North Yorkshire County Council

Business and Environmental Services

Executive Members

16 June 2022

Local Electric Vehicle Infrastructure Pilot Funding Bid Submission

Report of the Assistant Director - Highways and Transportation

1.0 Purpose or Report

1.1 For the Executive Member for Highways and Transportation, in consultation with the Corporate Director - Business and Environmental Services (BES) and the Corporate Director - Strategic Resources (SR) to authorise the submission of a bid to the Local Electric Vehicle Infrastructure (LEVI) Pilot fund.

2.0 Background

- 2.1 The Local Electric Vehicle Infrastructure (LEVI) Fund is a £400m capital grant scheme administered by Office for Zero Emission Vehicles (OZEV) and supported by the Energy Saving Trust, Cenex and PA consultants. The fund is supported by £50m of resource funding. LEVI is intended to encourage large scale, ambitious and commercially sustainable projects that leverage significant private sector investment. It is the intention that the LEVI fund will support a transition towards local chargepoint provision secured on a commercial basis without public funding.
- 2.2 The aims of LEVI are to:
 - help enable strategic local provision of public Electric Vehicle (EV) infrastructure ahead of need and promote an equitable EV charging experience for those without off-street parking
 - leverage additional private sector investment and promote sustainable and innovative business models to enable the delivery of local chargepoint projects that would not occur in the near-term without public support
 - increase consumer confidence in transitioning to EVs across England, ensuring increased uptake across region.
- 2.3 As the rollout of EV charging infrastructure accelerates, Government is particularly interested in funding projects where there is scaled commercial innovation, such as new business models where multiple local authorities work together, or new charging technology.

3.0 The Fund

- 3.1 To test the design of the new scheme Government have launched a £10m pilot competition, which they expect will fund between three and eight projects in 2022/23 and 2024/25.
- 3.2 To apply for LEVI funding you must be either a local authority in England or a partnership or consortium led by a local authority within England. You must be planning an electric vehicle charging infrastructure project that:

- supports the transition to EV use in a local area, with a particular focus on provision for those without off-street parking;
- will provide an improvement in accessible EV charging provision that would not otherwise be met by current or planned EV chargepoint infrastructure;
- shows innovation this could be either technical or commercial innovation.

You must be able to demonstrate:

- how the project will be delivered successfully:
- the value for money offered by the project, including how the project minimises taxpayer funding and maximises private sector investment.
- 3.3 The project must use technologies that meet the aims of the fund including:
 - on-street slow and fast chargepoints;
 - rapid chargepoints, if installed as part of a wider project that includes on-street slow and fast chargepoints;
 - street or site adaptations;
 - solar canopies and battery storage.
- 3.4 All new chargepoints must have a minimum payment method (a non-proprietary and non-phone payment method, such as contactless) installed and rapid-only projects will not be funded.
- 3.5 Eligible costs for LEVI pilot funding are:
 - the purchase cost of the charging unit, including wireless charging;
 - other hardware costs associated with the installation, for example, gullies, solar canopies or battery storage;
 - the cost of associated electrical connection components including distribution network operator (DNO) connection costs, smart charging and vehicle to grid technology costs
 - the cost of civil engineering works related to the installation
 - labour costs of the installation
 - where applicable, the capital costs of a parking bay and traffic regulation orders (TROs) for example paint and signage.
- 3.6 Chargepoints and any associated infrastructure which is part of the project must be maintained by the owner, in this case NYCC via the chargepoint operator (CPO) for a minimum of seven years after installation.

4.0 Proposal

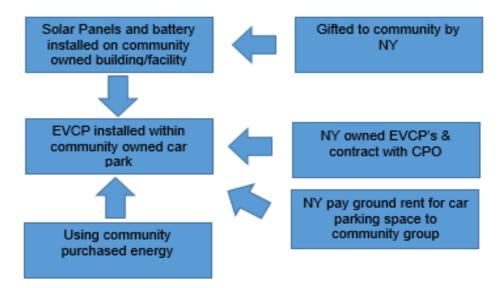
- 4.1 On 19 April 2022 the Executive Member for Access in consultation with the Corporate Director BES and the Corporate Director Strategic Resources approved that an Expression of Interest (EOI) could be submitted to OZEV outlining our proposals for the bid. We submitted an Expression of Interest (EOI) via pro-forma on 20 April 2022. The Government announced the request for Expressions of Interest on 12 April 2022 which meant that all local authorities had one week to develop and submit an EOI. In the EOI we outlined how the project addresses the following items:
 - supports the transition to EV use in a local area, with a particular focus on provision for those without off-street parking;
 - will provide an improvement in accessible EV charging provision that would not
 NYCC 16 June 2022 Executive Members
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otherwise be met by current or planned EV chargepoint infrastructure;

- shows innovation this could be either technical (eg solar photovoltaics (PV)) or commercial innovation (low percentage grant proportion to overall project cost).
- 4.2 Our EOI detailed delivery solutions using renewable energy sources that are aesthetically sympathetic in deeply rural areas; where grid upgrades would otherwise be prohibitive. We suggested we would co-locate Electric Vehicle Charge Points (EVCP) with battery storage powered by renewables. We proposed we would deliver 140 chargers (20 chargers per district) over four rural sites in each of our seven Districts/Boroughs. At one site per district (seven sites in total) we also suggested we could look to deliver an accessible electric vehicle that provides 'on demand' community transport. At this stage we estimated the cost of the project at £3,000,000, asking OZEV for £2,700,000 where the £300,000 would be considered NYCC's local contribution. The full EOI can be found at **Appendix A**.
- 4.3 We received initial feedback from the Energy Saving Trust suggesting they would expect to see more private investment in the proposals as they would not wish to provide 90% of the funding for the project, more evidence of demand in the chosen locations for the schemes was required, evidence that costs for grid connections in rural areas are higher than in urban areas, they would also like some market engagement to have taken place as well as more detail on some of the technology we are proposing.
- 4.4 Further to this officers attended a one to one meeting with representatives from EST/OZEV in Manchester on 10 May 2022 where we were able to ask questions about the funding and get additional feedback on our proposals. The key points were:
 - There was a strong desire from OZEV for NYCC to obtain significant private investment for the fund and they suggested the following as a means by which they may be more amenable to consider funding such a large scale project:
 - The Charge Point Operator would fund the charging points 100%
 - The DNO could put some funding into the grid upgrades say 30%
 - OZEV could fund the remaining 70% of the grid upgrades
 - NYCC/Councils could then fund remaining parts and it would make the OZEV contribution far less than we are currently asking for.
 - There was limited appetite from OZEV for working with community groups due to the potential complexities it introduces – they thought this should be done as a separate project
 - There was limited appetite to fund as many projects as we are proposing, they favoured delivery of charging points in grid constrained rural areas and solutions that cut dependence on the grid and, as a result, gird connection costs such as the hydroelectric generators
 - They suggested that we look at obtaining a loan from the government infrastructure bank to pay for some of these projects instead of this grant
 - OZEV could not fund vehicles for community transport
- 4.5 Based on the feedback received officers have scaled back the project including the quantity of sites and number of chargers to be delivered. There is strong evidence in the NYCC Electric Vehicle Chargepoint Rollout Strategy, that is currently being developed, and also from engagement with the market to suggest there is minimal appetite from the private sector to deliver in areas with limited commercial return i.e. deeply rural areas, which are the focus of this bid. Whilst it is accepted that the bid as it currently stands does not exactly match all of the wishes for the fund set out in

the feedback from OZEV officers believe that a bid to this central Government funding competition is still worthwhile as it provides the greatest opportunity, at this moment in time, to fund chargepoint rollout in deeply rural settings that would otherwise be left behind.

- 4.6 In the final bid proposal we are proposing to deliver 70 chargers (10 x 7.1kw chargers per district) over two sites per district, with selected sites being rural areas lacking off-street parking, within a 10 minute walk and in areas with high grid connection costs. Some of these residential locations also attract tourists, which benefits the commercial case, others are more deeply rural. We would deliver solutions using renewable energy generation, linked to battery storage that are aesthetically sympathetic in protected landscapes to minimise the impact on the grid.
- 4.7 Small scale hydroelectric generators linked to battery storage which will power EVCPS would be delivered. The turbine reduces the need for costly grid upgrades by supplying power locally through a predictable, renewable and continuous supply of energy. The proposed turbines are capable of generating between 5 and 15kW per hour, depending on the water flow and turbine size. It is calculated that a 15kWh turbine would be able to supply two 7.1kWh charging points consistently 24 hours a day without needing to be connected to the local grid. Potential sites have been identified that are under local authority ownership and are nearby or adjacent to existing car parks in market towns with limited off-street parking, but also regular visitor turnover to help boost the potential utilisation of the charging points and long term financial viability. As far as we are aware this has not been done before in the UK.
- 4.8 Where it is not feasible or practical to install hydroelectric generators, we will install solar panels on local authority/community-owned land with adjacent car parking where there will be battery storage linked to EVCPs. The innovation here is in working with the community to develop a place-based community ownership model which might work as follows:



4.9 The diagram above demonstrates that NYCC will fund the solar panels, electric vehicle charging points and battery and will also pay the local community group a ground rent for car parking spaces. NYCC and the CPO, therefore, get income through the fees paid by users and the community organisation gets some of that income back from us in terms of the ground rent. It is expected that each model will be tailored to best meet the needs of NYCC – 16 June 2022 - Executive Members

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the local community, however, working with the CPO on this would constitute initial private sector investment for our bid.

