

# MY ELECTRIC AVENUE



## Welcome Pack

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# 1. Introduction

Congratulations! You have been selected along with your colleagues to take part in the My Electric Avenue Project technical trials.

We're looking for ten 'electric avenues' – groups, or 'clusters', of ten people or more – where each person will drive an electric car for 18 months to trial a new technology, called 'Esprit'. We are preparing for when electric cars will be commonplace. Esprit will monitor and control the electricity demand from charging electric cars. It is a solution that will save expensive and disruptive work being carried out to upgrade the electricity network and avoid the need for roads to be dug up.

## 2. Contacts

Fleetdrive Electric is one of My Electric Avenue's project partners, and is managing the lease arrangements for your Nissan LEAF. With Fleetdrive Electric's 15 years' experience in the Contract Hire and Leasing Business you are in good hands. Below are the **essential telephone numbers** for you and your drivers to keep in a handy place.

<b>Service - Fleetdrive Electric</b>	08444 935 579	Allow 10 days for free collection
<b>Breakdown - Nissan</b>	0844 07824 07	If you experience a breakdown in your Nissan LEAF
<b>Accident Recovery - Nissan</b>	0800 6523025 or 01737815175	Claims are dealt with by your insurance company
<b>Car Hire - Fleetdrive Electric</b>	08444 935 579	Fleetdrive can help with car hire for the journeys you can't make in the LEAF
<b>Charge Point</b>	0191 2650500	If you have any problems with your work based charge points
<b>Surveys – De Montfort University</b>	0116 207 8711	For information and queries regarding the surveys or face-to-face research
<b>Project Team – EA Technology</b>	0151 347 2221	For any other questions you may have about the project

Also included in this pack is your driver card that has all the important telephone numbers you need when out on the road, plus your tax disc holder.

If you would like any further information about the My Electric Avenue project, please get in touch:

Email: [myelectricavenue@eatechnology.com](mailto:myelectricavenue@eatechnology.com)

Tel: 0151 347 2221

My Electric Avenue, EA Technology Limited,  
Capenhurst Technology Park,  
Capenhurst, Cheshire CH1 6ES

For more information visit [www.myelectricavenue.info](http://www.myelectricavenue.info)

## 3. Driving Tips

To ensure you get the most from your electric vehicle (EV) it is essential that you drive it in an eco-friendly manner. Most importantly:

- Use the eco setting and regenerative braking mode
- Allow the motor to slow you down wherever possible so that you can make the most of regeneration from the car's forward motion
- Keep top speed down – speeds over 60 mph do use much more energy per mile
- Pre heat or pre cool the vehicle using the CarWings App – so that energy used comes from mains and not the battery

## 4. Charging

### Charging away from home

Aside from your work based charge point you may wish to charge at public points. You can find out where these are on the internet. A few examples of these are:

[www.zapmap.co.uk](http://www.zapmap.co.uk).

[www.chargeyourcar.org.uk](http://www.chargeyourcar.org.uk)

Charge Your Car Ltd can provide more information on accessing the public charging network.

Charge Your Car (CYC) is the UK's growing pay as you go recharging network for electric vehicles. Launched in 2010 in the North East of England, CYC is now being expanded in to a national network. There are approximately 1,500 free-to-use or pay-to-use charge points already connected, with more being added every month.

For EV drivers, CYC makes it simpler and more convenient to travel across the UK, and within a few years, to always be within range of a CYC charge point. A single RFID card (the CYC Lifetime Card) provides access to all charge points on the network, whilst the CYC app is the first app that lets EV drivers find and use charge points. To use the network, EV drivers simply register a debit/credit card, which connects to their CYC Lifetime Card and app. The CYC telephone helpline provides support and advice (0191 2650500).

Charge Your Car does not own the charge points on the network. CYC operates by providing a single national charge point management system to which charge point owners can connect charge points.

[www.sourcelondon.net](http://www.sourcelondon.net)

[www.fleetdrive-electric.com/electric-car-van-chargepoint-map.html](http://www.fleetdrive-electric.com/electric-car-van-chargepoint-map.html)

For information on the Rapid Charge Network please visit [www.rapidchargenetwork.com](http://www.rapidchargenetwork.com) and to find the rapid chargers installed across the UK and for units which are coming soon please visit [www.ecotricity.co.uk](http://www.ecotricity.co.uk)

You need to be aware that there are different charging levels and connectors – if you click on the charge points on the map you can see the types available at that location.

The Nissan LEAF can be charged using:

- The supplied 3 pin ESVE cable from a normal domestic 13 AMP socket – or charge points using this type of socket. This will charge your vehicle at a ‘slower’ rate of around 2.8kW per hour.
- The RAPID 50KW CHADEMO type charger – you will find these also at Nissan Dealers
- You may need an adapter cable to use points that have the Menekes or Type 2 connector. Please call us for details if you find you will need one of these. There is a cost associated with these cables and they do not come as standard supplied by Nissan. Purchase of these cables is at your cost.

