Fleet Support Prospectus

Helping clients to assess the suitability of low emission vehicles within their fleet

Delivering innovation in transport and energy infrastructure for zero emission mobility

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Who are Cenex?

Cenex are a not-for-profit organisation specialising in providing clients with independent research and consultancy in low emission vehicle technologies. Over the years, we have gained a wealth of knowledge and experience in the industry through our research into innovative solutions. Our research has allowed us to offer a variety of fleet consultancy services in which we help clients to assess the viability of low emission vehicles within their fleet.

Cenex is formed of three departments which each have a valuable input into our fleet services:

Transport

The Transport Team specialise in assessing, implementing and validating low emission vehicle technologies to reduce the cost and emissions with your fleet.

Energy Infrastructure

The Energy Systems team specialise in the energy supply infrastructure needed to facilitate low emission vehicles. Their input will be to assess what infrastructure is suitable, the quantity required, the ideal location and the cost of installing the infrastructure.

Knowledge & Enterprise

The Innovation Team are experts in ensuring that your electrification strategy is as effective as possible. They can also advise you on best practice policy that will ensure that your fleet is used appropriately.

Why should I consider low emission vehicles?

Costs: Low emission vehicles can offer significant cost savings to the correct business through savings in fuel, tax and service, maintenance and repairs.

Environment: Around 40,000 deaths per year are thought to be linked to poor air quality in the UK alone and transport is the largest contributer. Small changes can make a massive difference to your local air, with 1 electric van saving tonnes of CO_2 each year!

Efficiency: Replacing your conventional vehicles with low emission vehicles could improve the operational efficiency of your business. By utilising electric vehicles, you can plug the vehicle in at the end of the working day and arrive at work every morning fully fuelled and ready to go about your day without having to stop to refuel.

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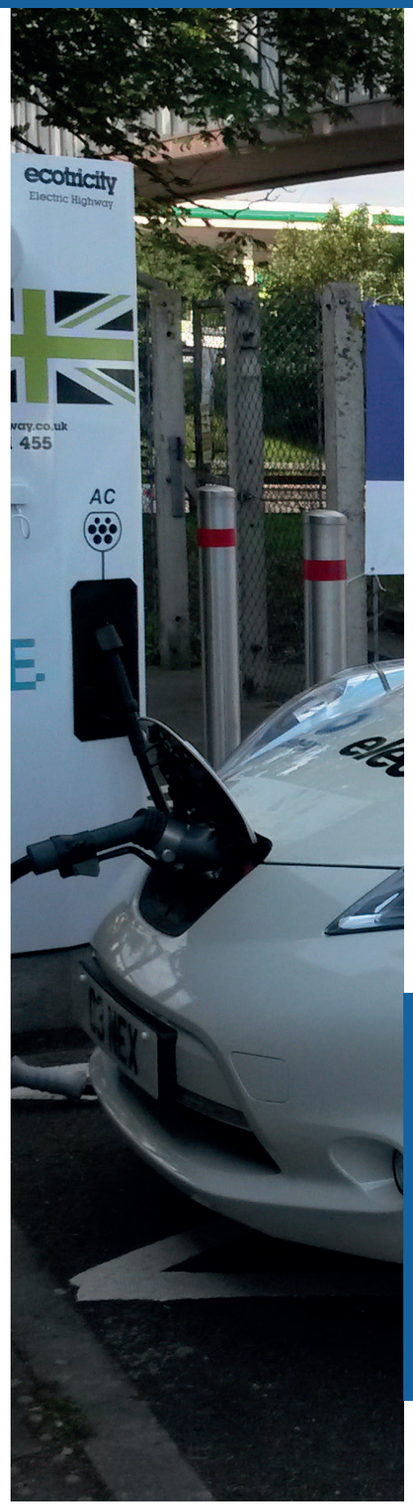


1. Fuel Saving Opportunity Assessment
2. Basic Low Emission Suitability Assessment
3. Advanced Low Emission Suitability Assessment
4. CLEAR Capture Telemetry Fleet Assessment
5. Grey & Company Car Fleet Policy Review
6. Vehicle Trial Support

Cenex are experts in capturing and analysing real-world data from your fleet to accurately assess the viability of low emission vehicles within your organisation. The results of our analysis provide you with specific and relevant information on the financial, environmental and operational benefits associated with deploying low emission technologies so we can build a bespoke strategy that works for you.