- 4.10 In the 12 weeks that has been available to develop the proposal from inception officers have worked hard to develop what we consider to be a credible bid at this stage of development however it is accepted that there is still further work on-going detailed project refinement including further cost certainty, market engagement (including quotations which are awaited from the Distribution Network Operator and the Environment Agency) and further refinement of the programme for delivery which is subject to further work given the relatively early stage of project development. In order to deliver within the timeframes for the fund, or the funding envelope, it may be necessary to scale back the project and a further report will be brought to members prior to grant acceptance should the bid be successful setting out the further detail. OZEV have confirmed that they do not expect schemes to be 'shovel ready' at the point of submission.
- 4.11 Completed applications must be submitted by midday on 17 June 2022. The application can be found at **Appendix B.**
- 4.12 Although North Yorkshire County Council is leading the bid it is supported by our partner authorities; district and borough councils and the two national parks. Additionally, we will work with NYnet and Northern Powergrid and will continue to seek the involvement of a private sector CPO.
- 4.13 This proposal enables delivery of NYCC's requests made to the Department for Business, Energy and Industrial Strategy (BEIS), in November 2020, to work with us on an EV Rural Connectivity Pilot to help address the challenge of poor connectivity and the resulting lack of opportunities for our communities that live in the rural areas of North Yorkshire. See **Appendix C**.

5.0 Equalities

5.1 Consideration has been given to the potential for any equality impacts arising from the recommendations. It is the view of officers that at this stage the recommendations do not have an adverse impact on any of the protected characteristics identified in the Equalities Act 2010. A copy of the Equality Impact Assessment screening form is attached as **Appendix D**.

6.0 Legal

6.1 Consideration has been given to any legal implications in bidding for the funding, there are no requirements at this stage but it is acknowledged that legal implications may arise at the project planning and implementation stages. A further report will be brought to members to seek approval for the grant acceptance should the bid be successful and this report will set out any legal implications that are apparent at that stage.

7.0 Climate Change

7.1 There are no climate change issues arising from this report. A copy of the Climate Change Impact Assessment screening form is attached as **Appendix E**.

8.0 Finance

- 8.1 The proposal is for NYCC to submit a bid to the Local Electric Vehicle Infrastructure Fund. The project will cost £2.2m. Local contributions are encouraged by Government and, based on our experience of previous bid submissions, it is recommended that a minimum local contribution of 10% (£200,000) is made to the project which means the LEVI Fund application will be for £2m. Partner authorities on this project will be asked to contribute toward the 10% with any remaining amount of the £200,000 being funded through the Civil Parking Enforcement surplus in the absence of any specific funding for EV charging infrastructure – this is on the basis that this would require a review of the CPE allocations in order to prioritise this project. A report on the CPE budget will be presented to Members next month. Officers will also continue to seek the involvement of a private sector charge point operator. The funding available is capital only.
- 8.2 There was a substantial draw on resources for the County Council and partners to prepare a bid and ensure NYCC meet the submission deadline owing to the short timeframes for submitting such a significant bid. The timeframes for the pilot scheme mean that it is necessary to continue to develop the proposal prior to the confirmation of the outcome of the bid submission. It is therefore considered appropriate to utilise some of the £200,000 for further bid development work linked to the EV Strategy work that is already being carried out by our partner consultant WSP. Full details will be included in a report prior to accepting the grant if NYCC were to be successful. If the bid is unsuccessful the effort would not be lost as we could continue to develop the project for future funding opportunities such as the main LEVI fund opening in 2023.
- 8.3 The funding is available to spend until 2024/25 with an expectation of spending in 2022/23, where possible. OZEV have advised us that schemes do not need to be entirely 'shovel ready'. Funding announcements are not expected until later in 2022. OZEV's preferred delivery timescale is challenging and through developing the bid beyond submission a timetable will be determined that is achievable in the timescales. The full LEVI fund is expected to launch in 2023. Bidding into the pilot does not preclude us from bidding to the full scheme in the future.
- 8.4 Ideally, NYCC would wish to have a private sector partner on-board prior to submitting the bid however, this has not been possible due to the concerns expressed in the market engagement so far that have been discussed earlier in this report about the potential for a commercial return. Officers will continue to seek to attract a private sector CPO and we also expect to attract private sector investment beyond delivery by delivering the infrastructure to increase utilisation rates for both visitors and residents which increases the commercial case and will attract private sector investment in locations that would not otherwise be commercially attractive. The business case can also be used to go to market or develop it internally as a commercial venture, with a benefit back to the residents and businesses of North Yorkshire that could be sold by the council once a coherent and dependable network had been built up.
- 8.5 The scheme is scalable and therefore could be reduced to fit the capital funding available. The terms of the funding requires the facility to remain in place for at least seven years and it has been estimated that the maintenance costs associated with the scheme would be approximately £20,000 although this will be further refined as part of the report seeking approval to accept the grant should the bid be successful. The County Council has no budget identified for the maintenance of EV chargepoints and the grant available is only for capital funding. There would therefore be a

NYCC – 16 June 2022 - Executive Members Local Electric Vehicle Infrastructure Pilot Funding Submission/6 potential revenue pressure of a maximum of £20,000 (£2,857 per year) although this could be offset through income received from the fees associated with using the charge points and this will be further detailed in the grant acceptance report, if successful.

8.6 The terms of the grant agreement are not yet known and these would need to be acceptable prior to NYCC accepting a grant if successful – details will be included in the further report prior to acceptance.

9.0 Recommendation

9.1 It is recommended that:

the Executive Member for Highways and Transportation in consultation with the Corporate Director – BES and the Corporate Director - Strategic Resources, approves that a bid is submitted for the LEVI Pilot Fund, which if successful will bring in £2.0m of capital funding to NYCC. A further report will be brought forward if successful, with full details, prior to acceptance of the funding

BARRIE MASON Assistant Director – Highways and Transportation

Author: Keisha Moore

Background documents: none

Local Electric Vehicle Infrastructure (LEVI) pilot

Tell us about your proje	ect
Lead local authority in England and, if applicable, all local authorities involved:	 North Yorkshire County Council Hambleton District Council Richmondshire District Council Harrogate Borough Council Craven District Council Selby District Council Ryedale District Council Scarborough Borough Council North Yorkshire Moors National Park Authority Yorkshire Dales National Park Authority
Lead local authority contact details:	Keisha Moore, Senior Transport Planning Officer, Keisha.moore@northyorks.gov.uk & 01609 536441
Estimated total project cost (£)	3,000,000
Estimated total LEVI funding requested (£)	2,700,000
Estimated number and type of charge points provide by the total scheme	140 residential slow and fast chargepoints in deeply rural areas

Project Summary 400 to 600 words

North Yorkshire (NY) is characterised by its rural nature, with 98% of the landscape classed as very rural or supersparse. Approximately 46% of NY is designated as either a National Park or an Area of Outstanding Natural Beauty. Population density is five times below the national average, with just 76 people per square kilometre, compared to the English average of 430. This results in a number of transport issues, including a higher car dependency due to a lack of public transport options and the need for long drives. Range anxiety is exacerbated by such long trips. The current distribution of charge points in NY is lower than all other English regions with only 2.2 charge points per 10,000 people in the population.

Grid connection costs tend to be higher in rural areas, impacting commercial viability for private investors. NY has over 50 primary substations and a significant proportion of primary substations show no/limited spare capacity. High connection costs mean that the private sector is typically less interested in delivering rural EVCPs. As such, there is a risk of 'charging deserts' across NY, including at popular tourist locations, deterring EV uptake. Our intention is to create the conditions to allow residents and visitors to have confidence in electric vehicles and their ability to get between settlements in NY and beyond.

To ensure full coverage we will deliver 140 chargers (20 chargers per district) over 4 or 5 sites per district. We have selected locations in each district where connection costs will be high, two locations per district which are rural tourist destinations and at least two other more deeply rural locations with a lack of off street parking. We will deliver solutions using renewable energy sources that are aesthetically sympathetic in deeply rural areas where grid up- grades would otherwise be prohibitive. We will co-locate EVCPs with battery storage powered by renewables. Innovations such as water turbines will be promoted for sites with constrained grid capacity. At one site per district (7 sites in total) we will deliver an accessible electric vehicle that provides 'on demand' community transport. The paradigm shift to on-demand transport for remote rural areas is dependent on digital connectivity to enable the customer to book their local vehicle therefore we will link with <u>NYnet</u>; a company which was set up by NYCC to deliver high-speed connectivity to the public and private sector. NYnet are also one of NYCC's key partners in the <u>Stronger Communities</u> programme which will compliment this investment.

We will take a place-led approach to deliver a different solution at each of the 4 sites per district but all will use battery storage techniques to power the EVCPs. We are seeking to include:

- Small scale hydro solutions
- Solar Canopies / panels

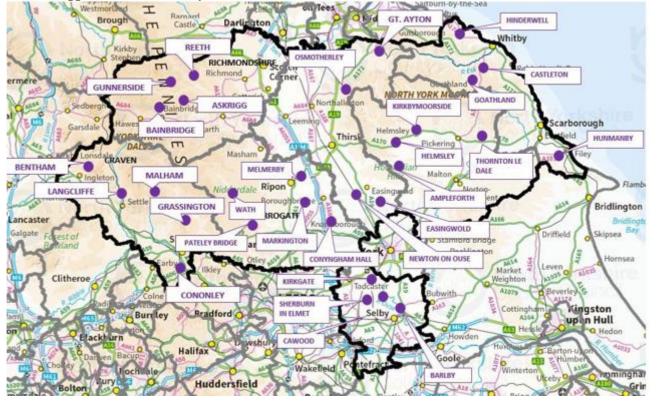
- A solar array
- Investigating the opportunity to use agricultural waste to generate power in consultation with our DNO
- An 'on-demand' transport model we will explore V2G technology in locations where the project is associated with a community owned building.

The project is in its design phase although initial community engagement has taken place. We have feasibility studies and plans linked to each of the items we intend to deliver through NYCC and its partner authorities. This project will consolidate those plans and provide a long-term solution to mobility issues in our most rural communities which we can then scale up. The York and North Yorkshire (Y&NY) Routemap indicates commitment to 'demonstrator' projects to enable transformation, all partners are signed up to learn from demonstrator projects and scaling up.

