

Research report

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trust

Electric Fleets: Practical insights into the adoption of ULEVs

A report by the Energy Saving Trust
March 2019



All views expressed in this report are solely those of the Energy Saving Trust and should in no way be attributed to the Scottish Government.

About the Energy Saving Trust

The Energy Saving Trust is the UK's leading impartial organisation helping people save energy, reduce carbon emissions and use water more sustainably. We do this by directly supporting consumers to take action, helping local authorities and communities to save energy, using our expert insight and knowledge, providing quality assurance for goods and services and by working in collaboration with national and international governments and organisations.

With thanks to contributors

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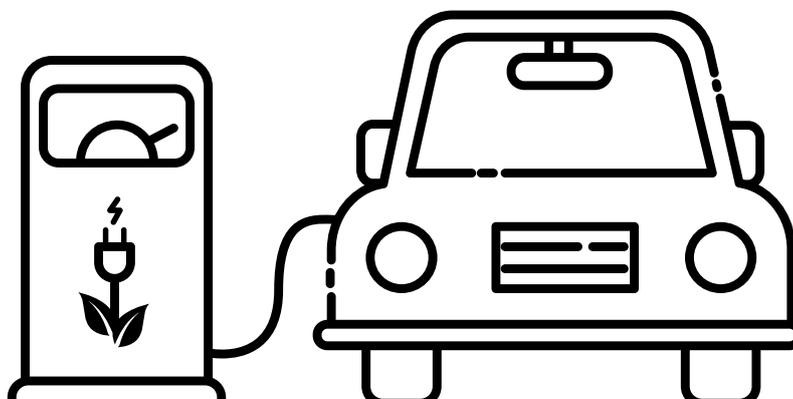
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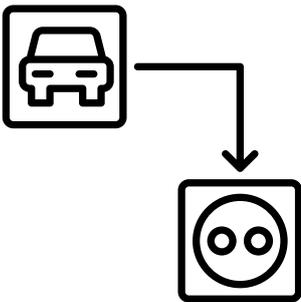
1. Background and methodology

In 2018 the Energy Saving Trust, with funding from Transport Scotland, commissioned Julie Caughey of Caughey Solutions Ltd to provide a report to support public sector decision makers. This includes aiding procurement and fleet specialists accelerate plans to increase the number of ULEVs in their fleets, and the fleets of their supply chain.

This report is informed by research and engagement undertaken during late 2018 and early 2019. Scotland Excel members

were surveyed, and responses to the survey informed the content of this report. Julie attended the Scotland Excel Fleet Managers Forum and the Scottish Local Government Procurement Forum in December 2018 and the feedback from both groups has been addressed in this report. Julie also engaged with a number of fleet managers and procurement managers across the public sector as part of her research and some case studies have resulted from this work.

2. What is the purpose and scope of this document?



To date, the adoption of ULEVs in the public sector in Scotland has been largely driven by funding incentives for vehicles and infrastructure made available by Transport Scotland and the Energy Saving Trust. As ULEVs become more mainstream, and their upfront costs reduce to the same level as petrol and diesel vehicles, the driver for change is likely to move away from the availability of grant funding to the significant environmental and cost savings that local authorities and public bodies will achieve by transitioning to a larger ULEV fleet. It is hoped that the information in this document, along with the expert help available from the Energy Saving Trust¹, free of charge, will help public sector decision makers, including fleet and procurement professionals, plan for large scale transitions to ULEVs.

The Scottish Government are looking for the public sector to lead by example in transitioning to ULEVs, not just in their own fleets, but also in the fleets of suppliers in their supply chains. It is suggested

that there should be a move away from purchase decisions based solely on purchase price or lease cost. Public sector bodies in Scotland have a legal duty (the sustainable procurement duty) under the Procurement Reform (Scotland) Act to consider the environment and use whole life costing when carrying out procurement of goods, services and works. They also have legislative duties to meet through the Climate Change Scotland Act². The use of electric vehicles, and the subsequent reduction in emissions, helps to deliver on those duties and targets. The shift to ULEVs also helps to tackle the increasingly important issue of poor urban air quality³ and helps to make Scotland's towns and cities healthier places to live and work.

The scope of this document covers cars and light commercial vans only, specifically electric vehicles and plug-in hybrid vehicles. Fuel cell electric vehicles are not covered in this document.

1 www.energysavingtrust.org.uk/scotland/businesses-organisations/transport

2 www.legislation.gov.uk/asp/2009/12/contents

3 www.gov.scot/binaries/content/documents/govscot/publications/report/2017/06/cleaner-air-scotland-road-healthier-future-annual-progress-report-2016/documents/00521031-pdf/00521031-pdf/govscot:document/

3. What is an ultra-low emission vehicle?

Ultra-low emission vehicles (ULEVs), also known as plug-in vehicles, emit extremely low levels of emissions (less than 75g/km of CO₂) compared to other vehicles and are capable of driving for a number of miles emission free.

For up-to-date information on the vehicles that are currently available, refer to the Office for Low Emission Vehicles' (OLEV) eligibility list on their website⁴. Examples of ULEVs at the time of writing include:

Types of ULEV	Cars	Vans
<p>Plug-in electric vehicles (EV)</p> <p>Powered only by electricity. Charged by an external power source with regenerative braking to extend the range.</p>	<p>Audi eTron</p> <p>Citroen CZero</p> <p>Hyundai IONIQ (pure EV)</p> <p>Hyundai KONA</p> <p>Kia eNiro</p> <p>KIA Soul</p> <p>Mercedes B250e</p> <p>Nissan Leaf</p> <p>Peugeot iON</p> <p>Renault Zoe</p> <p>Smart EQ</p> <p>Tesla Model S/X</p> <p>Volkswagen e-up!</p> <p>Volkswagen e-Golf</p>	<p>Citroen Berlingo</p> <p>LDV E80</p> <p>Nissan E-NV200</p> <p>Peugeot Partner</p> <p>Renault Kangoo</p> <p>Renault Master EV</p>
<p>Plug-in hybrid electric vehicle (PHEV)</p> <p>Combines a battery, electric drive motor and an internal combustion engine (ICE) and the ability to charge the battery from an external power source.</p>	<p>Audi A3 e-tron</p> <p>Hyundai IONIQ (PHEV)</p> <p>Kia Niro PHEV</p> <p>Mercedes C350e</p> <p>Mini Countryman PHEV</p> <p>Mitsubishi Outlander</p> <p>Toyota Prius PHEV</p>	
<p>Extended range electric vehicle (EREV)</p> <p>Combines a battery, electric drive motor and an ICE/generator. Charged by an external power source with the added option of an on-board ICE powered generator to provide additional range if required.</p>	<p>BMW i3 Range extender</p> <p>LEVC TX (formerly TX5)</p>	