1 Fuel Saving Opportunitiy Assessment

Purpose

Identify and quantify opportunities to **reduce fuel** use through the application of best practice and the implementation of a range of cost-effective fuel and **emission saving** measures.

Scope

All vehicles - cars, vans, trucks, refuse collection vehicles and more. The assessment will consider fuel and emission saving measures such as aerodynamics, telemetry, driver aids, low rolling resistance tyres and more.

What is included?

- **Fleet baselining** – Baselining of current fleet characteristics (carbon dioxide emissions, fuel consumption and average annual mileage) by vehicle category to better understand existing efficiency and emission levels.
- **Review of fuel saving interventions** – Introduction to, and suitability review of, the main fuel saving options available.
- **Review of policy interventions** – Introduction to, and review of, the best practice policy interventions that can be applied to reduce fuel consumption.
- **Recommendations** – Action plan and next steps required for fleet implementation.

What's not included?

This review is aimed at reducing fuel use from existing standard fleet vehicles. We will not assess the opportunities to introduce low emission vehicles within the fleet. This is provided in the Cenex Low Emission Fleet Assessment.

What will I be able to do after the review?

You will have identified multiple fuel-reduction methods and quantified emissions and financial savings that could be made by implementing the changes to your fleet. You will also have reached ESOS compliance (Energy Saving Opportunity Scheme)!

Company:
Fagan & Whalley Ltd

Fleet Size:
179

Typical Vehicle:
HGV (6x3)

Purpose:

As an organisation that meets the ESOS qualification criteria, Fagan & Whalley are mandated to complete an energy assessment audited by an independent organisation. The purpose of this is to quantify the impact of their operations and identify cost-effective energy saving measures.

Conclusion:

Our Fuel Saving Opportunity Assessment identified that aerodynamic retrofits such as: "tear drop" shaped trailers, side skirts and a cab deflector as well as an idling reduction programme, the company could save up to £713,846 per year with a one-off implementation cost of £796,950. This equates to a £3,486,122 saving over their 6-year whole life cycle.

Cost

£3,000 - £5,000 (dependent on fleet size and complexity)

2 Basic Low Emission Suitability Assessment

Purpose

To identify opportunities to integrate low emission vehicles into your fleet, commenting on the **suitability, cost and emission performance** of alternative technologies (e.g. electric, hybrid, gas, biodiesel).

Scope

All fleet vehicles will be reviewed, such as cars, vans, trucks and refuse collection vehicles. The review focuses on relatively mature **low emission options** which are likely to provide an **environmental improvement** at a similar or lower whole life cost to conventional vehicles.

What is included?

Fleet baselining – Measuring the performance of your fleet by vehicle category to better understand existing efficiency and emission levels. This will serve as the baseline to which the low emission alternatives will be measured against.

Suitability assessment – Review of fleet activities through discussion with operators and any available data to gain an understanding of the fleet duty cycle and comparing this against market- ready low emission vehicle technology to identify suitable options and any operational restrictions.

Performance assessment – Presentation of typical savings available from suitable low emission vehicles compared with standard fleet vehicles. Provision of total cost of ownership examples for key low emission vehicle types.

Recommendations – Action plan and next steps required for the implementation of identified low emission options including some basic considerations needed to procure recharging infrastructure (if required).

What's not included?

This basic review considers general fuel and emissions performance of alternative technologies. It does not use the fleet's own operational data (e.g. service, maintenance and repair aspects), however, this is included in the Advanced Low Emission Fleet review and CLEAR Capture analysis.

What will I be able to do after the review?

Know which low emission technologies should work for you and which won't. You'll be able to plan trials, enter discussion with suppliers and even go straight in the implementation stage for low risk technologies.

Company:
Northern Gas Networks

Fleet Size:
500 light commercial vehicles

Typical Vehicle:
Car, van

Purpose:

To advise on the potential low emission vehicles that could be substituted for the vehicles in the current fleet and to assess the potential performance of the suggested vehicles. The focus in this study was on operational practicality, total cost of ownership and environmental performance.