Y&NY Carbon Abatement Pathways study evidences 36% of greenhouse gas emissions are from road transport. The funding will allow NYCC to deliver C02 reductions through delivery of EV infrastructure. Transitioning from a fossil fuel car to electric equals a saving of 2.4 metric tons per vehicle, per year. If 25% of North Yorkshire's cars transitioned to electric by 2030, this would equal a reduction 200,400 TONS of CO2.

We are exploring various delivery options and our procurement team are fully engaged in this process, however, we do expect to attract private sector investment as a result of this funding; companies will be invited come forward with innovative charge point designs that meet the needs of the unique characteristics of our selected sites giving them the opportunity to innovate, test and introduce new applications for SMART technologies, in an emerging market. Furthermore, we expect an increase in visitor numbers as a result of the investment. Increasing utilisation rates by delivering infrastructure to accommodate both visitors and residents increases the commercial case and will attract private sector investment in locations that would not otherwise be commercially attractive. Multiple districts and stakeholders have raised the impact on tourism due to the lack of EV charge points in North Yorkshire.

With the issues of social isolation, poor digital connectivity, poor public transport provision, small schools, a lack of affordable housing and the challenges and opportunities of climate change in our rural areas, there is a need for action now to overcome these issues.



A list of suggested locations, subject to refinement, is included below;

Submit to <u>LEVI@est.org.uk</u> by 22 April 2022

Application form – the £10m Local Electric Vehicle Infrastructure pilot Closing date is the 17th June 2022.

Your response and the processing of personal data that it entails is necessary for the exercise of our functions as a government department.

In the application we are asking for the name and contact details of the lead individual within the local authority. DfT will, under data protection law, be the controller for this information. <u>DfT's privacy policy</u> (opens in new window) has more information about your rights in relation to your personal data, how to complain and how to contact the Data Protection Officer.

Any personal information you provide will be kept securely and destroyed within 24 months after submission. Any information provided through the online system will be moved to the internal systems within 2 months of the competition end date.

Part A: Applicant(s) information and eligibility

A1	Lead local authority in England and, if applicable, all local authorities involved:	 North Yorkshire County Council: Lead Hambleton District Council Richmondshire District Council Harrogate Borough Council Craven District Council Selby District Council Ryedale District Council Scarborough Borough Council North York Moors National Park Authority Yorkshire Dales National Park Authority In April 2023 a new unitary council will come into effect, North Yorkshire Council, so the County Council and District / Borough Councils will cease to exist. 			
A2	Address of the lead local authority:	North Yorkshire County Council County Hall Romanby Road Northallerton DL7 8AE			
A3	Lead local authority contact	Name:	Keisha Moore		
	details:	Position:	Senior Transport Planning Officer		
		Email Address: <u>Keisha.moore@northyorks</u> gov.uk			
		Telephone number:	01609 536441		
A4	Secondary contact details:	Name:	Barrie Mason		
		Position:	Assistant Director Business Environmental Services		

		Email Address:	Barrie.mason@northyorks .gov.uk
		Telephone number:	01609 532137
A5	authority have responsibility for the	YES	NO
	maintenance of the public highway/residential street where the proposed chargepoints are to be located?	Highlight the box above t	hat applies to you
A6	If 'no', provide details of permission from the relevant Highway Authority.		

Part B: Project proposal

B1 P

Provide a summary (400 – 600 words) of your proposed project:

Consider:

• Which organisation(s) will be involved in delivering the project, including any private sector partners

• The total cost of the project, including requested funding from Government and any private sector funding secured

• Number and type of EV chargepoints and / or any other technologies to be installed (e.g. solar canopies or battery energy storage); proportional increase in the number of EV chargepoints in specific area as a result of the project; current or anticipated demand for the proposed infrastructure, and an assessment of why potential charging demand is not already met in the area or going to be met by pipeline investment

 How the proposal will help meet the needs of residents without off-street parking, including accessibility and safety considerations; number of residents without off-street parking within 10 minutes walking distance from the projects (or a 10 minute drive for rapids) or; number of new residents who have access to chargepoints within 10 minutes walking distance as a result of the projects (or a 10 minute drive for rapids); quantitative assessment of nonresidential charging demand need; projected consumer charging costs in p/kwh"

We are currently developing an EVCP Rollout Strategy which will inform the required numbers of chargers between now and 2030, priority locations for delivery, barriers to delivery and how to overcome them, this is expected to be adopted by the Council in autumn 2022. North Yorkshire County Council (NYCC) are delivering this project in partnership with district and National Park authorities in the county.

North Yorkshire (NY) is characterised by its rural nature, with 98% of the landscape classed as very rural or super-sparse. Approximately 46% of NY is designated as either a National Park or an Area of Outstanding Natural Beauty. Population density is five times below the national average, with 76 people per square kilometre, compared to the English average of 430. This results in a number of transport issues, including a higher car dependency due to a lack of public transport options and the need for long journeys to access services which exacerbates range anxiety. Additionally, historic and traditional rural settlements and housing stock have constrained on street parking, causing particular difficulties in visitor/tourist locations.

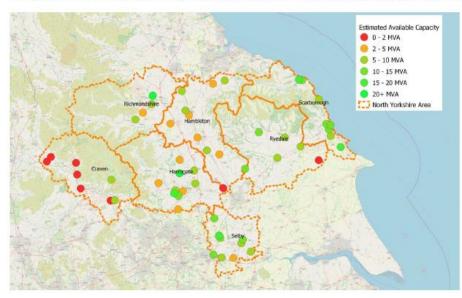
The current distribution of charge points in NY is lower than all other English regions with only 2.2 charge points per 10,000 people in the population. NY has over 50 primary substations and a significant proportion show no/limited spare capacity (see figure 1.0 below). Grid connection costs tend to be higher in rural areas (see case study summary table below) and these costs mean the private sector is typically less interested in delivering rural EVCPs (CMA 2021). As such, there is a risk of 'charging deserts' across NY, including at popular tourist locations, deterring EV uptake. This has been found locally in the development of an EVCP Rollout Strategy. Our intention is to create the conditions to allow residents and, potentially, visitors to have confidence in EVs and their ability to get between settlements in NY and beyond through testing innovation in delivery in deeply rural settings including renewable energy and community ownership models.

Figure 1.0 – Constraint Map of North Yorkshire showing estimated available capacity at primary substations from NYCC's EV Charging Deployment Study

Table 12: Available Electrical Capacity Banding

Implications on capacity
Highly utilised, limited spare capacity
Fairly utilised, adequate spare capacity
Significant spare capacity

Figure 13: Constraint map of North Yorkshire, showing the estimated available capacity at each primary substation

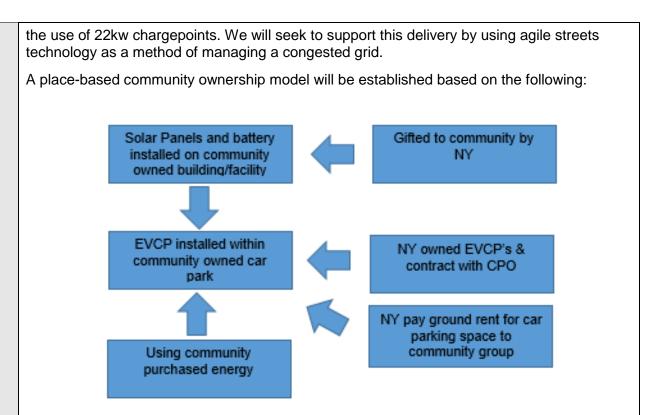


We aim to deliver 70 chargers (10 x 7kw chargers per district) over 2 sites per district, with selected sites being rural areas lacking off-street parking within a 10 minute walk and with high grid connection costs. Some locations are tourist destinations with residential areas and others are more deeply rural. We will deliver solutions using renewable energy generation, linked to battery storage that are aesthetically sympathetic in protected landscapes to minimise the impact on the grid. Consumer prices will likely be set at 10p/kWh above the rate charged by the energy supplier, with utilisation of generated electricity reducing the cost. Excess energy may also be able to power local assets at a lower cost.

A place-led approach will be taken to deliver appropriate solutions at each site, with the ambition to deliver small scale hydroelectric solutions at 6 sites and solar panels on community assets at 8 sites.

Small scale hydroelectric solutions will reduce the need for costly grid upgrades by supplying power locally through a predictable, renewable and continuous supply of energy. The proposed turbines are capable of generating between 5 and 15kW per hour, depending on the water flow and turbine size. A 15kWh turbine would be able to supply two 7kWh charging points consistently 24 hours a day without needing to be connected to the local grid. Potential sites have been identified that are under local authority ownership and are nearby or adjacent to existing car parks in market towns with limited off-street parking, but also regular visitor turnover to help boost the potential utilisation of the charging points and long term financial viability.

Where it is not feasible or practical to install hydro, we will install solar panels on local authority/community-owned land with adjacent car parking. The proposed amount of PV's that can be installed will depend on the size of the facility and its land. Chargepoints will generally be 7kW due to the lack of three-phase supply, but where this exists we will explore



The diagram above demonstrates that NYCC will fund the solar panels, electric vehicle charging points and battery and will also pay the local community group a ground rent for car parking spaces. NYCC and the CPO, therefore, get income through the fees paid by users and the community organisation gets some of that income back from us in terms of the ground rent. It is expected that each model will be tailored to best meet the needs of the local community, however, working with the CPO on this would constitute initial private sector investment for our bid.

Due to the link with EVCPs the local planning authority confirmed these projects could be installed under permitted development regulations.

We expect to attract private sector investment, beyond delivery, as a result of this funding; we will use the business case to go to market or develop it ourselves as a commercial venture, with a benefit back to the residents and businesses of NY, that could be sold by the council once a coherent and dependable network had been built up.