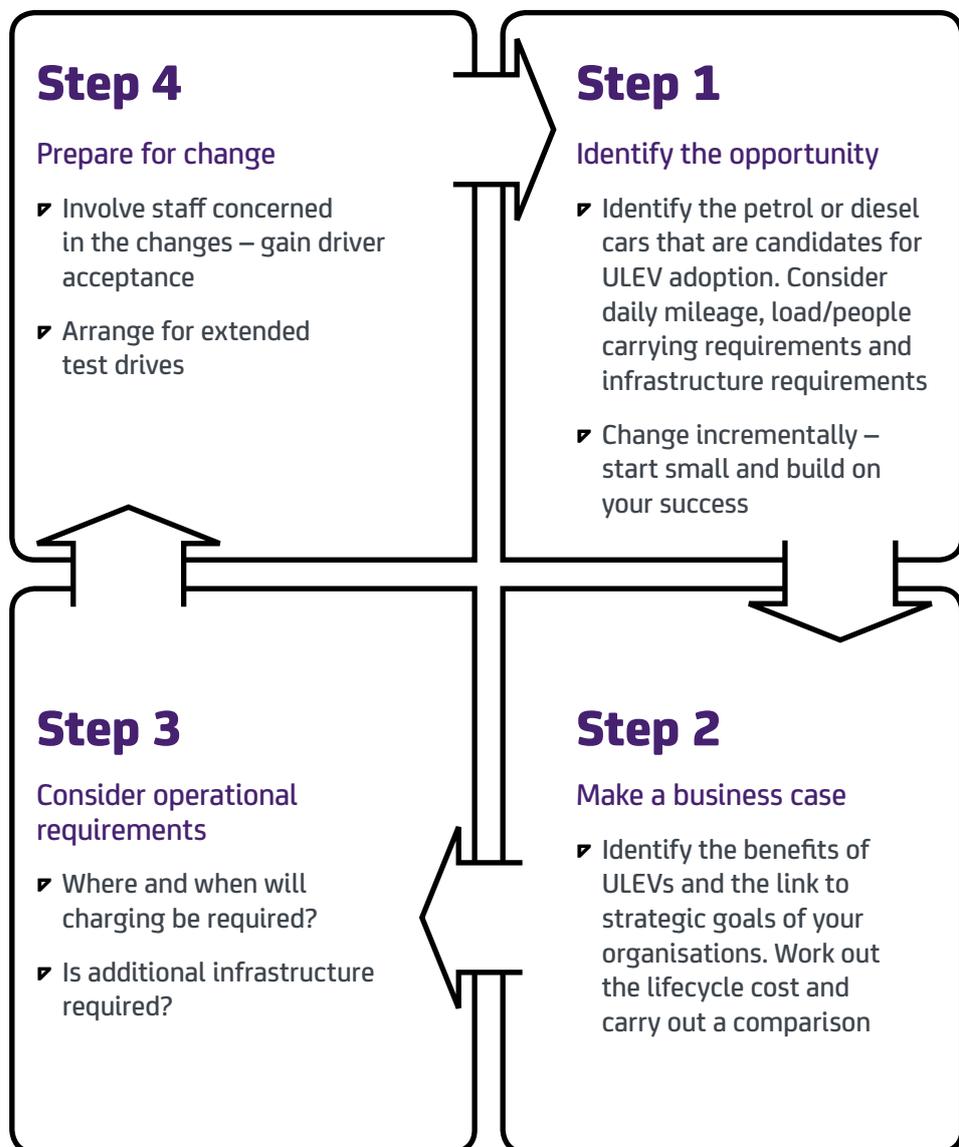


⁴ www.gov.uk/plug-in-car-van-grants

Selection of the right ULEV(s) for your requirements will require consideration of range, features, load carrying capacity, ease of use, whole life costs and infrastructure.

To become more informed about the different vehicles and infrastructure options available, contact the Energy Saving Trust at sustainabletransport@est.org.uk

The Energy Saving Trust recommends that organisations follow **4 key steps** in order to successfully adopt ULEVs within a fleet:



4. Current ULEV landscape

The UK Government’s Road to Zero strategy predicts ULEVs will represent 50 to 75% of new car registrations and up to 40% of vans in the UK by 2030

The ULEV market has grown rapidly, mostly due to support from the Scottish and UK Governments’ loan and grant schemes but also due to the increasing choice of new models and advances in battery technology thereby increasing range.

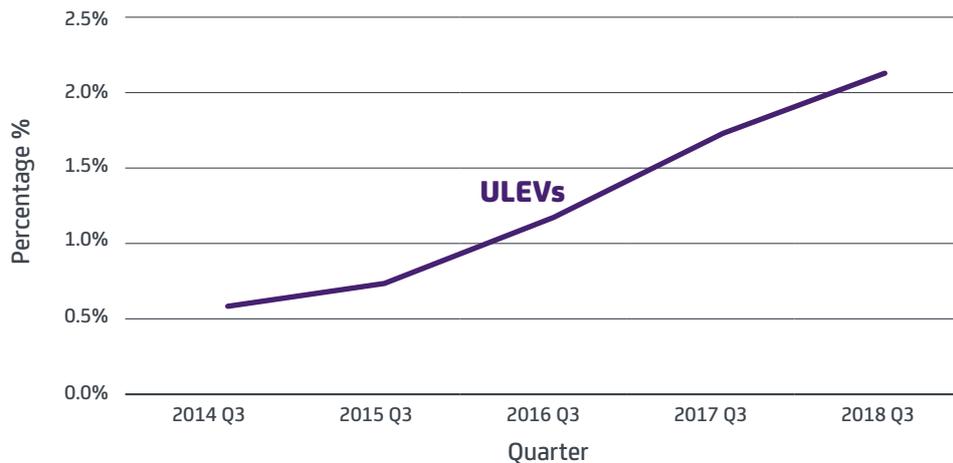
The Department for Transport’s quarterly statistics⁵ for vehicle licensing show a continuing increase in the registration of ULEVs. In the quarter to September 2018, 16,387 ULEVs were registered for the first time in the United Kingdom, up 12% on the same quarter in 2017 and 49% up on 2016. ULEVs accounted for 2.1% of all new vehicle registrations – up from 1.8% one year previously and 1.2% two years previously.

The UK Government’s Road to Zero strategy predicts ULEVs will represent 50 to 75% of new car registrations and up to 40% of vans in the UK by 2030.

In Scotland, the public charge point network (named ChargePlace Scotland⁶) currently stands at around 1,000 charge points of which 200 are rapid charge points.

Car clubs are also a useful way of providing people with access to ULEVs. There are currently car clubs in 25 locations across 16 local authorities in Scotland. There are approximately 10,000 car club members in Scotland, with access to 342 vehicles. 23% of the Scottish car club fleet is electric.

Figure 1 – Proportion of vehicles registered for the first time.



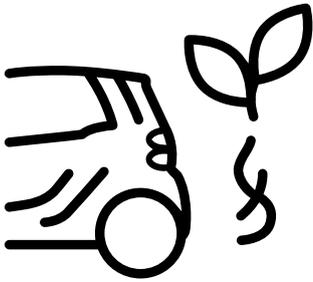
The figures for electric vehicle registrations in Scotland and the UK are:

Year	EV		PHEV	
	Scotland	UK	Scotland	UK
2014	500	6372	333	7905
2015	576	10020	707	17779
2016	609	10260	592	19958
2017	903	13585	1432	33554
2018	1051	15434	2331	44356

⁵ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/763792/vehicle-licensing-statistics-july-to-september.pdf

⁶ <https://chargeplacescotland.org>

5. Developing a business case



ULEVs produce less than 75g/km CO₂ and therefore have a lower impact on the environment than similar vehicles powered by petrol or diesel

From our research, developing a business case is an effective way of gaining internal buy-in to the change to ULEVs. To date, the majority of ULEVs have been acquired as a direct result of securing grant funding. Going forward, whilst some funding may be available, public bodies should consider a move towards mainstreaming ULEVs to prepare for the phasing out of diesel and electric cars by 2032. Public bodies in Scotland have a legal duty (the sustainable procurement duty) to consider the environment and use whole life costing for every procurement.

The Energy Saving Trust's free Sustainable Business Transport Review⁷ service is an excellent starting point for building a business case. Their review will result in recommendations that will make your fleet more efficient and cost effective. Typically, recommendations might include:

- ▶ Switching to ULEVs where practical
- ▶ Reducing size of vehicles (downsizing)
- ▶ Implementing telematics
- ▶ Grey fleet alternatives

For tailored, one-to-one advice on how ULEVs could work for your organisation or your suppliers, including a full analysis of your existing fleet, contact Energy Saving Trust on sustainabletransportadvice@est.org.uk or visit www.energysavingtrust.org.uk/scotland/businesses-organisations/transport to find out more.

For the business case, the benefits of adopting ULEVs may include the following:

5.1 Meeting your organisation's strategic vision

The most powerful business cases relate the case to the organisation's strategic vision. A good place to start is to find your organisation's vision and/or strategic plan and find the threads that are relevant to the introduction of ULEVs in your area.

Dundee City Council's vision is a "smarter, fairer, more vibrant and attractive city"

Argyll and Bute Council's vision includes "greener and cleaner communities"

Perth and Kinross Council's strategic objectives include "creating a safe and sustainable place for future generations"

Reducing carbon emissions and improving air quality through the introduction of ULEVs in both their fleet and their suppliers' fleet, would help these organisations realise their strategic vision.

5.2 Meeting legal obligations in relation to environmental impact

Public sector bodies have duties, and targets to meet, under the Climate Change Scotland Act 2009⁸. This act requires a 42% reduction in greenhouse gas emissions in Scotland by 2020, and then 80% by 2050. The Climate Change Bill published in 2018 aims for an updated figure of 90% by 2050.

ULEVs produce less than 75g/km CO₂ and therefore have a lower impact on the environment than similar vehicles powered by petrol or diesel. Also, they can potentially be powered by renewable energy, offering a low carbon sustainable option.

5.3 Preparing for low emission zones

Scotland's four largest cities (Aberdeen, Dundee, Edinburgh and Glasgow) are introducing Low Emission Zones (LEZs). Scotland's first LEZ came into effect in Glasgow city centre⁹ on 31 December 2018 for local service buses; once fully implemented, by 31 December 2022, all vehicles entering the zone will have to meet specified exhaust emission standards.

