

Harrogate Borough Council Ultra-Low Emission Vehicle Strategy

Final Report

2019-2024

Foreword

Cllr Phil Ireland, Cabinet Member for Sustainable Transport

Welcome to the Harrogate Borough Council (HBC) strategy for ultra-low emission vehicles. We are implementing this strategy to respond to local needs and to fulfil our vision to have the most ambitious and forward-looking programme for electric vehicles of any borough council in the country. There are a number of reasons why this is extremely important to us;

One of our main concerns is to safeguard and improve air quality in the local area. There are four Air Quality Management Areas (AQMAs) in Harrogate District. These AQMAs are locations where Nitrogen Oxide levels exceed the national maximum threshold. The main cause of this pollution is vehicle emissions. To tackle the air pollution in the AQMAs, we are implementing an Air Quality Action Plan that looks at the specific interventions at each AQMA but additionally there is need for a broader initiative to make the vehicles travelling on our road more environmentally friendly. Therefore, as a council with a strong sustainable transport focus, we have recognised the need to ensure ultra-low emission vehicle uptake for travel around Harrogate District can be accelerated.

We also have to be ready for changes in the UK's vehicle market. We know that by 2040 the sale of petrol and diesel vehicles will be banned. We can already see a clear trend showing increasing numbers of ULEVs on the road here in the Harrogate District and across the country as a whole. The numbers are currently relatively modest, but the increase is rapid and the Harrogate District already has more registered ULEVs than any other district in North Yorkshire. We need to have a good network of EV charging points to serve both residents and visitors, and to encourage the move towards cleaner vehicles.

There are other complementary projects across Harrogate district; our separate Carbon Reduction Strategy commits us to do what we can to help reduce the district's carbon dioxide emissions across the district to tackle climate change. The UK is on a path of decarbonisation and we have a part to play in this. The lifetime carbon footprint of electric vehicles is smaller than conventional fossil fuel vehicles, and we are keen to incentivise the switch to low carbon transport.

Thanks for reading and we would be delighted to receive your comments on this draft strategy to help us shape how we can best increase the proportion of ultra-low emission vehicles travelling on our roads.

Phil.

1. Setting the Scene

1.1 Introduction

This strategy sets out how HBC will support increasing the uptake of Ultra Low Emission Vehicles (ULEVs) on roads across Harrogate District. It is important to recognise that it is not the intention to increase the number of vehicles on our roads, more so the desire to ensure that a far higher proportion of vehicles using highways across our district are powered by ultra-low emission fuels rather than petrol or diesel.

ULEV's and the charging infrastructure they require are relatively new technologies. Whilst much of the focus is currently on electric power innovation and development is happening all the time across a range of alternative fuel sources. It will be important to be ready to quickly respond to future changes so this strategy and action plan is designed to be flexible and responsive. It will be updated in five years in order to ensure that it remains current.

The strategy contains an overview of why it is important for HBC to get involved in this agenda before outlining the strategy direction, vision, aims and objectives before providing a commentary on the proposed five year action plan. This is a draft version and will be developed further based on comments received during the consultation process.

1.2 The Jargon

As with many emerging technologies and transport initiatives there is plenty of jargon and acronyms associated with this subject. Here's a quick guide to the main ones used in this strategy:

AQMA – Air Quality Management Area – Location where Nitrogen Oxide levels exceed the national maximum threshold. We are required to implement a plan to reduce emissions in AQMAs.

BEV – Battery Electric Vehicle – vehicles relying solely on battery power. Generally operate to a 100-300 miles range.

EVSE – Electric Vehicle Servicing Equipment – effectively a generic term for electric vehicle charging points.

FCEV – Fuel Cell Electric Vehicle – Hydrogen powered vehicles. These will not be considered in this strategy but HBC will monitor development of this technology closely.

Fast Charger – the most common type of publicly available charger. Tends to take 3-4 hours to fully charge an electric vehicle.

PHEV – Plug-in Hybrid Electric Vehicle – Conventional petrol or diesel working alongside an electric motor with a relatively small battery (20-40 miles range) but both motors working together can achieve fuel consumption figures in excess of 130mpg. These may be more suitable in rural areas.

Rapid Charger – these chargers cost substantially more to install but can fully charge a compatible vehicle in around 30 minutes. They require a significantly higher level of power supply to be able to operate so in

addition to the extra purchase price there would be substantial electric infrastructure costs to widespread implementation.

Trickle Charger or Slow Charger – typically requires 7-8 hours for a full charge and mostly suitable for homes or workplaces.

ULEV – Ultra-low emission vehicle – defined as vehicles with emissions of CO2 below 75g/km or fully electric powered.

