NORTH NORTHAMPTONSHIRE ELECTRIC VEHICLE INFRASTRUCTURE STRATEGY 2023-2030

Public Consultation Draft
August 2023

North Northamptonshire Council

NORTH NORTHAMPTONSHIRE
ELECTRIC VEHICLE INFRASTRUCTURE

Contents

Foreword

Road traffic currently accounts for a considerable proportion of North Northamptonshire's overall greenhouse gas emissions, so making the switch to battery electric vehicles (EVs) is going to be an essential part of our own journey towards net-zero.

By accelerating the switch away from fossil fuelled vehicles, we have an exciting opportunity to drive improvements in air quality that will benefit the health and economy of this area and, alongside future technologies and automation, radically change the way we travel.

NNEVIS, the North Northamptonshire Electric Vehicle Infrastructure Strategy, seeks to encourage wider adoption of EVs across the area and tackle some of the current barriers slowing down this transition. It also looks at how we can help change people's perceptions of EVs and what support we can give through information, local planning, and regulations.

Of course, we cannot make this happen by ourselves but there are key actions that we can, and are, taking as a Council that will make a real difference. We are already playing a key role in facilitating the roll out of much needed EV charging infrastructure, including on-street charging for those that cannot charge at home. Sites for EV charging have been installed in six of our towns with more to come.

I am acutely aware of the need for charging points and the need to make it easier to enable those without driveways to benefit from EVs. Charging should be just as convenient and stress-free for those who currently park on-street.

My aspiration is for North Northamptonshire to be the go-to-place (and a pioneer) for net-zero carbon living, a hot-bed for innovation, and lead the way on EV uptake. I believe that this area has all the right ingredients to make this happen and NNEVIS can help provide a catalyst for change.

Please take the opportunity to read our draft strategy. Views should be submitted via the **consultation and engagement hub** by midnight on Wednesday 11 October 2023.

COUNCILLOR MATTHEW BINLEY
Executive Member for Highways, Travel and Assets

North Northamptonshire Council

NORTH NORTHAMPTONSHIRE ELECTRIC VEHICLE INFRASTRUCTURE

Introduction to this strategy

Government expects all local authorities to develop local Electric Vehicle Infrastructure Strategies. These local strategies should set out how local charging needs will be met in the area at scale and over time, and where possible ahead of need; and, in doing so, consider where and to what extent provision is likely to be met by the market, without additional intervention.

Furthermore, it states that local authorities can bring wider considerations into the planning and delivery of charging points, including granting planning permissions for the works to take place, approving on-street parking bays associated with Electric Vehicle Chargepoints (EVCPs) and balancing demands against other uses of roads and pavements. This will be increasingly important as we transition to mass adoption of EVs, and the number of drivers relying on public chargepoints increases.

The development of a North Northamptonshire Electric Vehicle Infrastructure Strategy (NNEVIS) supports North Northamptonshire Council's (NNC) commitment to provide leadership to tackle climate change and achieve carbon neutrality, in combination with other measures to promote sustainable transport and active travel. NNC believes that providing an accessible network of EVCPs will play a vital role in facilitating the uptake of EVs and is a necessity to meet wider Net Zero ambitions and targets.

Background

The transport sector is now the UK's largest source of greenhouse gas emissions and contributor to poor air quality. Air pollution, in part caused by fossil fuel use in vehicles, is responsible for more than 40,000 excess deaths in the UK every year[1].

In response, the UK has introduced some of the most progressive regulatory objectives and announced significant amounts of funding for the sector. In 2021 the Government announced the deadline for phasing out sales of new internal combustion engine (ICE) cars and vans in the UK by 2030, and for all new vehicles to be zero emission at the tailpipe by 2035. In June 2022 new rules came into effect mandating the installation of Electric Vehicle chargepoints (EVCPs) in most new homes and commercial buildings.

Thanks to the huge investment into battery technology, EVs are getting cheaper to buy and more efficient to run, many travelling over 200 miles on a single charge. Total EVs (EV cars, excluding plug-in hybrids) registered in the UK at the end of 2019 was 89,721[2]. At the end of 2022 the total number of EVs was 620,295 – a seven-fold increase. It is estimated that by 2030 there will be 11 million EVs on UK roads.

However, the rapid acceleration of the transition to EVs that is required will only be delivered if vehicle owners are confident that they will have access to a comprehensive and convenient network of EVCP infrastructure.

Many of the early adopters of EVs have installed home chargepoints, but as the numbers of EV drivers increase, those without access to off-street parking will need charging solutions. A recent survey by Zap-Map highlighted that whilst 82% of EV drivers have access to charging at home, 93% of EV drivers use public charging networks.

There will be sustained growth in demand for public charging infrastructure. In March 2022, a new national strategy[3] was launched by UK Government. This outlines a vision which seeks to change the availability of charging infrastructure as both a perceived, and a real, barrier to the adoption of EVs. By 2030, it expects there to be around 300,000 public EVCPs as a minimum in the UK, but there could potentially be more than double that number.

The national strategy identifies important roles for various stakeholders, including Ofgem, electric Distribution Network Operators (DNOs), Chargepoint Operators (CPO), operators of Motorway Services Areas, fleet operators and business, and local authorities, if this national target is to be achieved and deployment is more evenly spread.

Whilst the national strategy expects the market to lead the majority of public EVCP deployment, it states that local authorities have a crucial role ensuring that deployment reaches all areas, using sustainable commercial approaches (for example, procuring for expected high and low utilisation areas at the same time).

1. Royal College of Physicians (2016) Every breath we take the lifelong impact of air pollution **www.rcplondon.ac.uk/file/2912/download**
2. **Vehicle licensing statistics data tables - GOV.UK (www.gov.uk)**
3. HM Government **Taking charge: the electric vehicle infrastructure strategy (publishing.service.gov.uk)**

Local context

North Northamptonshire Council (NNC) is a new local authority created in April 2021. In July 2021, and at the earliest opportunity for doing so, it declared a climate emergency and has committed to becoming carbon neutral ('net zero') by 2030.

In 2021, NNC agreed its first Corporate Plan. A key priority in this plan is to demonstrate clear leadership on tackling environmental sustainability. This includes measures to collaborate with communities and businesses to tackle climate change and improve air quality; promote sustainable forms of transport fit for the future; and embed low carbon technology. NNC has also developed a Carbon Management Plan[4] (CMP). This plan details the wide-reaching work to be undertaken across all parts of the organisation to help achieve this target.

