

Public Sector Services Prospectus

A range of services to help your organisation
achieve its low emission goals



Delivering innovation in transport
and energy infrastructure for zero
emission mobility





Cenex was established in 2005 as the UK's first Centre of Excellence for Low Carbon and Fuel Cell technologies. Today Cenex operates as an independent not-for-profit consultancy and research organisation specialising in the delivery of projects, supporting innovation and market development, focused on low carbon vehicles and associated energy infrastructure.

This prospectus sets out the key services Cenex can offer to its public sector clients to help stimulate low emission activity in their areas.

Cenex also holds the UK's premier low carbon vehicle event, Cenex-LCV, incorporating four key features:

- Technology exhibition split over four halls
- Extensive seminar programme
- Facilitated networking with the low carbon community
- Ride & drive of the latest research & development and commercially available vehicles

As well as attending, our local authority associates have opportunity to exhibit at the show, as well as meet and network with industry experts through participation in various seminars and panel discussions.

- 1 Policy & Strategy Development
- 2 Bid Writing & Grant Funding Opportunities
- 3 Fleet Reviews & Assessments
- 4 Chargepoints & Infrastructure
- 5 Car Clubs & Mobility as a Service
- 6 Taxi Projects
- 7 Business Engagement
- 8 Workshops & Events



1 Policy & Strategy Development

Cenex can help you develop a clear and focused low emission agenda, with specific actions and policy designed to drive forward a programme that meets the goals and ambitions of the authority.



Conduct market research and assessments to form an understanding of how to best accelerate the uptake of low emission vehicles in your city's transport system, sharing best practice from the many local authorities we have worked with.



Why do I need this?

Based on Cenex experience, the creation of a comprehensive low emission policy strategy can be instrumental in identifying grant and funding opportunities that help fulfil the authority's goals, and help demonstrate the kind of joined-up-thinking that helps attract funding.



Why do I need Cenex?

Our industry leading technical skills and understanding of this marketplace, as well as a proven track record of successful bids, makes us an ideal partner to bring low emission investment to your area.

Case Study: Nottingham City Council

Cenex worked in partnership with Nottingham City Council and CleanTech Business to help deliver the city's ambition to be a global leader in low carbon mobility. This partnership approach led to the creation of Nottingham's 'Ultra Low Emission City Prospectus', which outlines the authority's planned measures to promote the uptake of ultra low emission vehicles as a key part of their integrated transport network.

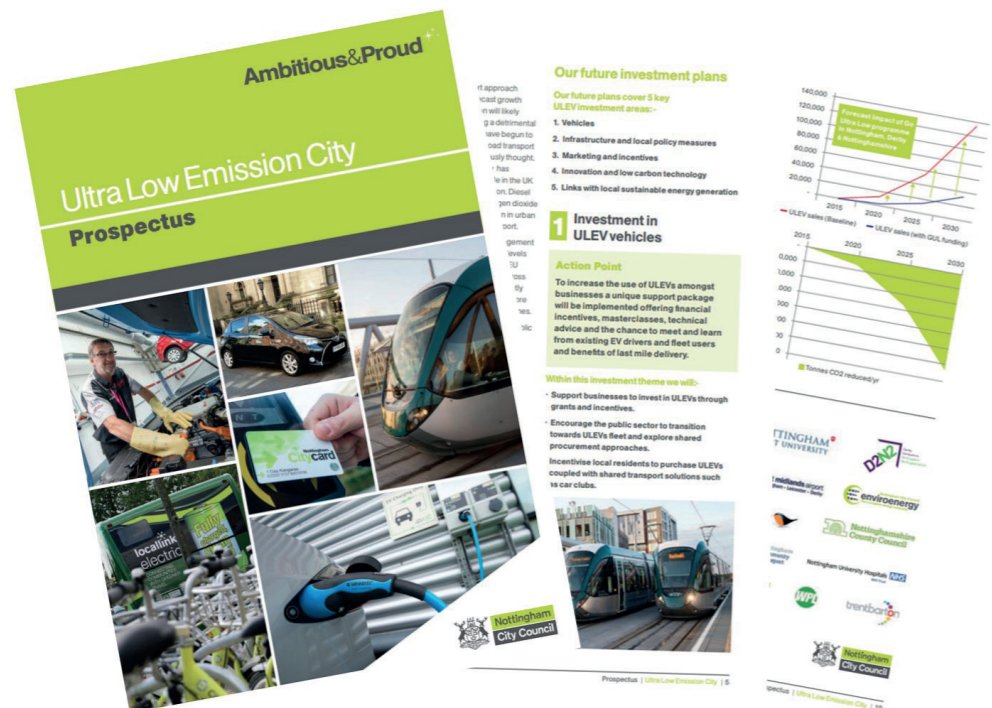
The writing of this strategy resulted in Nottingham being awarded "Go Ultra Low City" status by the UK Government's Office for Low Emission Vehicles (OLEV), attracting £6.1M of funding. Following on from this, Nottingham City Council also attracted a range of other funding such as the plug-in taxi scheme (£900k)* as well as R&D project funding such as the pan-European Clean Mobile Energy project trialling vehicle to grid charging technology alongside solar energy generation (€1.5m)*.

