- check e-mail and names of people they received a message from to ensure they are legitimate;
- report scams, privacy breaches and hacking attempts;
- do not re-use password from other systems.

Staff will be held responsible for all activities logged to their unique user ID.

7.4 Network Access Control

Objective:

Protection of networked services:

Connections to networked services shall be controlled in order to ensure that connected users or services do not compromise the security of any other networked services.

The ICT Manager is responsible for the protection of networked services.

All machines including servers are patched every month, this is the patch management cycle, to keep our estate up to date and protected.

A daily operations check is carried out as part of the daily checks procedure to ensure Antivirus, Antimalware and Anti Spyware updates are up to date on all PCs laptops and desktops

Devices not purchased by the ICT department are not to be plugged into or connected wirelessly to the Council's corporate network unless authorised by the ICT Manager or ICT Security officer.

All mobile devices and including tablets, laptops and smartphones will be encrypted using device management software.

7.5 Computer and Application Access Control

Objective:

To prevent unauthorised access to computers and information held:

Access to computer facilities should be restricted to authorised users. Computer facilities that serve multiple users should be capable of:

- identifying and verifying the identity of each authorised user, particularly where the user has update access;
- recording successful and unsuccessful attempts to access the system including files and folders;
- providing a password management system which ensures quality passwords;
- where appropriate restricting the connection times of users;
- controlling user access to data and system functions;
- restricting or preventing access to system utilities which override system or application controls;
- complete 'lock out' of user access after a pre-agreed number of unsuccessful attempts to access data.

8. SYSTEMS DEVELOPMENT AND MAINTENANCE

8.1 Security Requirements in Systems

Objective:

To ensure that security is built into IT systems and applications:

All security requirements, including a risk analysis and the need for fall back arrangements, should be identified at the requirements phase of a project by the officer requesting the system in consultation with computer and audit staff. Security requirements should be justified, agreed and documented.

The analysis of security requirements should:

- consider the need to safeguard the confidentiality, integrity and availability of information assets;
- identify controls to prevent, detect and recover from major failures or incidents;
- when specifying that a system requires a particular security feature, the quality of that feature must be specified, e.g. Password controlled - “*the password must be held in encrypted format. Passwords must expire after a number of days set by the system administrator, passwords should not be reusable, the system administrator should be able to specify a minimum length and other rules concerning password composition*”.

In order to ensure IT staff and users are aware of security controls in place, controls must be explicitly defined by the relevant system administrator in all relevant documentation.

8.2 Security of Application System Files

Objective:

To ensure that IT projects and support activities are conducted in a secure manner:

Access to application software, data files and system management files should be formalised and documented according to the sensitivity and importance of the system.

Maintaining the integrity of applications is the responsibility of the system administrator who will ensure that:

- strict control is exercised over the implementation of software on the operational system;
- test data is protected and controlled.

8.3 Security in Development and Support Environments

Objective:

To maintain the security of application systems software and data:

All proposed system changes must be reviewed to ensure they do not compromise the security of either the system or operating environment. The ICT Manager is responsible for all operating systems and the appropriate system administrator is responsible for the application. It is essential that both parties work together to ensure the security of application software and data is maintained.

Unsupported modifications to packaged software will only be authorised in exceptional circumstances. Wherever possible the required changes should be obtained from the vendor as standard program updates.

The implementation of any changes to systems should be strictly controlled using formal change control procedures. All system changes will be documented.

It should be a standard that any operational system has separate and secure test, training and development environments.

9. COMPLIANCE

9.1 Compliance with Legal Requirements and Codes of Practice

Objective:

The Council's statutory obligation to have sound information and cyber security arrangements in place originates in the Data Protection Act 1998, which states:

"Appropriate technical and organisational measures shall be taken against unauthorised or unlawful processing of personal data and accidental damage or destruction of personal data."

The Council depends on the confidentiality, integrity and availability of its information and ICT to such an extent however, that a serious breach of information security could impact on the Council's ability to deliver a wide range of statutory services.

In addition the Council has contractual obligations to ensure sound security if it is to use the Government Public Services Network (PSN) or receive or share information with partner agencies under information sharing arrangement

There are a number of laws which relate directly or indirectly to IT and its use and it is essential that these statutory requirements are met. Legislation which applies includes:

- The Copyright, Designs and Patents Act 1988
- The Data Protection Act 1998
- The Computer Misuse Act 1996
- Regulation of Investigatory Powers Act 2000
- The Human Rights Act 1998
- Telecommunications (Lawful Business Practice)(Interception of Communications) Regulations 2000
- Health and Safety at Work etc Act 1974
- EC Directives.

In order to ensure security and integrity of data held and shared within both central government departments and local government the Council is obliged to adhere to set of standards defined in the 'code of connection' document issued by Department of Work and Pensions April 2008. The standard must be met before government departments such as Department of Work and Pensions will share data with the Council

Note: Failure to adhere to the required standard will result in electronic data sharing with government departments being suspended.

9.1.1 Control of Proprietary Software Copying

Objective:

To ensure that the Council complies with current legislation:

Proprietary software is usually supplied under a licence agreement which limits the number of users and/or limits the use to a specified machine. Copyright infringement can lead to legal action, fines and adverse publicity.

It is Council policy that no copyright material is copied without the owner's consent.

9.1.2 Use of Unlicensed Software

Except for freeware, the use of unlicensed software amounts to theft and the Council's policy is only to use licensed software. The Federation Against Software Theft (FAST) and the Business Software Alliance are particularly active in detecting and prosecuting organisations (especially councils) who use unlicensed software.

The introduction and/or use of unlicensed software is prohibited and may be treated as gross misconduct.

9.1.3 Safeguarding of the Council's Records

Important records must be protected from loss, destruction and falsification. All financial records need to be retained for seven years or more to meet audit requirements.

All historic data should be periodically archived by the relevant system administrator with copies being retained in media fire safes on and off site, in accordance with GDPR regulations.

9.1.4 Auditing and logging the use of ICT resources

The Council maintains audit logs of events taking place across its complete network. This includes, but not limited to:

- user login times;
- details of failed login attempts;
- details of access to data files and software applications (user ID, times);
- details of any privileged access to system;
- software and hardware configuration changes;
- details of internet web usage and restricted access reports;
- details of files, folder and network access to objects.