NNEVIS supports the priorities and actions set out in both these documents, and NNC believes that providing a publicly accessible network of EVCPs will play a vital role in facilitating the uptake of EVs and is a necessity to meet wider Net Zero ambitions, whilst supporting improved environmental, social and health outcomes.

Official Department for Transport data indicates that there are 2,735[5] EVs registered in North Northamptonshire. This is up from 1,527 in 2021. Forecasts produced by CENEX[6] for NNC predict a surge in the number of EVs with about 24,000 by the end of 2025, and 116,000 by 2030 which, assuming the number of vehicles registered in the area remains broadly constant, would represent about 40% of all cars.

As outlined, the availability of charging infrastructure could present a barrier to this growth in take-up. Official figures indicate that there are currently 128[7] publicly available EVCPs in North Northamptonshire. CENEX forecasts the need for 660 EVCPs in the area by 2025 and 1,767 by 2030. These forecasts assume that one EVCP is required for every twenty-five properties without off-street parking.

4. **Carbon Management Plan | North Northamptonshire Council (northnorthants.gov.uk)**
5. Department for Transport Quarter 4 2022
6. Everest and Nevis models developed by the Centre of Excellence for Low Carbon and Fuel Cell Technologies – an independent, not-for-profit research technology organisation and consultancy
7. Department for Transport Quarter 4, 2022

Vision, Policies and Actions

The aim is that this strategy will act as a catalyst for a step-change in EV charging infrastructure deployment which is essential to support widespread take-up; and through this support progress towards Net Zero living and a more sustainable future.

NNC's 'vision' for electric vehicle infrastructure in North Northamptonshire is:

"Residents, businesses, and visitors will have confidence that they can recharge electric vehicles conveniently and affordably. Electric vehicle infrastructure will develop to meet the needs of users now and in the future, and in doing so, support North Northamptonshire's transition to decarbonising transport, improved air quality, options for affordable clean transport, and Net-Zero Living."

Through NNEVIS, NNC is providing direction and leadership to suppliers seeking to install infrastructure to ensure the best outcomes for the area e.g., by setting standards, identifying locations, and agreeing rewards, while also providing assurance that their investment will be supported through a wider set of measures.

NNEVIS includes a series of policies and measures to support the transition to EVs and enable the area to take advantage of the associated environmental, social, and financial benefits. Some involve direct action or intervention by NNC, for example through setting policy, public investment in infrastructure, education, and campaigns; others seek to influence the decisions of key stakeholders, including other public sector bodies, residents, and businesses. It includes policies and associated measures on the following topics:

- Strategic Infrastructure Charging Network – **Our EV charging network**
- **Family of charging infrastructure**
  - Charging Hubs
  - On-street charging
  - Superhubs
  - Smart Charging
- **New Development**
- **Shared Transport**
- **Leading by example/Being an EV champion** - Council Sites, Operations, and Fleet
- **Delivering the network**
  - Investment and Financial Sustainability
  - Demand Stimulation, Collaboration and Engagement

Strategic Charging Infrastructure Network

POLICY 1

Provision will be made for an extensive EV charging network across North Northamptonshire which provides confidence to switch to electric vehicles and meets future need.

Proposals for establishing the EV charging network are based on the following principles:

- Understanding the opportunities and challenges for the EV charging network in North Northamptonshire
- Forecasting the uptake of EVs across North Northamptonshire and the centres of demand for EV charging in the area
- Attracting commercial investment to accelerate local deployment of EV charging infrastructure to ensure high quality EV charging is accessible in the area
- Providing a framework of EV charging options for residents without access to private offroad parking
- Working in collaboration with landowners, businesses, and other stakeholders to further increase EV charging provision
- Identifying opportunities to further support the decarbonisation of road transport and manage the impact of EV charging on the grid.
- Increasing awareness of public EV charging infrastructure and promoting uptake of EVs

There are three main charging options. These are charging at home, at a destination (such as a workplace), and on-route. Each has a significant role to play.

The cheapest and most convenient place for EV charging is at home. Home chargers are typically 7kWh (standard) and can fully charge an EV overnight. NNC will encourage residents with off-street parking to install EV charging infrastructure through awareness campaigns and other activities.

Workplace charging provides an opportunity for EV users to charge their vehicles for lengthy periods of time while at their workplace, and for a reasonable cost. NNC will liaise with businesses and other employers to encourage the deployment of EVCPs and, if not already done so, consider developing a strategy for transitioning their fleet to EVs. NNC will also signpost businesses towards the current **Workplace Charging Scheme**[8] that businesses can use to claim up to 75% of the cost of purchasing and installing EVCPs. Applications must be received by 31 March 2024.

Owners of commercial car parks[9] and managers of housing stock of all types of tenure will be encouraged to deploy public EV charging infrastructure in safe and accessible spaces, with pricing transparency. NNC will work with these stakeholders to understand the timing of their implementation to align overall plans and forecasts. It will also encourage continued private sector investment in public EVCPs at train stations, supermarkets, filling stations and other commercially operated venues.

8. **Workplace Charging Scheme: guidance for applicants - GOV.UK (www.gov.uk)**
9. NNC estimates that there are about 600 car parks in North Northamptonshire of which about 550 are privately owned

Charging anxiety is a real issue impacting the transition to EVs for people who need to travel long distances on the strategic road network. This is despite National Highways reporting that drivers are never more than twenty-five miles away from a rapid chargepoint anywhere on England's motorways and other major A roads. The rapid charging network in the UK is one of the most extensive in Europe, with over 3,500 rapid chargers. National Highways are continuing to invest and in May 2023 announced plans to install a further 2,500 rapid chargers across England's major road network by 2030.

Government's goal is to stimulate and capitalise on private sector investment to build and manage a self-sufficient public network so that large numbers of electric vehicles can be charged, rapidly and easily, close to the existing strategic road network.

Ultra-rapid charging facilities have recently been commercially installed near Kettering on the A14. Provision of similar facilities on the A14, A45 and other important links roads such as the A43 and A605 will help to meet the needs of those making longer journeys but also can help to serve local households and businesses. Facilities should have amenities for EV users, including toilets, and sufficient space and suitable safe access to accommodate both those charging and waiting to charge.

NNC will seek to improve the availability of rapid and ultra-rapid EV charging on and near the strategic road network and important link roads across North Northamptonshire. NNC will liaise closely with National Highways, the body responsible for the national road network, to ensure that chargepoints not only meet their strategic objectives but are also deployed, to the extent possible, in the most efficient locations to assist residents and businesses.