1.3 Why supporting electric vehicles is important to Harrogate District

The majority of vehicles across the Harrogate District run on either petrol or diesel causing pollution which can be harmful to health. Electric vehicles (EVs) are greener than internal combustion powered vehicles for many reasons:

- EVs release zero tailpipe emissions at street level improving air quality in urban areas; Emissions from electricity generation is usually displaced away from street level where they have highest human health impacts; EVs can be powered by electricity produced from sustainable energy sources. The UK's electricity supply is rapidly decarbonising, as a result of the planned closure of our remaining coal-fired power stations and the take up of renewable energy and other low-carbon energy sources..
- This means that in the UK, the lifetime carbon footprint of manufacturing, running and disposing of an electric vehicle is lower than for a conventional fossil fuel vehicle.
- Ultra-Low Emission Vehicles operating on electric power are very quiet compared to petrol and diesel vehicles. This has benefits for residents living alongside busy roads and benefits for the natural environment with reduced vehicle borne noise pollution.

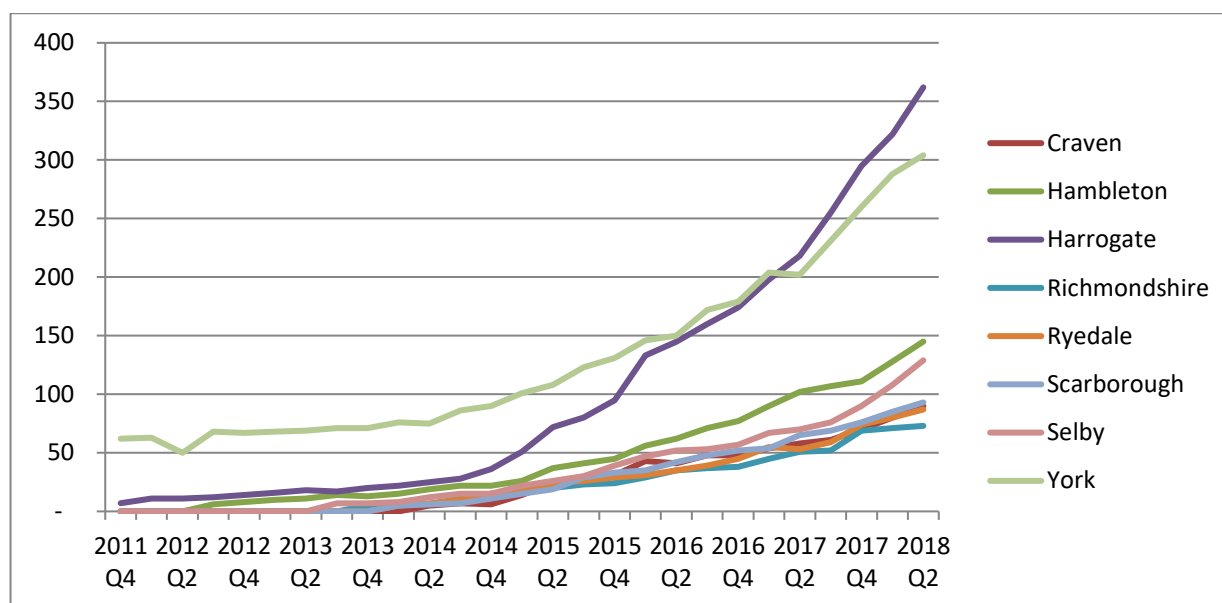
There are currently very few publicly accessible charge points available in the district, and we know that an increasing number of residents and visitors are asking about the availability of electric vehicle charging points.

Our limited public charging network may discourage new users or businesses to adopt ULEV technology. At the moment Harrogate sits some way behind neighbouring areas such as York and Leeds in provision so we recognise that the development of a public charging network is required. There are also implications for the visitor economy for those visiting Harrogate District

Government data¹ suggests that the number of plug-in vehicles in the district is constantly increasing - reaching more 320 by the end of June 2018. Table 1 shows the uptake in EVs across North Yorkshire. Harrogate District has the highest level of EV registrations within any part of the county; even overtaking York.

¹ <https://www.gov.uk/government/collections/vehicles-statistics>

Table 1: Plug-in cars, vans and quadricycles licensed by North Yorkshire District & York



Source: Table VEH0131, Vehicle Licensing Statistics (<https://www.gov.uk/government/collections/vehicles-statistics>)

Battery Electric Vehicles are generally much cheaper to run than petrol or diesel vehicles, although the vehicles themselves are still relatively expensive to buy. However, battery prices are continuing to fall as capacity for the production of the raw materials increases and manufacturing techniques improve. As one of the main costs at present for electric vehicles is in the batteries, this will lead in time to greater affordability and mass market appeal.

