Appendix 1

Electric Vehicle Charging Strategy

Consultancy Requirements

March 2021

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# About Us

For over 100 years, we have been growing, shaping and caring for over 1,500 of our nation’s forests for the benefit and enjoyment of all, for this generation and the next.

We care for more land and trees than any other organisation in England. Shaping landscapes for people, wildlife and timber. We’ve built over 1,800 miles of walking, running and cycling trails, supplying England’s largest amount of sustainably-sourced timber, and conserving the homes of thousands of plants and animals.

Forests are vital for the future of our planet. They improve the health and wellbeing of everyone and with careful planning and expert management, our forests will continue to thrive. They help to offset carbon emissions, restore eco-systems and provide people of all ages and abilities with fresh air and spaces to breathe. We are always thinking beyond today, planning and planting forests that will help create a sustainable future.

We believe forests enhance people’s quality of life by providing places to enjoy watching wildlife, walking, riding bikes or horses and playing among the trees. By opening up access to the nation's forests through our Active Forests programme, we contribute to the wellbeing of the nation.

As well as health benefits, our woodlands make significant contributions to local economies around the country. The 226 million visits we get per year support over 80 private businesses across England. Alongside Forestry England, we work with these business partners to deliver services as bike hire, cafes and action-packed adventures through Go Ape our Forest Centre.

**Key Facts**

* 24 visitor centres and 40 key destination sites
* 6 visitor attractions inside UK top 100
* 562 designated car parks
* Around 65 car parks are fee paying car parks
* Over 84,000 have joined our membership scheme

# Background

With current Government transport strategies and the shift away from fossil fuel vehicles, the importance and reliance for public facing electric vehicle charging points in areas not usually associated with the supply or provision to re-fuel a vehicle will be critical.

In order to provide an added ‘service’ to our visitors whose mode of transport is an electric vehicle, we have the aspiration to provide the technology and systems whereby vehicles can be charged through public facing electric vehicle charging points at a Forestry England car park.

We are successfully operating our own fleet of electric vehicles through our ‘back of house’ electric vehicle infrastructure and now wish to further explore the opportunities for public facing electric vehicle charging points.

Our overriding objective would be to provide public facing electric vehicle charging points at locations i.e. forest car parks, where sufficient demand for this service is evident and / or a realistic prospect and is commercially viable.

To further develop our strategic direction and ultimately understand the feasibilities for the implementation of our objective, we wish to engage with a specialist consultant who will provide expert knowledge and experience in this field.

# Consultancy Requirements

The consultant will be required through their knowledge and experience to provide outputs in the following key areas:

* Evaluation criteria
* Demographic profiling
* Hardware and software solutions
* Funding options
* Partnership, leasing and procurement opportunities
* Electric grid
* Future renewable energy sources
* Financial and commercial analysis

The consultant will provide clear and concise advice which will be of a standard and quality, suitable for Forestry England to create a national solution to public facing charging and the feasibility and a business case on a site-by-site basis.

### Case Studies Analysis

We do not expect the consultant to provide in depth analysis for each Forestry England car parking site, but a varied sample group.

We operate a ‘Tier’ system. (See Annex 2 for our site locations and Annex 3 for tier definition) For the purposes of this appointment we wish to use the following sites as case studies.

The outputs and metrics used within the case study sites, would then allow us to assess further sites in due course.

Sites to be considered for this project are:

* Alice Holt Tier 1 – National Visitor Centre
* Beechenhurst Tier 1 – National Visitor Centre
* Jeskyns Tier 2 – Regional Visitor Centre
* Mallards Pike Tier 2 – Regional Visitor Centre
* Abbotts Wood Tier 3 – Large Woodland
* Friston Forest Tier 3 – Large woodland

#### Objectives

The objectives for the case study sites are:

* To propose site specific solutions in line with the guidance provided in the Consultants brief, with further detail considering actual developments.
* The strategy will outline what the proposals would consist of at each development based on the consultant’s recommendations.
* The proposals will consider what works would be required to provide these facilities and introduce future flexibility as technology develops.
* The proposals will outline any parameters or restrictions that may present themselves in relation to that site or area.
* The proposals will include indicative budget costs including new Distribution Network Operator (DNO) supplies and Electric Vehicle Charging equipment to give an overview of the financial implications associated with the introduction of these facilities.
* The proposals should be complete with indicative sketch drawings showing proposed equipment layouts, Electric Vehicle Charging distribution and external works etc.

### Evaluation Criteria Recommendations

When considering which sites to introduce public facing electric vehicle charging points, we need to fully understand the evaluation criteria that we need to adopt during an assessment process.

We require feasibility metrics which will provide us with clear guidance to identify suitable sites which are viable for introduction of public facing electric vehicle charging points.