Whilst the largest demand for EV charging infrastructure will be in the urban areas, the EVCP network must also meet the needs of residents, businesses, and visitors in the rural areas. This will include identifying suitable locations for Charging Hubs and on-street charging and encouraging provision on the strategic road network and important link roads in the rural areas. Many rural communities are unlikely to have public EV charging infrastructure, therefore these facilities will serve a wider catchment area.

The reliability of the EV charging network is of paramount importance. Out of order EVCPs undermines consumer confidence. The inability to charge a vehicle, due to an out of order chargepoint, is not only inconvenient but it could provide a safety risk if EV owners are stranded with no means to charge. NNC will work with Chargepoint Operators (CPOs) to encourage elevated levels of chargepoint 'up time' performance, with the target for this to be over 95%.

Closed networks that restrict charge access to subscribers or members, lead to the inconvenience of EV drivers having to carry multiple charging network cards or download multiple apps. Unrestricted access to roam across networks with a single card and contactless payment is widely seen as a crucial factor for future improvements to the EV charging network. NNC supports this approach as access to EV charging should be simple and convenient.

Wherever possible, EV Charging Hubs and on-street EVCP provision should be in visible, open locations overlooked by nearby activity to provide natural surveillance. They should also have good natural or artificial lighting and be secure for vehicles that are charging overnight. This will ensure that concerns around personal security and crime are not barriers to using EVCPs at any time of day. Grouping EVCPs together in a Charging Hub will contribute to safety and make providing security measures more economical. NNC's target is that at least 80% of residents without off-street parking will be within 250m of a

public EVCP by the end of 2029.

It is important that the charging network is easily expandable in the future when electric vehicle uptake increases and there is more demand for charging infrastructure. This means installing both active chargepoints and passive infrastructure which allows for further expansion. NNC will monitor usage of charging points installed with its support to determine whether additional charging points are required and in which locations.

Future proofing also involves, as far as possible, embedding capacity for EV infrastructure into other highways and transport projects and programmes to encourage and support further expansion.

When expanding the network, consideration will be given to other forms of electric transport, such as electric bikes in support of active travel. These are easy to charge as only a standard plug is required. Charging provisions could potentially be installed next to cycle parking spaces or, in appropriate locations, EV changepoints could be fitted to accommodate electric bikes as well, by having a socket fitted with them.

Charging Hubs

POLICY 2

Provision will be made for a hierarchy of solutions to EV charging for residents, businesses, and visitors without access to off-street parking which prioritises the creation of off-street Charging Hubs in public NNC car parks. Parking bays associated with EV charging will be managed to encourage both destination and overnight EV charging and for all types of EV ownership, including private vehicles, shared or car club vehicles, and taxis. EV Charging Hubs will be introduced at the Councils' major visitor attractions.

More than 30% of households in North Northamptonshire have limited or no access to home EV charging as they park on the street. This could present a significant barrier to EV take-up. Work undertaken through the North Northants to Net Zero (NN2NZ)[10] project found that, after off-street parking, the most effective and best place to install chargepoints is across the existing network of car parks.

A primary focus of NNEVIS is providing convenient EV charging opportunities for residents through the provision of EV Charging Hubs located in public car parks. This is because town centre car parks are ideal sites for Charging Hubs, especially where these are close to residential areas without off-street parking and nearby amenities. These car parks also serve nearby offices, shops, and other workplaces. Furthermore, NNC believes that the provision of chargers in these car parks may attract EV users to an area and stimulate spend in nearby shops and the local economy. Consideration will be given by NNC to identifying sites near taxi ranks.

NNC owns more than fifty car parks. These are in or close to town centres, or serve housing, leisure centres and other uses. A priority for NNC will be to assess these sites and their suitability as locations for Charging Hubs. Considerations include proximity to housing without off-street parking which means that they may be suitable for overnight charging, providing a safe and accessible environment for all EV users, and availability of nearby amenities. An advantage of overnight charging is it allows for lower-cost charging at a time that puts less strain on the grid.

Opportunities will be considered by NNC for installing solar canopies and energy storage systems at selected Charging Hubs. Charging Hubs may also be suitable locations for Mobility Hubs especially in town centres and at rail stations. These would provide additional facilities including signposting, shelters, benches, Wi-Fi and even pop-up cafes and importantly access to a combination of shared transport options, for example car club EVs, electric bikes, electric cargo bikes, and electric scooters.

Charging Hubs will have a minimum of two electric vehicle charging points (EVCPs), these will normally be Fast Chargers, although some car park sites will have more provision and include Rapid Chargers.

Other suitable sites for Charging Hubs include local attractions and locations on or close to strategic network where there are suitable facilities for EV users whilst charging. Examples of suitable sites include Chester House Estate, Stanwick Lakes and NNC-run

10. **NN2NZ – North Northamptonshire to Net Zero - Electric Corby**

country parks where EV user can enjoy the attractions and local amenities whilst charging. Normally locations for Charging Hubs will be accessible to the public 24/7. Exceptions include visitor attractions which are closed at certain times of the day.

Infrastructure at Charging Hubs should be in locations with high visibility and footfall without compromising the needs of pedestrians, and those with special mobility requirements.

For parking bays restricted to EV charging, NNC will encourage the use of technology, including sensors, to support detection, education, and enforcement.

NNC will collaborate with local councils, National Health Service bodies, and other public sector organisations to better understand their ambitions and plans and help inform future provision of EV charging infrastructure and complementary initiatives which promote the use of EVs. This includes specifically Kettering General Hospital, Corby Community Hospital and Willowbrook Health Centre, and Isebrook Hospital in Wellingborough.

North Northamptonshire is home to 106 town and parish councils. Many of these councils serve rural communities which include streets without access to, or limited, off-street parking. These areas are unlikely to benefit from a commercial charging option anytime soon, if at all. NNC aims to ensure that there is more access to public EV charging facilities in the rural areas.

Through the Local Electric Vehicle Infrastructure (LEVI) fund, local town and parish councils may want to work with NNC to consider the use of land associated with a community asset, such as a village hall, to deploy a public EV charging facility available to residents, businesses, and visitors. Any sites considered for public funding through LEVI will need to be managed by NNC as part of a wider portfolio of Charging Hubs. Locations must be accessible to the public and will be dedicated through a lease or other arrangement for the installation, operation, and maintenance of EV infrastructure for the length of any associated contract with a chargepoint operator.

On-street Charging

POLICY 3

Provision will be made for EV charging in on-street locations to help meet future demand, provide the necessary penetration, ensure availability to charge conveniently and close to homes, stay ahead of the curve, and support earlier transition to EV ownership.

On-street charging will particularly focus on urban and suburban locations where there are clusters of streets without off-street parking. This will include locating EVCPs outside residential frontages where there is currently on-street parking.