7 www.energysavingtrust.org.uk/scotland/businesses-organisations/transport/sustainable-business-transport-review

8 www.legislation.gov.uk/asp/2009/12/contents

9 www.glasgow.gov.uk/LEZ

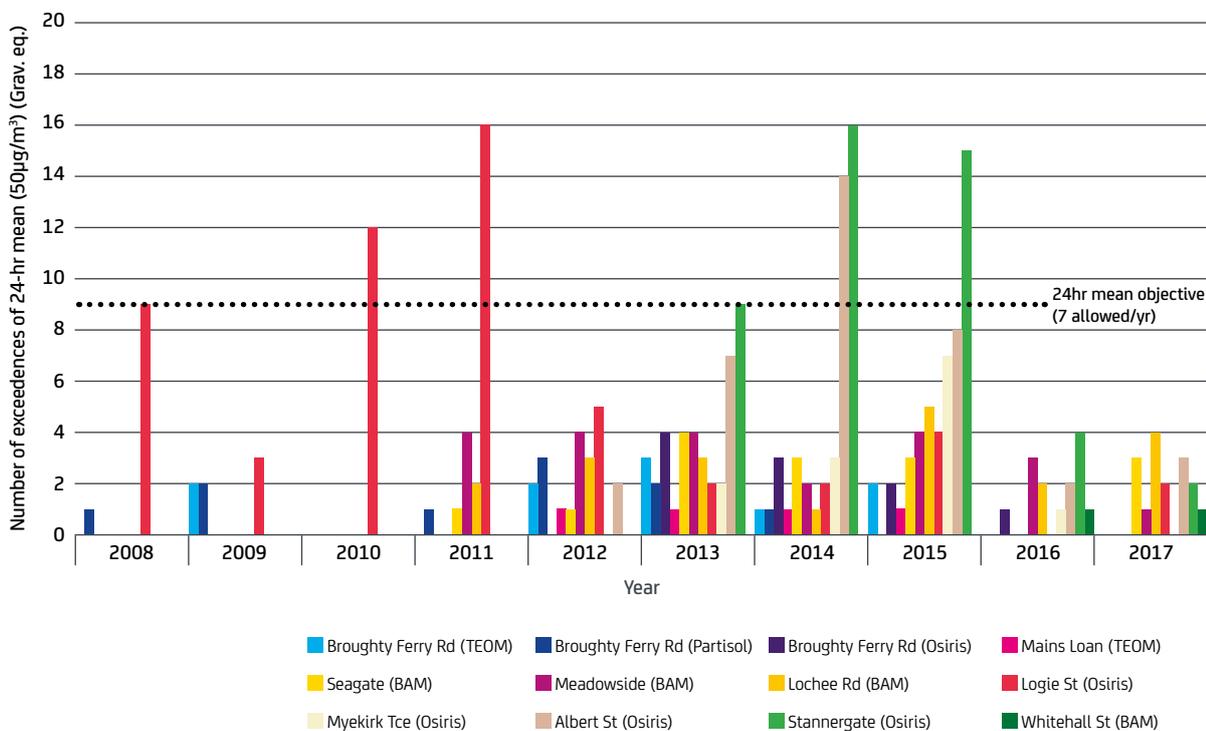
5.4 Improved air quality

ULEVs do not produce local air pollutants such as nitrogen dioxide and produce less particulate matter which contributes to poor air quality and increased rates of heart and lung disease, cancer and asthma. A report¹¹ by the Royal College of Physicians reports that poor air quality kills 40,000 people a year in the UK. DEFRA produces statistics on air quality¹² on an annual basis.

As established by the Environment Act 1995 Part IV, all local authorities in the UK are

under a statutory duty to undertake an air quality assessment within their area and determine whether they are likely to meet the air quality objectives for a number of pollutants. The process of review and assessment of air quality undertaken by local authorities is set out under the Local Air Quality Management (LAQM) regime and as of 2016 requires the local authority to produce an annual progress report detailing their review and assessment work in the previous calendar year.

Figure 2 – Trend extract from Dundee City Council’s Annual Progress Report 2018¹⁰ showing an overall improving trend as a result of the positive action taken by the council.



5.5 Lower lifecycle costs

On the face of it, ULEVs appear more expensive because the purchase price is generally higher than that of a diesel or petrol equivalent. However, once fuel savings, lower maintenance costs and lower vehicle excise duties are considered, the cost over its lifetime (whole life cost or lifecycle cost) may be lower. In addition, the costs of ULEVs are coming down, and their residual values are increasing, which lowers leasing costs and

reduces lifecycle costs. Best practice would go further, using lifecycle mapping – taking into account the manufacturing process, raw materials and disposal factors.

Public bodies must be familiar with, and comply with the Public Contracts (Scotland) Regulations 2015¹³. Regulation 67 states that lifecycle cost may be used when comparing purchasing options, and Regulation 68 gives guidance as to how to do this.

10 www.dundee.gov.uk/service-area/ neighbourhood-services/community-safety-and-protection/air-quality-in-dundee/air-quality-reports

11 www.nhs.uk/news/heart-and-lungs/air-pollution-kills-40000-a-year-in-the-uk-says-report/

12 www.gov.uk/government/statistics/air-quality-statistics

13 www.legislation.gov.uk/ssi/2015/446/contents/made

Figure 3 – S67 permits use of lifecycle costing in the award criteria.

Contract award criteria

67.—(1) A contracting authority—

- (a) must base the award of public contracts on the most economically advantageous tender assessed from the point of view of the contracting authority; and
- (b) may not use price only or cost only as the sole award criteria.

(2) A contracting authority must identify the most economically advantageous tender on the basis of the best price-quality ratio, which must be assessed on the basis of criteria linked to the subject-matter of the public contract in question and must include the price or cost, using a cost-effectiveness approach.

(3) A cost-effectiveness approach referred to in paragraph (2) may include lifecycle costing in accordance with regulation 68 (lifecycle costing).

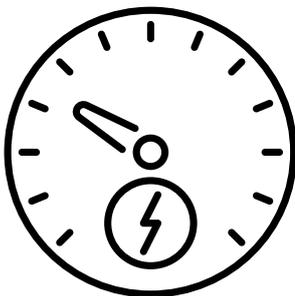
Figure 4 – S68 sets out what can be included in the lifecycle cost.

Lifecycle costing

68.—(1) Lifecycle costing must, to the extent relevant, cover part or all of the following costs over the lifecycle of a product, service or works—

- (a) costs, borne by the contracting authority or other users, such as—
 - (i) costs relating to acquisition;
 - (ii) costs of use, such as consumption of energy and other resources;
 - (iii) maintenance costs;
 - (iv) end of life costs, such as collection and recycling costs; and
- (b) costs imputed to environmental externalities linked to the product, service or works during its lifecycle, provided their monetary value can be determined and verified.

(2) The costs mentioned in paragraph (1)(b) may include the cost of emissions of greenhouse gases and of other pollutant emissions and other climate change mitigation costs.



Clean car has developed a detailed lifecycle calculator¹⁴ which is available to download free of charge.

In order to illustrate comparative whole life costs, the below table compares the cost of a Nissan Leaf to a similarly-sized diesel car over a four year period, based on 10,000 miles per year.

As you can see, over the life of the vehicles, the electric vehicle's fuel costs are 65% lower and its service, maintenance and repair (SMR) costs are 35% lower. Therefore, although the Leaf may appear more expensive, based on its purchase price, the Leaf's lower running costs mean that it works out cheaper over a four year period.