**Some funding opportunities require % match funding from the bidder.*

Case Study: Wolverhampton City Council

Cenex worked with Wolverhampton City Council (WCC) to help develop a low emission taxi proposition which would help to improve air quality. Cenex Technical Specialists then supported a bid to the Office for Low Emission Vehicle Tax Infrastructure Fund, from which WCC secured £478,000 to deploy 24 rapid charging points across the City, with the aim of converting 16% of the fleets to electric vehicles by 2020.

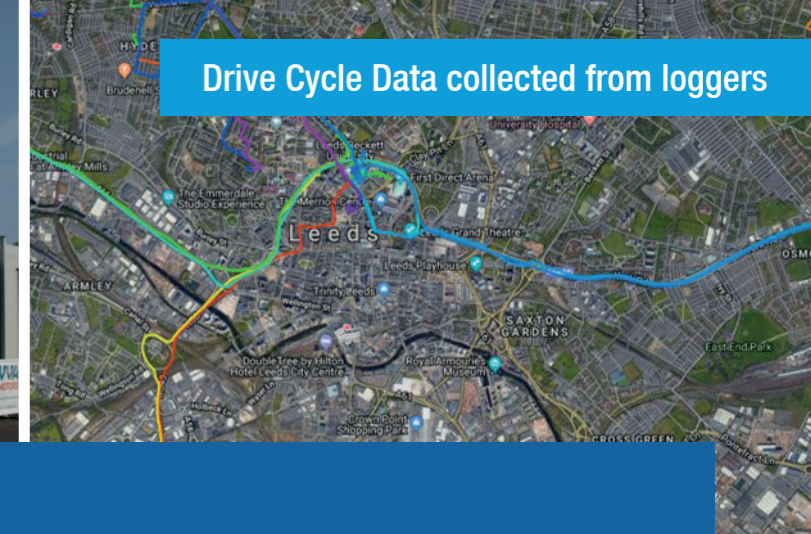
Cenex also worked with AECOM to strategically analyse a wider authority Chargepoint Infrastructure Strategy document, offering technical due diligence on the plans and ideas of the Authority to help build a joined-up strategy across all departments. Additionally, we conducted a review of the council's Hackney and Private Hire Taxi Licensing policy, advising on regulatory and non-regulatory options, and making recommendations with regards to the potential effects of changes in policy on vehicle ages and emissions, including benchmarking against other local authority practices.



2 Bid Writing & Grant Funding Opportunities

Cenex has a history of helping to get authorities involved in grant funding opportunities around transport and energy integration. Work in this area can include:

- £ Finding and applying for grant funding opportunities, such as research and development as well as government funding including grants from The Office for Low Emission Vehicles.
- 📄 Cenex can use its industry-leading technical and policy knowledge to assist in bid writing for any funding applications that are made for research projects.
- 🛠️ We also have a proven track record in project delivery and management, and can use our skillset to follow through on any successful bids to ensure a project is successful and delivers on the local authority's needs.