On-street EVCPs should be in locations with high visibility and footfall without compromising the needs of pedestrians, and those with special mobility requirements. For some on-street locations this may necessitate 'buildouts' into the highway to accommodate EV charging infrastructure, particularly where footways are narrow. Trailing cables are a potential trip hazard for pedestrians and footway users. Sites should be designed in a way that minimises trailing cables.

Where provision is made by NNC for on-street EV charging, the presumption is that associated parking bays will be dedicated for EV charging use only. This will involve the preparation of a Traffic Regulation Order (TRO). The process of identifying and consulting on sites, and associated parking restrictions, will be aligned by NNC to enable a more joined-up engagement with statutory bodies and local residents. This will help to simplify and speed-up the process; whilst also reducing bureaucracy and costs.

The Section 50 permit ensures new EVCPs are thoroughly inspected, cleaned, maintained, and repaired when necessary. However, NNC will seek to streamline the Section 50 process e.g., with common requirements and standards, and by aggregating obligations for suppliers installing and operating multiple chargepoints.

NNC has worked with Believ[11] to deliver on-street EVCPs in a variety of locations across North Northamptonshire[12] including sites in Corby, Kettering, Higham Ferrers, Wellingborough, Rushden, and Thrapston. Some sites have seen complaints from residents against the introduction of on-street EVCPs due to concerns about the loss of parking for non-EVs, particularly in areas without off-street parking where demand for spaces is high. There have also been some concerns deploying in areas that already have parking restrictions in place e.g., residents parking. Such concerns need to be given consideration by NNC when deciding on the location of on-street EVCP infrastructure.

However, government policy on the future sale of internal combustion engine (ICE) vehicles is clear and increased growth in EV ownership is inevitable. NNC's role is to facilitate this journey and therefore, enabling and providing for on-street EVCP infrastructure ahead of demand is vital to this transition, encouraging residents to switch with confidence. NNC is aware that this is also important for residents that rely on work vehicles which are also transitioning to EVs and will do in the coming years.

11. Formerly Liberty Charge
12. **Our Plans For On-Street Electric Vehicle Charging | Northamptonshire County Council (smartmovenorthamptonshire.net)**

NNC sees advantages in the provision of fast-chargers for on-street charging as these can charge multiple vehicles within a 24-hour period and therefore optimise the use of bays dedicated for EV charging.

Some other parts of the UK have deployed the use of lamppost charging. NNC has a Public Finance Initiative (PFI) contract with Balfour Beatty to manage its network of lampposts which would be a consideration in any third-party arrangement for lamppost based EV charging infrastructure. A significant drawback of lamppost charging is the slow, low-powered charge capacity which means that only 1 to 2 EVs could be charged to full within any 24-hour period. If sited to the rear of the kerb, this would need further works to avoid trailing cables across the pavement. This could involve a 'gully'[13] or additional kerbside bollard. NNC believes that the benefits of this technology solution are not sufficient currently for this to be an immediate priority for the NNEVI Strategy. However, it may have a role to play as part of a portfolio of solutions to increase penetration in some residential areas where other solutions may not be viable.

Gully solutions have been trialled in areas such as Oxford to enable householders without off-street parking to charge on-street from their home. The householder installs their own EVCP on the external wall of the property and a gully enables the charge cable to reach the vehicle, kerbside, without being a trip hazard. This solution will not be a priority for the NNEVI projects, but consideration may be given to householder applications for a gully under certain circumstances and terms, and where appropriate, with any related costs to be fully borne by the householder.

13. Gully is the term used for a durable gully/channel that is installed in the footway, to enable smooth on-street EV charging. The user parks in front of their home, lamppost or other charging structure if positioned at the rear of the footway. The charging cable is pressed into the gully to avoid any trip hazard and the vehicle can be plugged in to charge.

Charging Superhubs

POLICY 4

Provision will be made to consider and support the creation of one or more charging Superhubs in an appropriate strategic location(s).

A 'Superhub' can offer a larger range of EVCP infrastructure including fast, rapid, and ultra-rapid charging meeting the diverse needs of residents, visitors, and through travel by EV users. NNC anticipates that Superhubs would have the capacity to charge more than forty vehicles simultaneously and hundreds of EVs within a 24-hour period due to the charging choice, including ultra-rapid charging. Moreover, these Superhubs could, in part, be powered by renewable energy sources. Energy network capacity and storage to manage demand on the power network would be key considerations. The availability of multiple chargepoint operators should result in competitive pricing, benefitting EV owners. This has the potential to make an enormous difference to the overall charging capacity in North Northamptonshire. Superhubs should be strategically placed either in a suitable location in an existing urban area or other destination which is able to offer sufficient parking and facilities for EV users whilst charging, also providing income opportunities for local businesses from EV users whilst vehicles are charged.

Rushden Lakes could be an ideal location for a Superhub. This is due to its strategic location on the A45, which forms part of the national strategic road network, the wide range of facilities, popularity for visitors, and proximity to Rushden, Higham Ferrers, Wellingborough, Irthlingborough, and other rural communities.

Smart Charging

POLICY 5

Provision will be made to encourage smart charging technologies to optimise the capacity of the energy network to support EV charging infrastructure.

The capacity of the local grid can limit the speed of chargers which can be installed, especially when multiple units are situated in one location.

The government recognises that the EV transition is both an opportunity and a risk to the UK energy system and is part of wider changes needed to deliver net zero across the whole economy. They are working with Ofgem to ensure EVCPs can seamlessly integrate with the energy system. Recent legislation (June 2022) on **electric vehicle smart chargepoints** is part of the solution to manage demand on the grid.

Development of the charging network and upscaling to meet growing demand will require co-ordination with National Grid. Energy capacity can be a limiting factor for locating EVCPs. It will be important to understand capacity constraints and upgrade viability. Charging Hubs will be energy hungry and early collaboration with the DNO will be critical. NNC will consult with National Grid on the assessment of locations for Charging Hubs and on-street EVCPs.

The deployment of fast chargers can require upgrades or the reinforcement of infrastructure in areas where the local network is close to capacity. Experience is that the cost of these upgrades may outstrip the associated revenues and could destroy the commercial viability of potential sites.

Load levelling is a basic form of smart charging already deployed which can vary the amount of power routed to each unit. When only one vehicle is charging then the maximum power can be provided, but when multiple vehicles charge simultaneously then the power can be equally split between them.