Make	Kia	Nissan
Model	Ceed	Leaf
Derivative	Ceed Hatch 5Dr 1.4T-GDI 138 GPF SS €6 First Edition 6Spd 19MY	Leaf Hatch 5Dr 0.0Elec 40kWh 150 Visia Auto 18MY
P11D value	£25,490	£27,235
Combined MPG	48.7mpg	n/a
CO ₂	132g/km	0g/km
Insurance group	20	21
Operating cycle	4 years/40000 miles	4 years/40000 miles
Residual value	£8,225	£7,400
Depreciation per mile	43.16p	49.59p
Service, maintenance and repair per mile	3.13p	2.04p
Fuel per mile	11.23p	3.92p
Total cost per mile	57.52p	55.55p

14 www.clean-fleets.eu/publications/

Source: www.fleetnews.com car running cost tool

The public are increasingly becoming aware of the impact of road transport on both air quality and CO₂ emissions

Transport Scotland and the Energy Saving Trust work together to motivate and enable public and private sector fleet managers to purchase and lease ULEVs. There are many grants and loans¹⁵ available to public sector bodies, private sector organisations and to members of the public to make these vehicles more attainable. The incentives available are subject to annual change. At the date of publication, incentives include:

- ▶ Six year interest free business loan
- ▶ Grants to support the procurement of ULEVs
- ▶ Grant for lease cost of electric vehicle for three years
- ▶ Workplace charging scheme grant of up to 50% of charge point cost (judged on a case by case basis) – see section 6 on infrastructure
- ▶ Domestic charge point grant (available to company car drivers)

5.6 Enhanced organisational reputation

The public are increasingly becoming aware of the impact of road transport on both air quality and CO₂ emissions. This provides organisations who are focused on increasing the number of ULEVs in their fleet and supply chain with the opportunity to enhance their reputation and public profile. The public are likely to look favourably on organisations who choose the most environmentally sustainable option when purchasing fleet vehicles.

5.7 Driver enjoyment

A recent study¹⁶ reports that drivers are more focused, calmer, and happier when driving electric vehicles. Electric vehicles are simpler to drive than manually-gear internal combustion engine vehicles and the noise levels in the electric vehicle cabin are lower, providing a more relaxing environment. Fleet managers report that drivers who have switched to electric are not inclined to change back to diesel when given the choice.

5.8 Preparing for 2032

The Scottish Government is taking the lead in promoting the use of ULEVs and aims to phase out the purchasing of new petrol and diesel cars by 2032 (eight years ahead of the UK Government's 2040 target). 2032 might seem like a long time away, but a well-planned and phased transition to a large ULEV fleet may take a number of years to implement, therefore it is important that the public sector look to accelerate this activity across the board.

¹⁵ www.energysavingtrust.org.uk/scotland/grants-loans?gclid=CjwKCAjwyOreBRAYEiwAR2mSkpbE_9gfgq5FwfbyculjGPEvDesNwd2jiCz1DeTUpGuhbHvHsNqe3MhoCWOYQAvD_BwE

¹⁶ <https://electrek.co/2018/05/15/electric-vehicles-reduce-stress-for-drivers-brain-monitoring-study/>

6. Infrastructure



To support the introduction and adoption of ULEVs the infrastructure requirements to support it should also be planned carefully including future proofing, timelines and ensuring you have the capacity of power available. Electric vehicle charging technology has rapidly advanced in the last decade with improvements in charge time, power used and charging modes.

6.1 Pre-tender engagement

Choosing the right infrastructure and location is important. When considering new infrastructure, or changes to existing infrastructure, you should consider carrying out pre-tender engagement with the market suppliers and/or the Energy Saving Trust. This engagement will help organisations make informed decisions on infrastructure requirements.

The CCS Framework RM 1089¹⁷ Traffic Management Technology 2 (lot 10 – Sustainable Transport Infrastructure) offers a range of services including installation, feasibility studies, project management, supply, repair and maintenance and back office management. The call off procedure is direct purchase or further competition. The framework is available to all public sector bodies in Scotland.

6.2 Considerations when selecting infrastructure

Charger types

The speed of charging is an important consideration as this will impact on charging capacity and vehicle downtime. The faster the charge time, the more vehicles can be accommodated in the same timeframe and the less time they are “off the road”.

There are three main types of EV charging – rapid, fast and slow. These represent the power outputs, and therefore charging speeds, available to charge an EV. Note that power is measured in kilowatts (kW).

Vehicle charge point	Miles gained per 30 min charge	Cost per 30 min charge assuming standard business rate of 14p/kW (incl. VAT)
Slow (3kW)	5-7.5 miles	£0.21
Fast (7-22kW)	15-40 miles	£0.49-£1.54
Rapid (43kW-50kW)	80 miles	£3.01-£3.50

Note: The time it takes to charge a vehicle is also limited by the amount of power the vehicle can accept (i.e. the “on-board charger”). Currently many electric vehicles can only accept 7kW per hour and in this case (with the exclusion of DC rapid chargers) even if the charge point was rated to 22kW the vehicle could only accept 7kW of the available 22kW per hour. Some models can however accept 22kW per hour, such as the Renault Zoe and this can significantly reduce charging time.

¹⁷ <https://ccs-agreements.cabinetoffice.gov.uk/contracts/rm1089>

However, operating patterns are an important consideration – for example if all vehicles return to base at the end of the day, and are charged overnight, then high-speed charging would probably not be necessary.

AC/DC

The majority of slow and fast chargers provide AC power. In Scotland, rapid chargers on the ChargePlace Scotland network generally provide both DC and AC power to ensure compatibility with all vehicles. The only EV that currently accepts AC power from a rapid charge point is the Renault Zoe.

Operational charging cycles

If vehicles have to be charged regularly throughout the day (taxis, for example) then a higher speed charger may be more appropriate. Where vehicles can run all day (or night) and then return to base for a relatively long period of downtime (e.g. eight hours), then a higher speed charging point is not necessary.

Space

For a double-outlet workplace charge point, two standard parking bays would be required.

Smart chargers

Smart chargers allow data to be collected on the usage of each charge point and this will help organisations to manage charge points as efficiently as possible in future.

Electricity grid

Where proposed charging infrastructure is within an area that is subject to constraints on the electrical grid, there may be additional costs associated with grid reinforcement works. For an estimate of how much a new connection will cost, organisations can make a “budget request” on their distribution network operator’s (DNO) website. For a full quote, considering low voltage (LV) and high voltage (HV) reinforcement work, it may be necessary to request a “non-contestable connection offer” (NCCO). There are variable fees applied by the DNO to provide a NCCO dependent on the specification of the connection you require.

Where electrical grids have limited spare capacity, and installation of high-powered units would require significant cost-prohibitive network upgrades, it may be preferable to have load management functionality in place to allow the available power to be shared between a number of

Type 2 7-22kW AC

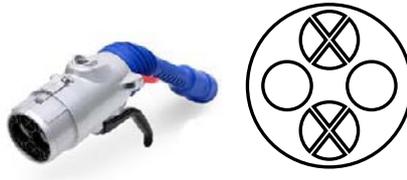


vehicle charge points.

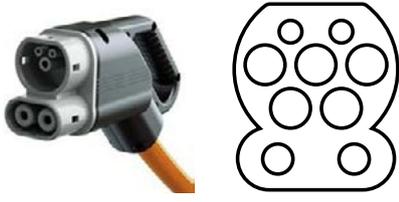
Vehicle compatibility

Most ULEVs will be able to connect to slow and fast chargers using a charging cable with a Type 2 connector.

CHAdeMO 50kW DC

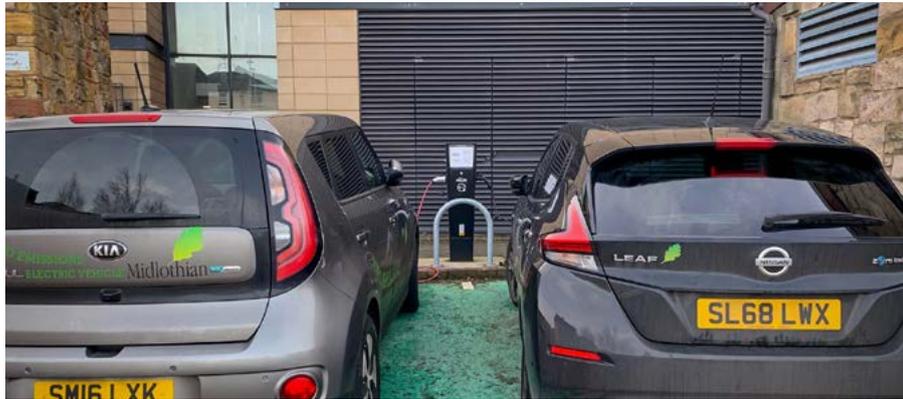


CCS 50kW DC



Type 2 43kW AC





ULEVs will generally come supplied with a Type 2 charging cable. If not, Type 2 charging cables can be easily purchased from charging cable suppliers.

Rapid chargers in Scotland come with the following three tethered cables:

ULEV models that use CHAdeMO rapid charging include: Nissan Leaf, Mitsubishi Outlander PHEV, and Kia Soul EV.

ULEV models that use CCS rapid charging include: BMW i3, VW e-Golf, and Hyundai Ioniq Electric.

The only ULEV model that currently uses Type 2 AC rapid charging is the Renault Zoe.