Table 13: Grid Constraints Case Study Summary 3 2 5 6 Remote **Case Study Example Sites** Strategic Road Rural town Remote Secondary Town Centre Suburbs **Tourist Site** Network Centre Fasts 2 2 to 3 3 to 4 2 Short term Rapids 2 1 1 Requirement Potentia £150k £20k £150k £10k £22k £10k Connection Cost 4 Fasts 4 to 6 6 to 8 3 to 4 4 to 6 1 to 2 2 1 to 2 2 1 to 2 Rapids Medium term Ultra Rapids Requirement 4 Potential f200-300k f150k f150k f150k Connection Cost Indicative Connection Cost £62.5k £62.5k £18.8k £25k £18k per Charger

Case Studies and evidence of rural vs urban grid connection costs

B2 What are the post	codes of the proposed installations?	
	that these locations are provisional and subject to further eng	gagement/re-
Scheme Location	Postcode for renewable	
Hellifield	BD23 4HT	
Cononley	BD20 8LX	
Reeth	DL11 6SP	
Askrigg	DL8 3BJ	
Pateley Bridge	HG3 5BD	
Knaresborough	HG5 8DF	
Hinderwell	TS13 5HP	
Danby	YO21 2LY	
Ampleforth	YO62 4DU	
Thornton le dale	YO18 7RR	
Cawood	YO8 3SP	
Fairburn	WF11 9LA	
Swainby	DL6 3EG	
Osmotherley	DL6 3BD	

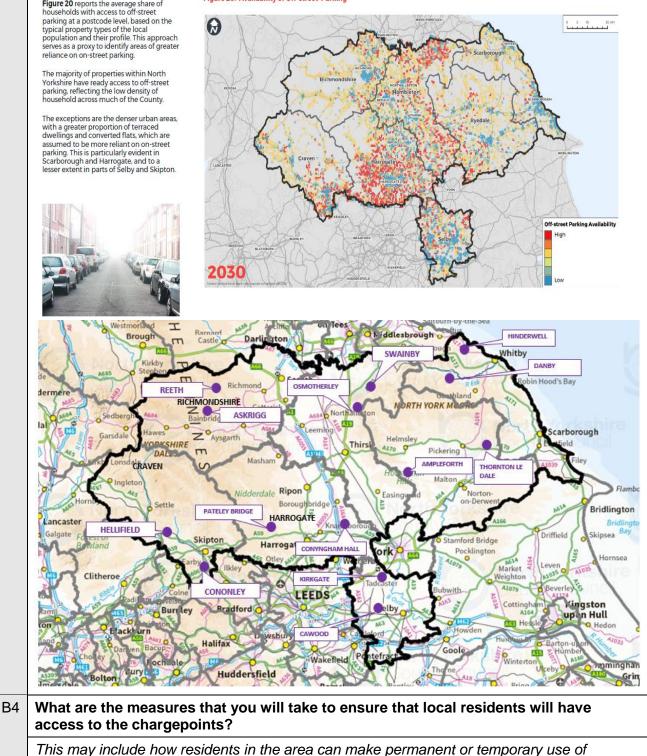
Provide evidence (such as a photograph/map of relevant locations) of how the project B3 supports an area without suitable access to off-street parking

Please see extract from the draft North Yorkshire Electric Vehicle Strategy document which highlights the availability of off-street parking in north Yorkshire followed by a map of locations where we plan to install charge points.

Availability of Off-street Parking

Figure 20 reports the average share of households with access to off-street parking at a postcode level, based on the typical property types of the local population and their profile. This approach serves as a proxy to identify areas of greater reliance on on-street parking.

Figure 20: Availability of Off-street Parking



controlled parking zones; resident parking schemes; permits; dedicated bays.

To meet our vision and objectives outlined in the NY EV Rollout Strategy, we are committed to ensuring that, by 2030, no resident within NY with a reliance on on-street parking is more than a 10-minute walk from a publicly accessible electric vehicle charging point. We will make sure this is the case for all sites selected for this project.

Additionally, we will look to offer discounted rates for residents to try and help with the difference between on and off street parking. Approximately 5p/kWh will be reduced from the charging rate for those that signed up for a permit. We will also ensure that the sites where the EVCPS are located are available 24 hours a day.

The UK Infrastructure Strategy (2022) states that residents should be engaged/consulted to ensure that EVCP's that are delivered meet their needs; by trialling a community partnerships model we expect the community group to be the voice of the residents and use their knowledge and connections with local residents to work with us, explore options for ownership and management of the charge points that are installed, and help us provide a solution that meets the needs of the residents. We will also engage/consult with residents near to locations with hydroelectric schemes prior to installation.

B5 What type of land will the chargepoints proposed in this project be installed on?

Land arrangements information should include whether the project will be on highways authority maintained public highway; local authority-owned land (e.g. public car parks); private-owned land; a mixture. Name all landowners. Include details of lease agreements where appropriate.

The land arrangements for each site will be different, there will be a combination of localauthority owned land and community owned land, please see table below;

Location	Land Type	Landowner
Hellifield - BD23 4HT	community owned land	
Cononley - BD20 8LX	LA Owned	BD20 8LX
Reeth – DL11 6SP	LA Owned	
Askrigg – DL8 3BJ	community owned land	
Pateley Bridge - HG3 5BD	LA Owned	HBC
Knaresborough - HG5 8DF	LA Owned	HBC
Osmotherley - DL6 3BD	community owned land	
Swainby - DL6 3EG	community owned land	
Hinderwell - TS13 5HP	community owned land	
Danby - YO21 2LY	community owned land	
Ampleforth YO62 4DU	community owned land	
Thornton le dale - YO18	LA Owned	RDC
7RR		
Cawood YO8 3SP	LA Owned	NYCC
Kirkgate WF11 9LA	community owned land	

B6 **Confirm the chargepoints you plan to install will have Pay as You Go (ad hoc access)** functionality

For further information see: Alternative Fuel Infrastructure Regulations 2017

I confirm 'yes' to the above:	Yes - this will be possible depending on suppliers developing technology for 7KW chargepoints which are not currently being supported by CPO's
----------------------------------	--

B7	Confirm the cha method.	argepoints that you plan to install will have a minimum payment					
		oints must have a minimum payment method (a non-proprietary and non- method, such as contactless) installed.					
	Confirm 'yes' to the above						
B8	Confirm that a project timeline highlighting any dependencies has been included in your application package, referencing question B8.						
	I confirm 'yes' to the above:						
B9	Confirm that a r question B9.	risk register has been included in your application package, referencing					
	question B9. I confirm 'yes' Yes to the above:						

Part C: Project funding

C	What is the t	otal project cost and	the total	funding bei	ng re	equested	?	
1	Include the basis and breakdown of these costs. Attach evidence referencing question 'C1'. Include an overall cost table, supporting quotes and invoices, and Distribution Network Operator considerations.							
	The total project cost is £2.2m and we are requesting £2 from this fund. Scheme costs will be refined once we go to procurement and select the appropriate option for each site.							
	Indicative costs, derived from existing schemes, for individual components of the project have been provided below. We recognise that the market and inflation has driven prices up recently and so we can expect these costs to be higher.							
	Solar Schemes Components for the solar schemes include the solar array/canopy, a battery for storage, potentially a battery booster (see <u>ads-energy solutions</u> for example) and EVCP's. The cost for solar PV's will be largely dependent on the number of panels purchased for each scheme, an example of a high medium and low range has been provided below (it should be noted that these are 2021 prices);							
PV Array anticipated annual battery KWp KWh Kw cost solar cost ba							Tota	ıl
	F F		r x w					
	4	3600		£ 5,450)£	1,750	£	7,200
	-		5	£ 5,450 £ 7,400				7,200 10,900
	4	3600 7075	5 10		£	3,500	£	

Hydro-electric schemes are also very much dependent on the size of the hydroelectric generator are included below:

Small scale hydro vortex generators are estimated, by manufacturer Turbulent, to cost £75,000 - £100,000 for a 15kW generator including civil works. This would be sufficient power to charge two vehicles simultaneously or more with load balancing. Compared to grid connection costs in some areas of North Yorkshire this is a substantial saving. We intend to use these to boost local resilience as they should continue to generate power even when the grid is unavailable, for example after storm damage.

Smaller scale turbines, in the 5kW range, are cheaper but only offer a third of the generation ability. 5kW generators would be appropriate in some areas where there is a lower water flow rate and drop; they also be clustered to produce more energy. If we link the generators to battery storage we could renewably and continuously charge EVs in areas with high grid connection costs. Further investigation has found that there are large scale battery solutions that require only a 4kW supply but can discharge at a substantially higher rate when linked with EV charging points. These are an option for piloting in areas where there is a lower flow rate/drop and high grid connection costs. This technology has been estimated by ADS Energy to cost around £60,000 including installation.

For EVCPs an indicative cost has been included below; it should be noted that this is for 10 sockets (5 dual socket chargers) which is likely to be more than we will be installing at a single site. These costs are from a recent procurement exercise carried out by Harrogate Borough Council.