Please note that as you are participating in a work based cluster, you will need to be aware of others in your cluster who may wish to charge at the same time as you.

Please be mindful of this and if at all possible be flexible to allow everyone in your cluster a chance to charge daily.

## Charging at Work

My Electric Avenue is a research project, and is testing the potential impact of multiple EVs charging on the low voltage electricity network. For this reason, there is a risk that you may plug in your car to charge, but due to the normal operation of the equipment being trialed to prevent an overload on the network, the car has not fully charged.

If you wish, in addition to the work based charger provided as part of the work based technical trial cluster, you can opt to have a separate charging point installed at your home. This charging point however, will not be covered by the project.

## What happens if the charger fails?

As part of your Welcome Pack, you will find the Wallpod EV Charging Station / User Maintenance Guide document (please see Appendix 2) which provides helpful tips and advice on using and maintaining your charger, and steps you can take to reset the charger if you think the charger has failed.

If you suspect that the charger may not be working properly, you should report the error to your facilities manager (or equivalent) on site. The facilities manager on site should then try to reset the charger using the document mentioned above, in the first instance.

However, should they be unable to fix the charger after following the instructions included within this document, they should contact the helpline provided to report this. The helpline number is in the table on page 4.

Or, should you prefer, you can also report the failure at the following email addresses:

[dawn.e.taylor@ssecontracting.com](mailto:dawn.e.taylor@ssecontracting.com)

[Julie.salmon@ssecontracting.com](mailto:Julie.salmon@ssecontracting.com)

If you choose to call the helpline you will be asked a series of questions to help them to understand what the fault might be. The lack of charge may be due to a fault in the charger, a fault in the Intelligent Control Box, a fault in the wiring, or at the substation. Therefore it's important to answer the questions as best you can to help them to identify the cause, to allow them to rectify it as soon as possible.

Please note that the prevention of charging as a result of the normal operation of the Esprit equipment being tested will not be considered a 'charge point failure' as the possibility of this occurring is inherent in participating in the trials.

If your car is not fully charged as a direct result of the charge point failing, you should try to find an alternative mode of transport. However, if other modes of transport are inappropriate for your journey and you must use a car, the project may fund the use of a taxi (within reason). You will need to book a taxi yourself, and claim back the money for the journey from the project team. There are no restrictions on which taxi company you can use; you can call on your usual local taxi company,

Please note, that the project will only reimburse the use of taxis once charger failure has been checked on the system and verified.

### How do I claim back for a taxi journey?

If you are a Technical trial participant, in the instance of the charger failing and your car not having enough charge for you to start your journey, and you require a taxi, you may be able to claim back the money for the journey from the My Electric Avenue Project team.

You will need to fully complete a Taxi Expenses Form (see Appendix 2) each time you need to use a taxi due to a charger failure.

It is important that you follow the process below to claim back your expenses for your taxi journey:

1. Report the charging fault to Zero Carbon Futures and emergency need of a taxi by email to [Lois.warne@gateshead.ac.uk](mailto:Lois.warne@gateshead.ac.uk)<sup>1</sup>
2. Complete Taxi Expenses Form (with all listed information included) and send to [myelectricavenue@eatechnology.com](mailto:myelectricavenue@eatechnology.com) or post to EA Technology
3. Obtain a copy of your receipt of the taxi journey (with all listed information included) and send to [myelectricavenue@eatechnology.com](mailto:myelectricavenue@eatechnology.com) or post to EA Technology
4. Co-operate with Project Partners in investigating the fault; wait for confirmation of verified charging fault
5. Allow 30 days for return of money (once charger fault has been confirmed)

Once the My Electric Avenue team has received all of the information as requested on the form, they will match the time and date of the reported fault and taxi journey with fault information recorded on the system. They will then contact you to confirm that the charger fault has been checked and if your expense claim will be processed. Once this has been checked, Fleetdrive Electric will refund the charge of the taxi to your account within 30 days.

You can claim taxi expenses up to a limit of £100 under the My Electric Avenue Project, in the instance of your car not being fully charged, and you not being able to start your journey, as a direct result of a charger failure at your workplace. Please note that this includes part payment.

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<sup>1</sup> Should you be unable to email and log the emergency and fault to [lois.warne@gateshead.ac.uk](mailto:lois.warne@gateshead.ac.uk) you can also call 0191 490 2483, but please state clearly that you are logging an emergency use of a taxi and wish to claim back the cost of the journey from the My Electric Avenue Project.



## 5. Trial participation

### Technical trials

As a Technical trial participant you will have signed a consent form which states your agreement to participate in customer research as part of My Electric Avenue.

This involves completing five questionnaires and participating in at least one interview or focus group.

### Why carry out research?

The aim of the My Electric Avenue project is to test the acceptability to end users of a system that controls the scheduling of EV charging. Therefore we would like to ask you questions about your EV driving and charging experience.

### What information will I be asked for?

We will need information about you and your household, for example your age, gender, number of people in your household, total household income etc. This will help to understand how different types of people use an EV and whether the Esprit technology has any impact on people's experience of using their EV.