Conclusion:

Our Basic Low Emission Suitability Assessment identified that retrofits to the existing fleet would potentially result in superior emissions performance, however, the whole life cost of the vehicles would increase. Electric and gas (CNG) powered vans shown significant enivronmental and economical improvements and were therefore recomended as alternatives.

Cost

£5,000 - £8,000 (dependent on fleet size and complexity)

3 Advanced Low Emission Suitability Assessment

Purpose

To provide a **thorough** market review of low emission vehicles within your fleet operations.

Scope

All fleet vehicles will be reviewed, such as cars, vans, trucks and refuse collection vehicles. The review focuses on all low emission options which are likely to provide an environmental improvement at a similar or lower whole life cost.

What is included?

Basic

- **Fleet baselining** – Baselining of current fleet characteristics (carbon dioxide emissions, fuel consumption and average annual mileage) by vehicle category to better understand existing efficiency and emission levels.
- **Suitability assessment** – Review of fleet activities through discussion with operators and any available data to gain an understanding of the fleet duty cycle, comparing against market-ready low emission vehicles (e.g. biodiesel, electric, hybrid) to identify suitable options, commenting on the availability, maturity, operational suitability, cost and environmental performance of the different fleet options.

Advanced

- **Total cost of ownership and emissions modelling** – Total cost of ownership and emission performance will be analysed for options identified in the Suitability Assessment to give an accurate indication (using bespoke fleet operational data, real world performance data, service and maintenance costs) of low emission vehicle performance in the fleet.
- **Infrastructure assessment** – A high level introduction to, and procurement guidance on, the infrastructure required to support identified fleet options and scenarios of low emission vehicle uptake.
- **Emerging technology** – Review of immature/emerging technologies which could be ready for early fleet trials.
- **Recommendations** – Action plan and next steps required for the implementation of identified low emission options.
- **Low emission vehicle timeline** – Suggested timeline for implementation of recommended options, including their effect on fleet emissions and costs.

What will I be able to do after the review?

Now that you fully understand the implications of the various technologies, including the infrastructure, across varying adoption levels. You will be able to plan trials, enter discussion with suppliers and even go straight in to the implementation stage for low risk technologies.

Company:
Nottingham City Council

Fleet Size:
480+

Typical Vehicle:
Car, van, bus and refuse collection vehicles

Purpose:

To provide a detailled assessment of the council's fleet, evaluating the expected performance of a range low carbon vehicle technologies within their current fleet operation.

Conclusion:

Our Advanced Low Emission Suitability Assessment identified that the council's fleet of 487 vehicles collectively emit 3,260 tonnes of CO_2, 7,100 kgs of NOx and 59 kg of PM emissions per annum. The worst contributor to air quality degredation in Nottingham was its refuse collection vehicles. Furtheremore, converting Nottingham's car and small van fleet to electric showed significant CO_2 savings at a superior total cost of ownership. reductions of up to 40%. Other technologies also showed potential to decrease CO_2 but at a higher TCO.

As a result of our analysis, Nottingham City Council decided to trial a variety of vehicles including electric cars, vans and refuse collection vehicles as well as a range extended car.

Cost

£10,000 - £15,000 (dependent on fleet size and complexity)

4 CLEAR Capture Telemetry Fleet Assessment

Cost-effective Low Emissions Analysis from Real-world Data Capture.

Purpose

To provide a hassle-free, cost effective assessment that will calculate the potential cost and emissions savings that low emission vehicles could bring to your fleet.

Scope

Petrol and diesel cars and vans are included in the analysis. Cars are compared against a similar electric vehicle (EV), plug-in hybrid electric vehicle (PHEV) and range extended electric vehicle (REEV). Vans (up to 2.2 tonnes GVW) are also compared against an electric model.

What is included?

Vehicle telemetry – A discrete plug-in device is used to gather data on the vehicle's performance and driver's duty cycles.