Tesla vehicles (Model S and Model X) are exclusively able to use Tesla's own Supercharger network. Tesla owners can also charge using CHAdeMO rapid chargers if they purchase a CHAdeMO adaptor for their standard cable.

Cost of installation

Installation can be expensive. Pedestal chargers will require cables to be run underground, incurring civil engineering costs. The cost varies depending on the site and it's important to get a number of quotes from installation suppliers.

Grants of up to 50% (judged on a case-by-case basis) are available for workplace charge points.

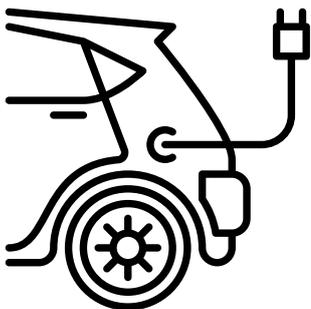
6.3 Availability of public charge points

Most EV public charge points in Scotland are part of the ChargePlace Scotland¹⁸ network, with hosts (many of which are local authorities) setting any applicable tariff. At the time of publication most ChargePlace Scotland charge points are free of charge.

There are various third party apps and websites providing maps of charge point locations across the UK. Private companies are also expanding charge point provision in Scotland with rapid charge points in supermarkets, car parks and petrol stations becoming more common across the country.

Midlothian Council Case Study: Workplace charge point

Midlothian Council have installed five double-outlet and four single outlet 22kW charge points across their sites to support a fleet of 10 pure electric vehicles (both cars and vans). The double outlet 22kW units were installed using funding support from the Energy Saving Trust and the single outlet 22kW units were funded by the council directly. Trevor Docherty, travel and fleet services manager, advised that "the units are working well for us. Many of our pure electric vehicles are used as pool cars to support all the council services."



18 <https://chargeplacescotland.org>

7. Frameworks available for procurement of ULEVs

The options available to public sector bodies in the UK are:

7.1 Crown Commercial Services (CCS) Frameworks

Scotland Excel have made a strategic decision to work with CCS on UK-wide arrangements for fleet. The relevant CCS frameworks are:

- Vehicle lease and fleet management – RM6096 (formerly RM3710)
- Vehicle purchase – RM6060 (formerly RM1070)
- Traffic management technology 2 – RM1089

PDF customer briefing documents are available from CCS for each framework. The briefing documents provide information on lots, suppliers and call-off procedures. The call-off procedures include direct award and further competition (varies with each lot).

The CCS vehicle lease and purchase frameworks are with manufacturers, giving buyers the freedom to purchase from any manufacturer dealership that is convenient for them.

The frameworks are accessed using the CCS Fleet Portal¹⁹. The portal is an online quotation tool for buyers, that provides pricing and technical information for all standard build cars and light vehicles. It is driven by data which is uploaded overnight, each night, so is up to date with manufacturer’s models and prices.

The portal has a live link to the framework leasing companies for lease quotes. These quotes contain the lease rental charges and the finance rates, residual value (RV) and service, maintenance and repair (SMR) costs, for the inclusive maintenance packages. Optional extras can be added. All vehicle technical information is available to enable you to compare vehicles.

The new Fleet Portal was launched in January 2019. The portal allows various new selection parameters to be set and provides whole life cost comparisons.

Figure 5 – CCS Fleet Portal – instant quotes from lease companies

Name (link to website)	Contact	Active	Options
ALD Automotive Ltd	Bernard Tomkins	Yes	<input type="checkbox"/>
Alphabet (GB) Limited	Public Sector Team	Yes	<input type="checkbox"/>
Arnold Clark Vehicle Management	Angus Gillon	Yes	<input type="checkbox"/>
Arval UK Ltd	Arval CCS Portal Team	Yes	<input type="checkbox"/>
Daimler Fleet Management	Public Sector Team	Yes	<input type="checkbox"/>
Hachi Capital Vehicle Solutions	Clara Jackson	Yes	<input type="checkbox"/>
Incheon Fleet Solutions	Public Sector Quotes	Yes	<input type="checkbox"/>
LeasePlan UK Limited	Engage Customer Service	Yes	<input type="checkbox"/>
Lex Autolease	Pan Government Ecourage	Yes	<input type="checkbox"/>
Lookers PLC	Sarah Murray	Yes	<input type="checkbox"/>
YWFS (UK) Limited	Public Sector Team	Yes	<input type="checkbox"/>
Zorith Vehicle Contracts	Liv Delnan	Yes	<input type="checkbox"/>

¹⁹ <https://fleetportal.crowncommercial.gov.uk>

7.2. Collaboration

Collaborating within your own organisation and/or with other buying organisations creates an opportunity to make a larger volume commitment and drive the price down. It may also improve lead times.

NHS Case Study: Internal collaboration

NHS National Services Scotland, National Fleet Support Unit, based in Larkhall, have been working with NHS Health Boards throughout Scotland to implement one national fleet management database. Shelley Mackay, national fleet manager, says “this will give NHS Scotland a holistic overview of all assets, allowing more accurate local and national

reporting. Having Tranman as the tool will assist the transport manager to gain an insight into the whole lifecycle costs for future fleet requirements while supporting compliance. Working collaboratively together we can have a more efficient and cost-effective fleet. Vehicle telematics will help identify vehicles that are suitable for a change to electric cars, contributing to our sustainability goals reducing carbon and improving air quality.”



Typically, an eAuction can provide additional savings of around a further 7% discount on the list price

7.3 EAuctions

Crown Commercial Services facilitate eAuctions three times a year. Typically, an eAuction can provide additional savings of around a further 7% discount on the list price. The eAuction is conducted using standardised vehicle specifications and using bulk buying power to make your requirements more attractive to suppliers.

Contact CCS for the latest vehicle specifications.

eAuctions are based on whole life costs. To find out more contact fleet@crowcommercial.co.uk.

7.4 Other options

NHS

For NHS fleet managers, there are two frameworks available for the lease of cars and vans. These are:

- ▶ **NP700**
Lease Cars and Associated Services – Expires 31/12/21. The lease of crown cars, pool cars with full SMR cover and admin support to enable health boards to manage their fleet. This framework has been awarded to three suppliers.
- ▶ **NP795**
Commercial Leased Vehicles – Expires 30/09/22. This framework contains two lots:
 - **Lot 1** Light commercial vehicles up to 3.5tonnes – five suppliers
 - **Lot 2** Heavy goods vehicles over 3.5tonnes – two suppliers

The above frameworks offer the ability for health boards to call-off via a mini competition which can be for either a single vehicle or for a larger group – this call-off method ensures optimal value for money at the point of order.

To access the frameworks or to discuss the services associated with this please contact Matt Thomas on **01698 794539** or email mthomas1@nhs.net

Direct to market

Organisations may choose to negotiate directly with dealerships/manufacturers. The organisation would have to satisfy its own rules with regards to procurement.

Treasury/leasing advisors

Many public sector bodies have contracts with treasury advisor services. These advisors may have specialist knowledge of the vehicle leasing market and deals and options that may add value. The relevant finance or procurement team in your organisation should be able to advise on whether this service is available to you.

Research highlighted that other frameworks are sometimes used, the scope of this research did not explore these in any detail, however organisations should satisfy themselves as to the relevance and the legality of any of the frameworks used.

8. Perceived barriers and how to overcome them

During the desktop research and stakeholder engagement elements of this project, information was collected on the perceived barriers to ULEV adoption (i.e. the factors deterring fleet managers from purchasing ULEVs). It was considered that these perceived barriers should be documented and, where possible, information provided to overcome them, with the aim of accelerating ULEV uptake.

8.1 Lack of senior management support

In some cases, there has been little or no development of ULEVs in a fleet and this is down to a lack of appetite for change from senior management or elected members/board members. Without this pressure (and support) for change from senior management in the organisation, the status quo prevails.

One way this issue can be addressed is if the transport manager, or procurement professional, firstly confirms the strategic aims of the organisation and then secondly seeks out a “champion” at a senior level in the organisation to make the case for change. This “champion” may be required to provide information to the relevant board or committee in order to make the case for change.

8.2 Infrastructure

By definition, plug-in vehicles need to be charged using a charge point. Whilst there are almost 1000 charge points in the ChargePlace Scotland network (February 2019), it is most likely that public sector fleets will be charged at the organisations’ premises using workplace charge points.

The concerns raised regarding charge point infrastructure are the cost of installation and the space required for them. There is also a concern that, as the electric vehicle fleet increases, the demand for charging, and therefore electricity, will increase and there is the worry that the organisation will not be able to manage this.