We will ask for information about your experiences in using the EV. This may include, for example, what types of trips you use your EV for, the length of these trips, when you decide to charge your EV, as well as other experiences you have in using or charging your EV.

### When will I be asked to take part?

#### The surveys

The surveys will be web-based but if you are unable to complete them online we can arrange for you to complete them over the telephone. You will not need to remember when to complete a survey as we will contact you to remind you. We will send you reminders via email, unless you have indicated that you prefer another form of communication.

- You will be required to provide feedback to five surveys throughout the trial period. The timings of these surveys will be driven by the requirements of the research and are therefore subject to change.

You will receive a 'unique link' to access the survey each time you are asked for feedback. This means you should receive five unique links in total. The unique link will look something like this:

*Follow this link to the Survey:  
Take the Survey*

*Or copy and paste the URL below into your internet browser:*

[https://dmuenergy.eu.xxxxxxx.com/xxxxxSurveyEngine/?SID=SV\\_cDdhrhcVIIOTaaF&Preview=Survey&\\_ =12](https://dmuenergy.eu.xxxxxxx.com/xxxxxSurveyEngine/?SID=SV_cDdhrhcVIIOTaaF&Preview=Survey&_ =12)

You may receive the links from one of the following:

- [myelectricavenue@eatechnology.com](mailto:myelectricavenue@eatechnology.com);
- Jill Fisher <noreply@xxxmailserver.com>; or
- [J.fisher@dmu.ac.uk](mailto:J.fisher@dmu.ac.uk)

Please note that the link may be sent from *noreply@xxxmailserver.com* and therefore there is a chance the email with your unique link may be filtered out of your email inbox and be classified as 'junk mail'. For this reason, you will be contacted in a separate email (from a personal email address) to make sure that you have received your unique link. This email will be sent by Jill Fisher from the De Montfort University team, and the email address will be:

- [myelectricavenue@eatechnology.com](mailto:myelectricavenue@eatechnology.com); or
- *j.fisher@dmu.ac.uk*.

To access the survey you will need to click on the link which says 'Take the Survey' or cut and paste the URL provided into your browser. We understand that the EV might be used by others in your household during the trial. If this is relevant to you, please make sure that the person who signed the Declaration of Intent to be part of the trial completes the survey. If there are additional drivers who will regularly use the EV we would be very grateful if they would also be willing to complete a questionnaire. Please would you ask them to contact us at [myelectricavenue@eatechnology.com](mailto:myelectricavenue@eatechnology.com) to indicate their willingness to take part.

## **The Interviews and Focus Groups**

At some point during the trial, you will be invited to take part in face-to-face research. This will be in the form of a single interview or a focus group with the other participants in your 'cluster'. We will contact you 4-6 weeks prior to carrying out the interview or focus group to arrange a convenient time.

Interviews will take about 30 minutes; focus groups will last about 1.5 hours. Both interviews and discussion groups will be carried out by members of the De Montfort University research team.

The interviews and discussion groups will be an opportunity for you to tell us how you feel about your experience of using an EV with the Esprit technology.

The decision to undertake interviews or a focus group with any particular cluster will depend on when the cluster starts, its location, and the researchers' time and availability.

## **What happens to the information?**

The project operates under a Data Protection Strategy which can be found in the Project Library on the website [www.myelectricavenue.info](http://www.myelectricavenue.info).

## Who will carry out the research?

This research is being carried out by a team of researchers from the Institute of Energy and Sustainable Development at De Montfort University in Leicester and from the James Hutton Institute in Aberdeen. If you have any questions about this part of the trial please contact any of us by email, telephone or letter.

### **Jill Fisher (Research Assistant, De Montfort University)**

Email: [j.fisher@dmu.ac.uk](mailto:j.fisher@dmu.ac.uk)

Tel: 0116 207 8711

Queens Building, De Montfort University

The Gateway, Leicester, LE1 9BH

## Car wings Data

It is very important that your car is connected to CARWINGS.

Carwings is Nissan's remote monitoring service for all Nissan LEAF EVs so equipped. The project team are using the data from both Technical and Social trials to monitor charging.

You will need to ensure:

1. Your car is activated for CARWINGS
2. You have logged in to your YOU+ Nissan Account
3. You push the Yes button on the Centre Display in your car every time you use the car.

**If you have any questions about activating your CARWINGS account please contact Fleetdrive on 08444 935579.**

Carwings Registration: <http://youtu.be/IR1dQJq8W8w>

Route Planning: <http://youtu.be/EmPMBbk1Lt8>

Remote Control: <http://youtu.be/Nr341LNbRtM>

Maximising Range: <http://youtu.be/MGOUeLzYyKE>

Send to Car: <http://youtu.be/JMTyueB7EnI>

## 6. What happens at the end of the trial?

You will be reminded at six months and two months from the end of the agreement about your options to purchase or return the vehicle.

If you have any queries or questions about these or any of the other services Fleetdrive Management Ltd can offer, please call the team on 0800 197 1297.