Case Study: ACCRA

ACCRA was a joint project between a range of partners including Dynniq, Transport Systems Catapult, Cenex and Leeds City Council, following on from a number of previous Cenex - Leeds collaborations. The project was designed to use smart city technology to improve air quality in urban areas by developing a system capable of allowing remote control of a hybrid vehicle's energy management system to ensure it is running in zero emissions mode whilst in a designated Dynamic Control Zone (DCZ). This involved real world data being collected from fleet vehicles including average speed, amount of start / stopping, levels of acceleration and air quality data. As well as this, the project trialled a Tevva Motors 7.5t Range Extended Electric Vehicle (REEV) in the proposed study area in Leeds to demonstrate the technology's capability.



Case Study: Interreg CleanMobileEnergy V2G Project

Cenex played a technical advisory and bid support role for Nottingham City Council in their successful application for the CleanMobileEnergy project, a project designed to integrate various renewable energy sources, storage devices, electric vehicles and optimisation of energy consumption through one unique smart energy management system. In Nottingham's case, this will be implemented through a large array of solar panels, battery storage capacity and electric fleet vehicles being charged bi-directionally with vehicle to grid (V2G) technology at their main vehicle depot, for which Cenex is providing ongoing technical support.



3 Fleet Services & Assessments

Where operationally practical, low emission vehicles can save your organisation significant sums of money through lower fuel, tax, servicing and repair bills.

Not sure if low emission vehicles are right for your organisation? Our fleet reviews can independently assess the case for low emission vehicles specifically within your fleet, identifying where you might be able to reduce both costs and emissions.



The Process

We have a proven and simple process to deliver you an accurate and informative fleet review:



Step 1: Kick-off Call

One of our technical specialists will get in touch to discuss your organisation, your fleet and your vehicle operations in more detail. This kick-off call will end with a request for fleet data; the more detail you can provide, the better your fleet review will be.



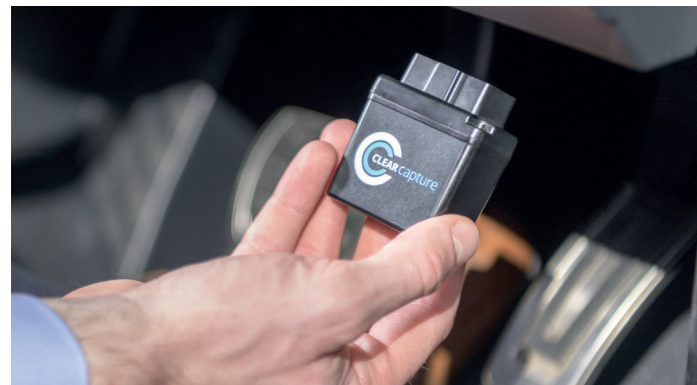
Step 2: Data Analysis

Based on the depth and breadth of data you are able to provide, we can offer you a fleet review solution that is most appropriate and practical for your specific fleet. This review will go on to analyse your data to identify the most operationally practical ULEV solutions that offer both emissions reductions and financial savings.



Step 3: Results

The results of our fleet analysis will be presented to you through a written report, as well as a face-to-face appointment (where appropriate) in which we will discuss our findings and any next steps required for the implementation of identified low emission options. Depending on the type of fleet review undertaken, further information such as driving patterns, possible TCO (total cost of ownership) savings and guidance on required charging infrastructure will also be provided.



Case Study: Natural Resources Wales

Natural Resources Wales (NRW) commissioned Cenex to undertake a review of the carbon emissions resulting from its fleet use and to identify areas where carbon dioxide (CO₂) emissions could be reduced. Cenex undertook a detailed review of the NRW fleet vehicles and a higher-level review of all on-site agricultural and engineering machinery.

The scenarios investigated by this review indicated that a significant proportion of the NRW fleet vehicles could become low emission and that this could deliver emissions savings of up to 27%, as well as cost savings of up to 5%. It was recommended that NRW pursue electric cars and small vans as a priority, alongside further investigation on wider decarbonisation of the fleet.



Case Study: Leeds City Council CNG Trial

Following on from a self-conducted fleet review by Leeds City Council which identified its refuse collection vehicles as a major source of green-house gas emissions, Cenex helped to implement a trial of two bio-methane powered refuse collection vehicles in Leeds. The vehicles trialled were a Mercedes-Benz Econic LLG vehicle with a spark ignition engine running on biomethane alone, and a Dennis-Eagle Elite modified by Hardstaff to run on a mixture of diesel and biomethane, commonly known as dual-fuel. Subsequent to these trials, Cenex produced a report that provided a well-to-wheel analysis of the greenhouse gas savings achieved by the vehicles as well as an analysis of the drivers and barriers to their extended uptake.