9.1.5 Data Protection

Personal information on living individuals who can be identified from the information that is stored or processed on a computer is subject to data protection legislation. The Data Protection Act 2018 extended this to information held in certain paper based systems. Disclosure of information is also governed by the Freedom of Information Act 2000.

The officer responsible within the Council for data protection is the Records Management Officer who will provide guidance to managers and other staff on their individual responsibilities and the specific procedures that should be followed.

It is a manager's responsibility to inform either the ICT Manager or the Records Management Officer of any proposals to keep personal information on a computer and any changes in the use for which data is kept. With the assistance of the Records Management Officer, managers must ensure that the relevant staff are made aware of the data protection principles defined in the legislation.

The Council is required to register details of the data kept, the purposes to which it is applied and to whom it may be disclosed. It is a manager's responsibility to ensure that the registration is accurate and amended when necessary and to take note of any advice from the Information Commissioner before undertaking any data matching exercise.

Under the Act staff could be held legally responsible for the confidentiality of personal data. Staff must be very careful as to whom they disclose information to and be aware of the need for security of information in any format including printed documents and electronic mail. **Particular care must be taken in disclosing personal data on the telephone, if in any doubt as to the identity of a caller personal data must not be disclosed on the telephone.**

The six principles of the Data Protection Act are that personal data should be:

- processed lawfully, fairly, and in a transparent manner relating to individuals;
- collected for specified, explicit and legitimate purposes and not further processed in a manner that is incompatible with those purposes;
- adequate, relevant and limited to what is necessary in relation to the purposes for which they are processed;
- accurate and, where necessary, kept up to date;
- kept in a form which permits identification of data subjects for no longer than is necessary for the purposes for which the personal data are processed;
- processed in a manner that ensures appropriate security of personal data, including protection against unauthorised or unlawful processing and against accidental loss, destruction or damage, using appropriate technical or organisational measures.

9.1.6 Prevention of Misuse of IT Facilities

The Council's computer facilities are provided for Council business or in connection with approved study courses. Staff and members are allowed to use the Council's computer facilities for personal use for the following:

- personal use of e-mail in accordance with the "Internet and E-Mail Access – Conditions of Use" policy document;
- access to the Internet, if granted for work purposes, in accordance with the Internet and E-Mail Access - Conditions of Use" policy document;
- limited use of PC software, particularly word processing, in their own time.

The following conditions will apply:

- all private printing must be paid for unless an agreement has been reached with the ICT Manager or the printing service;
- unauthorised or excessive personal use may be subject to disciplinary action;
- The Computer Misuse Act 1990 introduced three criminal offences:
 1. unauthorised access;
 2. unauthorised access with intent to commit a further serious offence;
 3. unauthorised modification of computer material, i.e. alteration, erasure or addition to programs or data.

Users should not attempt to gain access to systems they are not authorised to use or see, as they could face criminal prosecution.

9.2 Security Reviews of IT Systems

Objective:

To ensure compliance of systems with the Council's ICT and Cyber Security Policy and standards:

The internal and external security of IT systems including external penetration testing, will be regularly reviewed and subject to cyber security and penetration testing

This will be carried out by an approved CREST/IASME

The review of security processes will be carried out by Internal Audit, External Audit and managers

ICT will use specialist third parties to perform external and internal security and cyber security health checks, annually in order to maintain the Cyber Essential PLUS accreditation as well as meeting out PSN security obligations.

Annual reviews will ensure compliance and assurance with the security policy, standards and best practice.

9.3 System Audit Considerations

Objective:

To minimise interference to / from the system audit process:

Audit requirements and activities involving checks on operational systems shall be carefully planned and agreed to minimise the risk of disruptions to business processes.

There should be controls to safeguard operational systems and audit tools during system audits.

The following are to be observed:

- audit requirements to be agreed with the appropriate manager;
- the scope of any checks to be agreed and controlled;
- checks to be limited to read only access to software and data wherever possible;
- access, other than read only, only to be allowed for isolated copies of system files which must be erased when the audit is completed;
- IT resources for performing checks should be identified and made available;
- requirements for special or additional processing should be identified and agreed with service providers;
- wherever possible access should be logged and monitored;
- all procedures and requirements should be documented.

Access to system audit tools should be controlled.

APPENDIX 1

THE NATIONAL PROTECTIVE MARKING SCHEME FRAMEWORK

The National Protective Marking System provides a framework for users to share and protect information in an appropriate manner. As can be seen from the table, each protective marking is allocated an appropriate Impact Level (IL). Each IL describes a severity of impact to the UK of protectively marked information being released outside of normal government handling channels.

The IL value is used by security officers when performing a risk assessment on protectively marked information in order to determine how much protection these assets should be given.

Protective Marking	Impact Level
TOP SECRET	6
SECRET	5
CONFIDENTIAL	4
RESTRICTED	3
PROTECT	2 1
Unclassified	0

On 28 February 2007 the new sub-national caveat, PROTECT, was introduced. The purpose of PROTECT is to provide a difference in terms of the handling official information which needs to be protected from compromise of confidentiality, integrity and availability to a known level of assurance, but for which the measures required to safeguard National Security information at RESTRICTED are considered not to always meet the direct business need of the organisation. It is envisaged that in some organisations the use of RESTRICTED will be reduced as a consequence.

At the Local Authority level and for users of GCSx it is envisaged that most protectively marked information will be of 'PROTECT' in nature.

At a working level the baseline security objectives for PROTECT will be the same as for RESTRICTED, which are:

- handle, use and transmit with care;
- take basic precautions against accidental compromise or opportunist attack.

The distinction between the two markings is that PROTECT is not a National Security marking, and there is a revised calculation for asset value, or consequence of compromise. Depending on the severity of the circumstances either RESTRICTED or PROTECT may apply where compromise would be likely to:

- cause financial loss or loss of earning potential to, or facilitate improper gain or advantage for, individuals or companies;

- prejudice the investigation or facilitate the commission of crime;
- disadvantage government in commercial or policy negotiations with others.