Zero Carbon Futures will also be in touch with your workplace at the end of the trials to coordinate the decommissioning of the Esprit technology from the charging points.

## 7. About the Project

Electric vehicles (EVs) are starting to become more commonplace on our streets, and small pockets, or 'clusters', of EV owners are already forming, placing more demand on the local electricity network.

Whilst there's plenty of capacity to deliver power for EV charging across the UK, if the charging requirements are concentrated in small areas and during peak demand, local feeders can become overloaded. With the development of even faster charging times, this problem shows no signs of fading.

The full size and scale of the problem that EV clusters could cause will only become apparent to Distribution Network Operators (DNOs), who own and maintain the electricity network, when they are already connected, demanding costly mitigation measures in short timescales.

EA Technology and Scottish and Southern Energy Power Distribution (SSEPD) are working together with partners under the Ofgem Low Carbon Networks (LCN) Fund to trial a ready-made low cost solution through the My Electric Avenue project. EA Technology is developing an EV charge control system ('Esprit') to balance out the charging cycles of EVs at times of network stress.

To test the system the trial will need to simulate a future EV network, and to do this, clusters of EVs need to be 'created'. To encourage customer participation, neighbours will be offered a 'group' deal; where they will be given a very low rental price for an EV for 18 months, if they all sign up together. In return, participants will allow their EV charger to be controlled, their EV data to be collected, and they will provide feedback on their experience. Recorded data will include the times of day they wish to charge their EV, and how far they drive between charging. Experience will be captured using surveys.

The success of this trial relies on close working between DNOs, technology developers, communities, EV manufacturers, academics, car leasing companies and most importantly, those taking part in each cluster!

### What will be learnt?

The knowledge gained from My Electric Avenue project will be shared amongst network operators, government, the energy industry, the low carbon vehicle sector and the general public as a whole. The learning is focused around two core 'learning outcomes':

**Commercial:** To what extent does a DNO enabling a third party delivery of innovation accelerate deployment?

**Technical:** To what extent can DNO direct demand control facilitate the connection of low carbon technology?

There will be a series of reports and other project deliverables produced to demonstrate this learning.

Visit the Project Library for the latest reports: [www.myelectricavenue.info/project-library](http://www.myelectricavenue.info/project-library). In addition, newsletters will keep participants up to date.

## Technical

The technology, installed as part of the project, monitors and controls the demand from charging points on the local electricity network. This may mean interruption to the charging of the EV. The piece of kit at your workplace is a small black box near the charging post and will be installed at the same time as the charging point.

## The growth of EVs

There are lots of EV sales forecasts in existence in various reports yet there is no industry consensus on the numbers of EVs by 2020. We're not expecting it to be easy to predict the exact number of EV sales in the UK in seven years' time, but the different forecasts have a massive range from around 100,000 to 1.5 million.

Starting with the Committee on Climate Change, it foresees the market for EVs and plug-in hybrids will have to reach 16% (of all new cars sold) by 2020 in order to achieve the UK's targets.

The UK Department for Transport (DfT) scenario for 2020 is for 1.2 million EVs to be on the road, and 350,000 Plug-in Hybrid Electric Vehicles (PHEVs) - so around 1.5 million in total.

Other forecasts for the numbers of EVs by 2020 are significantly lower. The European Automobile Manufacturers' Association (ACEA) says 3-10%, LMC Automotive predicts 8%, and Morgan Stanley reckons that, globally, there will only be 4.5% battery EVs by 2025.

The Institute of Economic Affairs (IEA) predicts 1.1 million EV and PHEV sales globally by 2015, 6.9 million by 2020, and 106 million by 2050.

Taking an average of the above, around 10% of new cars in the UK to be plug-in vehicles by 2020 seems like a reasonable maximum. The total UK new car market each year is approximately 2 million cars – so this would equate to around 200,000 EVs (all types) sold in 2020. Add this to the number of EVs already on the road between now and 2020 and there could be 1 million EVs on the road by the end of 2020 - i.e. in seven years' time. The minimum figure is likely to be 250,000 EVs by that stage.

## The need for the project

As sales of EVs increase there is a need to assess the potential impact that a cluster of EVs may have in a local area served by one electricity feeder. In the event of all EVs being recharged at the same time, and without any preparation, the load on the local electricity network may exceed the network capacity.

## Objectives of the project

The project will provide essential information about managing the strain on the electricity distribution network from the anticipated increased uptake of EVs. It will

also deliver a cost-effective solution to Distribution Network Operators (DNOs) that reduces the need for costly and disruptive network reinforcement, and increases the potential for a faster uptake of EVs. It demonstrates a new way of working with a third party leading one of Ofgem's Low Carbon Networks (LCN) Fund supported projects.