4 Chargepoints & Infrastructure

To help develop a strategic plan for the deployment of charging infrastructure networks. In this field, Cenex can offer various levels of service depending on the requirements of the authority, including:



General Infrastructure Advice

Including the what, where and how of building a charging network that works for you.



Site Identification & Selection

Finding the specific sites that fit your requirements, and those of EV drivers in your area.



Site Assessments

In-depth assessments such as of land ownership, accessibility and power availability to accurately judge a site's viability.



Writing Procurement Documents & Specifications

Using our legal experience and technical knowledge to help write specification documents that ensure your network works and provides as intended.



Procurement Process & Bidder Evaluation

Using our knowledge of best practice in the industry to help with process of contractor selection.

Network operation options

Cenex has a long track record of helping authorities make decisions on which chargepoint network operation model works best for them given their individual resources and ambitions. We can provide independent advice on the pros and cons of different ownership models, and can provide cost forecasts for each. These options include, but are not limited to:



Ownership & Operation Model

The authority owns, operates and maintains all charging infrastructure.



Ownership & External Operator Model

Like the first model, the authority owns all charging infrastructure, however, other responsibilities such as operation and maintenance can be contracted out to an external company.



Concession Model

The authority chooses to contract out the ownership and operation activities for the charging network to an external concessionaire, whilst maintaining ownership of the associated land and groundworks.

4 Infrastructure Network Development

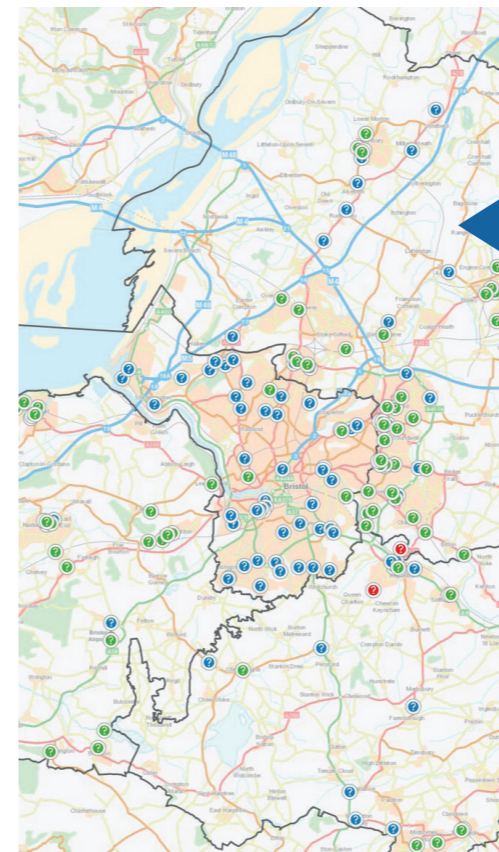
Case Study: Wrexham

Cenex was contracted to conduct the feasibility study for the installation of electric vehicle (EV) chargepoints across the county of Wrexham.

As part of our work we:

- Baselined and mapped the existing infrastructure across Wrexham.
- Presented a site assessment criterion for selecting and identifying sites, combining this with interview results from stakeholder engagement activities.
- Assessed vehicle registration data in Wrexham, and suggested the likely integration of ULEVs in the short term.
- Proposed a suitable ratio of chargepoints to number of plug-in vehicles to identify the number of chargepoints potentially required in the region.
- Proposed 37 sites that showed good potential for chargepoint installations, and split these into two tranches, the first of which offered a quicker installation time as they were on Council owned sites.
- Assessed an initial tranche of sites for power capacity and availability and provided costed models for the installations.
- Established the suitability of using renewable technology for powering the charge points.
- Considered procurement options and authored procurement guidance and specifications to enable chargepoint hardware to be purchased.

Cenex later supported the evaluation of chargepoint tenders by providing technical due diligence and cost reviews before the contract award.