Smart charging can also control the time at which a vehicle is charged to avoid overloading the local grid connection and avoid spikes in demand. Advantages of this include allowing charging at times when electricity is cheaper and adjusting the time of charging to avoid local constraints. This could alleviate the need and cost of local grid upgrades.

A further form of smart charging is 'vehicle to grid.' This uses a bi-directional charger to feed electricity from an electric vehicle battery back into the grid at peak times. This is suited to domestic charging rather than Charging Hubs.

NNC will work in close collaboration with the Distribution Network Operator (DNO) National Grid to understand any constraints to the deployment of EV charging infrastructure. That way appropriate grid upgrades or alternative solutions can be explored including the use of battery storage to manage usage, and new local renewable generation.

NNC is also mindful that technologies are emerging which could have a significant role to play. An example of this is 'induction charging.' This relies on a transmitter coil in a

charging pad using electromagnetic energy to transmit power to a receiver coil within an object to be charged. A vehicle would simply need to pass over a charging pad and remain stationary to begin charging. Opportunities to trial this and other technologies will be investigated by NNC, and where viable and supported, pursued.

Looking to the future, the wider goal is to completely integrate charging with smart energy systems, delivering benefits to the grid, and the potential for lower cost energy, or even negative electricity tariffs for those willing to charge flexibly.

New development

POLICY 6

All new development proposals for housing, leisure, business, commercial, retail, supermarket or other developments which create places of work and generate travel demand will include provision for EV charging infrastructure which is able to meet future needs.

It is important that provision for EV charging infrastructure is considered early in the planning stage as part of all new housing developments, and all redevelopments. Local planning policies in England are guided by the **National Planning Policy Framework**[14] (NPPF) which plays a significant role in future proofing new developments. The NPPF states that the planning system should help to shape places in ways that contribute to significant reductions in greenhouse gas emissions, and infrastructure to mitigate climate impacts and support renewable and low carbon energy and infrastructure.

Section 9 of the NPPF deals with 'Promoting Sustainable Transport. Paragraph 107 states that "If setting local parking standards for residential and non-residential development, policies should take into account:

(e) the need to ensure an adequate provision of spaces for charging plug-in and other ultra-low emission vehicles."

And when considering new development proposals, Paragraph 112 (e) states that applications for development should:

(e) be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible, and convenient locations"

More recently in June 2022, UK Government introduced new Building Regulations[15] in England with the aim to futureproof homes and buildings, providing guidance on the installation and location of charging points for EVs. The Regulations require:

- Every new home, including those created from a change of use, with associated parking within the site boundary to have an EV chargepoint;
- Residential buildings undergoing major renovation, which will have more than ten parking spaces within the site boundary after the renovation is complete, to have at least one EV chargepoint for each dwelling with associated parking within the site boundary and cable routes in all spaces without chargepoints;
- All new non-residential buildings, with more than ten parking spaces within the site boundary of the building, to have a minimum of one chargepoint and in addition to this, cable routes for one in five of the total number of spaces; and

14. The revised National Planning Policy Framework sets out government's planning policies for England and how these are expected to be applied. Last updated 20 July 2021
15. Infrastructure for the Charging of Electric Vehicles Approved Document, supporting Part S of Schedule 1 to the Building Regulations 2010. The Approved Document S (June 2022) is different from the new electric vehicle charging point regulations introduced in June 2022 which relate to the charge units themselves. The latter ensures chargepoints have smart functionality, allowing the charging of an electric vehicle when there is less demand on the grid, or when more renewable electricity is available. The regulations also ensure that

- All non-residential buildings, undergoing a major renovation, which will have more than ten parking spaces within the site boundary after the renovation is complete, to have a minimum of one chargepoint and in addition to this, cable routes for one in five spaces.

The guidance states that all new EVCPs being installed by developers will need to provide a minimum power supply of 7kW or have the cable routes ready for this supply. A cost cap of £3,600 on average per Chargepoint above the grid connection costs applies (although cable routes will still be required if the cost cap is triggered).

There are over 40,000 new homes planned in North Northamptonshire with the majority of these in new 'garden communities'. NNC will encourage developers to rise to the challenge of ensuring that these homes are built to the best low carbon standards, embracing renewable energy, and supporting widespread EV take-up. This will avoid the need for retrofitting infrastructure and the added costs and disruption involved.

Through the North Northamptonshire Strategic Plan review, NNC will seek to directly influence EV chargepoint provision in new developments to ensure that this is sufficient for future requirements and to improve provision of EV charging facilities, zero emission travel, and other complementary policy approaches in support of the wider Net Zero Carbon Living agenda, to encourage developers and builders to make zero carbon living and transport integral to their plans for new development. This will include incorporating e-mobility hubs for shared transport in all major developments, including 'garden communities'.

Shared transport

POLICY 7

Provision will be made for shared electric transport to provide a flexible alternative to ownership, including through the provision of dedicated parking spaces and charging infrastructure for EVs.

The success of the Northamptonshire electric scooter trial, with over 36,000 registered users and almost 1.2 million rides in North Northamptonshire since January 2021, indicates that there is strong demand for shared transport as an option and alternative to private car travel. Other initiatives such as the successful trial of Artificial Intelligence (AI) electric delivery robots in Higham Ferrers, Rushden and Wellingborough, and the latest trial in Raunds, is a further example of how innovation in logistics is helping to transform zero carbon transport solutions. NNC supports the continuation of these trials, and beyond when new legislation is introduced, provided they are part of a regulated approach involving a collaboration and formal agreement between the council and the operator.

Corby has one of the largest taxi fleets outside of London, and a long history of residents' preference to use taxis. This has benefits, as a shared vehicle on a taxi rank that is only driven when transporting paying customers or returning to the rank, has a lower carbon footprint, particularly if the taxis are electric. Corby does already have a significant electric taxi fleet. The benefits of diesel taxis not idling their engines on taxi ranks or driving around seeking rides, being replaced by zero emission vehicles waiting or driving around is significant.

NNC supports a shift to EV for all taxis across North Northamptonshire ahead of 2030. In support of change, NNC will encourage commercial investment in chargepoint infrastructure at taxi ranks. Furthermore, creation of Charging Hubs in town centre and other car parks, will help to deliver more fast and rapid chargers across the area which could benefit taxis needing a quick charge between fairs, as well as other domestic and business EV use.

Car clubs are also becoming increasingly popular in areas where businesses like Zipcar and Enterprise are deploying. These cater for residents that do not require a vehicle enough to warrant the expenditure of owning one outright but would rather hire cars as and when they need them, and to suit journey requirements at that time.