N.B. Within the UK Government, CONFIDENTIAL is an explicit marking with clearly defined handling requirements. Sometimes, within certain local authorities 'Confidential' is used as a marking to indicate that information has a requirement for protection (in UK Government terms it is protectively marked). Care should be taken to ensure that information protectively marked with the national CONFIDENTIAL marking should be handled accordingly.

The PROTECT Classification

Guidelines	<ul style="list-style-type: none"> • Cause substantial distress to individuals. • Breach proper undertakings to maintain the confidence of information provided by third parties. • Breach statutory restrictions on the disclosure of information.
Principles and Clearance Levels	<ul style="list-style-type: none"> • Information classified as PROTECT should be held, processed, transmitted and destroyed with discretion to make compromise highly unlikely. • Only staff cleared by the organisation to access PROTECT level or above are authorised to handle the information. This includes all staff involved with transmission, storage and disposal.
Electronic Transmission	PROTECT information transmitted across public networks within the UK or across any networks overseas should be encrypted using an approved system.
Electronic Storage	<p>Electronic files (including databases) must be protected against illicit internal use or intrusion by external parties through a judicious selection of two or more of the following mechanisms:</p> <ol style="list-style-type: none"> a. User challenge and authentication (username / password or digital ID / Certificate). b. Logging use at level of individual. c. Firewalls and intrusion-detection systems and procedures; server authentication. d. OS-specific / application-specific security measures.
Electronic Disposal	Electronic files should be disposed of in a way that makes reconstruction highly unlikely.
Voice Telephone Conversation	Information protectively marked with PROTECT can be spoken about over the telephone.
Manual Transmission	<ul style="list-style-type: none"> • Within a single physical location. As determined by the information security officer. • Transfer between establishments within or outside UK: <ul style="list-style-type: none"> a. May be carried by ordinary postal service or commercial courier firms, provided the envelope / package is closed and the word PROTECT is not visible. b. The outer envelope should be addressed to an individual by name and title. PROTECT mail for / from overseas posts should be carried by diplomatic airfreight.

	<p>c. The outer envelope must clearly show a return address in case delivery is unsuccessful. In some cases due to the nature of the contents, identifying the originating organisation may be inappropriate and a return PO Box alone should be used.</p>
Manual Storage	<ul style="list-style-type: none"> • In an office environment, PROTECT material should be held in a lockable storage area or cabinet. • In a storage facility, all material should be protected through controlled access to the storage areas, and through a secure physical environment.
Manual Disposal	Disposed of or destroyed in a way that makes reconstruction highly unlikely.

The RESTRICTED Classification

Guidelines	<ul style="list-style-type: none"> • Affect diplomatic relations adversely. • Hinder the operational effectiveness or security of the UK or friendly forces. • Affect the internal stability or economic well-being of the UK or friendly countries adversely.
Principles and Clearance Levels	<ul style="list-style-type: none"> • Information classified as RESTRICTED should be held, processed, transmitted and destroyed with discretion to make compromise highly unlikely. • Only staff cleared by the organisation to access RESTRICTED level or above is authorised to handle the information. This includes all staff involved with transmission, storage and disposal.
Electronic Transmission	All RESTRICTED information transmitted across public networks within the UK or across any networks overseas must be encrypted using an approved system.
Electronic Storage	<p>Electronic files (including databases) must be protected against illicit internal use or intrusion by external parties through a judicious selection of two or more of the following mechanisms:</p> <ol style="list-style-type: none"> a. User challenge and authentication (username / password or digital ID / Certificate). b. Logging use at level of individual. c. Firewalls and intrusion-detection systems and procedures, server authentication. d. OS-specific / application-specific security measures.
Electronic Disposal	Electronic files should be disposed of in a way that makes reconstruction highly unlikely.
Voice Telephone Conversation	Telecommunications made at RESTRICTED (Confidentially IL 3) level can no longer be guaranteed as secure. Appropriate secure communications should be used.
Manual Transmission	<ul style="list-style-type: none"> • Within a single physical location. As determined by the information security officer.

	<ul style="list-style-type: none"> • Transfer between establishments within or outside UK: <ul style="list-style-type: none"> a. May be carried by ordinary postal service or commercial courier firms, provided the envelope / package is closed and the word RESTRICTED is not visible. b. The outer envelope should be addressed to an individual by name and title c. The outer envelope must show clearly a return address in case delivery is unsuccessful. In some cases, due to the nature of the contents, identifying the originating organisation may be inappropriate and a PO box should be used.
Manual Storage	<ul style="list-style-type: none"> • In an office environment, RESTRICTED material should be held in a lockable storage area or cabinet. • In a storage facility, all material should be protected through controlled access to the storage areas, and through a secure physical environment.
Manual Disposal	Disposed of or destroyed in a way that makes reconstruction highly unlikely.

Major Differences Between PROTECT and RESTRICTED

For Local authorities such as NWLDC the two protective markings which will be most commonly seen in the workplace are PROTECT and RESTRICTED. Out of these two protective markings it is anticipated that PROTECT will be the most common.

Information with the PROTECT protective marking will be handled in the same way as RESTRICTED in most circumstances. The primary difference is that Council Staff will be allowed to have telephone conversations with regard to information protectively marked as PROTECT. Information protectively marked as RESTRICTED is not allowed to be passed over the telephone.

**SIGN BELOW TO ACCEPT THE ICT SECURITY POLICY AND HAND
THE FORM TO THE ICT DEPARTMENT**

**North West Leicestershire District Council
Information and Communications Technology (ICT) and Cyber
Security Policy**

North West Leicestershire District Council is dependent upon its Information and Communications Technology (ICT) systems for its normal day to day business activities. It is therefore essential for the continued successful operation of the Council that the confidentiality, integrity and availability of its ICT systems and data are maintained at a high level. There is also an obligation on the Council and all employees, contractors and advisors to comply with the relevant legislation such as the Data Protection Acts, the Copyright, Designs and Patents Act and the Misuse of Computers Act.

It follows that a high standard of information security is required within the Council. To achieve this, the ICT and Cyber Security Policy has been adopted and everyone who uses IT equipment or accesses Council information must read the policy and ensure that they understand the obligations contained within it.