5 dual socket 7kW chargers. Max capacity 100A 3 Phase Supply - 10 bays						
Equipment	Quantity	Unit	Unit Cost		Total	
Electricity Board Civils	1	ltem	£0.00	£		
Lucy 20-HDG-5 Feeder Pillar + Accessories	1	Nr	£6,127.20	£	6,127.20	
250A TP&N 4 TP Way MCB Board	1	Nr	£226.07	£	226.07	
250A TP&N Isolator for above	1	Nr	£456.00	£	456.00	
SP MCB/RCBO for above (trip curve to suite charger)	10	Nr	£110.43	£	1,104.30	
Feeder Pillar Civils	1	ltem	£0.00	£	-	
Charger Plinth	10	Nr	£282.00	£	2,820.00	
Ducting	100	m	£15.00	£	1,500.00	
10mm 4 core XLPE/SWA/LSZH cable	200	m	£6.24	£	1,248.00	
6mm earth	200	m	£1.95	£	390.00	

	Design works	1	l Nr	£600.00	£	600.00
		¦ 				
	DNO Connection Studies	1	Nr	£252.00	£	252.00
	Dual socket 7kWh charging point	5	Nr	£2,724.00	£	13,620.00
	Suitable size concrete plinth from schedule of rates to match the size of Lucy Service Pillars	1	Nr	£672.00	£	672.00
	Trenching - hardstanding surface	25	m	£119.98	£	2,999.50
	1m Cabling for 7kWh charging point	25	m	£25.81	£	645.30
	1m ducting for 7kWh charging point cable	25	m	£15.00	£	375.00
	Making good - hardstanding surface	25	m	£73.60	£	1,840.00
	EV Charging Bay marking	10	Nr	£250.00	£	2,500.00
	Labour	86	Hours	27	£	2,322.00
		•		Total	£	39,697.37
С	Provide evidence of how you ha				!	this was is at
2	Include evidence on the cost per cospeeds of those chargepoints; the anticipated utilisation rates; why the sector; predicted year of break-eventhe level of public support required. We are exploring various delivery engaged in this process; it is expension is procure a partner survival was not sufficient time owing to the cross-county procurement process service, and ensuring we achieve the weak and a programmer and the cross of the submission is procure a partner survival to the cross-county procurement process service, and ensuring we achieve the cross of	harge poil amounts a pe project o en; how th d, for exam options an cted that th optier. We e tight turn s will mitiga value for n e of deliver	nt being and ratio cannot b e market ple throu d our pro ne first th e would h around t around t ate the ri noney.	installed inc of public to e funded so t has been t ugh the prod ocurement t ning we will nave already imes for the sk of paying CPs that wi	luding priva- plely by ested curem do be do be d	y the charging te financing; y private to minimise ent strategy. are fully yond this but there A competitive nuch for the value to
	communities in our rural areas that £2m and includes delivery of 70 ne rural areas where grid connection upgrades.	ew EV cha	rgers (10) x 7kw cha	rgers	per district) in
	Hydroelectric schemes have the perequired for the charge points, so the resilience by storing the generated instance of an outage and even here reducing the need for investments.	here is an l electricity elp us mee	opportu to supp t our car	nity therefor ly the local bon emissio	re to p comm on targ	rovide unity in the

Evidence that the private sector has limited interest in delivering EVCPs at the selected rural sites can be found in the NYCC EVCP Deployment Study, analysis was undertaken to consider the relative attractiveness of sites across NY for private sector EVCP investments. To inform these assessments, a number of CPOs were consulted to understand their deployment strategies, and the key parameters they consider when determining the likely commercial viability of a site. The key findings of this engagement include:

- Commercial charge point deployments are typically focused on destinations and intermediate sites (i.e. service stations, petrol stations, roadside cafes).
- Chargers are more likely to be delivered on a fully funded basis where demand is high, with high traffic volumes or reasonable dwell times.
- Prime sites and strategic partnerships with major chains are a key driver of commercial charge point delivery, including sites that provide attractive waiting facilities/ amenities.
- Rapid chargers are more likely to be commercially deliverable by the private sector than standard/ fast chargers.
- Around 33-50% of sites considered typically do not have sufficient electrical capacity to deliver fast / rapid charging hubs, and the cost of upgrading the connection makes them commercially unviable.
- On-street residential chargers are challenging to deliver on a commercial basis, and so are generally grant funding led, though some CPOs will part fund on-street chargers (up to 25%) where the remainder is covered through grant funding, provided they can be incorporated as part of a wider network.
- CPOs preference is typically for off-street car parks, due in part to delivery issues over on-street EVCPs, including resident objections to TROs.
- For commercial deployments, CPOs may seek to avoid over-saturating markets with chargers and risking cannibalising their own charge point utilisation.

Therefore value for money can be offered by delivering chargepoints where they wouldn't otherwise be delivered. Initial conversations have taken place with a single supplier to gauge interest and 'the art of the possible' in relation to solar and hydroelectric schemes and we have used that to inform our project proposal.

In creating the proposals for this bid we have carefully considered which schemes would meet the criteria for the funding and also our own criteria which are;

- Are they rural? (under 3k population)
- Is there a lack of off street parking?
- Do the estimated grid connection costs/capacity make this site prohibitively expensive or difficult to deliver?
- Is the area a 'tourist location'?
- Suitability for testing their linked renewable generation capability and rural nature e.g. ensuring we do not select somewhere that's predominantly in shade for solar testing or somewhere with no running water for small scale hydro.

Please see Table 2.0 below for project assessment. It is felt that the schemes taken forward for the bid not only meet the criteria listed above and of the Local Electric Vehicle infrastructure fund but also offer;

- An increase in the number of EV Charge Points across the county that will not otherwise be delivered by the private sector Intervention in the market will bridge the gap until we demonstrate this works when the private sector can then step in
- A reduction in carbon emissions from transport and improved air quality
- Electric Charge Data We will be able to use the usage data as an evidence base for future schemes
- Economic growth and improved accessibility for people in rural areas of our county
- A solution to social inequality in our county Any social inequalities impact transport choices. Therefore EV charging needs to be in locations accessible to everyone and affordable.

It should be noted that at Reeth, where there is extremely scarce grid capacity, we have been quoted £636,000 by the DNO for grid upgrades required to facilitate any new connections. Value for money will be provided here by significantly reducing the cost and installing new charging infrastructure.

Table 2.0

	Locations	Criteria	Y/N
		Deeply rural? (under 3k population)	Y
		Lack of off-street parking?	Y
		Est. Grid connection costs/capacity make this site prohibitively expensive or difficult to deliver?	Y
		Considered a 'tourist location'?	Ν
	Hellifield	Is there evidenced community buy in – e.g. how many requests do we have from public/parishes	Y
Craven		Suitability for testing their linked renewable generation capability and rural nature e.g. ensuring we do not se- lect somewhere that's predominantly in shade for so- lar testing or somewhere with no running water for small scale hydro.	
ra		Deeply rural? (under 3k population)	Y
0		Lack of off-street parking?	Y
		Est. Grid connection costs/capacity make this site prohibitively expensive or difficult to deliver?	Y
		Considered a 'tourist location'?	Ν
	Cononley	Is there evidenced community buy in – e.g. how many requests do we have from public/parishes	Y
		Suitability for testing their linked renewable generation capability and rural nature e.g. ensuring we do not se- lect somewhere that's predominantly in shade for so- lar testing or somewhere with no running water for small scale hydro.	

			N
		Deeply rural? (under 3k population)	Y
		Lack of off-street parking?	Y
		Est. Grid connection costs/capacity make this site prohibitively expensive or difficult to deliver?	Y
		Considered a 'tourist location'?	Ν
	Reeth	Is there evidenced community buy in – e.g. how many requests do we have from public/parishes	Y
Richmondshire		Suitability for testing their linked renewable generation capability and rural nature e.g. ensuring we do not se- lect somewhere that's predominantly in shade for so- lar testing or somewhere with no running water for small scale hydro.	Y
ŭ		Deeply rural? (under 3k population)	Y
ich		Lack of off-street parking?	Y
Ri		Est. Grid connection costs/capacity make this site prohibitively expensive or difficult to deliver?	Y
		Considered a 'tourist location'?	Ν
	Askrigg	Is there evidenced community buy in – e.g. how many requests do we have from public/parishes	
		Suitability for testing their linked renewable generation capability and rural nature e.g. ensuring we do not se- lect somewhere that's predominantly in shade for so- lar testing or somewhere with no running water for small scale hydro.	Y
Harrogate	Pateley Bridge	Deeply rural? (under 3k population)	Y
		Lack of off-street parking?	Y
		Est. Grid connection costs/capacity make this site prohibitively expensive or difficult to deliver?	Y
		Considered a 'tourist location'?	Y
		Is there evidenced community buy in – e.g. how many requests do we have from public/parishes	Y
		Suitability for testing their linked renewable generation capability and rural nature e.g. ensuring we do not se- lect somewhere that's predominantly in shade for so- lar testing or somewhere with no running water for small scale hydro.	
		Deeply rural? (under 3k population)	Ν
	Waterside Car Park, Knaresborough	Lack of off-street parking?	Y
		Est. Grid connection costs/capacity make this site prohibitively expensive or difficult to deliver?	Y
	Riferessorough	Considered a 'tourist location'?	Y
		Is there evidenced community buy in – e.g. how many requests do we have from public/parishes	Y

		Suitability for testing their linked renewable generation capability and rural nature e.g. ensuring we do not se- lect somewhere that's predominantly in shade for so- lar testing or somewhere with no running water for small scale hydro.	
		Deeply rural? (under 3k population)	Y
		Lack of off-street parking?	Y
		Est. Grid connection costs/capacity make this site prohibitively expensive or difficult to deliver?	Y
		Considered a 'tourist location'?	Ν
	Osmotherley	Is there evidenced community buy in – e.g. how many requests do we have from public/parishes	Y
Hambleton		Suitability for testing their linked renewable generation capability and rural nature e.g. ensuring we do not se- lect somewhere that's predominantly in shade for so- lar testing or somewhere with no running water for small scale hydro.	Y
gm		Deeply rural? (under 3k population)	Y
На		Lack of off-street parking?	Y
		Est. Grid connection costs/capacity make this site prohibitively expensive or difficult to deliver?	
	Swainby	Considered a 'tourist location'?	Ν
		Is there evidenced community buy in – e.g. how many requests do we have from public/parishes	Y
		Suitability for testing their linked renewable generation capability and rural nature e.g. ensuring we do not se- lect somewhere that's predominantly in shade for so- lar testing or somewhere with no running water for small scale hydro.	Y
		Deeply rural? (under 3k population)	Y
		Lack of off-street parking?	Y
Scarborough	Hinderwell	Est. Grid connection costs/capacity make this site prohibitively expensive or difficult to deliver?	Y
		Considered a 'tourist location'?	Ν
		Is there evidenced community buy in – e.g. how many requests do we have from public/parishes	Y
		Suitability for testing their linked renewable generation capability and rural nature e.g. ensuring we do not se- lect somewhere that's predominantly in shade for so- lar testing or somewhere with no running water for small scale hydro.	Y
		Deeply rural? (under 3k population)	Y
	Devi	Lack of off-street parking?	Y
	Danby	Est. Grid connection costs/capacity make this site prohibitively expensive or difficult to deliver?	Y
		Considered a 'tourist location'?	Y