### **The local electricity network**

The project focuses on the electricity network that supplies homes and small businesses - the Low Voltage (LV) network. Electricity networks are built to provide energy to customers in a secure, reliable, and sustainable way. The project will trial and demonstrate practical and cost-efficient solutions to alleviate the potential impact of clusters of EVs being charged on a local network. Find out about who does what in the electricity industry at: [www.nationalgrid.com/uk/Electricity/AboutElectricity](http://www.nationalgrid.com/uk/Electricity/AboutElectricity)

## 8. Our trials

### The Nissan LEAF

The Nissan LEAF is an all-electric five-door family hatchback. It needs no fuel such as petrol or diesel, and it has zero tailpipe emissions, no clutch or gears, and is virtually silent to drive. It needs to be plugged in to the electricity supply to charge, and while the LEAF has a range of around 80 miles\* on a single charge, you are advised to consider how the vehicle would fit into your lifestyle and the charging facilities which are available to you if you embark upon journeys which are close to the vehicle's range. This could include, for example, publicly-accessible charge points if your commute is close to half of the range of the vehicle.

\* Range may be affected by a number of factors including driving style, type of driving, topography, and use of features such as air conditioning.

### More information about the Nissan LEAF:

<http://www.myelectricavenue.info/nissan-leaf>

### The charging point

Work based charging points are available for colleagues who are taking part in a work-based technical trial, ensuring that everyone has the convenience of being able to charge their Nissan LEAF at work. The charge points will be ground anchored and will have allocated EV charging parking bays..

### The 'Esprit' technology

The Esprit technology, installed as part of the project, monitors and controls the demand from charging points on the local electricity network. The item of equipment installed at your work is a small black box next to the charging post and it will be installed at the same time as the charging post.

### At the end of the trial

After the trial ends, the participating workplace will keep the charging units and participants will have the option to keep the car -- which can be purchased outright or leased on a new contract (at new rates to be agreed).



## 9. FAQs

### The Project

#### **What is the aim of My Electric Avenue?**

My Electric Avenue is an important trial to learn about managing the strain on the electricity distribution network from the anticipated increase in electric EVs. It will also deliver a cost-effective solution to Distribution Network Operators (DNOs), who own and maintain the electricity network. It reduces the need for expensive, disruptive network reinforcement (that we would ultimately pay for in electricity bills) and increases the potential for a faster uptake of EVs.

#### **What's the problem that needs solving?**

The forecasted growth in EVs is expected to cause an increase in peak-time demand for electricity; this effect will be seen both locally and nationally. At the local level there is a risk that low voltage cables could become overloaded if multiple EVs are connected for charging at the same time and during the normal daily peaks in electricity demand, e.g. the early evening peak at home when people return from work, or during the day at work. This situation may result in costly and disruptive cable reinforcement (i.e. digging up the roads).

#### **What's the proposed solution?**

EA Technology has developed monitoring and control technology. This solution will delay, and in some cases avoid, the need for additional electrical infrastructure - which would be costly and disruptive, as well as taking significant time - to accommodate the forecast increase in EVs.

#### **What's the approach of the project?**

1. To test the monitoring and control technology by recruiting 'clusters' of EV users, both residential and business; all people in a cluster must be fed by the same local electricity feeder. The 'Cluster trials', i.e. those participating in the trial as a group, aim to simulate a 2030 network. As a general guide, one substation feeder may supply one or two streets.
2. To monitor EV users in clusters and as individuals ('social trials') for behavioural and socio-economic data – e.g. their driving and charging habits will be recorded.

The results of these trials will be of interest and will be communicated to the GB electricity industry, to UK government, to the energy and transport industry and to the general public. We will begin to understand what an 'EV-ready' street of the future may look like, and what the implications might be for our electricity network.

#### **Who are the project partners?**

My Electric Avenue is led by EA Technology, with the following project partners:

- Scottish and Southern Energy Power Distribution Limited (SSEPD) (the host Distribution Network Operator, or DNO)
- Nissan (EV supplier)
- Fleetdrive Electric (EV rental programme management)
- Zero Carbon Futures (charging point network developer)
- Northern Powergrid (a collaborating DNO)

In addition there are a number of supporting partners:

- The University of Manchester (providing network modelling support)
- De Montfort University (providing socio-economic support)
- Ricardo (providing independent technical verification)
- Automotive Comms (specialist in EV communications)

### **Who is responsible for different phases of the project?**

EA Technology is the project lead and responsible for customer engagement and all 'usual' project management elements. Fleetdrive Electric will manage the rental programme; Zero Carbon Futures will install the charging points; De Montfort University will be in touch with you to conduct the research.

### **What is unique about the project?**

This is the first time a private company, EA Technology, rather than an electricity company (i.e. a Distribution Network Operator or DNO) will lead and manage an Ofgem Low Carbon Networks (LCN) Fund project, and it will create a blueprint for how DNOs and third parties can work together in the future.

### **How is the project funded?**

The project has received support from Ofgem through the LCN Fund. The Fund supports projects sponsored by the DNOs to try out new technology, operating and commercial arrangements. The objective of the fund is to support projects that help DNOs understand what they need to do to provide security of supply, at value for money, as the UK moves to a low carbon economy.