Once you have **read** and **understood** the ICT and Cyber Security Policy please sign and return the slip below to the ICT Service Desk.

North West Leicestershire District Council ICT and Cyber Security and Policy can be found on our intranet site

**North West Leicestershire District Council
Information and Communications Technology (ICT) and Cyber
Security Policy**

I have read and understand the North West Leicestershire District Council's ICT Security Policy.

Print Name _____ Signed _____ Date _____

**(Note: When completed, this should be forwarded to the IT Section, who will copy it to
the Human Resources Section)**

APPENDIX 2

NORTH WEST LEICESTERSHIRE DISTRICT COUNCIL - GCSx PERSONAL COMMITMENT STATEMENT

I understand and agree to comply with the security rules of my organisation as well as the GCSx Code of Connection.

For the avoidance of doubt, the security rules relating to secure e-mail and IT systems usage include:

1. I acknowledge that my use of the GCSx may be monitored and/or recorded for lawful purposes.
2. I agree to be responsible for any use by me of the GCSx using my unique user credentials (user ID and password, access token or other mechanism as provided) and e-mail address.
3. I will not use a colleague's credentials to access the GCSx and will equally ensure that my credentials are not shared and are protected against misuse.
4. I will protect such credentials at least to the same level of secrecy as the information they may be used to access, (in particular, I will not write down or share my password other than for the purposes of placing a secured copy in a secure location at my employer's premises).
5. I will not attempt to access any computer system that I have not been given explicit permission to access.
6. I will not attempt to access the GCSx other than from IT systems and locations which I have been explicitly authorised to use for this purpose.
7. I will not transmit information via the GCSx that I know, suspect or have been advised is of a higher level of sensitivity than my GCSx domain is designed to carry.
8. I will not transmit information via the GCSx that I know or suspect to be unacceptable within the context and purpose for which it is being communicated.
9. I will not make false claims or denials relating to my use of the GCSx (e.g. falsely denying that an e-mail had been sent or received).
10. I will protect any sensitive or not protectively marked material sent, received, stored or processed by me via the GCSx to the same level as I would paper copies of similar material.
11. I will not send Protectively Marked information over public networks such as the Internet.
12. I will always check that the recipients of e-mail messages are correct so that potentially sensitive or protectively marked information is not accidentally released into the public domain.
13. I will not auto-forward e-mail from my GCSx account to any other non-GCSx e-mail account.

14. I will disclose information received via the GCSx only on a 'need to know' basis.
15. I will not forward or disclose any sensitive or protectively marked material received via the GCSx unless the recipient(s) can be trusted to handle the material securely according to its sensitivity and forwarding is via a suitably secure communication channel.
16. I will seek to prevent inadvertent disclosure of sensitive or protectively marked information by avoiding being overlooked when working, by taking care when printing information received via the GCSx (e.g. by using printers in secure locations or collecting printouts immediately they are printed, checking that there is no interleaving of printouts, etc) and by carefully checking the distribution list for any material to be transmitted.
17. I will securely store or destroy any printed material.
18. I will not leave my computer unattended in such a state as to risk unauthorised disclosure of information sent or received via the GCSx (this might be by closing the e-mail program, logging-off from the computer, activate a password-protected screensaver, etc, so as to require a user logon for activation).
19. Where my organisation has implemented other measures to protect unauthorised viewing of information displayed on IT systems (such as an inactivity timeout that causes the screen to be blanked or to display a screensaver or similar, requiring a user logon for reactivation), then I will not attempt to disable such protection.
20. I will make myself familiar with the security policies, procedures and any special instructions that relate to the GCSx.
21. I will inform my manager immediately if I detect, suspect or witness an incident that may be a breach of security.
22. I will not attempt to bypass or subvert system security controls or to use them for any purpose other than that intended.
23. I will not remove equipment or information from my employer's premises without appropriate approval.
24. I will take precautions to protect all computer media and portable computers when carrying them outside my organisation's premises (e.g. leaving a laptop unattended or on display in a car such that it would encourage an opportunist thief).
25. I will not introduce viruses, Trojan horses or other malware into the system or GCSx.
26. I will comply with the Data Protection Act 1998 and any other legal, statutory or contractual obligations that my employer informs me are relevant.
27. If I am about to leave my employer, I will inform my manager prior to departure of any important information held in my account.
28. The GCSx Acceptable Usage Policy specifically states that all PROTECT and RESTRICT information will be appropriately labelled when sent over the GCSx and that public networks will not be used to send RESTRICT or PROTECT information.

29. I understand that use of GCSx / PSN services is subjected to Criminal conviction checks and I will declare any unspent convictions including cautions, reprimands, warnings, investigations or pending prosecutions to Human Resources.

***PLEASE SIGN BELOW TO ACCEPT THE GCSx SECURITY POLICY
AND HAND THE FORM TO THE ICT DEPARTMENT***

Name: Dept:

Signed: Date:

Authorised: Date:

This form can only be authorised by Team Managers or members of CLT.

(Note: When completed, this should be forwarded to the IT Section, who will copy it to the Human Resources Section)

APPENDIX 3

THIRD PART NETWORK ACCESS AGREEMENT

1. Purpose

The purpose of this agreement is to outline the specific terms and conditions governing the access and use of the North West Leicestershire District Council (NWLDLDC) network and information technology resources by the Third Party.

This agreement is dated and made between **North West Leicestershire District Council** and the following Third Party:

Company name: []
Address: []
[]
[]
Contact Name: []
Phone number: []
E-mail address: []

2. Definitions

Third parties are defined as any individual, consultant, contractor, vendor or agent not registered as a NWLDLDC employee.

Third party access is defined as all local or remote access to the NWLDLDC network for any purpose.

NWLDLDC network includes all data, applications, systems, services, infrastructure and computer devices which are owned or leased by the NWLDLDC.

Mobile computer devices are defined as any handheld computer device, including but not limited to laptops, notebooks, tablet computers, smartphone devices (e.g. PDA, iPhone and Blackberry enabled devices, etc).

