Go Ultra Low
FLEET GUIDE TO PLUG-IN VEHICLES
Welcome

UK fleets are agents of change. Many of the innovations that have made cars greener, safer and more efficient in recent decades were pioneered by fleets, and today the corporate sector is spearheading the growth of the electric vehicle market.

The UK is now one of the fastest growing markets for electric vehicles in Europe. During the first quarter of 2016 an electric car was sold, on average every 15 minutes. That means we are on course to exceed 2015’s record total – a year which in turn saw more plug-in cars registered than in the previous five years combined. Today fleets buy almost two thirds of all electric vehicles. More and more, fleet managers are discovering that running electric vehicles no longer requires compromise – whether it’s on whole life costs, reliability, or popularity with drivers.

As a Government, we have demonstrated our long-term commitment to ultra-low carbon motoring. We are investing £600m by 2020 to support the plug-in vehicle grant, expand the charging infrastructure, and boost the electric car industry.

Manufacturers have responded by expanding and improving the range of electric vehicles on the market. There are now 32 cars, from luxury cars to city vehicles, and nine vans eligible for the Government’s plug-in grants, so fleets have real choice.

By 2040, our aim is that all new cars sold in this country will have zero tailpipe emissions. And our ultimate goal is to make almost every car on the road ultra-low emission by 2050. These are ambitious targets. But we can achieve them if Government, industry and fleets continue to work in partnership through schemes like Go Ultra Low.

I want to encourage more fleets to be bold and see the benefits that electric cars could bring. Green fleets don’t just enjoy financial incentives and tax breaks. They also project a positive corporate image to the outside world.

So I’m delighted to recommend this guide – and I hope it will help your fleet Go Ultra Low.
AN ELECTRIC VEHICLE IS FOR NOW, NOT JUST THE FUTURE

The huge growth in demand for electric cars and vans as new vehicle registration figures surged to record levels in 2015, eclipsing the combined total sold between 2010 and 2014. Data from Go Ultra Low reveals that electric car registrations accelerated rapidly last year to a record 28,188 units, surpassing 2014 volumes (14,532) by 94%.

Further analysis of the data reveals that the fleet sector is outpacing motorists, with 18,254 registrations, a 137% increase on 2014. Fully electric models proved most popular among fleet operators so it makes sound commercial sense that the ever-accelerating uptake while the BMW i3 three is intact without change as the Nissan LEAF ranks second (5,216 registrations) with a 29% hike in uptake while the BMW 13 continues to enjoy popularity among motorists, coming third once more with 2,113 registrations, 59% up year-on-year.

Transport Minister Andrew Jones said: “Soaring demand across the UK shows that more and more people view electric cars as the right choice for them. They are green, cheap to run and benefit both businesses and families. The government is investing over £600 million during the next five years to help position the UK as a world leader in the technology, supporting skilled jobs and driving economic growth.”

Meanwhile, demand for electric vans increased more than a fifth (22%) last year with registrations totalling 819 units versus 673 in 2014. Almost all those light commercial vehicles are being operated by fleets and small businesses with the best-seller being the Nissan eNV200, accounting for 645 registrations last year.

Currently 32 cars and nine vans – either pure electric, range-extended, plug-in hybrid or hydrogen fuel cell vehicles – are categorised as ultra low emission vehicles that meet the eligibility criteria for the government’s plug-in grant.

From city run-arounds, saloons and family hatchbacks, to 4x4s and sports cars, there is already a wide range of models to meet corporate and employee demands, while the choice of vans embraces car derived, panel van and 4x4 models.

Corporate choice will continue to increase further with an additional 40 models expected to come to the market over the next three years, according to the Department for Transport.

Alied to fleet decision-makers searching for financial savings in their choices of company cars and vans is a desire to reduce their organisation’s carbon footprint as a policy of good corporate citizenship. EVs deliver on both counts making sound financial and environmental sense, while the variety of models available ensures that the key fleet criteria of ‘fitness for purpose’ is also met.

Go Ultra Low campaign to recruit - have joined the EV TECHNOLOGY EXPLAINED

EVs are available from a number of manufacturers, including Audi, BMW, Kia, Nissan, Renault, Toyota and Volkswagen. These eight - Kia being the most recent recruit - have joined the Go Ultra Low campaign to encourage corporate and consumer demand of plug-in vehicles.