### **What subsidies and support have been provided?**

Almost all of the funding for project delivery comes directly from Ofgem's LCN Fund. Project partners are providing significant 'in-kind' support – we have brokered a unique deal with Nissan for reduced rental (which Ofgem is then subsidising further); Ofgem simply wouldn't pay for the entire subsidy.

The funds required for the purchase of the charging points are being provided from the project budget with funding supplemented by an Office for Low Emission Vehicles scheme<sup>2</sup> to promote the installation of EV charging points. The full costs breakdown can be found in the bid paperwork, in the 'Project Library' section of the website.

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<sup>2</sup> <https://www.gov.uk/government/news/new-measures-announced-to-support-the-uptake-of-plug-in-vehicles>

## **What's happening elsewhere in the UK – other projects?**

There have been no UK trials to date, of a simple technology to address the issue of managing network overload from domestic EV charging – i.e. as My Electric Avenue is trialing. There have been other trials of EVs in the UK, primarily to assess people's experience of using EVs. The most significant trials have been conducted through the Technology Strategy Board, see:

[www.green-car-guide.com/trial-shows-electric-vehicles-already-satisfy-our-daily-needs.html](http://www.green-car-guide.com/trial-shows-electric-vehicles-already-satisfy-our-daily-needs.html)

## **What are the channels of communication for the project?**

Please refer to the 'essential telephone numbers' table on page 4.

## **Trials**

### **What's involved in the Technical trial?**

Technical trial participants will lease an all-electric Nissan LEAF at a preferential monthly rate for 18 months, and they will have a charging point and the monitoring and control technology installed. The recharging of the vehicle will be monitored, and if required, controlled, by the installed technology. Trial participants will need to provide information about their experience on the trial, and push a button each time they drive their electric vehicle as requested by the project, and be willing to take part in promoting the project.

### **Which geographical areas are included?**

The Technical trial will only take place in certain geographical locations: Scottish and Southern Energy Power Distribution Limited (SSEPD) network areas in central southern England and the north of Scotland, and Northern Powergrid licence areas in North East England, Yorkshire and Northern Lincolnshire.

Applications for the Social trial will be accepted from anywhere within Great Britain.

### **What are the eligibility criteria?**

To take part in the Technical trials, people need to apply as part of a group and all applications are subject to eligibility and availability. Unfortunately, we cannot guarantee that all who apply will be able to take part, due to a number of factors such as:

- the type of local substation
- the arrangement of the feeder from the substation
- the suitability of the area for EV charging
- the electrical wiring of the property
- successful credit check.

### **Is there any scope for changes to which properties the local feeder runs to?**

Sometimes it may be possible to move the normally 'open' points in a local electricity

network to join feeders. There is no option to join areas up if they are totally separate from one another.

### **How long does the trial last for?**

The trial will last 18 months.

### **Is there a cost to take part?**

There is a cost to take part in the trial, which covers the subsidised rate for leasing a Nissan LEAF as part of the trial. You will also need to pay for insurance. Full written details are available on request and the offer is subject to availability of the Nissan LEAF.

### **Is there any inconvenience involved in taking part in the trials?**

The Technical trials involve technology to control when EVs charge to prevent the network being overloaded. It is expected that this can be carried out whilst ensuring that the EV users still have charged EVs when they require them. However, the objective of the trial is to establish whether this is the case. The project may conclude that there are scenarios where the control cannot ensure the EVs are sufficiently charged or more complex control is required.

There is therefore a risk that participants could experience inconvenience if the car is not charged sufficiently. However, the number of times the charging point will be controlled is likely to be very low. Alternative transport can be arranged in case the charge point supplied as part of the technical trials fails. If a charger fails then this will be checked and if necessary replaced.

The vehicle lease includes a breakdown service.

### **Who will manage the project once clusters are set up?**

Once a cluster is established,

- EV management is with Fleetdrive Electric,
- Charging failure/problems with Zero Carbon Futures,
- Project research will be carried out by De Montfort University,
- Any other project related queries will be managed by EA Technology.

### **What is the plan for induction/initial training for EV drivers?**

A 'clinic' or 'EV event' is likely to be held for a cluster, prior to everyone signing up, when a car will be taken along, and at least one after, at which point coaching can be provided.

## **The Nissan LEAF**

### **How much (roughly) will an EV cost me in my energy bills?**

Electric cars are extremely cheap to run – they cost on average £2 to £3 to charge fully (at home, depending on your electricity supplier), which gives a typical range of around 80 miles.

**Is there a maximum mileage allowance?**

Yes – 10,000 miles per year. Excess miles over this limit will be charged at 10p per mile.

**Is there a minimum mileage? (e.g. do you need a minimum mileage for the data from a user to be worthwhile?)**

No, we want ‘normal’ usage data. If you only use it for 5 miles a day that’s fine, although compared with buying another car you probably won’t see any financial benefits as the savings in petrol costs will not be greater than the £100 per month lease.