Removable storage devices are defined as any optical or magnetic storage device or media, including but not limited to floppy disks, CD, DVD, magnetic tapes, ZIP disk, USB flash drive (i.e. memory stick / pen / keys), external / portable hard drives and SD Cards.

3. Terms and Conditions

In consideration of NWLDLDC engaging the Third Party for services requiring third party access and allowing such third party access, the Third Party agrees to the following:

- (a) The Third Party may only use the network connection for approved business purposes as specified by NWLDLDC and in accordance with NWLDLDC ICT policies. The use of the network connection for unapproved purposes, including but not limited to personal use or gain is strictly prohibited.
- (b) The Third Party may only use access methods which have been defined by the NWLDLDC ICT Services.

- (c) The Third Party must ensure that only their employees that have been nominated by the Third Party and approved by the NWLDC in advance, have access to the network connection or any NWLDC owned equipment.
- (d) The Third Party shall be solely responsible for ensuring its nominated employees are not security risks, and upon request from the NWLDC, the Third Party will provide the NWLDC with any information reasonably necessary for the NWLDC to evaluate security issues.
- (e) The Third Party will promptly inform the NWLDC in writing of any relevant employee changes. This includes the rotation and resignation of employees so that NWLDC can disable their usernames and remove / change passwords in order to secure its resources.
- (f) As part of any service agreement review the Third Party will provide the NWLDC with an up to date list of their employees who have access to the network connection or any NWLDC owned equipment.
- (g) The Third Party is solely responsible for ensuring that all usernames and passwords issued to them by the NWLDC remain confidential and are not used by unauthorised individuals. The Third Party must immediately contact NWLDC if they suspect these details have been compromised.
- (h) The Third Party will be held responsible for all activities performed on the NWLDC network while logged in under their usernames and passwords.
- (i) The Third Party must ensure at all times that all computer devices used by them to connect to the NWLDC network have reputable up to date anti-virus software and the appropriate security patches installed.
- (j) Only in exceptional circumstances and with the prior written approval of the NWLDC should the Third Party hold NWLDC information on mobile computer devices or removable storage devices. Should the business requirements necessitate the Third Party to store NWLDC information on mobile computer devices or removable storage devices, the Third Party must ensure that only the absolute minimum amount of information as is absolutely necessary is stored on the mobile computer device or removable storage device and the information is securely deleted when it is no longer required. The Third Party must ensure that all NWLDC information stored on mobile computer devices and removable storage devices belonging to the Third Party is encrypted to standards approved by NWLDC. Under no circumstance encrypted or otherwise should NWLDC information be stored by the Third Party on USB memory keys / sticks.
- (k) The Third Party must ensure that all mobile computer devices used by them to connect to the NWLDC network, are used in such a way that information belonging to the NWLDC is not displayed to unauthorised individuals or the general public.
- (l) The Third Party must ensure that all their computer devices connected to the NWLDC network are not connected to any other network at the same time, with the exception of networks that are under the complete control of the Third Party.
- (m) When the Third Party is connected to the NWLDC network they should not leave their computer devices unattended.

- (n) The Third Party must ensure that when they are connected to NWLDC network their activity does not disrupt or interfere with other non-related network activity.
- (o) All Third Party computer devices used to connect to the NWLDC network must, upon request by NWLDC be made available for inspection.
- (p) The Third Party network connection will by default be granted read / execute privileges only. All requests for increased privileges must be submitted in writing to the NWLDC where they will be considered on a case by case basis.
- (q) For security reasons all Third Party remote access accounts except those providing 24*7 support may be switched off (de-activated) by default. The Third Party will be required to e-mail (can be followed by phone) NWLDC ICT Services requesting that their account be switched-on (activated) for a stipulated period.
- (r) The Third Party must obtain the written consent of the NWLDC before implementing any updates or amendments to the NWLDC network, information systems, applications or equipment. All approved updates and amendments implemented by the Third Party must be made in line with NWLDC policies and procedures.
- (s) The Third Party must ensure all software is scanned and cleared of all viruses and other forms of malicious software before it is installed on any NWLDC information systems, applications or equipment. The Third Party will be held responsible for all disruptions and damage caused to the NWLDC network, information systems, applications or equipment which is traced back to infected software installed by the Third Party.
- (t) The Third Party and their employees must comply with all UK, European and NWLDC rules and regulations concerning safety, environmental and security operations while on-site at an NWLDC site. All Third Party personnel must carry photographic identification with them when they are on-site at an NWLDC facility.
- (u) Where the Third Party has direct or indirect access to NWLDC information, this information must not be copied, divulged or distributed to any other party without the prior written approval of the NWLDC.
- (v) The Third Party must report all actual and suspected security incidents to the NWLDC immediately.
- (w) The Third Party must manage and process all NWLDC information which they acquire from the NWLDC in accordance the Data Protection Act 1998 (as amended or replace) and any associated guidance.
- (x) The NWLDC reserves the right to:
 - Monitor all Third Party activity while connected (local and remote) to the NWLDC network.
 - Audit contractual responsibilities or have those audits carried out by an NWLDC approved third party
 - Revoke the Third Party's access privileges at any time.
- (y) On completion of the services requiring third party access, the Third Party must return all equipment, software, documentation and information belonging to the NWLDC.

- (z) Any violations of this agreement by the Third Party, may lead to the withdrawal of NWLDC network and information technology resources to that Third Party and/or the cancellation of any contract(s) between the NWLDC and the Third Party.

The Third Party agrees to abide by the terms and conditions of this agreement at all times.

Signed (On behalf of the Third Party):

Authorised Signature:

Name (Printed):

Title or Position:

Date:

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LOCAL CODE OF CORPORATE GOVERNANCE

Policy Statement

Version Control

Version No.	Author	Date
1		2009
2	Tracy Bingham	October 2017
3	Tracy Bingham	May 2020

May 2020

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NORTH WEST LEICESTERSHIRE DISTRICT COUNCIL

Local Code of Corporate Governance

1 INTRODUCTION

- 1.1 In 2014, the Chartered Institute of Public Finance and Accountancy (CIPFA) and the International Federation of Accountants (IFAC) collaborated to produce The International Framework: Good Governance in the Public Sector. The International Framework defines governance as comprising the arrangements put in place to ensure that intended outcomes for stakeholders are defined and achieved. It states that in order to deliver good governance in the public sector, both governing bodies and individuals working for public sector entities must try to achieve their entity's objectives while acting in the public interest at all times.
- 1.2 The Chartered Institute of Public Finance and Accountancy in association with SOLACE have published their Framework entitled 'Delivering Good Governance in Local Government 2016'.
- 1.3 The diagram below¹ illustrates the core principles of good governance in the public sector and how they relate to each other: Principles A and B permeates implementation of principles C to G.