		Is there evidenced community buy in – e.g. how many requests do we have from public/parishes	Y
		Suitability for testing their linked renewable generation capability and rural nature e.g. ensuring we do not se- lect somewhere that's predominantly in shade for so- lar testing or somewhere with no running water for small scale hydro.	Y
		Deeply rural? (under 3k population)	Y
		Lack of off-street parking?	Y
		Est. Grid connection costs/capacity make this site prohibitively expensive or difficult to deliver?	Y
		Considered a 'tourist location'?	Ν
	Ampleforth	Is there evidenced community buy in – e.g. how many requests do we have from public/parishes	Y
Ryedale		Suitability for testing their linked renewable generation capability and rural nature e.g. ensuring we do not se- lect somewhere that's predominantly in shade for so- lar testing or somewhere with no running water for small scale hydro.	
Ye		Deeply rural? (under 3k population)	
R		Lack of off-street parking?	
	Thornton le Dale	Est. Grid connection costs/capacity make this site prohibitively expensive or difficult to deliver?	Y
		Considered a 'tourist location'?	Y
		Is there evidenced community buy in – e.g. how many requests do we have from public/parishes	Y
		Suitability for testing their linked renewable generation capability and rural nature e.g. ensuring we do not se- lect somewhere that's predominantly in shade for so- lar testing or somewhere with no running water for small scale hydro.	
		Deeply rural? (under 3k population)	Y
		Lack of off-street parking?	Y
	Cawood	Est. Grid connection costs/capacity make this site prohibitively expensive or difficult to deliver?	Y
		Considered a 'tourist location'?	Ν
Selby		Is there evidenced community buy in – e.g. how many requests do we have from public/parishes	Y
Ō		Suitability for testing their linked renewable generation capability and rural nature e.g. ensuring we do not se- lect somewhere that's predominantly in shade for so- lar testing or somewhere with no running water for small scale hydro.	
	Fairburn	Deeply rural? (under 3k population)	Y
	Fairburn	Lack of off-street parking?	Y

	Est. Grid connection costs/capacity make this site	Y					
	prohibitively expensive or difficult to deliver?	N					
	Considered a 'tourist location'?						
	Is there evidenced community buy in – e.g. how many requests do we have from public/parishes						
	Suitability for testing their linked renewable generation capability and rural nature e.g. ensuring we do not se- lect somewhere that's predominantly in shade for so- lar testing or somewhere with no running water for small scale hydro.						
C 3	Set out the commercial arrangements that you propose to put in place project	e for th					
	Insert response. Include contract details and Service Level Agreements, in length of contract; tariffs; ownership of assets; profit share arrangements a maintenance costs. Note that if you are trialling a new business model, you to provide further evidence in the 'Part E: Project Innovation'.	nd					
	We are exploring various delivery options and our procurement team are fully engaged in this process; it is expected that the first thing we will do beyond submission is procure a partner supplier.						
	Where we intend to install solar panels a place-based community partnership delivery model will be developed from the following initial model:						
	Solar Panels and battery installed on community owned building/facility						
	EVCP installed within community owned car park NY owned EVCP's & contract with CPO						
	Using community purchased energy						
	For Hydro-electric schemes it is proposed that NYCC will own and operate turbines due to the pilot nature of the scheme and the potential risks involve not thought that it is appropriate to follow the same model as the solar pane stage.	ed. It is					

which methods of generation would work best and give the best possible return on

	investment so that it can be demonstrated as a viable business model to install charging points in grid constrained areas with a local water course. For example, at Knaresborough the intention is to use an old water mill located next to a council car park in area with no off-street parking to install a 15kW turbine and up to four charging points, powered solely by this turbine. A second installation in Pateley Bridge would seek to utilise a lower power turbine to power a large battery.				
C 4	Confirm that any installations will be carried out in line with your procurement responsibilities and within subsidy control rules: Subsidy control has replaced state aid rules now that the United Kingdom has left the European Union. The subsidy control rules enable public authorities, including devolved administrations and local authorities, to deliver subsidies that are tailored and bespoke for local needs to deliver government priorities such as levelling up and achieving net zero carbon, as well as supporting the economy's recovery from COVID-19. See the ' <u>Guidance on the UK's international subsidy control commitments</u> ' for more information.				
	I confirm 'yes' to the above:	Yes			
C 5	You confirm to supply OZEV, upon final claim, with detailed invoicesThese invoices will identify:1. The chargepoint and any related technology hardware costs2. The labour and installation costs (civils)3. The electrical connection costs and associated labourI confirm 'yes' to the above:Yes				
C					
6					

Part D: Strategic fit

D1 Provide a summary (200 – 400 words) of how the project proposal meets local needs, and how it fits in with your local and / or regional long-term EV charging strategy.

You can include links to relevant publications, including wider transport decarbonisation, congestion, air quality or net zero strategies.

The opportunity is very well aligned with international, national, region and local policy.

North Yorkshire

One objective of the <u>North Yorkshire Local Transport Plan</u> (2016) is protecting the environment and preventing climate change. The Plan highlights how NYCC supports measures to promote environmentally friendly forms of transport, including supporting and making provision for the use of ULEVs. This aligns to the <u>North Yorkshire Draft Air Quality Strategy</u> (2020) which is currently under consultation; one of the key objectives of the Air Quality Strategy is to support the use of ULEVs in North Yorkshire, including the provision of EV charging infrastructure.

The proposal supports the <u>Local Industrial Strategy</u> (2020) which sets out a vision for York and North Yorkshire to become England's first carbon negative region. In

the <u>Local Energy Strategy</u> (2020), EVs are identified as an opportunity for reduced energy expenditure, with a specific need to promote the availability of charging points. Increasing the uptake of EVs and designing infrastructure with circular principles is one of the key strategic opportunities that has been identified within <u>Creating a competitive, carbon-neutral, circular economy in York and North</u> Yorkshire (2019).

<u>Y&NY Carbon Abatement Pathways study</u> evidences 36% of greenhouse gas emissions are from road transport. The funding will allow NYCC to deliver C02 reductions through delivery of EV infrastructure. Transitioning from a fossil fuel car to electric equals a saving of 2.4 metric tons per vehicle, per year. If 25% of North Yorkshire's cars transitioned to electric by 2030, this would equal a reduction 200,400 TONS of CO2.

We are currently developing an EVCP Rollout Strategy which will inform the required numbers of chargers between now and 2030, priority locations for delivery, barriers to delivery and how to overcome them, this is expected to be adopted by the Council in autumn 2022. North Yorkshire Council are delivering this project on behalf of the districts and national park authorities in the county and have engaged with Northern Powergrid to assist us with delivery. Concurrently we are pursuing a devolution deal aiming for mayoral election in May 2024 and we have asked for funding specifically for the next five years to deliver a programme for the roll-out of public EV charging across our region. We are aware there will be a gap in funding between now and 2024 so, following the adoption of the rollout strategy, a budget will be recommended to our Council Executive to begin delivery. A backup plan will be developed in case of unsuccessful devolution negotiations.

We recently wrote to the department for business, environment and industrial strategy (BEIS) to help address the challenge of poor connectivity and the resulting lack of opportunities for our communities that live in the rural areas of North Yorkshire with a "Rural Connectivity Electric Vehicle Pilot". We were instructed to work with the DNO to come up with a pilot, however, the DNO does not have funding to support delivery of such a pilot.

North Yorkshire County Council created the Rural Commission, the first of its kind in the country. The Council did so because those living in rural and very sparsely populated areas in North Yorkshire are getting tired of facing challenges which need solutions. The key challenges are listed in the report: <u>Rural North Yorkshire:</u> <u>The way forward</u>. The Commission heard evidence of the important role rural communities can play in identifying the transport needs of their neighbours and in designing creative solutions.

Local

The proposal aligns with and supports local policy across the County Council's seven districts and the two National Parks. This includes supporting all Local Plans, Climate Emergency Plans and Harrogate's <u>Ultra-Low Emission Vehicle</u> <u>Strategy 2019 – 2024</u> (2019).

D2	What considerations, if any, are you making to ensure an inclusive charging environment as part of your proposed project?
	In particular consider disabled access for drivers and pedestrians in the vicinity and ensuring that people feel safe while charging their vehicle at all times of day.
	Charge points will be designed to comply with the Equality Act 2010 and design guidance. An assessment will also be made to include appropriate lighting and security measures to ensure residents feel safe when using and accessing the charge points.
	As a council we also produce equality impact assessments and climate change impact assessments for all of our council reports.
	As part of our EV Rollout Strategy (expected October 2022) we will create a just transition plan for the lead up to 2030 and beyond to ensure a fair and inclusive provision of EVCPs and ensuring that those which do not immediately switch to EV are not left behind.

Part E: Project innovation

The Government wants to understand the role innovation can play in helping local authorities put in place long-term, commercially sustainable EV charging infrastructure. Innovation in this context could involve trialling a business model or new/previously unused technologies.