Transitioning local bus fleets to electric can bring benefits including improved air quality and noise reduction and support the journey to Net Zero carbon emissions. NNC will work with local bus companies to encourage a transition to EVs, drawing on learning and expertise from UK Government's new Bus Centre of Excellence and supporting grant funding opportunities.

NNC will explore opportunities for introducing other forms of shared transport to meet the needs of residents, businesses, and visitors. This will include EV car clubs, electric cargo bikes, and other forms of zero-emission transport. Convenience is important for shared transport as it is for private transport. NNC will seek to allocate dedicated parking areas and/or bays for shared transport. This will include considering dedicated bays for e-car clubs. NNC will also investigate how it can facilitate and encourage use of electric cargo bikes to support local deliveries.

Consideration of shared transport should not be restricted to the urban areas. NNC is also keen to investigate the potential to pilot one or more shared community EV projects, enabled through local chargepoint provision. Such initiatives would be community led and managed, working with NNC to secure the necessary chargepoint infrastructure. This initiative would allow residents who do not require a car regularly, or cannot afford an EV, access to lower-cost, zero-carbon transport.

Council sites and fleets

POLICY 8

Provision will be made at NNC offices for EV charging infrastructure to provide charging for users of the premises.

NNC has main offices in Corby, Kettering, Thrapston, and Wellingborough. Each of these sites has parking. Some of these car parks already have some limited EV charging infrastructure. The intention is that additional EVCPs will be installed at each site. This will be able to provide the opportunity for staff and visitors, to charge.

NNC's target is to facilitate the provision of EVCPs in all suitable workplace car parks by the end of 2025.

NNC has a large fleet of around four hundred vehicles. These including heavy goods vehicles (HGVs) based at depots in Corby, Kettering, and Wellingborough, about 120 vans used for the maintenance, servicing and refurbishment of local social housing and buildings, and other vehicles used for adult social care and other services. NNC is committed to delivering a managed transition of its fleet to EVs where feasible and transitioning to other sustainable fuels for HGV fleet where EV technology is not suitable or too costly. This transition needs to ensure service reliability is retained and consider current contractual leasing arrangements and expiry. NNC will commission work to inform how best to decarbonise its fleet.

Provision will be made at NNC depots for suitable infrastructure to charge these vehicles to service the North Northamptonshire area. This activity will be managed separately to the deployment of EV charging infrastructure supported through the Local Electric Vehicle Infrastructure (LEVI) fund. Consideration will be given to opportunities for renewable energy generation e.g., the use of solar canopies, and battery storage at the depots to complement the provision of EV infrastructure.
NNC's target is to complete the fleet transition to EVs, and other zero/low carbon options, by the end of 2028[16] .

16. The HGV fleet will be transitioned to other sustainable fuels where EV technology is not suitable or too costly

Investment and Financial sustainability

POLICY 9

Public and private funding will be sought for investment in EV infrastructure and to support the development of a self-sustaining charging network. Opportunities will be identified to generate revenue streams which will enable further investment to grow the EV charging network, improve the service, and support complementary initiatives.

NNC will seek to maximise the use of external funding opportunities. These include the current Local Electric Vehicle Infrastructure fund (LEVI) and other funds from the Office for Zero Emission Vehicles (OZEV), government departments and other agencies. It will also include consideration of NNC funding sources.

Public funding will be focused on meeting the needs of residents, businesses, and visitors in areas with no, or extremely limited, off-street parking. It is anticipated that this will be primarily through fast chargers although it is likely that rapid chargers will also be deployed in town centre car parks. Public funding will be used to leverage investment from a commercial provider (chargepoint operator - CPO) to install, operate and maintain the EV charging infrastructure at Charging Hub locations for a specified period.

NNC proposes that this will involve contract with a CPO and a 'revenue share' agreement. The intention is that any revenues generated to the public sector will be allocated to a dedicated EV fund for reinvestment in charging infrastructure or complementary measures, including on-going demand stimulation.

It is not proposed that public funding will be used to fund infrastructure which delivers low speed chargers. Neither is it anticipated that public funding will be used to deliver ultra-rapid fast chargers as these are viewed as most suitable for on-route charging.

Public funding will not be used to support private parking, or car parks owned or managed by the private sector.

Demand stimulation, engagement, and collaboration

POLICY 10

Provision will be made to encourage and support EV uptake through trials, campaigns, public engagement, collaboration, and other initiatives.

Installing a suitable charging infrastructure network is only one aspect of this strategy; encouraging the uptake of electric vehicles within North Northamptonshire is also crucial to realise the benefits of green and sustainable travel, including for health and the environment.

NNC works with numerous other bodies and stakeholders and in various roles. It can draw on its relationships with others to share knowledge and experience, and stimulate a wider shift towards Net Zero Living, and more specifically the transition to EVs. Support of key influencers and partners will be critical for a Net Zero carbon future. These include central government and other public sector partners including National Health Service bodies, Electric Places, business umbrella groups and major employers, transport, and logistic suppliers, including local bus companies.

Procurement can play a significant role in influencing change. Outcomes from the procurement of works, goods and services should reflect the council's values and priorities, including Net Zero ambitions. NNC is well placed to incorporate sustainability targets as part of its procurement contracts, and in doing so, can influence suppliers' behaviour. NNC will seek to ensure that procurement outcomes help to stimulate suppliers transition to EV and low carbon emission fleet and logistics' practice where possible.

NNC will engage with residents, businesses, and other stakeholders to understand any concerns and use their knowledge of the area to identify potential locations for EVCPs. It has created a Request an Interest for a Chargepoint site[17] which enables NNC to understand local demand and install in areas identified by residents.

NNC will supply and promote information about public EV charging in North Northamptonshire and increase awareness of the benefits of EVs to the public through their online and other communication channels. This will include developing campaigns which promote EV transport and local action including encouraging residents with access to off-street parking to install chargepoints in their garages or on drives and switch to EVs. It will also include ensuring that information on the location, speed and availability of chargepoint infrastructure is readily available to the public.

It is clearly desirable to reduce, and if possible, avoid altogether, the use of more polluting vehicles in urban areas. NNC will explore how this can be achieved including through encouraging operators to shift to cleaner vehicles, new policies, incentives, and supporting trials.

17. **Register your interest in on-street electric vehicle charging NNC - Introduction - Online form (achieveservice.com)**

NNC will continue to encourage the use of other electric vehicles, including electric bikes, electric scooters[18], and delivery robots[19]. It will also seek to keep on top of emerging technologies and charging options as they develop, to ensure infrastructure remains fit for purpose and meets the needs and demands of users. This will involve collaborations with the private sector. Trials will be used to familiarise residents and users with innovative technology and raise public awareness.