Case Study: Bristol City Council





Cenex led a detailed infrastructure assessment for the South West of England, managed by Bristol City Council, to analyse and improve the provision of electric vehicle charging infrastructure across Bath and North-East Somerset, Bristol, North Somerset and South Gloucestershire. *The assessment:*

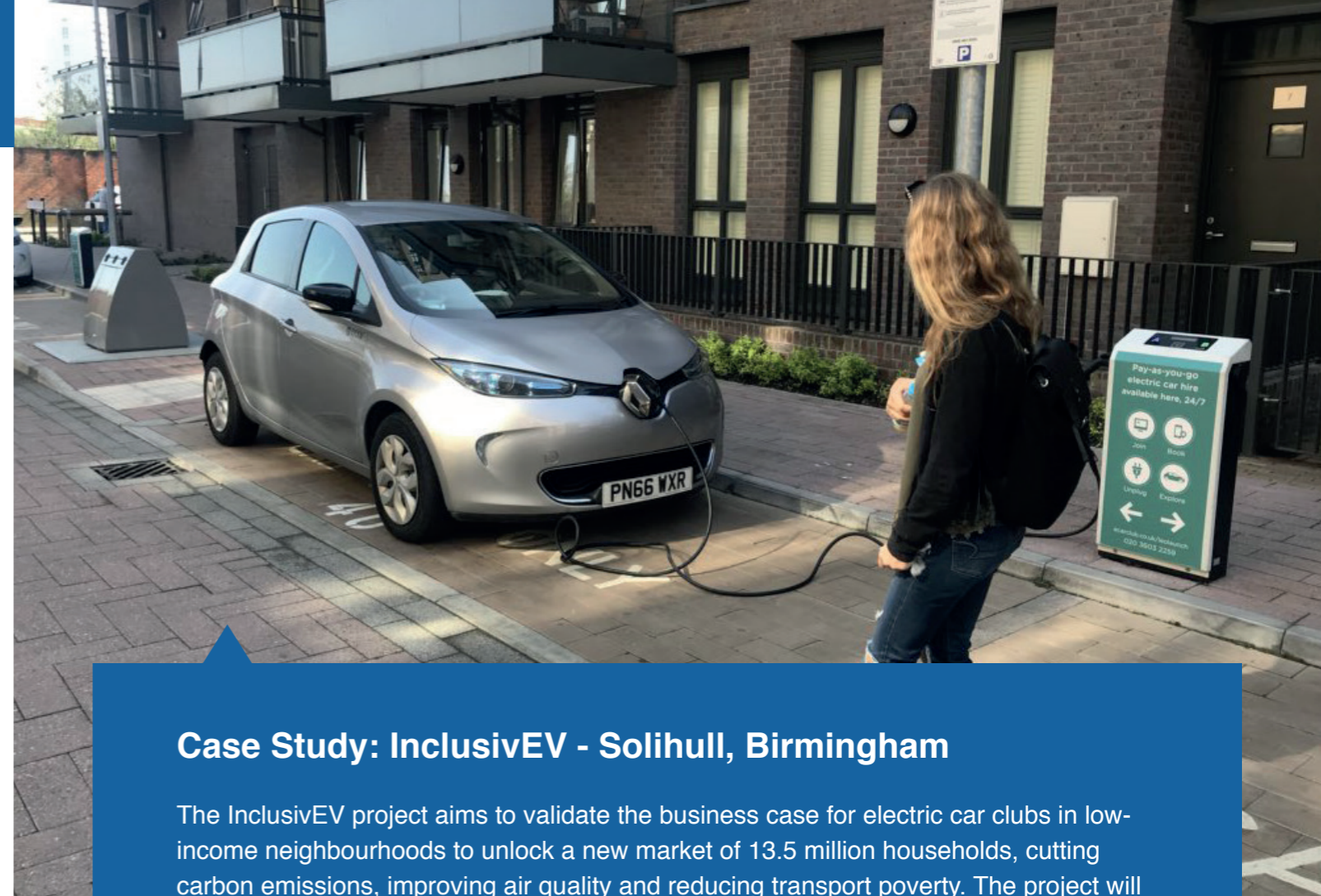
- Identified where best to position the electric vehicle charging points, with over 270 sites found.
- Defined the service level specification of the chargepoint network to meet driver's needs and expectations, and resulted in clear procurement guidance and specifications.
- Analysed the existing financial model to support the local authority's strategic decision making for the future of the network.