E1	Provide a summary (200 – 400 words) of how the project will demonstrate innovation, if at all.
	Insert response below, including articulating the potential benefits to residents of trialling the innovation(s) through delivery plans, technology and/or business models.
	Technology innovation could include (but is not limited to) trialling new charging solutions that meet local needs more effectively through lower costs or higher standards of provision, or that support the management of grid impacts.
	 Business model innovation could include (but is not limited to) trialling: franchising: public funding enables local authorities to own the electrical 'point of connection'. Access is then tendered to chargepoint operators e.g. through a concession contract joint ventures: there is profit share between local authorities and an external partner for example a chargepoint operator. Operation and maintenance of chargepoints could be subcontracted to a chargepoint operator for a fixed period community-led projects: local residents invest in the charging infrastructure with local authority support third-party funding: a private organisation, in some instances in addition to the chargepoint operator provides funding towards the capital costs. A separate supplier is procured to operate the chargepoint and revenue is

shared with the local authority for example a project involving company with a fleet, a local authority and a chargepoint operator

 a portfolio approach that aggregates demand across multiple local authorities to provide charging infrastructure in areas of high and low EV penetration

This bid is being created by the local authorities in North Yorkshire, listed in the introduction, led by North Yorkshire County Council. It is recognised that there is growing demand for EVCPs across the County and that a better deal could be reached if resources are pooled and used to support all areas of the County, especially those where demand is high and grid connection costs are lower. The areas performing well, with high demand could support people in areas where grid connection costs are high and there is, currently, a lower demand for EVs due to a lack of available charging infrastructure. We recognise that there are difficulties for private investors to see a return on their investment in some of these areas and wish to develop means by which it could become more favourable. We are seeking LEVI funding to test these projects and demonstrate to charging point operators that it is possible to have a viable network in rural areas facing grid constraints. North Yorkshire is the largest county in England and faces many transport challenges, particularly due to its rural nature. There is a very high car dependence and public transport does not provide sufficient coverage because operators cannot run needed services without substantial subsidy that cannot be afforded in the most isolated parts of the County. Additionally, fuel costs are high and even trips for essentials tend to involve travelling longer distances, using more fuel and adding costs onto the current high living costs. We believe that giving our residents access to charging points in these areas will stimulate the demand for EVs and allow people to reduce their costs while still being able to access essential services and sustaining communities. We will work in partnership with a CPO, after a procurement exercise, and local communities to provide EV charging and renewable energy generation.

We will be trialling new charging solutions that meet local needs more effectively through lower costs, higher standards of provision, and energy security and that support the management of grid impacts through small scale hydroelectric solutions which remove the need for costly grid upgrades by supplying power locally through a predictable, renewable and continuous supply of energy. Turbines would be able to supply charging points consistently 24 hours a day without needing to be connected to the local grid. There is an opportunity therefore to provide resilience by storing the generated electricity to supply the local community in the instance of an outage and even help us meet our carbon emission targets while reducing the need for investments into transmission infrastructure.

We will also be trialling a new community partnership model where we support communities to install renewable energy (solar) and EVCP's our local residents get the benefit of the scheme and a package of local authority support. A similar scheme is being trialled between one of our district councils and the local parish council which we will use to take learnings from.

The innovations in this project are in enabling isolated communities to continue to operate relief centres and central facilities based on the energy generated locally via renewable means. For example, Storm Arwen hit the North of England on 26th November 2021. Power was lost in large parts of Northern Powergrid's network and was not restored in all areas until 7th December 2021. Through our project areas supplied with electricity generated by local hydroelectric turbines would still

have power and would not be reliant on diesel generators or other means. Whilst we are aware it would not power homes the aim is to be able to build resilience into the community and ensure that there is a power source available. The same provision is hoped to be built into community buildings with solar panels, though these will not offer the same amount of supply during winter, when most storms hit, due to the shorter days and wintry weather conditions. The battery storage on site, however, should continue to provide power for some time. Further to this, EVCPs powered by hydroelectric turbines will still be able to charge an EV in the event of a power cut to the grid, meaning that people are still able to operate their vehicles. With advancements in smart home charging it may then be possible to charge a vehicle from the hydroelectric powered chargers and then power a home for a few days from the vehicle.

This built in resilience will help to save costs and potentially lives in emergency situations and provide further benefits other than reliable, zero-carbon, electricity for charging vehicles. It is also felt that, due to the local off-grid generation, we will be able to provide lower cost electricity to local residents to support with the cost of living and help ensure that they are able to access essential services on a par with those in larger population centres.

Part F: Ongoing commitments:

You commit to:

		Yes	No
F1	Make available, to OZEV in the specified format, usage data from the chargepoint or chargepoints for a minimum of 7 years from activation?		
F2	Maintaining the chargepoint or chargepoints in a serviceable condition for a period of 7 years after activation?		
F3	Providing us with information regarding the arrangements put in place between the local authority, the chargepoint operator, and the end user? This includes reporting on charging tariffs, operational and revenue costs, and the structure of ownership of the assets.		
F4	Keeping OZEV and the support body updated with any changes to the staff lead and contact details for this project?		

Assessment criteria

The criteria for assessment with section weightings are:

Assessment Criteria and Description	Weighting
Strategic fit	
Assesses the 'Strategic fit' section.	10%
Tests the extent to which the proposal fits with long-term local authority/ies EV roll-out strategy.	
Meeting consumer needs	
Assesses the 'Project proposal' and 'Strategic fit' sections.	
Tests the extent to which the proposal addresses local needs by assessing residents' and non-residents' charging demand; potential increase in the number of EV chargepoints in the area as a result of the project; and pricing.	30%
Innovation (business models, delivery, technology)	
Assesses the 'Project innovation' section.	15%
Tests the extent to which the proposal demonstrates innovation in the business model and / or technology deployment.	
Strength of delivery plan	
Assesses the 'Project proposal' and 'Project funding' sections.	
Tests the evidence that the project can be successfully delivered. A detailed, clear delivery plan provides assurance that the project is more likely to be successful, including long term detailed maintenance, ownership and contractual arrangements.	15%
Value for money and additionality	
Assesses the 'Project funding' section.	
Tests the value for money offered by the proposal through aspects such as predicted profitability through expected utilisation rates, levels and type of charging infrastructure proposed and private financing, including an assessment of the particular level of funding required and why the project cannot be funded solely by private sector.	30%



Alex Chittenden & Dorota Czuperska

Karl Battersby

Business and Environmental Services North Yorkshire County Council County Hall NORTHALLERTON North Yorkshire DL7 8AD karl.battersby@northyorks.gov.uk

Tel: 01609 780780 Web: www.northyorks.gov.uk

Date 1 November 2021

Dear Alex and Dorota,

North Yorkshires Rural Connectivity Electric Vehicle Pilot

I am writing to ask you to work with us to help address the challenge of poor connectivity and the resulting lack of opportunities for our communities that live in the rural areas of North Yorkshire. We would like to address this with a "Rural Connectivity Electric Vehicle Pilot" to enable us to facilitate the switch to zero emission vehicles and allow our rural communities to be more productive, prosperous, quieter and safer.

North Yorkshire's Rural Challenge

Covering over 3,000 square miles, North Yorkshire ranges from isolated rural settlements to market towns and larger urban conurbations. North Yorkshire is sparsely populated with 54.5% of the population living in rural areas and 16.9% living in areas defined as super sparse. Consequently, population density in North Yorkshire is more than five times lower than the England average. The national average number of people per square-KM in England is 430 compared with just 76 for North Yorkshire and as low as 36 in some of its districts.

As you will be aware, there are a number of transport issues which affect rural communities, including a higher reliance of private car ownership (due to lack of public transport options), transport poverty (due to a lack of public transport options and high cost of car ownership) and decreased access to services and opportunities. With the associated issues of social isolation, poor digital connectivity, poor public transport provision, small schools, and a lack of affordable housing, not to mention the challenges and opportunities of climate change, there is a clear need for action now to overcome these issues.

To respond to the climate change challenge in particular we have committed to deliver a carbon reduction plan with an aspiration to achieve net carbon neutrality by 2030. This will support a sustainable, growing, green economy that benefits all within the County, and enables North Yorkshire to make a positive contribution to the rest of the country in return. In order to achieve carbon neutrality, the transport to more sustainable fuels is key and we recognise that, as a local



authority, we must work to help facilitate the transition to electric vehicles (EV).

An Electric Vehicle Charging Deployment Study commissioned by North Yorkshire County Council (NYCC) and the York North Yorkshire Local Enterprise Partnership (YNY LEP) identifies measures NYCC and the district/borough councils and National Park Authorities (NPAs) can, or should, be taking to overcome barriers to electric vehicle charge point (EVCP) rollout. The study also identified the number of EV charge points required between now and 2030 based on a forecasted uptake of EV Vehicles. It identified the key barriers of EV charge point rollout to be:

- 1. The rural nature of North Yorkshire and the associated grid constraints and connection costs
- 2. The lack of off street parking

Rural Electric Vehicle Connectivity

The sparse population in North Yorkshire means that commercial provision of publicly available EV charging facilities in North Yorkshire is near negligible and unlikely to change significantly in the near future. The large number of small communities in our region means that delivery of EV charging facilities is difficult and costly with a large number of dispersed sites required. Our initial research suggests that even in our largest towns (e.g. Harrogate) the electrical grid network has insufficient capacity to accommodate the necessary numbers of the latest 'fast chargers' (up to 25kW) and 'rapid chargers' (up to 50kW); the situation is even worse in our smaller rural communities.

Significant electric grid infrastructure costs are therefore also a major constraint on the provision of EV chargers in North Yorkshire. The current distribution of charge points is sparse and lower than all other English regions with only 2.2 charge points per 10,000 people in the population. North Yorkshire in particular is a 'not-spot' for charging infrastructure within the region and the majority of existing charge points are not openly available to the public as they are offered at locations such as hotels, public houses and car dealerships. The private sector are typically less interested in the rural sites where there is limited commercial opportunity.