We require the consultant through the process of analysing and evaluating the case study sites, to present both a structured methodology with detailed considerations as well as the outputs in a format which will form part of a business case.

The key areas for analysis and evaluation which the consultant must address, but are not limited to, are as follows:

* What are the main dependencies and considerations we must address on a site-by-site basis and how would we establish a priority order?
* Electrical supply demands, including civils and any engineering works
* Local grid implications
* Planning restrictions and legal considerations
* Changes to car park design:
  + The positioning of the charging points
  + The quantity of the charging points, in relation to size of car park or demand
  + The type of charging units
  + Any additional infrastructure requirements
* The charger type i.e slow, fast, rapid etc in relation to our parking setup and the local context of the site.

### Demographic Profiling

The distance of our forest sites in relation to areas where alternative public electric vehicle charging points may be available, will vary considerably. Some of our sites are in very rural locations, where others are just a few miles to major towns and cities.

We know that our visitor length of stay will be determined by the activities they undertake, some visit every day and stay for less than an hour, whilst others visit less frequently, but stay in excess of 4 hours. In addition, we know that the drive time to our sites will varying dependant on the catchment area and the facilities and activities we offer.

We require the consultant to undertake demographic profiling at the case study sites so we understand what the demand for charging facilities across a range of sites are likely to be.

As part of the profiling, we need to understand whether the exclusion of public facing electric vehicle charging points in certain locations, is likely to affect our brand reputation and whether visitations will be influenced. We also need to understand if providing electric vehicle charge points in certain location will provide a draw to customers.

### Hardware and Software Solutions

The consultant will be required to identify a range of charging systems and units and indicate the most suitable solution which will meet both our current and future requirements.

Consideration should be given to our existing ‘back of house’ electric vehicle charging infrastructure used by our own fleet. Fleet electric vehicle charging provision will need to be increased as more vehicles become electric and so a mutually beneficial solution, between public, fleet and staff private cars would be preferred. Currently most fleet charging is undertaken overnight but visiting staff will need to charge through the day along with staff personal vehicles. For accessing and making payment for the use of the public electric vehicle charging points, consideration must be given to the possibility of integration with either current or future parking access control and payment systems. It is desirable to be able to establish different user groups at different financial charge rates.

An aspiration would be that the visitor could pay for the EV charging fee and their parking charge in a single transaction.

We currently have a range of car park operating systems, these are indicated in Annex 2.

What smart charging solutions are available, what are their benefits in this context and how they may be desirable to a customer.

Business intelligence by way for understanding user behaviour, usage trends, energy and financial data will be required.

How faults with the units will be identified and remedied and any SLA expectations we should have from a provider.

### Funding Options Appraisal

As a Government body we would like to understand if there are any funding schemes or grants available to us, and if so, what are the terms and conditions for such schemes. The consultant will be required to report on this.

### Partnership, Leasing and Procurement Opportunities

We would like to understand and explore any partnership opportunities, leasing and business sharing models and compare these to a more traditional procurement. The consultant will be required to report on models that the market currently offers along with anything known in the pipeline and indicate which would be the most suitable method. Consideration should be given to the below as a minimum;

* Capex
* Opex, management and reactive repairs
* Control over price to end user
* What the expectation of any partner / lease / provider might be and typical arrangements (ie paying for the electric, lease term, level of demand, public liability etc)
* Ability to integrate with existing systems and site set up
* Business intelligence data ownership

### Electric Grid

The consultant will be required to identify where the nearest grid connection is to the proposed charge point locations at each of the case study sites and how this will be bought to site along with any applicable constraints. The consultant shall consult with the DNO relevant to each site to determine grid capacity in the area and whether it will be suitable for the proposed charging along with budget costings for installing a new connection.

The consultant shall provide the electric demand summary for the solutions identified at each of the tiered sites (plus / minus any renewables as set out below) so that these can be used by Forestry England to liaised with DNOs at other sites across the country.

### Future Renewable Energy Sources

We would like to understand what emerging technologies would be of benefit and should be considered, for example solar parking canopies, rechargeable and battery storage. The consultant shall identify renewable and low carbon opportunities to enhance the provision of charging on site. The summary should include how these technologies work in tandem and the benefits they bring along with any issues for consideration and budget / rule of thumb costings. The consultant should advise how schemes can be set out to either incorporate these from “day 1” or in a way that they can be incorporated at a future date.

### Financial and Commercial Analysis

We require detailed financial and commercial analysis for each of the case study sites. The outputs will aid with the feasibility and business case for each site.