**Which version of the Nissan LEAF will be offered?**

The project will use the new version of the Nissan LEAF, the Nissan LEAF Acenta as the standard for trial participants. However, participants can choose to pay a higher rate for the premium model, the Nissan LEAF Tekna.

**Can my partner drive the EV?**

Yes but one individual will be legally responsible for the lease – and that person is legally obliged to ensure that the car is insured for both drivers. If there are other regular drivers of the EV, we would welcome their feedback as part of the surveys too.

**Will I need to pay insurance on the EV?**

Yes. There are insurance brokers specialising in EVs, however standard car insurers now provide cover. Deals can be found on cost comparison sites.

**Is GAP insurance required?**

Participants need to be aware that in the event that their car is written off the insurance company may not pay out enough to cover the amount left outstanding – this is especially a risk with EVs.

Participants are advised to consult their insurance provider to understand how the cover works and if they need to top up with a product called GAP insurance. Lease provider Fleetdrive Electric can help with this if required.

**Will I need to pay road tax on the EV?**

No, as all EVs are currently exempt from VED, or road tax (although a tax disc is still required).

**Will I need to pay for an MOT on the EV?**

No, MOTs are not required until a car is three years old.

**Is there breakdown cover? If so, do I pay for this?**

Breakdown cover is included as part of the vehicle leasing contract.

**How should the car be recovered in the event of a breakdown?**

We will use Nissan/AA recovery – numbers will be on the tax disc holder in the car.

**Can an EV tow/be towed?**

For normal towing of the vehicle it is recommended that, as a minimum, the front wheels are lifted. It is not possible to tow a trailer as the vehicle has not been approved for towing.

**What are the options after the 18 months lease?**

You can choose to either purchase the car, arrange to refinance the car, or return it to Fleetdrive Electric.

**What data/information do we have about how green an electric car is from a whole lifecycle perspective?**

Electric and hybrid cars create more carbon emissions during their production than standard vehicles, but are still greener overall. This is according to a report prepared by Ricardo for, and in collaboration with, the Low Carbon Vehicle Partnership (LowCVP). The study found that some of the CO<sub>2</sub> savings made during the use of low carbon vehicles is offset by increased emissions created during their production, and to a lesser extent disposal. However, overall electric and hybrid vehicles still have lower carbon footprints than normal cars. Read more about the report here:

[www.green-car-guide.com/electric-vehicles-have-lower-carbon-footprints-than-normal-cars.html](http://www.green-car-guide.com/electric-vehicles-have-lower-carbon-footprints-than-normal-cars.html)

**How long will it take to deliver once I've signed up and ordered an EV?**

It is expected that the EV will be delivered within 10 weeks of ordering the vehicle (and upon completion of other surveys), subject to availability and colour choice.

**Charging**

**How long will the installation of the charging and monitoring equipment take?**

It should take approximately 10 weeks from the point of your survey being booked to your charge point being commissioned ready for use.

**If I purchase a separate, domestic charger, will there be any disruption to my electricity supply while it is being installed?**

There will be an interruption to your electricity supply during the installation process of the charging point, while the engineer connects the equipment to your supply. This will be kept to a minimum and should last no longer than 10-20 minutes.

### **Who will install the work based charger?**

Your charging point and control equipment will be installed by Zero Carbon Futures' contractors who are suitably qualified and experienced to carry out this kind of electrical installation work.

### **Will I need to pay for it to be installed?**

You will not need to pay for the installation of the work based charger, and your employer can keep the charging point at the end of the trial. However, your employer can opt to have this removed.

If you choose to have a separate domestic charger installed you will need to pay for this.

### **Are there any minimum standards on domestic wiring?**

Should you opt to pay for your own domestic charging point, in addition to your work based charging point, a property survey will be carried out in all cases. The wiring will be checked as part of the survey. About 70-80% of houses usually meet the required standards. If your property is not suitable to host the charging equipment, this will be discussed with you at your survey appointment or once a full report has been made.

### **If I purchase a separate domestic charging point, will I need to change/inform my energy supplier?**

There will be no need for you to change your energy supplier, although you may wish to inform them about the installation of your charging point. Some energy suppliers offer a preferential rate for EV charging.

### **How close does the car need to be to the power charging point?**

Charger cable length is around 5 metres. The charging point needs to be as close to the car as possible to avoid trailing leads.

### **Do you always have to charge at work – or can you charge when out?**

Yes, you can charge how and where you wish, the EVs should be used with absolutely no consideration for the Esprit Technology. Public charging points generally have a 'Type 2' socket – which means that a different cable is required.

### **Will I need to pay to charge my car when I'm not at home? (If so, how much?)**

If you want to use the public charging infrastructure to charge your vehicle then you may need to pay a fee for this. There are various schemes in operation around the UK, some are free to use but require a subscription fee, others require you to pay per charge.