Existing plug-in vehicle owners rely mostly on home and workplace charging but report a desire for more extensive, and faster, public charging to enable them to undertake longer journeys. Installing vehicle charging points is seen as a way of ensuring Harrogate District is ready for changes in fuelling requirements. This is particularly important for the visitor economy.

We know that the number of plug-in vehicles will increase by 2020, with new models becoming available. Provision of a public charging network is therefore seen to have two overlapping but complementary roles:

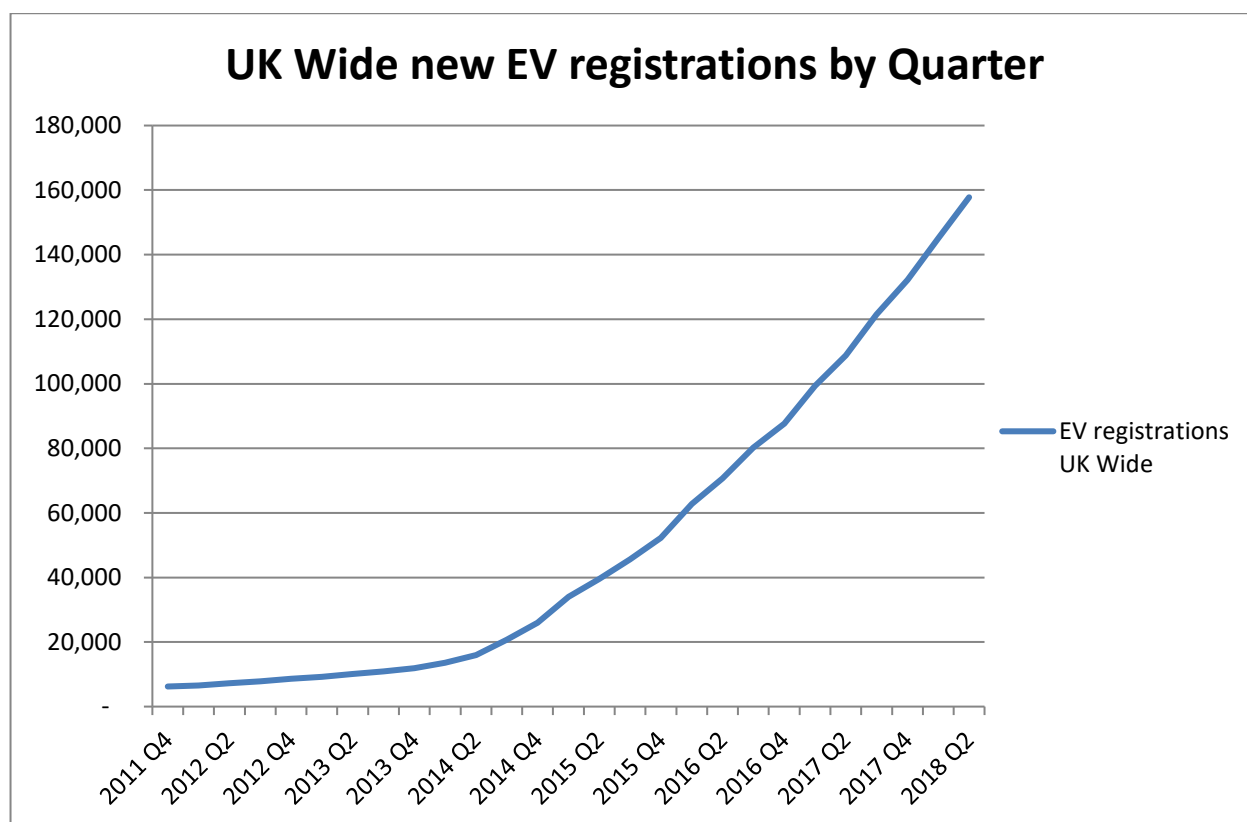
- meeting the needs of existing owners; and
- addressing the concerns of potential future plug-in vehicle owners.

1.4 National and Local Context

The UK government recently announced their intention to ban on all new petrol and diesel cars and vans from 2040 as part of the national Clean Air Plan.

Already, the take-up of ULEVs is accelerating. Table 3 below presents cumulative registration of plug-in cars and vans in the UK. The number of plug in Vehicles registered in the reached 144,000 in the first quarter of 2018.