There are four types of technology powering electric cars, all offering different benefits to ensure fleets can match fitness for purpose with business need:

- Pure electric: powered by a battery charged from mains electricity with a single charge range typically up to 100 miles. Models available include the BMW i3, Kia Soul, Nissan LEAF, Nissan e-NV200, Renault ZOE, Renault Kangoo ZE, Volkswagen e-Golf and Volkswagen e-up.

- Plug-in hybrid: matches a battery for short trips of 10-35 miles with a standard petrol or diesel engine for longer journeys giving a range of up to 700 miles. Models available include the Audi A3 Sportback e-tron, BMW 225xe Active Tourer, BMW 330e Saloon, BMW i8, Mitsubishi Outlander PHEV, Toyota Prius Plug-in and Volkswagen Golf GTE.

- Range extender vehicles: powered by a battery with an internal combustion engine generator on board, which charges the battery when it gets below 3%, can increase the range of the car from 100 miles up to around 180. The only model on the market that currently offers this is the BMW 3 Range Extender.

- Hydrogen fuel cell vehicle: powered by a fuel cell which powers the wheels of the vehicle emitting only water and carbon dioxide - with a range of approximately 300 miles. The only hydrogen fuel cell vehicle model eligible for the plug-in car grant is the Toyota Mirai.

EVs deliver on both counts making sound financial and environmental sense, while the variety of models available ensures that the key fleet criteria of ‘fitness for purpose’ is also met.
**ELECTRIC CAR BUYERS SECURED FOR LONG TERM FUNDING**

**PLUG-IN CAR GRANT EXPLAINED**

The new Plug-in Car Grant secures more funding for a greater number of electric car buyers, continuing the rapid growth of the UK’s electric vehicle market.

The Department for Transport has said that grants will be maintained at those levels until March 2018, or until a prescribed number of each type of vehicle have been sold, whichever is the sooner. The trigger points for a further review of grant levels will be 40,000 Category 1 cars, and 45,000 combined sales of Category 2 and 3 models. Those numbers include cars sold before March 2016. As of December 2015, 23,000 claims had been submitted for Category 1 cars and 28,000 claims for Category 2 and 3 models.

Additionally, to encourage zero emission vehicle demand and maximise the number of cars qualifying for government support, a price cap has been introduced. Category 2 and 3 models with a list price of more than £60,000 will not be eligible for the grant, but all Category 1 vehicles will be eligible for the full £4,500 grant.

**Market leader**

**THE MITUBISHI OUTLANDER PHEV IS THE UK’S FAVOURITE PLUG-IN VEHICLE (INSET) THE KIA SOUL EV.**

**GO ULTRA LOW FLEET GUIDE TO PLUG-IN VEHICLES**

Transport Minister Andrew Jones said: “The UK is a world leader in the uptake of low emission vehicles and the plug-in car grant has been key to that success. We are determined to keep Britain at the forefront of the technology, increasing our support for plug-in vehicles.”

The UK is also a leader in the roll-out of hydrogen fuel cell vehicles, such as the Toyota Mirai – which is eligible for the £4,500 grant thanks to its zero tailpipe emissions. The Government has made a commitment that all cars and vans on the road in the UK will be zero emission by 2050.

Poppy Welch, Head of the Go Ultra Low campaign, said: “The new plug-in car grant secures more funding for a greater number of plug-in car buyers, continuing the rapid growth of the UK’s electric vehicle market.”

“The new grant levels reflect the lower purchase price of these vehicles and remains an excellent purchase incentive for motorists embracing this new, green technology. When you consider the ‘in-life’ costs savings associated with plug-in car ownership – such as lower tax, fuel and maintenance – the electric vehicle proposition is extremely attractive.”

Motor manufacturers welcomed the Government’s continuation of grant aid, which has helped Britain become the fastest-growing market for EVs in Europe.

Mike Hawes, Chief Executive of the Society of Motor Manufacturers and Traders (SMMT), said: “Manufacturers are offering increasing numbers of these vehicles – but a consistently applied incentive regime is still needed over the coming years to help consumers adopt these ground-breaking technologies. The changes to the regime will need effective management and SMMT looks forward to working with government to ensure the planning needs of manufacturers and consumers – both fleet and private – are met.”