The analysis must include, but not limited to:

* Set-up costs (actual charging units and system design, hardware and software)
* Power infrastructure suitable for installation and allow for further expansion if required
* Any civils or engineering costs associated with installation and/or re-design of parking areas
* Provision for signage, marketing, or any statutory requirements
* On-going operating costs and/or associated fees
* Income and revenue recovery opportunities
* Costings/income relating to partnership or commercialisation opportunities
* Any other considerations

# Annex 1 – Forest Districts

# Annex 2 – District Information

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **District** | **Site Name** | **Tier** | **Spaces** | **Free or Paid** | **Operating Method** |
| Central | Chambers Farm Wood | Tier 3-4 |  | Free | N/A |
| Central | Fineshade (Visitor Centre) | Tier 2 | 210 | Paid | P&D |
| Central | Rosliston | Tier 2 |  | Paid | P&D |
| Central | Sherwood (Pines) (District Office) | Tier 1 | 1750 | Paid | ANPR - Barrier |
| Central | Bury (inc Philips Park) | Tier 3 | 30-40 | Free | N/A |
| Central | Cannock Chase (Birches Valley) | Tier 1 | 750 | Paid | P&D |
| Central | Hicks Lodge | Tier 2-3 | 85 | Paid | P&D |
| Central | Sense Valley |  |  | Free |  |
| Central | Salcey (Visitor Centre) | Tier 2 | 150 | Paid | P&D |
| Central | Delamere  (Visitor Centre) | Tier 1 | 1390 | Paid | ANPR - Barrier |
| Central | Delamere (Treetops) | Tier 2 |  | Paid | P&D |
| Central | Delamere (Whitefield) | Tier 2 |  | Paid | P&D |
| East | Bedgebury PINETUM (Sub Office) | Tier 1 | 1080 | Paid | ANPR - Barrier |
| East | Thetford High Lodge (Visitor Centre) | Tier 1 | 1600 | Paid | ANPR - Barrier |
| East | Wendover woods | Tier 1 | 600 | Paid | ANPR - Barrier |
| East | Abbots Wood | Tier 3 | 70 | Paid | P&D |
| East | Aston Hill bike park | Tier 3 | 40-60 | Paid | P&D |
| East | Birchden Woods | Tier 3 | 50 | Paid | P&D |
| East | Friston Forest - Butchers Hole | Tier 3 | 60 | Paid | P&D |
| East | Friston Forest - Lidlington Road | Tier 3 | 50 | Paid | P&D |
| East | Rendlesham Forest | Tier 2 | 230 | Paid | P&D |
| East | Jeskyns | Tier 2 | 200 | Paid | P&D |
| East | Thames Chase Forest Centre | Tier 2 | 100 | Paid | N/A |
| North | Hamsterley | Tier 1 | 800 | Paid | ANPR - No barrier |
| North | Chopwell | Tier 3 | 100 | Free | N/A |
| North | Broadmoor (Ennerdale) | Tier 3-4 | 10 | Free | N/A |
| North | Bowness Knott, Ennerdale | Tier 3 | 90 | Free | N/A |
| North | Gisburn | Tier 2 | 120 | Paid | ANPR - No barrier |
| North | Kielder (Visitor Centre) | Tier 2 | 300 | Paid | P&D |
| North | Skyspace/ Observatory (Kielder) | Tier 3 | 50 | Free | N/A |
| North | Elf Kirk (Kielder) | Part - T2 | 20 | Free | P&D |
| North | Blackhopeburnhaugh (Kielder | Tier 3 | 20 | Free | N/A |
| North | Warksburn (Kelder) | Tier 3 | 40 | Free | N/A |
| North | Thrunton Woods (Rothbury) | Tier 3 | 90 | Free | N/A |
| North | Simonside | Tier 3 | 60 | Free | N/A |
| North | Wooler Comon | Tier 3 | 30 | Free | N/A |
| North | Harbottle | Tier 3 | 20 | Free | N/A |
| North | Heburn | Tier 3 | 20 | Free | N/A |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **District** | **Site Name** | **Tier** | **Spaces** | **Free or Paid** | **Operating Method** |
| North | Grizedale (Visitor Centre) | Tier 1 | 200 | Paid | ANPR - No barrier |
| North | Whinlatter (Visitor Centre) | Tier 1 | 200 | Paid | ANPR - No barrier |
| North | Kennels (Grizedale) | Part - T1 | 60 | Paid | ANPR - No barrier |
| North | Moor Top (Grizedale) | Part - T1 | 20 | Paid | P&D |
| North | Bogle Crag (Grizedale) | Part - T1 | 15 | Paid | P&D |
| North | Revilin Moss (Whinlatter) | Part - T1 | 35 | Paid | ANPR - No barrier |