Table 2: Plug-in Cars and Vans Cumulative registration in the UK from 2012 Q1 to 2018 Q1 in thousands



Source: Table VEH0150, Vehicle Licensing Statistics (<https://www.gov.uk/government/collections/vehicles-statistics>).

Another key driver for change is regulation to reduce carbon emissions. The UK's Climate Change Act 2008 sets a legally binding UK-wide carbon budget. The UK has also signed and ratified the United Nations Paris Agreement which commits signatories to reduce carbon emissions sufficiently to limit global temperatures to increases of no more than 2 degrees by the end of the century. The council's carbon reduction strategy states that we will promote and support activity within the district as a whole to help achieve district-wide emissions reductions of 57% reduction by 2030, relative to 1990 levels, to keep us in line with the UK carbon budgets.

The Committee on Climate Change (the independent body that monitors the UK's progress towards the carbon budget) has noted that transport is now the most carbon-intensive sector in the UK. Action is needed to decarbonise and electric vehicles are a key part of this.

Road to Zero² is the recently published government strategy in relation to ultra-low emission vehicles. It comes with an ambition to see at least half of new cars to be ultra-low emission by 2030 and a detailed 46 point action plan that provides us with an improved understanding as to where ULEV technology is seen to be heading from a government perspective.

² <https://www.gov.uk/government/publications/reducing-emissions-from-road-transport-road-to-zero-strategy>

Locally the in the council's Corporate Plan, we have set out our vision to build on our heritage and be a progressive and vibrant place to live, work and visit. The plan includes priorities around supporting local communities and the local economy. Supporting cleaner vehicles is important to both of these priorities.

The emerging Harrogate District Local Plan identifies traffic congestion and air pollution as relevant issues in many of the district's largest settlements and highlights that one of the main objectives for the council is to work towards a sustainable and improved transport system. Therefore, it is worth noting that this strategy is not looking to increase the number of private vehicles within the district but to provide the required incentives and information to existing and potential private car users across the district to switch to electric cars.

North Yorkshire County Council (NYCC) is developing a county-wide strategy for ULEV provision. Although our own strategy is in advance of the NYCC version, any future review will look to integrate, as far as practically possible, with county-wide proposals. It is important to note that whilst HBC has responsibility for many of the off street car parks across the district, leisure centres, some business premises and leads on creating air quality action plans NYCC as highway authority looks after on street infrastructure and has wider transport powers. Both authorities' strategies therefore would ideally be closely aligned.

1.5 Our Strategy Direction

Uptake of electric vehicles is increasing rapidly and, whilst most users currently prefer to charge at home there is demand for destination based charging. In order to promote the visitor economy and also to provide options for residents, some publicly available charging infrastructure is required to build on the three rapid chargers already available at the Civic Centre.

This can be supplemented by measures to ensure new homes have charge points, looking at opportunities as to how we can lead the way in terms of electric fleet adoption and also working with third party land owners to maximise the locations available for EV users to recharge their batteries.

Whilst there is strong growth in the electric vehicle market, nationally and locally, it is important not to overprovide and waste public money. Understanding what can be implemented and at what cost will be crucial to ensure that, should the technology become mainstream, we are ready to respond.

2. Vision, aims, objectives and core actions

2.1 Vision

Our vision is for Harrogate Borough Council to *implement an ambitious and forward-looking electric vehicle programme, and be among the best councils for electric vehicles in the country.*

2.2 Aims

To achieve the vision there are two aims that enable targeting of facilities for residents, businesses and visitors, these are:

- Increase provision of electric vehicle charging infrastructure across Harrogate District; and
- Increase the proportion of vehicles that are ultra-low emission on roads across Harrogate District.

2.3 Objectives

Four core objectives have been identified to successfully implement the two aims:

- To provide charging infrastructure for electric vehicles in order to incentivise the use of electric/hybrid vehicles over internal combustion engine powered equivalents.
- To make electric vehicle infrastructure across Harrogate District sustainable for the future.
- To integrate Harrogate charging infrastructure with similar local projects to ensure a coordinated approach.
- To support the transition of commercial and public transport vehicles to plug-in vehicles, in particular taxis.

2.4 Five Year Action Plan

To deliver the objectives a five year action plan has been established. As electric vehicle charging is very much an emerging technology it is important for the council to be able to adapt to changes and ensure a flexible approach to delivery of the strategy. The action plan will, therefore, be reviewed every five years to ensure adaptability to changes in technology, trends in mobility and financial considerations. The planned actions, anticipated outcomes and rationale are outlined below.

Action One: Establish a network of publically available electric vehicle charge points across Harrogate District.