In order to address this barrier it is recommended that fleet managers and/or procurement professionals carry out research, including early market engagement into the infrastructure required to support larger ULEV fleets. The Energy Saving Trust and infrastructure suppliers can provide valuable insight on what the market has to offer and can therefore provide the information required to help organisations make effective decisions on charge point infrastructure requirements.

8.3 Vehicle range

Range confidence is increasing as technology improves and the use of electric vehicles increases – there’s nothing as convincing as experiencing something for yourself.

The key to success is matching the situation and the vehicle. Fleet managers have proactively found ways to get facts about mileage and route data from their fleet, using hire cars or telematics for example, to determine which vehicles, or jobs, are most suited to the use of electric vehicles. Even in rural areas electric vehicles can be very effective as most journeys cluster around a central town.

Fleet managers have found that the range of most EVs is reduced in winter due to lower external temperatures and the increased use of heating, while driving at high speeds (60-70mph) and driving up hills can also impact on vehicle range. It is important to consider the real world range of a vehicle and this can be found online via a number of independent vehicle assessment websites.

8.4 Cost

The purchase cost of ULEVs tend to be higher than the petrol or diesel equivalents and this can be off-putting for fleet managers and business owners who have limited budgets. However, as mentioned previously, the cost over the life of the vehicle can be lower. This is due to the reduced fuel costs (2-3p per mile v 10-15p per mile) and reduced service, maintenance and repair costs.

Range confidence is increasing as technology improves and the use of electric vehicles increases – there’s nothing as convincing as experiencing something for yourself

Manufacturers' confidence in the longevity of their batteries is demonstrated by the eight year, 100,000 mile warranties that are being offered with many electric models

Even if the whole life cost does work out to be higher, it might still be a preferred option for your organisation due to the reputational impact and the statutory requirements to reduce carbon emissions and improve air quality. Refer to section 5.

8.5 Residual value

Residual values have historically been low for electric vehicles due to concerns over battery life and the high cost to replace batteries. There is now however significant evidence showing that electric vehicle batteries can deliver high mileage with minimal battery degradation. Manufacturers' confidence in the longevity of their batteries is demonstrated by the eight year, 100,000 mile warranties that are being offered with many electric models. The second-hand values for electric vehicles are also increasing as consumer confidence in the technology grows.

8.6 Developing technology

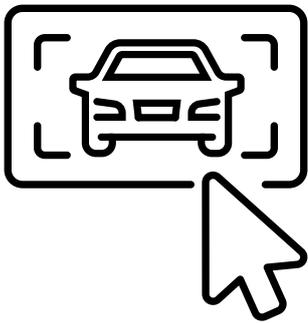
Technology is constantly developing; vehicles with increased ranges and faster charge points are regularly being introduced. This can be a reason for organisations to hold off and wait for a more advanced technology to come along. It is important however for fleet managers to consider their actual operating mileage requirements. If, for example, fleet vehicles are only doing 80 miles per day there is no requirement for a vehicle with 250 miles of range. By taking an incremental approach (i.e. replacing a proportion of their fleet each year), organisations can learn how to best use electric vehicles and this can inform future fleet purchases

8.7 Availability of large electric vans

Availability of large electric vans has been an issue for some organisations. At present the only two models available are the LDV EV80 and the Renault Master ZE. Fleet analysis conducted by the Energy Saving Trust has however found that in some situations replacing medium/large diesel vans with small electric alternatives can be a viable option. There are several small electric vans currently available on the market such as the Citroen Berlingo Electric; Nissan E-NV200; Peugeot Partner Electric and Renault Kangoo ZE. Additional medium and large ULEV vans are due to be available in the next 12-24 months, examples being the VW eCrafter and the Mercedes eSprinter.

8.8 Mid-contract

In terms of making a greater impact, the Scottish Government is keen that the public sector encourages uptake of ULEVs by suppliers in the supply chain. Whilst this can be built into a procurement exercise (see section 9), this may be a number of years away and there is an opportunity to have an impact during the life of the existing contract. Even though not contractual, it is possible to influence mid-contract by talking to your suppliers and providing them with information about the benefits of ULEVs and the financial incentives available. This has been successful in East Lothian Council where a taxi firm is keen to introduce two LEVC TX vehicles into their fleet.





Case Study 1: East Lothian Council

East Lothian Council (ELC) started its ULEV journey in 2011 with the three year lease of a Nissan Leaf. Their fleet has grown to 17 electric cars and three electric vans, representing 7% of their 290-strong fleet.

Transport manager Bruce Moffat says “the cars are mostly used as pool cars and have enabled us to significantly reduce grey fleet costs. We also use our electric vehicles in operations. Our seven seater car is used to transport children with additional transport needs and vans for the community alarms service, mailroom and waste services.”

ELC initially invested in electric vehicles because of the 100% funding available but have now decided that the business case is there to continue to grow the fleet. As battery life has improved, this gives confidence for longer leases, reducing the cost per year.

ELC have not found range to be an issue for them, even though East Lothian is semi-rural. “We used hire cars as an interim measure so that we could gather information about journeys. This gave us the information we needed to be confident that electric vehicles would suit.”

The car club has been very much welcomed by staff too, which uses all electric vehicles and is easily booked by staff online and via an app.

ELC is not resting on their laurels. They are currently looking into an electric bus, electric road sweepers and electric refuse collection vehicles (RCVs). They have solar panels at their flagship Kinwegar Waste Services depot and plan to use the power from there to charge the RCVs.

Bruce says “we have great ambitions. Our biggest challenge is ensuring that we plan ahead with the infrastructure that we need to support the fleet. We are looking forward to technology developments by the Scottish Government such as on-street and induction charging.”

We have been approached by one of our main home to school transport providers who are looking at the TX5 electric taxi that is suitable for wheelchair use. We are keen to work with them to further improve the environmental impact and air quality in East Lothian. We are looking at installing charge points at taxi ranks to encourage even greater uptake.

There has been additional EV take up within ELC as Ian Crook, IT manager, purchased one of the first Nissan Leaf cars in 2015 as an ex lease vehicle directly from the leasing company and still owns it. Ian told us “I love the car; my old car was on its last legs and I’d enjoyed driving the Leaf as a pool car. I was able to get a three year old car at neutral cost because the money for the car loan was offset by savings on fuel. It’s ideal for my commute from Edinburgh to East Lothian.”

9. How to increase use of ULEVs in your supply chain

Dundee City Council have made use of electric vehicles a mandatory requirement for applicants for taxi licences and now has over 100 ULEV taxis in the city

9.1 The power of procurement

Scottish public sector bodies are in the enviable position of being able to, indeed are legally obliged to, consider the impact on the environment of their £11bn per annum spending with suppliers in the supply chain. This requirement is embedded in legislation through the sustainable procurement duty in the Procurement Reform (Scotland) Act 2014. The Scottish Government's National Performance Framework²⁰, launched in June 2018 by the First Minister Nicola Sturgeon, sets out a vision for national wellbeing in Scotland across a range of economic, social and environmental factors.

The majority of contracts will involve use of vehicles to some extent. The buyer must think about the proportion of vehicle use in deciding how far to go with specification of ULEVs. Examples of contracts where transport is the primary purpose e.g. courier services and home to school transport offer the greatest opportunities. Others might include

care at home and laundry services where the element of transport is secondary but can still be significant. Even contracts for goods, such as IT equipment, require transportation so ULEVs can still be considered relevant.

9.2 Taxi operator licencing

Although not strictly the supply chain, taxi licencing offers local authorities a significant opportunity to improve the environment and air quality. Dundee City Council have made use of electric vehicles a mandatory requirement for applicants for taxi licences and now has over 100 ULEV taxis in the city.