| North | Noble Knott (Whinlatter) | Part - T1 | 20 | Free | N/A |
| North | Hobcarton (Whinlatter) | Part - T1 | 20 | Free | N/A |
| North | Spout Force (Whinlatter) | Part - T1 | 25 | Free | N/A |
| North | Dodd Wood (Keswick) | Tier 2 | 90 | Paid | ANPR - No barrier |
| South | Alice Holt (Visitor Centre) | Tier 1 | 450 | Paid | ANPR - Barrier |
| South | Moors Valley (Visitor Centre) | Tier 1 | 800 | Paid | ANPR - Barrier |
| South | West Walk (Forest of Bere) | Tier 3 | 280 | Paid | P&D |
| South | New Forest (District Office) Several sites | Tier 1 |  | Free | N/A |
| South | Bourne wood | Tier 3-4 |  | Free | N/A |
| South | Creech (Forest of Bere) | Tier 3 |  | Free | N/A |
| South | Woodend (Forest of Bere) | Tier 4 |  | Paid | P&D |
| South | Upperford Copse (Forest of Bere) | Tier 4 |  | Paid | P&D |
| South | Havant Thicket (Forest of Bere) | Tier 4 | 30 | Free | N/A |
| West | Great Wood/Ramscombe | Tier 3 | 150 | Paid | P&D |
| West | Neroche | Tier 3-4 | 30 | Free | N/A |
| West | Staple Hill | Tier 3-4 | 35 | Free | N/A |
| West | Cookworthy | Tier 4 | 35 | Free | N/A |
| West | Eggesford | Tier 3-4 | 50 | Free | N/A |
| West | Stockhill | Tier 4 | 50 | Free | N/A |
| West | Savenake Forest | Tier 3 | 70 | Free | N/A |
| West | Bellever | Tier 3 | 80 | Paid | P&D |
| West | Bellever Postbridge | Tier 4 | 30 | Free | N/A |
| West | Wenchford ( Forest of Dean) | Tier 3 | 60 | Paid | P&D |
| West | Cannop Cycle Centre (Forest of Dean) | Tier 1 | 500 | Paid | P&D |
| West | Beechenhurst (Visitor Centre) (Forest Of Dean) | Tier 1 | 350 | Paid | P&D |
| West | Cardinham Woods | Tier 2 | 180 - 220 | Paid | P&D |
| West | Leigh Woods | Tier 3 | 130 | Paid | P&D |
| West | Wyre (Visitor Centre) | Tier 1 | 250 | Paid | P&D |
| West | Wyre (Hawkbatch) | Tier 3 | 40 | Free | N/A |
| West | Mortimer Forest | Tier 3 | 50 | Free | N/A |
| West | Speech House woods | Tier 3 | 40 | Free | N/A |
| West | Hopton woods | Tier 3-4 | 40 | Free | N/A |
| West | Eastridge | Tier 3-4 | 40 | Free | N/A |
| West | New Fancy | Tier 3 | 40 | Free | N/A |
| West | Speculation | Tier 3-4 | 40 | Free | N/A |
| **District** | **Site Name** | **Tier** | **Spaces** | **Free or Paid** | **Operating Method** |
| West | Cyril Hart Aboretum | Tier 3 | 25 | Free | N/A |
| West | Symonds Yat Rock (Main) (Forest of Dean) | Tier 1 | 200 | Paid | P&D |
| West | Symonds Yat Rock (staff/disabled only) | Tier 1 | 20 | Paid | N/A |
| West | Mallards Pike (Forest of Dean) | Tier 1-2 | 195 | Paid | P&D |
| West | Haughmond Hill | Tier 1-2 | 120 | Paid | P&D |
| West | Haldon (Visitor Centre) | Tier 1 | 350 | Paid | P&D |
| West | Cannop Ponds (Forest of Dean) | Tier 3 | 75 | Paid | P&D |
| West | Bellever Postbridge | Tier 4 | 30 | Free | N/A |
| West | Nutcombe | Tier 3 | 35 | Free | N/A |
| West | Cann Wood | Tier 3 | 30 | Free | N/A |
| West | Whistlandpound | Tier 3 | N/A | Free | N/A |
| West | Idless | Tier 3 | 35 | Free | N/A |
| West | Mamhead | Tier 3 | 60 | Free | N/A |
| Westonbirt | Westonbirt Arboretum | Tier 1 |  | Free | N/A |
| Yorkshire | Dalby (Visitor Centre) | Tier 1 | 1760 (11 sites) | Paid | ANPR - Barrier |
| Yorkshire | Guisborough Forest | Tier 2 |  | Paid | N/A |

# Annex 3 – Tier Definition

|  |  |  |
| --- | --- | --- |
| **Tier** | **Site Profile** | **Car Park Operating System** |
| Tier 1 | National visitor centre | Pay on Foot ticketless ANPR system with barrier |
| Tier 2 | Regional visitor centre | Pay and Display or Barrier-less ANPR system |
| Tier 3 | Large woodland car park | Pay and Display |
| Tier 4 | Small woodland car park | Mainly free – some Pay and Display |
| Tier 5 | Gateway woodland | Free |
| Tier 6 | Woodland | Free |
| Tier 7 | Remote woodland | No car park |