Achieving the Intended Outcomes While Acting in the Public Interest at all Times



¹ CIPFA/SOLACE Delivering Good Governance in Local Government Framework 2016

- 1.4 In North West Leicestershire, good governance is about how the Council ensures that it is doing the right things, in the right way and for the benefit of the communities it serves. The starting place for good governance is having shared values and culture and a framework of overarching strategic policies and objectives underpinned by robust systems and processes for delivering these.
- 1.5 By ensuring good governance is in place, the Council will ensure it has high standards of management, strong performance, the effective use of resources and good outcomes which in turn will lead to increased public trust.
- 1.6 The Council is committed to the seven core principles of good practice contained in the CIPFA framework and will test its governance arrangements against this framework and report annually (via its annual assurance review and Annual Governance Statement).

2 SUMMARY OF COMMITMENT

- 2.1 By adopting this Local Code of Corporate Governance, we are responding to the CIPFA/SOLACE Joint Working Group Guidance and Framework entitled 'Delivering Good Governance in Local Government'.
- 2.2 In doing so we will:
 - Accept the core principles set out in section 3 below as the basis for our Corporate Governance arrangements.
 - Publish an Annual Governance Assurance Statement with the Council's Statement of Accounts.
 - Draw up Action Plans of improvements to our corporate governance arrangements, such plans to be monitored by the Audit and Governance Committee.

3 FUNDAMENTAL PRINCIPLES OF CORPORATE GOVERNANCE

- 3.1 Set out in this document is the Council's proposed Local Code of Corporate Governance which is based on the seven core principles (as set out in the illustration above) adopted for local government from the report of the Independent Commission on Good Governance in Public Services.

Principle A - Behaving with integrity, demonstrating strong commitment to ethical values, and respecting the rule of law

The Council is committed to:

Behaving with Integrity

- Ensuring members and officers behave with integrity and lead as a culture where acting in the public interest is visibly and consistently demonstrated thereby protecting the reputation of the organisation.
- Ensuring members take the lead in establishing specific standard operating principles or values for the organisation and its staff and that they are communicated and understood. These should build on the Seven Principles of Public Life (The Nolan Principles).
- Leading by example and using these standard operating principles or values as a framework for decision making and other actions.
- Demonstrating, communicating and embedding the standard operating principles or values through appropriate policies and processes which are reviewed on a regular basis to ensure they are operating effectively.

Demonstrating strong commitment and ethical values

- Seeking to establish, monitor and maintain the organisation's ethical standards and performance
- Underpinning personal behaviour with ethical values and ensuring they permeate all aspects of the organisation's culture and operation
- Developing and maintaining robust policies and procedures which place emphasis on agreed ethical values
- Ensuring that external providers of services on behalf of the organisation are required to act with integrity and in compliance with high ethical standards expected by the organisation

Respecting the rule of law

- Ensuring members and staff demonstrate a strong commitment to the rule of the law as well as adhering to relevant laws and regulations
- Creating the conditions to ensure that the statutory officers, other key post holders and members are able to fulfil their responsibilities in accordance with legislative and regulatory requirements
- Striving to optimise the use of the full powers available for the benefit of citizens, communities and other stakeholders
- Dealing with breaches of legal and regulatory provisions effectively
- Ensuring corruption and misuse of power are dealt with effectively

Principle B – Ensuring openness and comprehensive stakeholder engagement

The Council is committed to:

Openness

- Ensuring an open culture through demonstrating, documenting and communicating the organisation's commitment to openness
- Making decisions that are open about actions, plans, resource use, forecasts, outputs and outcomes. The presumption is for openness. If that is not the case, a justification for the reasoning for keeping a decision confidential should be provided
- Providing clear reasoning and evidence for decisions in both public records and explanations to stakeholders and being explicit about the criteria, rationale and considerations used. In due course, ensuring that the impact and consequences of those decisions are clear
- Using formal and informal consultation and engagement to determine the most appropriate and effective interventions/ courses of action

Engaging comprehensively with institutional stakeholders

- Effectively engaging with institutional stakeholders to ensure that the purpose, objectives and intended outcomes for each stakeholder relationship are clear so that outcomes are achieved successfully and sustainably
- Developing formal and informal partnerships to allow for resources to be used more efficiently and outcomes achieved more effectively
- Ensuring that partnerships are based on: trust, a shared commitment to change, a culture that promotes and accepts challenge among partners and that the added value of partnership working is explicit

Engaging stakeholders effectively, including individual citizens and service users

- Establishing a clear policy on the type of issues that the organisation will meaningfully consult with or involve individual citizens, service users and other stakeholders to ensure that service (or other) provision is contributing towards the achievement of intended outcomes.
- Ensuring that communication methods are effective and that members and officers are clear about their roles with regard to community engagement
- Encouraging, collecting and evaluating the views and experiences of communities, citizens, service users and organisations of different backgrounds including reference to future needs
- Implementing effective feedback mechanisms in order to demonstrate how their views have been taken into account
- Balancing feedback from more active stakeholder groups with other stakeholder groups to ensure inclusivity
- Taking account of the interests of future generations of tax payers and service users

Principle C – Defining outcomes in terms of sustainable economic, social, and environmental benefits

The Council is committed to:

Defining outcomes

- Having a clear vision which is an agreed formal statement of the organisation's purpose and intended outcomes containing appropriate performance indicators, which provides the basis for the organisation's overall strategy, planning and other decisions
- Specifying the intended impact on, or changes for, stakeholders including citizens and service users. It could be immediately or over the course of a year or longer
- Delivering defined outcomes on a sustainable basis within the resources that will be available
- Identifying and managing risks to the achievement of outcomes
- Managing service users expectations effectively with regard to determining priorities and making the best use of the resources available