18. The Northamptonshire electric scooter trial operates in Corby, Kettering, Burton Latimer, Wellingborough, Higham Ferrers, and Rushden. The use of private electric scooters is illegal unless on private land with the owners provision.
19. The delivery robot trial with Starship currently operates in Wellingborough, Higham Ferrers, and Rushden. The delivery trial with DPD currently operates in Raunds.

Monitoring and Reporting

The success of NNEVIS as a catalyst for delivering a step-change in the availability of public EVCPs across North Northamptonshire will be measured against the following Key Performance Indicators and Headline Targets. NNC will also monitor delivery against the actions identified in NNEVIS and listed in Appendix A.

Key Performance Indicators:

- Number of fast EV chargepoints available to the public - more is better
- Number of rapid EV chargepoints available to the public – more is better
- Number of EVs registered in North Northamptonshire – more is better
- Number of EV chargepoints per 100,000 population – more is better
- Number of EVs registered in North Northants per EV chargepoint available to the public – less is better

Headline Targets:

1. Business case for LEVI capital funding approved by March 2024.
2. Contract let for the deployment of EV infrastructure through the LEVI initiative by end of 2024.
3. Deployment of EV infrastructure through LEVI to start by March 2025.
4. Public EV chargepoints will be available in all twelve towns across North Northamptonshire by the end of 2025.
5. At least 250 public EV chargepoints will be available by the end of 2025.
6. EV chargepoints will be available in all suitable NNC car parks by the end of 2026.
7. At least five hundred public EV chargepoints will be available by the end of 2027.
8. NNC's fleet transition to EVs for all vehicles below 7.5t will be complete by the end of 2028.
9. At least 80% of residents without off-street parking will be within 250m of a public EV chargepoint by the end of 2029.
10. All EV chargepoints delivered using public funds will have an average uptime of at least 95%.

Appendix A: List of Policies and Actions

POLICIES AND RELATED ACTIONS

Policy 1
Provision will be made for an extensive EV charging network across North Northamptonshire which provides confidence to switch to electric vehicles and meets future need.

- NNC will encourage residents with off-street parking to install EV charging infrastructure through awareness campaigns and other activity.
- NNC will liaise with businesses and other employers to encourage the deployment of EVCPs and, if not already done so, consider developing a strategy for transitioning their fleet to EVs.
- NNC will encourage owners of commercial car parks20 and managers of housing stock of all types of tenure to deploy public EV charging infrastructure in safe and accessible spaces, with pricing transparency.
- NNC will work with landowners, businesses, public sector, and other stakeholders to understand the timing of their implementation for EV charging to align overall plans and forecasts.
- NNC will encourage continued private sector investment in public EVCPs at train stations, supermarkets, filling stations and other commercially operated venues.
- NNC will seek to improve the availability of rapid and ultra-rapid EV charging on and near the strategic road network and important link roads across North Northamptonshire.
- NNC will liaise with National Highways, the body responsible for the national road network, to ensure that chargepoints not only meet their strategic objectives but are also deployed, to the extent possible, in the most efficient locations to assist residents and businesses.
- NNC will develop standards for the provision of public EV charging. This will include reliability, open access, safety, and security e.g., lighting and location, and access for those with restricted mobility.

Policy 2
Provision will be made for a hierarchy of solutions to EV charging for residents, businesses, and visitors without access to off-street parking which prioritises the creation of off-street Charging Hubs in public NNC car parks. Parking bays associated with EV charging will be managed to encourage both destination and overnight EV charging and for all types of EV ownership, including private vehicles, shared or car club vehicles, and taxis. EV Charging Hubs will be introduced at the Councils' major visitor attractions.

- NNC will assess the suitability of public car parks as locations for Charging Hubs and related provision.
- NNC will consider opportunities for installing solar canopies and energy storage systems at selected Charging Hubs.
- NNC will identify suitable locations for Mobility Hubs which will include EV charging infrastructure.
- NNC will identify suitable sites for Charging Hubs at local visitor attractions.
- NNC will encourage the use of technology, including sensors, to support detection, education, and enforcement of unauthorised parking in bays reserved for EV use only.

20. NNC estimates that there are about 600 car parks in North Northamptonshire of which about 550 are privately owned

- NNC will collaborate with local councils, National Health Service bodies, and other public sector organisations to better understand their ambitions and plans and help inform future provision of EV charging infrastructure and complementary initiatives which promote the use of EVs.
- NNC will provide the opportunity for local town and parish councils to put forward potential sites for deploying a public EV charging facility.

Policy 3
Provision will be made for EV charging in on-street locations to help meet future demand, provide the necessary penetration, ensure availability to charge conveniently and close to homes, stay ahead of the curve, and support earlier transition to EV ownership.

- NNC will identify where locations are needed for on-street charging to serve clusters of properties without access to off-street parking or suitable alternatives.
- NNC will align the process of identifying and consulting on sites, and associated parking restrictions, to enable a more joined-up engagement with statutory bodies and local residents.
- NNC will seek to streamline the Section 50 process e.g., with common requirements and standards, and by aggregating obligations for suppliers installing and operating multiple chargepoints.

Policy 4
Provision will be made to consider and support the creation of one or more charging Superhubs in an appropriate strategic location(s).

- NNC will investigate the potential to create a Charging Superhub in the North Northamptonshire area.

Policy 5
Provision will be made to encourage smart charging technologies to optimise the capacity of the energy network to support EV charging infrastructure.

- NNC will consult with National Grid on the assessment of locations for Charging Hubs and on-street EVCPs and to understand any constraints to the deployment of EV charging infrastructure.
- NNC will investigate opportunities to trial and introduce smart charging technologies in the area.

Policy 6
All new development proposals for housing, leisure, business, commercial, retail, supermarket or other developments which create places of work and generate travel demand will include provision for EV charging infrastructure which is able to meet future needs.

- NNC will encourage developers to rise to the challenge of ensuring that these homes are built to the best low carbon standards, embracing renewable energy, and supporting widespread EV take-up.
- NNC will seek to directly influence EV chargepoint provision in new developments to ensure that this is sufficient for future requirements and to improve provision of EV charging facilities, zero emission travel, and other complementary policy approaches in support of the wider Net Zero living, including the incorporation of e-mobility hubs for shared transport in all major developments, including ‘garden communities’.

Policy 7
Provision will be made for shared electric transport to provide an alternative and flexible alternative to ownership, including through the provision of dedicated parking spaces and charging infrastructure for EVs.