Additionally, in communities that do receive a public transport service, the largely rural characteristics of our bus market mean we face unique challenges in the transition from dieselengine road vehicle (DERV) buses to zero exhaust emission vehicles in our region, specifically:

Our small, independent bus operators face commercial viability challenges and lack the ability to fund the increased capital costs of buying zero or low exhaust emission vehicles over standard DERV vehicles, as well as the relatively higher costs of infrastructure necessary to operate such buses.

Operators prefer overnight charging over opportunity charging (as it affects bus workings by needing to build in 'down time' to schedules), but there is often an impact on depot operations and loss of parking availability. Depot locations, ages, layouts and distance from suitable power supplies are a constraint on Zero Emission Buses (ZEB) deployment.

Our dispersed population requires longer-distance bus services in areas that are poorly served by traditional charging infrastructure. The existing EV range (c180-190 miles) limits deployment across the rural passenger transport network where service mileage can be up to 250 miles. This requires smaller, but more widely dispersed charging facilities to support the uptake of zero exhaust emission buses, rather than traditional charging infrastructure alone (e.g. in bus stations and depots within



towns). The issue is likely to be exacerbated by the low capacity of the electrical grid in the more rural areas which may require upgrading to accommodate electric bus charging.

All operators require support to transition to ZEBs, particularly around funding. NYCC can assist by leading funding bids. Operators are supportive of leasing ZEBs from the local authority as a means to making them more affordable to introduce. Operators are supportive of local authority owned or run shared charging sites to enable the transition to ZEB where upgrades to existing bus depot locations would be prohibitively expensive.

Rural Connectivity EV Pilot

Although there are many challenges, there is also an opportunity to be innovative in rural areas, helping develop closer community ties where people and businesses can work together to overcome these challenges. Taking a place-led approach is an imperative given that each community is different, with different needs and different existing infrastructure and services. Working together, we could:

- Develop an 'on-demand' transport model, similar to a community run uber-style transport service. The paradigm shift to on-demand transport for remote rural areas is dependent on digital connectivity to enable the rural dweller to dial up their local uber-share vehicle to take them to their destination. There is an opportunity to link with NYnet; a company which was set up by NYCC to deliver high-speed connectivity to the public and private sector. NYnet is also the delivery agent of Superfast North Yorkshire delivering next generation access to the whole of North Yorkshire.
- Develop EV mobility hubs through community and church halls, shops, village squares, healthcare facilities, pubs that many rural areas already have. Other innovations could include using these hubs for energy generation or providing access to opportunities through physical "mobile" services (such as healthcare providers or libraries) coming into communities.
- Join up investment opportunities between the public and private sector to upgrade existing DERV buses to zero exhaust emission buses which could be complemented by installation of electric car charging points for public car charging and council fleet vehicles.
- Develop a community transport and / or internal fleet initiative. Working with 'micro operators'/ community transport operators to test roll out of small buses and their operation in a rural environment. This could include a trial of financing options through NYCC (to overcome capital outlay challenge stated above).

I believe that now is the time to do things differently for mobility and our rural communities to bring about lasting change. We look forward to the opportunity to explore this further.

Yours sincerely

KARL BATTERSBY

Corporate Director – Business & Environmental Services

Initial equality impact assessment screening form

This form records an equality screening process to determine the relevance of equality to a proposal, and a decision whether or not a full EIA would be appropriate or proportionate.

Directorate	BES		
Service area	H&T		
Proposal being screened	Local Electric Vehicle Infrastructure Fund - Eol		
Officer(s) carrying out screening	Keisha Moore		
What are you proposing to do?	 Submit an expression of interest to OZEV to deliver EVCP in rural locations across the county 		
Why are you proposing this? What are the desired outcomes?	 To address issues of social isolation, poor digital connectivity and climate change in our rural communities 		
Does the proposal involve a significant commitment or removal of resources? Please give details.	No, at this stage the bid for funding does not require significant commitment or removal of resources		
	In order to make a full submission to OZEV on 17 th June more resource will be required to manage competing priorities		

Impact on people with any of the following protected characteristics as defined by the Equality Act 2010, or NYCC's additional agreed characteristics

As part of this assessment, please consider the following questions:

- To what extent is this service used by particular groups of people with protected characteristics?
- Does the proposal relate to functions that previous consultation has identified as important?
- Do different groups have different needs or experiences in the area the proposal relates to?

If for any characteristic it is considered that there is likely to be an adverse impact or you have ticked 'Don't know/no info available', then a full EIA should be carried out where this is proportionate. You are advised to speak to your <u>Equality rep</u> for advice if you are in any doubt.

Protected characteristic	Potential f	Don't know/No	
	Yes	No	— info available
Age		X	
Disability		X	
Sex		X	
Race		X	
Sexual orientation		X	
Gender reassignment		X	
Religion or belief		X	
Pregnancy or maternity		X	
Marriage or civil partnership		X	
NYCC additional characteristics	·	·	÷
People in rural areas		X	
People on a low income		X	
Carer (unpaid family or friend)		X	

Does the proposal relate to an area where there are known inequalities/probable	No.			
• •				
impacts (e.g. disabled people's access to public transport)? Please give details.				
Will the proposal have a significant effect on how other organisations operate? (e.g. partners, funding criteria, etc.). Do any of these organisations support people with protected characteristics? Please explain why you have reached this conclusion.	No			
Decision (Please tick one option)	EIA not relevant or proportionate:	~	Continue to full EIA:	
Reason for decision	enhance, not in	nhibit, pe portunitie	mes being develo ople's ability to ad es. This includes	ccess travel
Signed (Assistant Director or equivalent)	Barrie Mason			
Date	14/04/2022			



Climate change impact assessment

The purpose of this assessment is to help us understand the likely impacts of our decisions on the environment of North Yorkshire and on our aspiration to achieve net carbon neutrality by 2030, or as close to that date as possible. The intention is to mitigate negative effects and identify projects which will have positive effects.

This document should be completed in consultation with the supporting guidance. The final document will be published as part of the decision making process and should be written in Plain English.

If you have any additional queries which are not covered by the guidance please email climatechange@northyorks.gov.uk

Please note: You may not need to undertake this assessment if your proposal will be subject to any of the following:
Planning Permission
Environmental Impact Assessment
Strategic Environmental Assessment
However, you will still need to summarise your findings in in the summary section of the form below.

Please contact <u>climatechange@northyorks.gov.uk</u> for advice.

Title of proposal	Local Electric Vehicle Infrastructure Fund - Eol
Brief description of proposal	Deliver EVCP interventions across the county
Directorate	BES
Service area	Highways and Transportation
Lead officer	Keisha Moore
Names and roles of other people involved in carrying out the impact assessment	
Date impact assessment started	08/04/2022

Options appraisal

Were any other options considered in trying to achieve the aim of this project? If so, please give brief details and explain why alternative options were not progressed.

A range of schemes that fit the criteria and locations were explored with Climate Leads within North Yorkshire and its partner District and Borough authorities, further information will be provided beyond submission of the expression of interest.

What impact will this proposal have on council budgets? Will it be cost neutral, have increased cost or reduce costs?

Please explain briefly why this will be the result, detailing estimated savings or costs where this is possible.

No funding is being offered at this stage.

How will this proposal in the environment? N.B. There may be short to impact and longer term po impact. Please include all impacts over the lifetime of and provide an explanatio	erm negative ositive potential of a project	Positive impact (Place a X in the box below where relevant)	No impact (Place a X in the box below where relevant)	Negative impact (Place a X in the box below where relevant)	 Explain why will it have this effect and over what timescale? Where possible/relevant please include: Changes over and above business as usual Evidence or measurement of effect Figures for CO₂e Links to relevant documents 	impacts.	Explain how you plan to improve any positive outcomes as far as possible.
Minimise greenhouse	Emissions		*				
gas emissions e.g.	from travel						
reducing emissions from travel, increasing energy efficiencies etc.	Emissions from construction		*		This bid is for further appraisal of a short list of schemes and locations for EVCP installation, and does not involve physical construction at this point.		
	Emissions from running of buildings		*				
	Other		*				
Minimise waste: Reduce recycle and compost e.g. of single use plastic			*				
Reduce water consumpti	on		*				
Minimise pollution (inclu land, water, light and nois	-		*				

How will this proposal impact on the environment? N.B. There may be short term negative impact and longer term positive impact. Please include all potential impacts over the lifetime of a project and provide an explanation.	Positive impact (Place a X in the box below where relevant)	npact a X in the box below where	Negative impact (Place a X in the box below where relevant)	 Explain why will it have this effect and over what timescale? Where possible/relevant please include: Changes over and above business as usual Evidence or measurement of effect Figures for CO₂e Links to relevant documents 	 Explain how you plan to improve any positive outcomes as far as possible.
Ensure resilience to the effects of climate change e.g. reducing flood risk,		*			
mitigating effects of drier, hotter summers					
Enhance conservation and wildlife		*			
Safeguard the distinctive characteristics, features and special qualities of North Yorkshire's landscape		*			
Other (please state below)		*			

Are there any recognised good practice environmental standards in relation to this proposal? If so, please detail how this proposal meets those	Э
standards.	

N/A

Summary Summarise the findings of your impact assessment, including impacts, the recommendation in relation to addressing impacts, including any legal advice, and next steps. This summary should be used as part of the report to the decision maker.

Accepting the recommendation to put forward an EOI will have no climate change impact. Prior to construction of any EVCPs, a report will be written and an associated climate change impact assessment completed. The intended overall outcome of the bid, if successful, is to have a positive impact by encouraging and facilitating greater use of electric vehicles.

Name	ment was completed by: Keisha Moore	
Job title	Transport Planning Officer	
Service area	Highways and Transportation	
Directorate	BES	
Signature	Keisha Moore	
Completion date	08/04/2022	
uthorised by relevant Assistan	: Director (signature): Barrie Mason	