Sustainable economic, social and environmental benefits

- Considering and balancing the combined economic, social and environmental impact of policies, plans and decisions when taking decisions about service provision
- Taking a longer-term view with regard to decision making, taking account of risk and acting transparently where there are potential conflicts between the organisation's intended outcomes and short-term factors such as the political cycle or financial constraints
- Determining the wider public interest associated with balancing conflicting interests between achieving the various economic, social and environmental benefits, through consultation where possible, in order to ensure appropriate trade-offs
- Ensuring fair access to services

Principle D – Determining the interventions necessary to optimise the achievement of the intended outcomes

The Council is committed to:

Determining interventions

- Ensuring decision makers receive objective and rigorous analysis of a variety of options indicating how intended outcomes would be achieved and including the risks associated with those options. Therefore ensuring best value is achieved however services are provided
- Considering feedback from citizens and service users when making decisions about service improvements or where services are no longer required in order to prioritise competing demands within limited resources available including people, skills, land and assets and bearing in mind future impacts

Planning interventions

- Establishing and implementing robust planning and control cycles that cover strategic and operational plans, priorities and targets
- Engaging with internal and external stakeholders in determining how services and other courses of action should be planned and delivered
- Considering and monitoring risks facing each partner when working collaboratively including shared risks
- Ensuring arrangements are flexible and agile so that the mechanisms for delivering outputs can be adapted to changing circumstances
- Establishing appropriate key performance indicators (KPIs) as part of the planning process in order to identify how the performance of services and projects is to be measured
- Ensuring capacity exists to generate the information required to review service quality regularly
- Preparing budgets in accordance with organisational objectives, strategies and the medium term financial plan Informing medium and long term resource planning by drawing up realistic estimates of revenue and capital expenditure aimed at developing a sustainable funding strategy

Optimising achievement of intended outcomes

- Ensuring the medium term financial strategy integrates and balances service priorities, affordability and other resource constraints
- Ensuring the budgeting process is all-inclusive, taking into account the full cost of operations over the medium and longer term
- Ensuring the medium term financial strategy sets the context for ongoing decisions on significant delivery issues or responses to changes in the external environment that may arise during the budgetary period in order for outcomes to be achieved while optimising resource usage
- Ensuring the achievement of ‘social value’ through service planning and commissioning.

Principle E – Developing the entity’s capacity, including the capability of its leadership and the individuals within it

The Council is committed to:

Developing the entity’s capacity

- Reviewing operations, performance use of assets on a regular basis to ensure their continuing effectiveness
- Improving resource use through appropriate application of techniques such as benchmarking and other options in order to determine how the authority’s resources are allocated so that outcomes are achieved effectively and efficiently
- Recognising the benefits of partnerships and collaborative working where added value can be achieved
- Developing and maintaining an effective workforce plan to enhance the strategic allocation of resources

Developing the capability of the entity’s leadership and other individuals

- Developing protocols to ensure that elected and appointed leaders negotiate with each other regarding their respective roles early on in the relationship and that a shared understanding of roles and objectives is maintained
- Publishing a statement that specifies the types of decisions that are delegated and those reserved for the collective decision making of the governing body
- Ensuring the leader and the chief executive have clearly defined and distinctive leadership roles within a structure whereby the chief executive leads the authority in implementing strategy and managing the delivery of services and other outputs set by members and each provides a check and a balance for each other’s authority
- Developing the capabilities of members and senior management to achieve effective shared leadership and to enable the organisation to respond successfully to changing legal and policy demands as well as economic, political and environmental changes and risks by:
 - ensuring members and staff have access to appropriate induction tailored to their role and that ongoing training and development matching individual and organisational requirements is available and encouraged
 - ensuring members and officers have the appropriate skills, knowledge, resources and support to fulfil their roles and responsibilities and ensuring that they are able to update their knowledge on a continuing basis
 - ensuring personal, organisational and system-wide development through shared learning, including lessons learnt from governance weaknesses both internal and
- Ensuring that there are structures in place to encourage public participation
- Taking steps to consider the leadership’s own effectiveness and ensuring leaders are open to constructive feedback from peer review and inspections
- Holding staff to account through regular performance reviews which take account of training or development needs Ensuring arrangements are in place to maintain the health and wellbeing of the workforce and support individuals in maintaining their own physical and mental wellbeing

Principle F – Managing risks and performance through robust internal control and strong public financial management

The Council is committed to:

Managing risk

- Recognising that risk management is an integral part of all activities and must be considered in all aspects of decision making
- Implementing robust and integrated risk management arrangements and ensuring that they are working effectively
- Ensuring that responsibilities for managing individual risks are clearly allocated

Managing performance

- Monitoring service delivery effectively including planning, specification, execution and independent post implementation review
- Making decisions based on relevant, clear objective analysis and advice pointing out the implications and risks inherent in the organisation's financial, social and environmental position and outlook
- Ensuring an effective scrutiny or oversight function is in place which encourages constructive challenge and debate on policies and objectives before, during and after decisions are made thereby enhancing the organisation's performance and that of any organisation for which it is responsible (OR, for a committee system) Encouraging effective and constructive challenge and debate on policies and objectives to support balanced and effective decision making
- Providing members and senior management with regular reports on service delivery plans and on progress towards outcome achievement
- Ensuring there is consistency between specification stages (such as budgets) and post implementation reporting (e.g. financial statements)

Robust internal control

- Aligning the risk management strategy and policies on internal control with achieving the objectives
- Evaluating and monitoring the authority's risk management and internal control on a regular basis
- Ensuring effective counter fraud and anti-corruption arrangements are in place
- Ensuring additional assurance on the overall adequacy and effectiveness of the framework of governance, risk management and control is provided by the internal auditor
- Ensuring an audit committee or equivalent group or function which is independent of the executive and accountable to the governing body: provides a further source of effective assurance regarding arrangements for managing risk and maintaining an effective control environment that its recommendations are listened to and acted upon