9.3 Sustainable procurement duty – Procurement Reform (Scotland) Act 2014

The Procurement Reform (Scotland) Act 2014 introduced a sustainable procurement duty which applies to all regulated procurements from July 2016, as follows:

Figure 6 – The Procurement Reform (Scotland) Act 2014

<p>9 Sustainable procurement duty</p> <p>(1) For the purposes of this Act, the sustainable procurement duty is the duty of a contracting authority—</p> <p>(a) before carrying out a regulated procurement, to consider how in conducting the procurement process it can—</p> <p>(i) improve the economic, social, and environmental wellbeing of the authority's area,</p> <p>(ii) facilitate the involvement of small and medium enterprises, third sector bodies and supported businesses in the process, and</p> <p>(iii) promote innovation, and</p> <p>(b) in carrying out the procurement, to act with a view to securing such improvements identified as a result of paragraph (a)(i).</p> <p>(2) The contracting authority must consider under subsection (1) only matters that are relevant to what is proposed to be procured and, in doing so, consider the extent to which it is proportionate in all the circumstances to take those matters into account.</p> <p>(3) In this section—</p> <p>"small and medium enterprises" means businesses with not more than 250 employees,</p> <p>"third sector bodies" means organisations (other than bodies established under an enactment) that exist wholly or mainly to provide benefits for society or the environment.</p> <p>(4) In this section, references to the wellbeing of the authority's area include, in particular, reducing inequality in the area.</p>

²⁰ <https://news.gov.scot/news/a-vision-for-national-wellbeing>



This duty **requires** that before a public sector body buys anything, it must think about how it can improve the social, environmental and economic wellbeing of the area in which it operates. For the purpose of this document we are focusing on:

- ▶ Section 9 (1) (a) (i) considering the **environmental** wellbeing of the authority’s area; and
- ▶ Section 9 (2) matters must be **relevant** to what is being procured and **proportionate**.

Improving environmental wellbeing is explained in the Local Government in Scotland Act 2003 – Guidance on the Power to Advance Wellbeing²¹ and includes environmental factors such as the availability of clean air, clean streets and protecting communities against the threat of climate change.

This sustainable procurement duty therefore allows public bodies regulated by the act to introduce specifications and clauses that will improve the wellbeing of the area, **so long as they are relevant and proportionate**. This can be achieved in many ways e.g. supplier engagement and inclusion of requirements in the specification and/or inclusion in award criteria. This can also be monitored, and encouraged, through KPIs and contract management over the lifetime of the contract.

9.4 Lifecycle costing– Public Contracts (Scotland) Regulations 2015

The Public Contracts (Scotland) Regulations 2015²² applies to regulated procurements above the EU thresholds. The regulations require, amongst other things, consideration of lifecycle costing (Regulation 68) and that price or cost may not be used as the sole award criterion (regulation 67(1)(b)²³).

9.5 Early supplier engagement

Supplier engagement can be undertaken during the lifetime of a contract and leading up to a contract renewal. This can be helpful in setting the scene and giving prior notice to suppliers of your intention to be seeking ultra-low emission vehicles in the next generation contract. This is likely to lead to a higher chance of success in making an impact at the tender stage.

There are a number of ways to engage with suppliers, including using prior information notices, contract review meetings, supplier events, meet the buyer events, through the supplier development programme and also in the procurement strategy and annual procurement report.



Case Study 2: City of Edinburgh Council – Taxicards

Some citizens of Edinburgh with disabilities may find accessing public transport difficult. They can apply for a taxicard which means that they don’t pay the first £3 of their fare, making taxi travel more affordable. The scheme is subsidised, with £1.50 per journey being paid by the council and £1.50 being funded by the taxi provider Central Taxis.

The winning bidder, Central Taxis, offer black cabs with wheelchair access as well as electric saloons.

Stakeholder engagement prior to the reletting of the contract revealed that users of the service preferred saloon cars rather than black cabs. During pre-tender bidder engagement, bidders were made aware that the council was impressed by the Dundee City Council model, which has a heavy emphasis on electric cars. Whilst electric vehicles were not specified, there was an emphasis on sustainability in the specification.

21 www2.gov.scot/Publications/2004/04/19276/36157

22 www.legislation.gov.uk/ssi/2015/446/contents/made

23 www.legislation.gov.uk/ssi/2015/446/regulation/67/made

9.6 Contract notice

The buyer should give clear indications in the contract notice (section V1.3 additional information on the Public Contracts Scotland website). An example of wording is provided below.

The contracting authority has included obligations in the specification and contract conditions relating to the use of ultra-low emission vehicles to reduce the impact on the environment and improve air quality.

9.7 European Single Procurement Document (ESPD)

At the selection stage, the buyer may ask for an environmental policy, where this is relevant and proportionate. The difficulty with this is deciding what is required for a “pass”. The buyer may give an indication of what is required to be covered in the environmental policy. Examples of wording are provided below.

Please provide a copy of your environmental policy. The policy must include details of how your organisation will reduce vehicle emissions, reduce fuel consumption and improve air quality.

In your case study, please include reference to what actions you have taken to minimise use of transport and reduce the impact of the contract delivery on the environment.

9.8 Specification clauses and evaluation criteria

The specification can set out “musts” as well as “mays”. In many cases, there will have to be accompanying award criteria, to find out how suppliers will meet that specification.

Award criteria are the “quality” or “technical” questions and are balanced with the commercial, or cost element of the tender. Using award criteria allows a “softer” approach than specifying the use of ULEVs because it is scored rather than mandatory. The criteria must be relevant and proportionate and there must be a clear methodology to score the responses.

In setting the specifications and award criteria the buyer must ensure that the contractual commitment is clear so that contract management can be effective.

Samples include:

Sample 1

“The supplier is required to introduce ULEVs into their fleet during the life of this contract.”

In order to evaluate this, the buyer will have to have a quality question that accompanies this, such as:

“Please describe how you will introduce ULEVs into your fleet during the life of this contract. Please refer to your vehicle replacement programme and indicate what % of your fleet will be ULEVs at the end of each year of the contract.”

Sample 2

“The supplier is required to consider the environmental impact of the delivery of this contract and undertake measures to systematically reduce their environmental impact over the life of the contract. This should include introduction of ULEVs, servicing of vehicles, effective route scheduling and driver training.”

The award criteria would include:

“Please provide details of the measures that you will take to reduce the environmental impact of transportation over the life of this contract. This should include details of how and when you will introduce ULEVs, how you will manage the routes and what driver training will be provided. Your response must include the % of ULEVs that you will have in your fleet at the end of each year.

Sample 3

“1.1 The supplier must use ULEVs in the delivery of this contract. The minimum requirement is 5% at end of year one, 10% at end of year two; 15% at end of year three and 20% at end of year four.”

The award criteria may state:

“Please provide details of how you will achieve 1.1 in the specification regarding the gradual introduction of ULEVs into the delivery of this contract.”

Sample 4

“The contractor will be required to have an environmental plan in place which includes specific and quantifiable actions that they will take to reduce the environmental impact of their transport fleet.”

The award criteria may state:

“Please provide details of how you will achieve 1.1 in the specification regarding the gradual introduction of ULEVs into the delivery of this contract.”

Case Study 3: City of Edinburgh Council – Car Club

City of Edinburgh Council (CEC) utilise the Enterprise Car Club in the city, which enables people to hire vehicles. There are 130 vehicles, many of which are electric and can be reserved online or by phone. Users of the car club get two hours free parking in council car parking areas.

CEC specified electric vehicles in the tender for the car club as follows:

The service provider shall provide low emission and electric vehicles that contribute to carbon reduction objectives and minimise pollution.

The use of cleaner fuel vehicles is preferred e.g. fuel-cell, full electric, petrol electric hybrid or dual fuel (LPG with petrol). Prohibited vehicles include diesel vehicles, including diesel/LPG vehicles. A selection of both manual and automatic gearboxes will be required.

As part of any discussions and agreements on including electric vehicles within the scheme, the service provider will be solely responsible for making applications to secure funding for the cost of implementing the charging infrastructure required. This funding shall include the costs to secure warranty and maintenance agreements with the company installing the chargers for the entire period of the car club contract. Following a successful installation, the service provider shall provide the council with a copy of the charger commission certificate. Following the end of the car club contract the charging infrastructure will become the property of the City of Edinburgh Council.

9.9 Contract management

Where introduction of ULEVs, or other environmental measures, are built in to a contract, it's important that actual delivery of these obligations is measured and reported on. This might be through monthly, quarterly or annual returns with a status report of progress made. A sample is provided below.