Three main scenarios have been considered in order to provide a strategy to rolling out an appropriate level of public electric vehicle charging points. These were

- **basic provision** (a small number of chargers in key locations)
- **demand responsive** (a number of chargers in the short term in key locations followed by work to understand and develop new charging infrastructure when demand indicates it is required)
- **high take up** (a level of provision in all key areas to meet existing and estimated future demand)

Basic provision has been ruled out because it is not sufficiently ambitious to meet the vision. High take up, which would quickly implement a large number of charge points in the short term, is a risky option with emerging technology that is predominantly used at home as it could result in significant overprovision.

A demand responsive scenario is therefore our preferred way forward. The aim of this scenario is to install a level of charging provision in the short term (2-3 years) whilst undertaking work to understand the requirements for expansion at key locations to enable quick response to demand expectations.

A longlist of potential council-owned sites has been established to provide certainty over delivery. These locations are currently under investigation to understand any issues and opportunities in order to develop a deliverable shortlist of locations for further investigation.

Our plan is to provide 61 public charging points across the district within the next five years, subject to demand and funding. This figure can increase and we will be ready to implement around 160 charge points across different locations within the district if it is required. This will be supplemented by aiming to encourage and potentially incentivise the installation of charge points on third party land such as at supermarkets.

Locations:

The proposed public charging point scheme will be implemented at locations owned by HBC including public car parks, business parks, and leisure centres.

Site Assessment criteria:

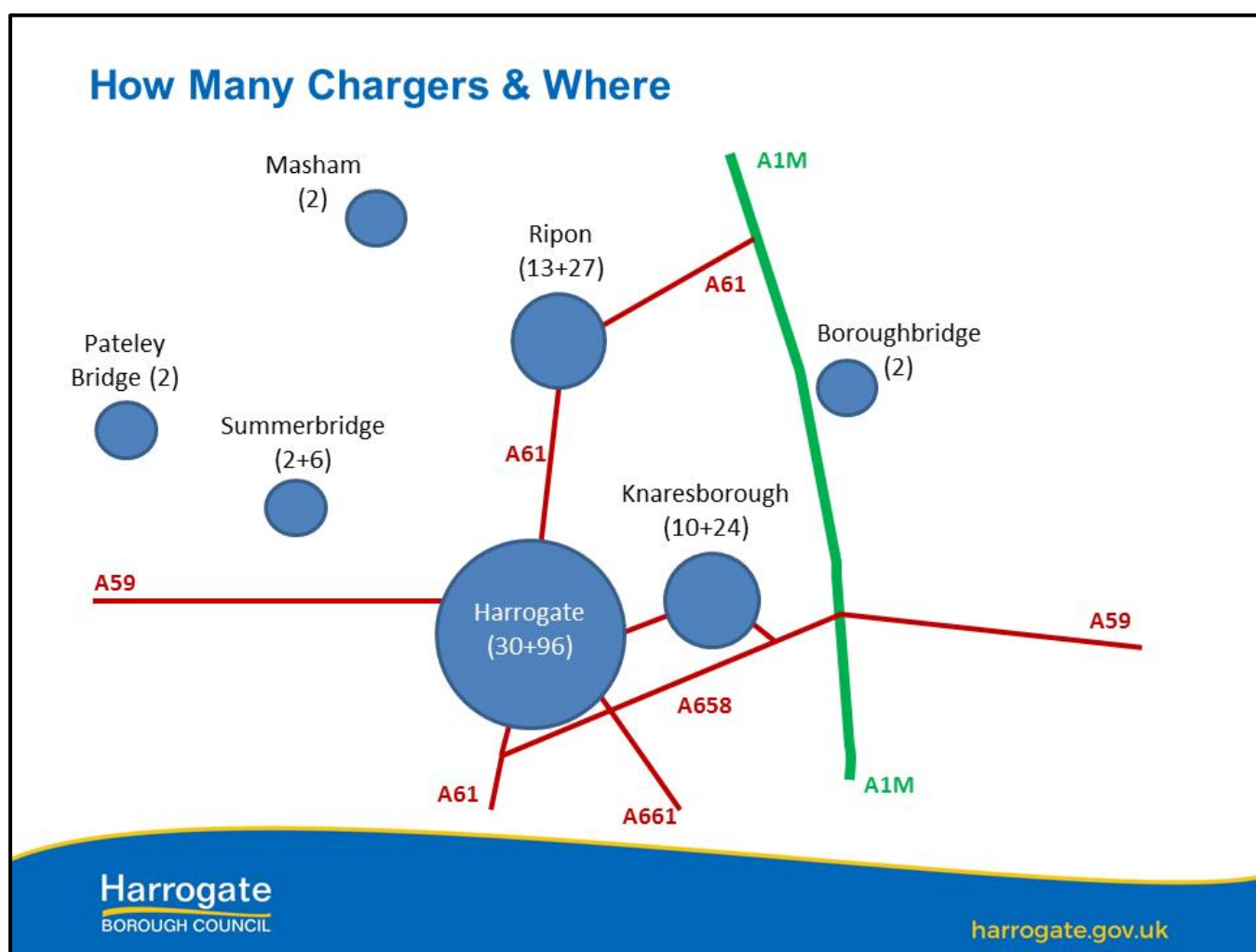
The following criteria will be assessed in order to shortlist potential locations:

General Site Conditions;	Links and proximity to AQMAs;
Proximity to key attractions;	Closeness to existing/proposed chargers;
Proximity to key routes;	Impact on parking supply;
Proximity to existing charging points;	Statutory Utilities;

Proximity to Food/Drink outlets;	Passive provision for potential expansion of charging points; and
Cost of implementation;	Power Supply availability.

The proposed charging infrastructure will be spread across the main settlements in the district which can be seen in the plan below:

Figure 1: Electric Vehicle Charging infrastructure across Harrogate District



As shown, our indicative ambition is to implement a total of 30 charging points in Harrogate 10 in Knaresborough, 13 in Ripon and 2 in smaller settlements including Summerbridge, Masham, Boroughbridge and Pateley Bridge. These numbers may vary depending upon investment required to deliver the electrical infrastructure and the level of usage in early years. The figures in brackets represent potential future expansion should demand increase substantially. The map is an initial indication of the intentions of the council to install EVCPs in existing settlements where demand is anticipated to be highest. With the proposals for new developments either around the A-59/A1(M) junction or further to the East off the A-59 there will be a requirement for charging points to be included within the development. This spread of chargers will ensure that there is the facility for destination based charging across the district, with home owners able to install their own charging points at home. The plan is designed to be flexible and meet demand where it arises, so may change over time.

Types of charging points:

Fast charging points (7 KW single phase) are considered to be the most appropriate charging level at public car parks or major destinations where a three or four hour stay is realistic. Slow chargers (3.5 KW single phase) are considered to be the best option in business parks for daytime charging and rapid chargers (≥ 43 KW) in appropriate locations, such as close to the A1(M) or in key settlements. This will enable a mix of chargers for those needing a quick charge, those looking to stay somewhere for a minimum of a morning or afternoon and also for those parking all day at work.

Operation of proposed charging infrastructure:

Management options of charging points have been assessed and the outcome shows that in the short term (next five years) the preferred option will be a third party managing the public charging infrastructure. This has a number of advantages which are summarised below:

- Benchmarking shows that this is the option preferred by other local authorities that have already installed charging points at their car parks;
- HBC could be at disadvantage compared with experienced operators as we don't have the level of expertise or resource to be the scheme operator across a wide network of charge points;
- There is a risk of negative public perception towards HBC in case of poor performance of the charging points;
- Opportunity to connect electric vehicle charging point infrastructure in Harrogate District to an existing network of charging points across the country; and
- A third party operating the charging points will potentially be a better use of public money and better for the user.

Should engagement on this draft strategy ratify this approach then the procurement procedure will be reported through the appropriate council meetings.

Payment incentives:

Analysis of the various different payment models has been undertaken and the preferred option is to provide free electricity in order to incentivise the uptake of electric vehicle usage across the district. This policy will be reviewed in due course as, if (or when) the technology becomes more commonplace, this concession may have to be removed. Parking fees will remain in public car parks for BEV users as it is important, for congestion management purposes; to ensure that car use is not incentivised over other sustainable modes of transport. BEV use over petrol or diesel powered cars and vans however should be prioritised.

Charging bay enforcement:

Parking bays with electric vehicle charging infrastructure included must be used only by electric vehicles that are plugged in and charging and will have a time restriction to prevent abuse. This will be determined by the type of charger associated with the recharging bay: 6/7 hours for slow chargers; 4 hours for fast chargers and 1 hour for rapid chargers.

These bays will be supported by new Traffic Regulation Order (TRO) and will be signalled by DfT approved signs.

The use of innovative technology to support the proposed charge points will be considered. For instance, there are possibilities around installing solar panels and battery storage at appropriate locations to improve the sustainability of the electricity generation. Further to this HBC is looking to develop the Appy Parking solution to specify the locations of available EVCPs and make it quick and easy to find a charging point.