Managing Data

- Ensuring effective arrangements are in place for the safe collection, storage, use and sharing of data, including processes to safeguard personal data
- Ensuring effective arrangements are in place and operating effectively when sharing data with other bodies
- Reviewing and auditing regularly the quality and accuracy of data used in decision making and performance monitoring

Strong public financial management

- Ensuring financial management supports both long term achievement of outcomes and short-term financial and operational performance
- Ensuring well-developed financial management is integrated at all levels of planning and control, including management of financial risks and controls

Principle G – Implementing good practices in transparency, reporting, and audit to deliver effective accountability

The Council is committed to:

Implementing good practice in transparency

- Writing and communicating reports for the public and other stakeholders in an understandable style appropriate to the intended audience and ensuring that they are easy to access and interrogate
- Striking a balance between providing the right amount of information to satisfy transparency demands and enhance public scrutiny while not being too onerous to provide and for users to understand

Implementing good practice in reporting

- Reporting at least annually on performance, value for money and the stewardship of its resources
- Ensuring members and senior management own the results
- Ensuring robust arrangements for assessing the extent to which the principles contained in the Framework have been applied and publishing the results on this assessment including an action plan for improvement and evidence to demonstrate good governance (annual governance statement)
- Ensuring that the Framework is applied to jointly managed or shared service organisations as appropriate
- Ensuring the performance information that accompanies the financial statements is prepared on a consistent and timely basis and the statements allow for comparison with other similar organisations

Assurance and effective accountability

- Ensuring that recommendations for corrective action made by external audit are acted upon
- Ensuring an effective internal audit service with direct access to members is in place which provides assurance with regard to governance arrangements and recommendations are acted upon
- Welcoming peer challenge, reviews and inspections from regulatory bodies and implementing recommendations
- Gaining assurance on risks associated with delivering services through third parties and that this is evidenced in the annual governance statement
- Ensuring that when working in partnership, arrangements for accountability are clear and that the need for wider public accountability has been recognised and met

4 REVISIONS OF THE LOCAL CODE

4.1 The contents of this Local Code will be reviewed when necessary usually on an annual basis.

NWLDC

REVIEWED AND UPDATED – FEBRUARY 2008

REVIEWED – JUNE 2009

REVIEWED AND UPDATED – SEPTEMBER 2017

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Title of Report	SUMMARY OF FORMER TENANT RENT ARREARS, CURRENT TENANT RENT ARREARS, COUNCIL TAX, NON DOMESTIC RATES AND SUNDRY DEBTOR WRITE OFFS UNDERTAKEN IN FINANCIAL YEAR 2020/21	
Presented by	Councillor Nick Rushton Corporate Portfolio Holder	
Background Papers	All information used in compiling the report contain exempt information under paragraph 3 of Part 1 to Schedule 12A Local Government Act 1972	Public Report: Yes
		Key Decision: Yes
Financial Implications	There is no additional financial effect as all the debts are met from the Authority's bad debt provision for previous years arrears or from in year income if the debts relate to the current financial year	
	Signed off by the Section 151 Officer: Yes	
Legal Implications	None identified	
	Signed off by the Monitoring Officer: Yes	
Staffing and Corporate Implications	None identified	
	Signed off by the Head of Paid Service: Yes	
Purpose of Report	To advise cabinet of total annual write offs in accordance with agreed reporting guidance.	
Reason for Decision	To comply with proper accounting practices.	
Recommendations	THAT CABINET NOTE THE INFORMATION CONTAINED WITHIN THE REPORT AS A TRUE REPRESENTATION OF WRITE OFFS UNDERTAKEN DURING 2020/21	

1.0 WRITE OFFS

- 1.1 Writing off debts is only considered where appropriate recovery and enforcement options have been taken, or, where the council are legally prohibited from pursuing the debt.

These include:

- Bankruptcy or a Debt Relief Order is in place;
- Deceased – No assets within the estate;
- Debtor Absconded / No Trace;
- Company in liquidation/dissolved or ceased trading with no assets;
- Severe hardship and/or serious health issues; or Statute barred i.e. we cannot legally pursue the debt as there has been six years since the debt fell due and no action has been taken to collect the debt;
- Uneconomical to collect i.e. it is not financially viable to take further action for example due to the low level of the debt or they have gone abroad.

- 1.2 There are no write offs currently requiring cabinet approval for 2021/22. The purpose of this report is to advise members of the total amount of debt written off by Fund type during the previous Financial Year.
- 1.3 For each Fund the total write offs completed are split into Cabinet approved (Over £10,000.00) and those written off under delegated powers (Under £10,000.00). Details of the original Bad Debt Provision and the value remaining at the end of the Financial Year are also stated.

The figures can be found below in 2.0 Write Offs Undertaken in Financial Year 2021/21

2.0 Write offs Undertaken in Financial Year 2020/21

Fund	2020-21 Bad Debt Provision £	Cabinet Approved Write Offs £	Delegated Powers Write Offs £	Total Value of write Offs £	Bad Debt Provision Remaining £
Council Tax	2,938,672.64	0.00	151,165.69	151,165.69	2,787,506.95
National Non-Domestic Rates	458,066.39	0.00	56,213.30	56,213.30	401,853.09
Overpaid Housing Benefit	1,182,409.68	0.00	16,028.44	16,028.44	1,166,381.24
Housing Rent	1,041,832.10	0.00	16,037.02	16,037.02	1,025,795.08
Sundry Debtor Invoices	340,979.12	0.00	244,435.70	244,435.70	96,543.42

Policies and other considerations, as appropriate	
Council Priorities:	Value for Money
Policy Considerations:	Not applicable.
Safeguarding:	Not applicable.
Equalities/Diversity:	Not applicable.
Customer Impact:	Not applicable.
Economic and Social Impact:	Not applicable.

Environment and Climate Change:	Not applicable.
Consultation/Community Engagement:	Not applicable.
Risks:	Regular reviews of debts for write off mitigates the risk that the Council's accounts do not reflect the true level of recoverable income. It is also part of an effective arrears management strategy..
Officer Contact	Andy Gould Exchequer Services Team Leader andy.gould@nwleicestershire.gov.uk

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