Working with the Energy Saving Trust who led on stakeholder engagement, Cenex were responsible for evaluating the existing network utilisation, assessing potential infrastructure sites and designing an effective financial model.

5 Car Clubs & Mobility as a Service

Transport systems, and people's demand for them is going through a range of transitions. One of these is the rise of demand for transport, and mobility in general, as a service to be bought when needed. The growing popularity of ride-hailing services like UBER is a huge part of this shift which presents a number of challenges for local authorities. Cenex can provide crucial support in research and projects in this area of industry:

-  Future proofing for fast moving changes happening in your area.
-  Research to investigate future adoption of 'mobility as a service' transport modes.
-  Experience with planning and deploying services, such as car clubs, on a range of scales.
-  Research into cutting-edge technological developments, such as connected and autonomous vehicles and other innovation, often in collaboration with educational and research institutions.



Case Study: InclusivEV - Solihull, Birmingham


The InclusivEV project aims to validate the business case for electric car clubs in low-income neighbourhoods to unlock a new market of 13.5 million households, cutting carbon emissions, improving air quality and reducing transport poverty. The project will deploy a total of 90 vehicles across three EU cities: Solihull (UK), Modena (Italy) and Valencia (Spain) to test the operational requirements and consumer demand.


Cenex is responsible for the overall project management, coordination, monitoring and evaluation. We are also leading on the development of the business plan and dissemination activities. Cenex is managing the deployment of the Solihull, UK site including site selection, chargepoint procurement, infrastructure installation as well as evaluating the potential for bidirectional charging.




6 Taxi Projects

Private Hire vehicles and Hackney Carriage taxis represent a significant proportion of mileage, and therefore emissions, in many urban areas today. Because of this, many local authorities are looking for ways to reduce these emissions, without causing prohibitive disruption to businesses and drivers. Cenex has undertaken a number of these projects around the UK and can provide assistance on a range of issues:

 **Taxi specific infrastructure** is a fast emerging option for cities that want to promote the uptake of full electric or plug-in hybrid taxi or private hire vehicles. Cenex can use all of our proven infrastructure advice skills to help implement these projects.

 Cenex has undertaken a number of pieces of work to assess **business models and TCO benefits** for these vehicles, proof of which can help drivers to be incentivised to switch.

 As well as these non-regulatory incentives, Cenex can also assist with the implementation of **regulatory measures** such as emission controls on licenced taxi and private hire vehicles and bans of certain fuel types over time.

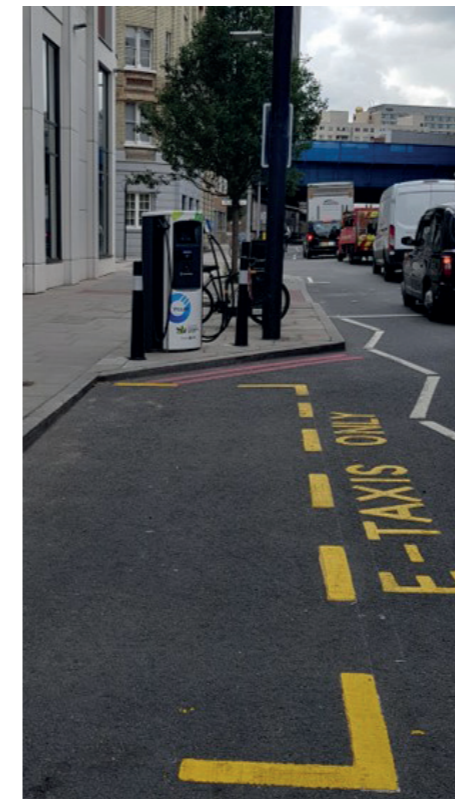


Case Study: Hackney Carriage Business Model Assessment

Cenex was commissioned by Nottingham, Oxford and Derby City Councils to assess the operational suitability and business case for electric and range extended vehicles for their hackney carriage fleets. The purpose of the study was to offer location specific advice to each local authority and the hackney carriage trade through the development of a total cost of ownership model based on real world vehicle capabilities.