- NNC will continue to support trials and other opportunities to provide shared electric transport.
- NNC will encourage commercial investment in chargepoint infrastructure near to, and at, taxi ranks.
- NNC will work with local bus companies to encourage a transition to EVs.
- NNC will explore opportunities for introducing other forms of shared transport to meet the needs of residents, businesses, and visitors. This will include EV car clubs, electric cargo bikes, and other forms of zero-emission transport.
- NNC will seek to allocate dedicated parking areas and/or bays for shared transport. This will include considering dedicated bays for e-car clubs.
- NNC will investigate how it can facilitate and encourage use of electric cargo bikes to support local deliveries. NNC will investigate the potential to pilot one or more shared community EV projects, enabled through local chargepoint provision.

Policy 8
Provision will be made at NNC offices for EV charging infrastructure to provide charging for users of the premises.

- NNC will install additional EVCPs at its main offices in Corby, Kettering, Thrapston, and Wellingborough.
- NNC will deliver a managed transition of its fleet to EVs where feasible and transitioning to other sustainable fuels for HGV fleet where EV technology is not suitable or too costly.
- NNC will install EVCPs at NNC depots to charge the fleet.
- NNC will consider opportunities for renewable energy generation at its depots e.g., the use of solar canopies and/or the road surfaces, and battery storage to complement the provision of EV infrastructure.

Policy 9
Public and private funding will be sought for investment in EV infrastructure and to support the development of a self-sustaining charging network. Opportunities will be identified to generate revenue streams which will enable further investment to grow the EV charging network, improve the service, and support complementary initiatives.

- NNC will seek to maximise the use of external funding opportunities for investment in EV infrastructure including the current Local Electric Vehicle Infrastructure fund (LEVI) and other funds from the Office for Zero Emission Vehicles (OZEV), government departments and other agencies.
- NNC will consider the use of other public funding, including internal sources, to attract additional investment.

Policy 10
Provision will be made to encourage and support EV uptake through trials, campaigns, public engagement, collaboration, and other initiatives.

- NNC will engage with residents, businesses, and other stakeholders to understand any concerns and use their knowledge of the area to identify potential locations for EVCPs.

- NNC will maintain a Request an Interest for a Chargepoint site[21] to enable sites to be identified by local residents and businesses.
- NNC will supply and promote information about public EV charging in North Northamptonshire and increase awareness of the benefits of EVs to the public through their online and other communication channels.
- NNC will ensure that information on the location, speed and availability of chargepoint infrastructure is readily available to the public.
- NNC will encourage operators to shift to cleaner vehicles.
- NNC will continue to encourage the use of other electric vehicles, including electric bikes, electric scooters[22], delivery robots, and keep on top of emerging technologies, to ensure infrastructure remains fit for purpose and meets the needs and demands of users.
- NNC will participate in collaborations with the private sector through trials to familiarise residents and users with innovative technology and raise public awareness.

21. **Register your interest in on-street electric vehicle charging NNC - Introduction - Online form (achieveservice.com)**

22. The Northamptonshire electric scooter trial operates in Corby, Kettering, Burton Latimer, Wellingborough, Higham Ferrers, and Rushden. The use of private electric scooters is illegal unless on private land with the owners provision.

Appendix B: Glossary of terms

Active charging provision: Chargepoints which are ready to use.

Active Travel: Making journeys by physically active means such as walking or cycling.

Build-out: The construction of a protected bay with an EV chargepoint in the highway with an associated bollard.

ChargePoint Operator (CPO): The entity responsible for the operation and management of charging stations, including maintenance, billing, and customer support.

Chargepoint: A specific outlet or socket within a charging station where an electric vehicle can be connected for charging. A Public EV Charging point means a location which is not private and is available for public charging. This includes supermarkets, leisure centres, shopping centres, filling stations etc. as well as charging points facilitated by NNC in car parks and on-street locations.

Charging Power: The amount of electrical power delivered to an electric vehicle during the charging process, measured in kilowatts (kW).

Charging Session: The period during which an electric vehicle is connected to a charging station and actively receiving electricity.

Charging Speed: The rate at which an electric vehicle can be charged, typically measured in kilowatts (kW) or miles of range added per hour.

Electric Places: The operating name of Electric Corby CIC.

Electric Vehicle (EV): A vehicle that is powered by an electric motor and relies on electricity stored in batteries for propulsion.

Electric Vehicle Infrastructure (EVI): The infrastructure or equipment used to supply electricity for charging electric vehicles. It includes charging stations, connectors, and related hardware.

Fast Charging: Charging that takes place between 8 – 49kW. A 22kW per hour fast charger adds approximately 20 miles range per 20 minutes of charging.

Gully: A term used for a durable gully/channel that is installed in the footway. The charging cable is pressed into the gully to avoid any trip hazard.

Load Management: A strategy employed by charging infrastructure operators to optimize the distribution of electricity among multiple charging stations and manage the impact on the electrical grid.

Low Speed (Slow) Charging: Charging that takes place between 0 – 3.7kW.

Net Zero: Is the balance between the amount of greenhouse gas that is produced and the amount that is removed from the atmosphere.

Passive Charging provision: refers to cabling being prepared so that chargers can be added when demand increases in the future.

Peak Demand: The maximum level of electricity consumption in each time period, often associated with periods of high usage, such as evenings when people return home from work and start charging their EVs.

Plug Type: The specific design and configuration of the charging connector used for a particular type of electric vehicle, such as Type 1, Type 2, Chademo or CCS.

Rapid Charging: Charging that takes place between 50kW – 149kW. A 50 kW per hour rapid charger add approximately 40 miles of range per 20 minutes of charging.

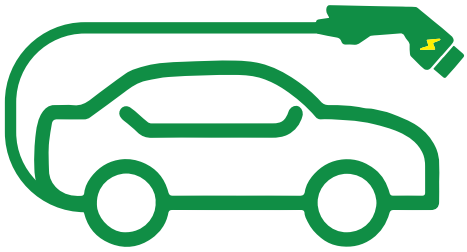
Smart Charging: A charging strategy that utilizes advanced technologies, such as communication between the vehicle and the charging station, to optimize charging efficiency, load management, and grid integration.

Standard Charging: Charging that takes place between 3.7 – 8kW

Ultra-Rapid Charging: Charging that takes place at 150kW and over

VPACH: Virgin Park and Charge project sponsored by INNOVATE UK

Zero Emission Vehicle: A vehicle that does not produce internal combustion engine exhaust gas or other pollutants.



North Northamptonshire Council

NORTH NORTHAMPTONSHIRE

ELECTRIC VEHICLE INFRASTRUCTURE