## **How can I find information on local charging points?**

There are a number of sources of information about the location of charging points, such as:

[www.chargeyourcar.org.uk](http://www.chargeyourcar.org.uk) – for points in England and Scotland

[www.sourcelondon.net](http://www.sourcelondon.net) – for points in East of England and London

[www.fleetdrive-electric.com/electric-car-van-chargepoint-map.html](http://www.fleetdrive-electric.com/electric-car-van-chargepoint-map.html)

[www.ecotricity.com](http://www.ecotricity.com) - for UK Rapid Charge Point network



## 10. The Partners

### EA Technology



EA Technology is an employee-owned organisation offering high-tech instruments, software, electrical services and technical consultancy to the operators of power networks around the world. Through its Future Networks division it delivers innovative end-to-end solutions to facilitate the introduction of low carbon technologies to future proof electricity networks, resulting in lower cost connections, prompt adoption and reduced risk to business.

[www.eatechnology.com](http://www.eatechnology.com)

### Scottish and Southern Energy Power Distribution



Scottish and Southern Energy Power Distribution Limited, and its subsidiaries Scottish Hydro Electric Transmission, Southern Electric Power Distribution and Scottish Hydro Electric Power Distribution, are all members of the SSE Group. Through its Power Distribution business, it transmits and distributes electricity to over 3.7 million businesses, homes and offices in central southern England and the north of Scotland.

[www.ssepd.co.uk](http://www.ssepd.co.uk)

## Nissan



Nissan has one of the most comprehensive European presences of any overseas manufacturer, employing more than 14,500 staff across locally-based design, research & development, manufacturing, logistics and sales & marketing operations. Last year, Nissan plants in the UK, Spain and Russia produced more than 528,000 vehicles - including mini-MPVs, award-winning crossovers, SUVs and commercial vehicles. Nissan now offers 24 diverse and innovative products for sale in Europe today, and is positioned to become the number one Japanese brand in Europe.

[www.nissan.co.uk](http://www.nissan.co.uk)

## Fleetdrive Electric



Fleetdrive Electric is the UK's leading lease provider of Ultra Low Emission Vehicles. It is a division of Fleetdrive Management Ltd which provides cars and vans and associated services to SMEs in the UK.

[www.fleetdrive-electric.com](http://www.fleetdrive-electric.com)

## Zero Carbon Futures



Zero Carbon Futures is a recently established consultancy in North East England set up to deliver a range of local, national and international programmes all geared up to advance the region as a European leader in the production of low carbon vehicles. The company has a range of experience in the low carbon sector and is currently developing a centre of excellence for the LCV sector in Sunderland, North East England which will house pioneering research in energy storage and smart home technology. The company successfully managed the North East England's Plugged in Places programme, Charge Your Car, which has installed the UK's most

comprehensive regional EV charge point network throughout North East England, and is now developing a national UK Pay as You Go EV charge point network with its partner Elektromotive.

[www.zerocarbonfutures.co.uk](http://www.zerocarbonfutures.co.uk)

### **Northern Powergrid**



Northern Powergrid is the electricity distribution business for Northeast England, Yorkshire and northern Lincolnshire. The company is responsible for delivering power safely and reliably to the 3.9 million electricity domestic and business customers in this area and operates through its subsidiaries, Northern Powergrid (Northeast) Ltd and Northern Powergrid (Yorkshire) plc. Northern Powergrid is a wholly owned subsidiary of MidAmerican Energy Holdings Company. Northern Powergrid's network consists of more than 31,000 substations, 29,000 kilometres of overhead line and 62,000 kilometres of underground cable, covering an area of more than 25,000 square kilometres. Northern Powergrid is leading moves towards a low carbon electricity network through the UK's largest smart grid project, 'the Customer-Led Network Revolution'.

[www.northernpowergrid.com](http://www.northernpowergrid.com)

# Appendix 1: Taxi Expenses Form

(Applicable to technical trial participants **only**)



## Taxi Expense Form

In the event of your Nissan LEAF not having enough charge to start your journey, as a direct result of charging point failure (note that this relates ONLY to the charging point installed under the My Electric Avenue project at your home / business address), please complete and return this form to the My Electric Avenue project team at:

EA Technology Ltd, Capenhurst Technology Park, Capenhurst, Chester, CH1 6ES

Or, complete, scan and send your form to [myelectricavenue@eatechnology.com](mailto:myelectricavenue@eatechnology.com). Please make sure that the subject of your email reads: TAXI EXPENSE FORM.

Full name	
Address (By this we mean the address at which your home charger is installed)	
Collection address	
Delivery address	
Date of taxi journey	
Time of taxi journey	
Cost of journey (£)	

By signing this form, I confirm that the information that I have submitted is accurate. I also confirm that I have contacted Zero Carbon Futures to log a report of the charging point fault with them, and have attached a receipt of the taxi journey with this form.

I agree for the My Electric Avenue team to use the information I provide here to verify the fault and I understand that the amount will be reimbursed to my account within 30 days of receiving confirmation of the fault verification.

<b>Name</b>		<b>Date</b>	
<b>Signed</b>			

Project leads



Project partners



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# WALLPOD EV CHARGING STATION / USER MAINTENANCE GUIDE