Commercial properties owned and operated by the council:

The potential to provide suitable charge points at commercial properties operated by HBC will be investigated to enable our tenants to adopt ULEV technology. The first site for consideration has been Conyngham Hall in Knaresborough, which has recently been provided with a total of four fast charging points. Conyngham Hall has been initially targeted due to the proximity to the Knaresborough AQMA. A direct benefit to air quality and public health is therefore expected from this investment.

The implementation of charging points in Ripon Leisure Centre is currently being considered as part of the new pool project. Further opportunities are to be investigated at Phoenix Business Park in Ripon and at Summerbridge.

Increased numbers of charge points commensurate with demand will be examined within the initial five year action plan period should further provision be required.

Action Two: To implement electric vehicle technology within Harrogate Council for the fleet and employees.

Begin use of electric pool vehicles for council staff use:

Approval has been given to procure an electric pool car to supplement the existing HBC pool car fleet. Use of the electric vehicle will be promoted over the diesel alternatives, particularly for those trips passing through AQMAs. Prior to the expiry of the existing diesel pool car leases in 2019 the opportunity to switch to fully electric or plug in hybrid options will be investigated.

Conduct a fleet review and progress to utilisation of ULEVs where possible within the HBC vehicle fleet:

HBC has commissioned the Energy Saving Trust to undertake a green fleet review. This piece of work will assess the viability and benefits of converting the HBC fleet to more environmentally friendly vehicles. The contents of the study will be evaluated and a supplementary fleet renewal action plan created upon receipt of the findings.

Should there be opportunity to convert a number of HBC fleet vehicles to ULEV technology then charging infrastructure will need to be installed to facilitate overnight charging.

Implement charging provision for HBC employees at key workplaces:

In order to ensure that HBC employees are incentivised to use electric vehicles over internal combustion powered alternatives slow charging points will be established at key HBC working locations for staff. This could include priority parking particularly at locations where there is greater pressure on space availability such as at the Harrogate Civic Centre.

Action Three: Bid into relevant third party funding opportunities to secure delivery of electric vehicle charging infrastructure.

There have been a number of recent grants from various sources. This type of grant funding from central government is expected to continue ahead of the future ban on sales of internal combustion engine powered vehicles in 2040. HBC will target appropriate funding opportunities with a view to these enabling the provision of further charging infrastructure across Harrogate District. Relevant funding opportunities will also be promoted to other organisations, such as employers, should they present a suitable opportunity to fit with this strategy.

Action Four: Assess opportunities to encourage the uptake of electric powered public transport services.

There are opportunities associated with ensuring that bus and taxi fleets are as green as possible. This can include building on the successful electric bus project grant awarded to Harrogate Bus Company and the joint HBC/Harrogate Bus Company route one low emission project to develop proposals for bus and taxi operations.

Action Five: Condition private developers and landowners to provide EV charge points on future development sites.

HBC is the planning authority for Harrogate District. This means that the planning team can place appropriate requirements on new developments. To address air quality issues and the wider public health agenda all new sites with the Harrogate District Local Plan will be required to provide a Mode 3 16amp charge point per dwelling as a standard condition. Training and support will be provided to the planning team in addition to HBC officers working with NYCC in their role as Local Highway Authority to ensure planning applications fully provide for future uptake of ULEVs.

Action Six: Work with NYCC as Highway Authority on the provision of additional locations for public charge points.

NYCC is currently working on a county wide strategy to shape NYCC policy on ULEVs. It is estimated that approximately 50% of homes do not benefit from off-street parking; therefore they would not be able to take advantage of national projects such as the Electric Vehicle Homecharge Scheme to pay for the cost of a charge. In addition, it is estimated that approximate 60% of existing EV users charge at home. HBC will work with NYCC to ensure a coordinated approach to charge points across Harrogate District.

Action Seven: Investigate opportunities with partners within the wider public sector estate to provide public and private charge points, for example NHS sites and council housing.

Opportunities to provide charge points at public sector locations for the use of staff and visitors will be investigated. We will consider facilitating this through the use of match funding.

Action Eight: To look at opportunities to incentivise and promote the use of e bikes within the district.

An increase in usage of electric bikes can lead to a reduction in traffic congestion and air quality improvements within the district. We will assess how to encourage the uptake of electric bikes within Harrogate District.

Action Nine: To support and encourage third parties, particularly large supermarkets and large employers, to install charging points on their estate for use of staff and the public.

The existing workplace charging grant will be promoted to large employers and encourage them to install facilities potentially assisting in the funding of this through match funding.

Initial contact has been made with the largest supermarkets within the district and further discussions will take place with them in order to offer the council's support to implement charging infrastructure across their car parks.