The project enabled:

- The local authorities to make informed decisions regarding vehicle type, age and emissions policies.
- Quantification of necessary financial interventions (subsidisation of licence and test fees, scrappage schemes etc.)
- The local authorities to accurately assess payback periods and lease rates for the procurement of ULEV hackney carriages.
- Hackney carriage drivers/owners to calculate monthly savings based on their annual mileage and required ownership period.
- Hackney carriage drivers/owners to assess whether ULEV hackney carriages are operationally suitable under their real-world conditions.



Case Study: St Albans Taxi Infrastructure Study

SYSTRA Ltd and Cenex were commissioned by St Albans City & District Council (SADC) to provide a feasibility report which examined the implications of implementing a switch to alternative technologies, in this case electric vehicles, to achieve significant savings on fuel as well as a reduction in emissions in line with the council's aims. The findings of the study led us to recommend a range of measures to support the uptake of electric taxis in St Albans district including infrastructure provision and supporting measures including awareness raising, financial incentives and stricter enforcement.

7 Business Engagement

Cenex can work with local businesses in your area to communicate the ways in which ULEVs can deliver benefits to their organisation.

- Engage with businesses to give a range of advice on sustainable travel options, and conduct fleet reviews to identify the best areas for ULEV adoption.
- Provide businesses with useful knowledge on low emission vehicle options.
- Help to administer grants.



Case Study: ULEV Experience Programme

Nottingham City Council's 'Workplace Travel Service: ULEV Experience' is a programme dedicated to supporting businesses to understand, trial and implement low emission vehicle technology, funded by Nottingham City Council's Go Ultra Low City project.

Cenex is acting in a project management role helping to administer all 3 work packages as well as managing project finances, providing technical input and organising communication and meetings between the consortium led by Cenex, with partners from Automotive Comms, CleanTech Business, DriveElectric, Energy Saving Trust and The Big Wheel.

The ULEV Experience offers businesses and the public sector:

- Fully Funded Fleet Reviews worth up to £11,000, helping businesses understand if low emission vehicle technology is right for them.
- Low Emission Vehicle Loans with 20+ different makes and models available to use for up to one month.
- Events & Business Engagement programme to help businesses and their staff learn more about ULEVs, and identify if there are any benefits for them and/or their business.



8 Workshops & Events

We have significant experience in planning and operating a wide array of workshops and events on a range of subjects and can tailor these services to meet your requirements.



Cenex can provide local authorities with introductory events for their staff to present and inform on a range of topics within the ultra low emission vehicle industry, including charging networks, strategy development, vehicle types and vehicle features. These can vary from short meetings to day-long events.



Cenex has experience holding a range of industry and public workshops to educate and engage with a range of stakeholders in a co-operative way. This can help to ensure a project is meeting the needs of the public and businesses in your area, as well as providing an opportunity to develop new innovative ideas.



As well as workshops, Cenex can assist in the organisation and operation of a range of larger scale events with multiple activities such as talks, test drives and vehicle showcases.



Case Study: LEVEL

Low Emission Vehicle Enterprise & Learning (LEVEL), delivered by CleanTech Business and Cenex, delivers skills training, knowledge transfer and business networking in emerging low carbon transport technologies. Working with the cities of Derby (home of Toyota, Rolls Royce and Bombardier) and Nottingham to showcase and demonstrate low emission vehicle technologies, the programme aims to:

- Deliver a range of training courses and workshops on low carbon vehicle cross-cutting technologies to meet the changing skills needs of the low emission, low energy transport sector.
- Pilot different models of training delivery ranging from tasters to accredited qualifications, utilising a range of formats.
- Build and support a cluster of highly networked SMEs, developing low emission transport-related products or services.



Case Study: Transport for Greater Manchester

Cenex provided a half-day workshop for staff members at Transport for Greater Manchester to discuss low emission vehicle technologies, charging options policy and best practice from our experience with other organisations, as well as sounding out TfGM's ambitions and plans in this area.

To enquire about any of our services,
email public-sector@cenex.co.uk or call 01509 642 500

Some of our key public sector partners include:



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