KPI return at [date] for [company name]

Number of vehicles in fleet – x

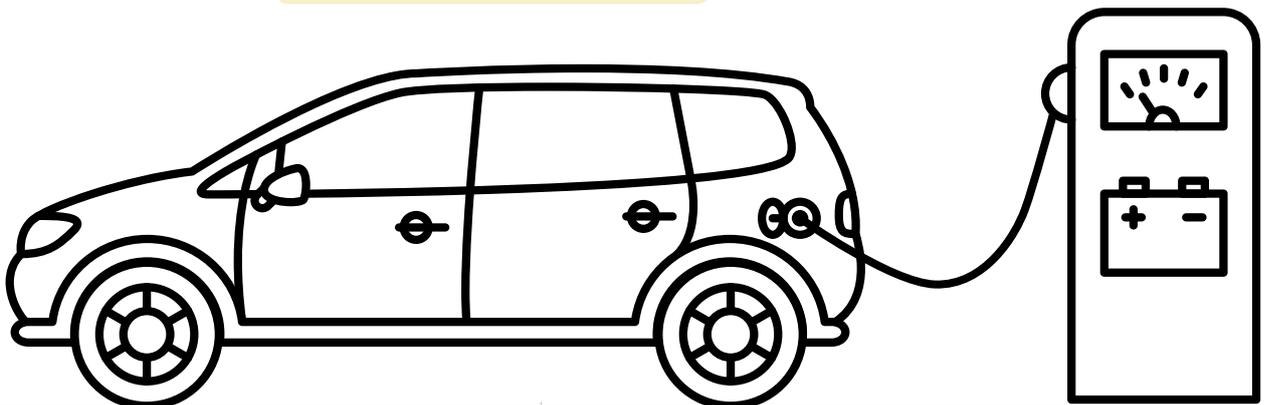
Number of ULEVs – y

% ULEVs/fleet – z%

% of drivers who have received environmental awareness training – x%

Progress report: [commentary on progress]

The buyer must consider what the repercussions of a breach of the obligation would be. This will depend, amongst other things, on how core this contract term is to delivery of the contract. For example, in a home to school contract where transport is core then the clauses relating to the environment are likely to also be core. However, for the supply of IT equipment, the transport aspects will be secondary.



Appendices

Appendix I – Definitions and glossary

Regulated procurements	The Procurement Reform (Scotland) Act 2014 applies to all public sector bodies with a third party spend of £5m per annum or more. Regulated procurements are those in excess of £50,000 (goods and services) and £2m (works).
ChargePlace Scotland network	ChargePlace Scotland is a national network of electric vehicle charge points available across Scotland. The ChargePlace Scotland network has been developed by the Scottish Government through grant funding of local authorities and other organisations to install publicly available charge points. Recipients of the funding are known as 'hosts'. A host is the designated owner of the charge points they have installed and are also responsible for maintenance and general upkeep of their charge points. The ChargePlace Scotland network is operated on behalf of the Scottish Government by Charge Your Car Ltd.
Combustion engine	An engine which generates mechanical power by combustion of a fuel such as petrol or diesel.
Extended range electric vehicle (EREV)	Extended-range electric vehicles have a plug-in battery pack and electric motor, as well as an internal combustion engine. The electric motor always drives the wheels and the internal combustion engine acts as a generator to recharge the battery when it is depleted.
Grey fleet	Vehicles used for business travel that do not belong to the organisation. This normally refers to use of vehicles owned by the employee. The employee claims a mileage allowance.
Hydrogen fuel cell electric vehicle (FCEV)	Operates reacting hydrogen fuel with oxygen to produce electricity. They produce zero CO ₂ and air pollutant tailpipe emissions as water is the only waste product.
ICE	Internal combustion engine.
Infrastructure	The charging points required to recharge plug-in vehicles.
KPI	Key performance indicator. KPIs should be built in to a contract. An example of a KPI is % of vehicles which are ULEVs.
Lifecycle costs	The cost of ownership over the life of the car, also known as whole life costs and total cost of ownership (TCO). This will take into account purchase cost (or lease cost); maintenance costs, running cost and residual value.
Low Emission Zones (LEZ)	An area where access by some polluting vehicles is restricted or deterred with the aim of improving the air quality.
Plug-in electric vehicles (EV)	Powered only by electricity. Charged by an external power source with regenerative braking to extend the range.
Plug-in hybrid electric vehicle (PHEV)	Combines a battery, electric drive motor and an internal combustion engine (ICE) and the ability to charge the battery from an external power source.
RFID card	Radio frequency identification (RFID) cards use radio waves to read and capture information stored on a tag incorporated into a card. The tag can be read from several feet away and does not need to be within direct line-of-sight of the reader to be tracked.
Supply chain	The network of organisations used by a supplier to provide a service to a customer.
Telematics	Technology in vehicles which may include GPS tracking; emergency services alert; sat nav; diagnostic and maintenance notification.
Torque	Torque is what helps spin the crankshaft to help provide power to the vehicle. At lower speeds, torque is what helps drivers move. While horsepower is important, torque is just as crucial because it determines a vehicle's speed and power, which is required when going up hills or towing.
ULEV	Ultra-low emission vehicle. A vehicle with tailpipe emissions of less than 75g/km CO ₂ and is capable of a range of at least 20 miles with zero emissions.

Appendix II – Useful contacts

Organisation	Assistance provided	Contact details
Energy Saving Trust	Technical guidance on ULEVs and the potential savings that could be achieved through ULEV adoption; ULEV procurement advice.	sustainabletransport@est.org.uk
CCS	Advice, guidance and support re fleet and infrastructure	fleet@crownccommercial.co.uk https://ccs-agreements.cabinetoffice.gov.uk/contact-us Telephone – 0345 010 3503

Appendix III – Further reading

Ref	Title	Description	Link/ Contact
1	Greenfleet event	Offers Scottish fleet professionals the opportunity to experience some of the best and most efficient motoring technology the electric and ultra-low emission world has to offer, staged in association with Transport Scotland and Energy Saving Trust.	http://scotland.greenfleet.net/
2	Energy Saving Trust – Sustainable Business Transport Reviews	A free survey of your fleet resulting in recommendations to reduce costs and increase efficiency.	www.energysavingtrust.org.uk/scotland/businesses-organisations/transport/sustainable-business-transport-review
3	Procurement Guidance Climate Change	Practical advice from the Scottish Government.	www.gov.scot/publications/sustainable-procurement-guidance/
4	Road to Zero	UK Government strategy to support the transition to zero emission road transport and reduce emissions up to 2050.	www.gov.uk/government/publications/reducing-emissions-from-road-transport-road-to-zero-strategy
5	Chargepoint infrastructure	Guide to chargepoint infrastructure for business users.	www.energysavingtrust.org.uk/sites/default/files/reports/6390%20EST%20A4%20Chargepoints%20guide_v10b.pdf
6	ULEV Guide	Guide to ultra-low emission vehicles.	www.energysavingtrust.org.uk/sites/default/files/reports/A%20guide%20to%20ultra%20low%20emission%20vehicles%20for%20Fleet%20Managers.pdf
7	OLEV website	Office for Low Emission Vehicles.	www.gov.uk/government/organisations/office-for-low-emission-vehicles
8	Energy Saving Trust website	Articles and case studies regarding transport.	www.energysavingtrust.org.uk/blog/category/transport
9	Clean Fleets	Useful information including a guide and lifecycle calculator.	www.clean-fleets.eu/publications/
10	Green car guide	Reviews and other useful information about green vehicles.	www.greencarguide.co.uk/features/ultra-low-emission-vehicles-ulev/

Appendix IV – Handout / letter to suppliers or tenderers

If you are thinking about writing to, or otherwise engaging with, suppliers the following content might be useful to you.

[Organisation name] has strategic aims to:

- reduce the impact of our services on the environment by reducing carbon emissions and
- improve air quality

Poor air quality has a detrimental effect on health, a report²⁴ by the NHS reports that poor air quality kills 40,000 people a year in the UK. Further statistics on air quality²⁵ are published by DEFRA.

The Scottish Government is introducing Low Emission Zones in our four largest cities and aims to phase out electric and diesel vehicles by 2032, eight years ahead of the UK target.

We are taking steps to convert our fleet of vehicles to ultra-low emission vehicles and we are encouraging our suppliers to do the same. It is likely that in future tenders suppliers using ultra-low emission vehicles will score more highly. It would be to your benefit to start to consider this early.

For up-to-date information on vehicles available refer to the Office for Low Emission Vehicles eligibility list on their website²⁶.

Free advice and financial support are available to you via the Energy Saving Trust²⁷. They can be contacted by emailing sustainabletransport@est.org.uk or call **0131 555 7900**.

24 www.nhs.uk/news/heart-and-lungs/air-pollution-kills-40000-a-year-in-the-uk-says-report/

25 www.gov.uk/government/statistics/air-quality-statistics

26 www.gov.uk/plug-in-car-van-grants

27 www.energysavingtrust.org.uk/scotland/businesses-organisations/transport

We're here to help people across the UK save energy and reduce fuel bills. It's a big task that we won't solve alone. But by working with partners who share our goals, we believe we can make a real difference.

Underpinned by our independent status and impartial perspective, we offer a depth of energy expertise, but we're not content to stand still. Our goal is to find new and better ways to drive change and reduce UK energy consumption.

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