The government recently published its intention to create a number of new powers including a requirement for the provision of electric vehicle infrastructure at motorway service areas and large fuel retailers. Local fuel retailers could also include such provision in order to help increase local availability. HBC will write to these companies to encourage them to consider doing this.

Harrogate Borough Council is looking to take on an advocacy role for electric vehicles, including through the purchase of the new EV Pool car, while carrying out this role council officers will promote the opportunities for businesses to access grants; such as the Workplace Charging Grant from the Office for Low Emission Vehicles (OLEV). To this end information will be stored in the car to be able to give out to those that are interested.

Action Ten: Raise awareness of the EV market so people can understand the options for and benefits of EV ownership, such as reduced environmental impacts and improved air quality.

In order to maximise the usage of the charge points and the uptake of EVs by Harrogate District residents a variety of tools will be used in order to publicise the locations.

- The infrastructure will be advertised on the Harrogate Borough Council website, a dedicated webpage will be set up for members of the public to view details on charging points within the district.
- Any new charge points will be added to the National Chargepoint Registry.
- We will contact car dealerships with charge point locations, so they can pass this information onto potential electrical vehicle car purchasers.
- We would also hope to receive some press coverage of the launch of the strategy, the consultation and implementation of the scheme.

- We would discuss with North Yorkshire County Council about the introduction of signage to direct people to charging points and have links to the Harrogate Borough Council webpage from the NYCC website.
- Promote existing grants to residents and business.

We will consider potential incentives to encourage residents to 'Go Green' and increase the take up of electric vehicles in the district.

2.5 Targets and Monitoring

We have three main targets to monitor progress:

1. Increase the number of ULEVs registered across Harrogate District to 10,000 by 2023. This figure will be monitored annually and compared against other cities including Leeds and York. ULEV registration data is available every 3 months.
2. Charging points usage will be monitored to understand if there is enough demand and if there is need of expansion. Our target will be to reach 50% of the proposed infrastructure being used at least once a day and;
3. Contribute to a reduction in Nitrogen Oxide levels in AQMAs. The target will be in line with the emerging AQMA plan.

3. Ultra-Low Emission Vehicle Strategy: Plan on a Page

This strategy shows how the council will support the take up of Ultra Low Emission Vehicles across Harrogate District. We are doing this to meet local needs:

- To safeguard and improve local air quality in our designated Air Quality Management Areas.
- To respond to the electric vehicle market and provide infrastructure that residents and visitors need.
- To help achieve environmental benefits by encouraging a shift to use of cleaner vehicles.

Our vision is for Harrogate Borough Council to *implement an ambitious and forward-looking electric vehicle programme, and be among the best councils for electric vehicles in the country.*

To achieve the vision we have two key aims:

- Increase provision of electric vehicle charging infrastructure across the district; and
- Increase the proportion of vehicles that are ultra-low emission on roads across Harrogate District.

We have identified four core objectives:

- To provide charging infrastructure for electric vehicles in order to incentivise the use of electric/hybrid vehicles over internal combustion engine powered equivalents.
- To make electric vehicle infrastructure across Harrogate District area sustainable for the future.
- To integrate Harrogate charging infrastructure with similar local projects to ensure a coordinated approach.
- To support the transition of commercial and public transport vehicles to plug-in vehicles, in particular taxis.

The strategy will be implemented via the following action plan, delivered over five years:

Action 1:	Establish a network of publically available electric vehicle charge points across Harrogate District.
Action 2:	Implement electric vehicle technology within Harrogate Council for the fleet and employees.
Action 3:	Bid into relevant third party funding opportunities to secure delivery of electric vehicle charging infrastructure
Action 4:	Assess opportunities to encourage the uptake of electric powered public transport services.
Action 5:	Condition private developers and landowners to provide EV charging on future development sites.
Action 6:	Work with NYCC as Highway Authority on the provision of additional locations for public charge points.
Action 7:	Investigate opportunities with partners within the wider public sector estate to provide public and private charge points, for example NHS sites and council housing.
Action 8:	To look at opportunities to incentivise and promote the use of e bikes within the district.
Action 9:	To encourage third parties, particularly large supermarkets and large employers, to install charging points on their estate for use of staff and the public.
Action 10:	Raise awareness of the EV market so people can understand the options for and benefits of EV ownership such as reduced environmental impacts and improved air quality.

To measure our progress, we will:

1. Monitor the number of ULEVs registered across Harrogate District. The target is 10,000 vehicles by 2023.
 2. Monitor use of the installed charging infrastructure. The target is that least 50% of the chargers are used at least once a day.
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3. Contribute to a reduction in Nitrogen Oxide levels in AQMAs. The target reductions will be in line with the emerging AQMA plan.