Data collection – For 2 weeks to 2 months we will collect data on your vehicles drive cycle, the length of the collection period will depend on the repeatability of the fleet duty cycles with predictable cycles ending faster and complex drive cycles taking longer. The time needed for data collection will be confirmed at project inception.

Data analysis – Raw data from telemetry is processed through our in-house fleet analysis tool to produce informative, user friendly graps and tables.

Analysis reporting – Final report including real-world driving patterns, electric vehicle range, total cost of ownership calculation of current vehicles versus low emission vehicles and emission savings calculation.

Telephone debrief - The report is followed by a telephone debrief with a member of the Cenex technical team to explain the results, answer any questions and assist with further action.

What's not included?

Large vans, trucks and refuse collection vehicles, emerging or immature technology alternatives, recharging infrastructure guidance, and operational restrictions assessment.

What will I be able to do after the review?

Fully understand if there is an economic and environmental business case to swap your conventional vehicles to low emission alternatives and know the technology types that offer the best savings in your fleet profile. You will be able to enter discussions with suppliers and move straight into trialing the most suitable option.

Company:
Gatwick Airport

Fleet Size:
800+

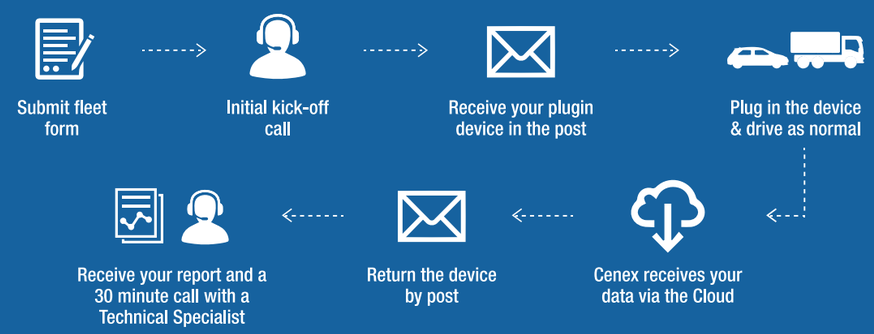
Typical Vehicle:
Car, van, pickup, minibus

Purpose:

To identify opportunities for electrification across operational vehicles at the airport and identify suitable locations to install recharging infrastructure.

Conclusion:

A considerable proportion of the Gatwick fleet was suitable for electrification. A ten-year timeline for the migration of much of the fleet to electric or plug-in hybrid alternatives was proposed which accounted for the availability of robust electric or plug-in hybrid alternatives and the installation of suitable recharging infrastructure at the airport identified through heatspot mapping.



Cost

£500 - £700 per deployed device

5 Grey & Company Car Fleet Policy Review

Scope

All grey fleet and company car fleet vehicles will be reviewed. The review will identify opportunities to reduce fuel use through the application of best practice fuel management and policy implementation. The review will quantify the potential cost and emission savings identified.

What is included?

Review of fleet best practice – Research into best practices used by fleets to minimise fuel use and mileage including fuel reduction programme techniques, case study evidence from industry sources and interviews with leasing providers, fleet and equipment providers.

Review of current policies and data – Review of Grey Fleet and Company Car management policy. Interviews are held with relevant client company personnel to gain an understanding of policy, practice, vehicle usage and known inefficiency in the system. Any data available is also analysed to produce a high-level fleet usage profile.

Analysis of policy savings – The report will consider a range of Grey and Company Car fleet management techniques including contract changes, telematics, other policy and motivation changes, pool car opportunities, user mileage restrictions and vehicle restrictions. It will assess the relevance and effect of key policy interventions and quantify potential emission and cost savings.

Recommendations – Action plan and next steps required for the implementation of identified policy options.

What's not included?

This review is aimed at reducing fuel use and energy from grey fleet vehicles. We will not assess the general performance of - and opportunities for - low emission vehicles within the fleet. This is provided in the Cenex Low Emission Fleet Assessment.

What will I be able to do after the review?

Know which company car and grey fleet policy techniques should work for you and which won't. You'll be able to consider new policies that could be implemented, enter discussions with wider team members and even go straight in the implementation stage to save emissions and money.

Company:
Northern Gas Networks

Fleet Size:
210 Company cars

Typical Vehicle:
Car

Purpose:

Northern Gas Networks (NGN) commissioned Cenex to assess their Company Car and Grey Fleet usage patterns, policy and fuel management procedures to advise on areas where fuel and business mileage could be reduced.

Conclusion:

Over 115 vehicles at Northern Gas Networks were accountable for over 1,100,000 casual business miles in a single year with associated costs of £424,000.

Cenex identified a variety of interventions such as: pool cars, vehicle and mileage restrictions, changes to contracts and vehicle telematics to improve grey and company efficiency.

Cost

£4,000 - £6,000 (dependent on fleet size and complexity)

6 Vehicle Trial Support

Purpose

To provide low emission vehicle trial planning, management and reporting (cost, emission and attitudes). Cenex will support your alternatively fuelled vehicle trials ensuring a robust trial methodology is in place that ensures that quantifiable, actionable and independently verified information is gained from trial activity.

Scope

All fleet vehicles such as cars, vans, trucks and refuse collection vehicles.

Basic Trial Support Package

Trial planning and management - Including setting KPIs, establishing the data collection methodology and providing project management. Cenex will also ensure that there is regular data provision and quality checks.

Data monitoring - Including support around telemetry options. If telemetry is chosen as the best method for collecting the required data, Cenex will supply telemetry or maintain the relationship with the telemetry provider/s.

Interim reporting - Including emission, duty cycles and usage patterns, running cost, charge point / refueller usage and any issues experienced during a trial. Interim reports are typically provided on a quarterly basis.

Final reporting and presentation - Formatted in a way that it can be easily uploaded as a resource onto a website or as part of wider industry dissemination activities. A shorter executive version of the report is produced as well as the full detailed version.

High level implementation advice - On vehicles, infrastructure planning and next steps.

What will I be able to do after the review?

Know which low emission vehicles offer real potential fuel, emissions and energy savings in your fleet and which fleet segments/operational duty cycles they could be applied to. You'll be able to confidently enter discussion with suppliers and even go straight in to larger scale implementation for ULEV or other alternative fuel technologies.

Company:
Coca-Cola Enterprises (CCE)

Fleet Size:
200,000 worldwide

Typical Vehicle:
26-tonne gas truck

Purpose:
Driven by a desire to produce a reduction in fleet emissions, Coca-Cola Enterprises (CCE) contracted Cenex to evaluate and compare the emissions, fuel consumption, economics, reliability and operability of a 26-tonne gas vehicle with that of a diesel vehicle.

Conclusion:
Following the success of the trial, Coca-Cola Enterprises adopted 15 biomethane-powered trucks as well as installing a gas refuelling station.

Cost

£5,000 to £15,000 depending on trial complexity and duration.

Fleet Support Products

Fleet Support Services	Fuel Savings Opportunity Assessment	Basic Low Emission Suitability Assessment	Advanced Low Emission Suitability Assessment	CLEAR Capture Telemetry Fleet Analysis	Grey & Company Car Fleet Policy Assessment
Vehicles					
Car	✓	✓	✓	✓	✓
Light Commercial Vehicle (up to 3.5tonnes GVW)	✓	✓	✓	✓	
Heavy Goods Vehicle (Above 3.5tonnes GVW)	✓	✓	✓		
Services					
Baselining of fleet emissions and performance	✓	✓	✓	✓	✓
Review of Fuel Saving Interventions	✓				✓
Low emission vehicle suitability assessment		✓	✓	✓	
New, emerging and immature low emission vehicle technologies review			✓		
Infrastructure and procurement guidance			✓		
Bespoke Total Cost of Ownership and emissions modelling				✓	
Real world data collection				✓	
Reporting					
Recommendations and next steps for fleet implementation	✓	✓	✓	✓	✓
Phone call review with Technical Specialist				✓	
Meeting review with Technical Specialist	✓	✓	✓		✓
Low emission vehicle implementation timeline			✓		
Estimated Costs (dependent on fleet size and complexity)					
(Excluding VAT)	£3,000 - £5,000	£5,000 - £8,000	£10,000 - £15,000	£500 - £700 per device	£4,000 - £6,000