**PLUG-IN VAN GRANT**

Nine vans currently qualify for the plug-in van grant which delivers 20% off the cost of a vehicle, up to a maximum of £8,000. To qualify, vans must have a gross weight of 3.5 tonnes or less and have CO₂ emissions of less than 75g/km. Additionally, eligible fully electric vans must be able to travel a minimum of 60 miles between charges, plug-in hybrid electric vehicles must have a minimum electric range of 10 miles and vehicles must be able to reach a speed of at least 50mph.

However, vehicles which have already received the plug-in van grant are not eligible for enhanced capital allowances (100%), which apply to zero-emission goods vehicles until 31 March, 2018.

Ken Ramirez, then Managing Director, Renault UK, and recently promoted to the post of senior vice-president, sales and marketing for Europe, said: “Differentiating UK EVs into three categories and placing a clear £2,000 financial benefit for choosing the most environmentally friendly Category 1 vehicles over the other two categories, is recognition that the UK sees a strong future in zero tailpipe emission vehicles and the air quality benefits they offer.

“The changes to the grant will help to encourage even more motorists to consider moving to zero tailpipe emissions vehicles thanks to its remarkable affordability and to also enjoy the revolutionary driving experience they provide.”

The ‘cost’ of the plug-in vehicle is the full purchase price paid for the basic vehicle – including number plates, Vehicle Excise Duty and VAT. It doesn’t include any optional extras, eg delivery charges or first registration fee.
**WHOLE LIFE COSTS, WHOLE LOT OF SAVINGS**

Hundreds and possibly thousands of businesses are potentially losing money because they are failing to use whole life costs as the basis for company car selection, according to experts.

Yet many fleet decision-makers base their vehicle selection decisions on list price, P11D value or a headline monthly lease rate rather than whole life costs.

Chris Chandler, principal consultant at Lex Autolease, the UK’s largest vehicle leasing and fleet management company with a fleet of more than 320,000 vehicles including 4,500 EVs, said: “It is important that fleets look beyond the initial list price of the vehicle. ‘Plug-in vehicles benefit from government grants, tax breaks and have significantly cheaper fuel costs, all of which help to reduce the total cost of ownership. In addition, these vehicles provide notable environmental benefits as they produce substantially lower CO₂ emissions.’

Finding the right operation for the right vehicle is key in all fleet operations and that is no different with EVs. Mr Chandler added: “In the right circumstance, where the right vehicle is used the whole life cost can be much less than their petrol or diesel equivalent.”

David Bushnell, eMobility consultant at vehicle leasing and fleet management company Arval’s Corporate Vehicle Observatory suggests an increased adoption of EVs over the next three years. When fleets with more than 120 employees were asked which technologies they already operated or intended to operate, 42% said conventional hybrids, 30% electric vehicles and 26% plug-in hybrids.

Richard Cox, senior consultant at Arval Consulting, said: “More and more fleets are taking an interest in a wide range of alternative fuels and are keen to try them out in an operational sense to see which work for them and in which applications.”

Whole life cost figures from Lex Autolease illustrate how the higher P11D value of plug-in vehicles is more than offset by significant fuel savings, notwithstanding recent falls in the pump price of petrol and diesel; an estimated 20–40% reduction in SMR costs and tax benefits.

SMR savings accrue because there are fewer moving or wearing parts in an electric car that will require maintenance than in petrol or diesel equivalents. Consequently, vehicle servicing costs will be lower.

The data reveals that, for example, running a BMW i3 over four years/60,000 miles will deliver a potential saving of £54 a month over rival models. Table 1 shows the cost of savings made using the higher whole life cost approach.

Multiply that by a fleet of just 10 cars and the savings escalate to almost £2,000 over four years. Similarly with the Nissan LEAF, the monthly savings on a Ford Focus 1.5 EcoBoost Zetec 5 is an impressive £77 a month. That equates to almost £3,700 over a four-year operating cycle and almost £37,000 on a fleet of just 10 cars.

Whole life cost data for range extenders and plug-in hybrids are more difficult to calculate because maximum savings are delivered in electric mode. The figures below assume 60% electric mode usage and a 15% weighting is applied to official MPFs for real-world motoring.

However, the greater the number of miles covered in electric mode the greater the whole life cost saving as fuel expenditure will reduce. What's more, the figures below the BMW i3 Range Extender and Volkswagen Golf GTE are compared with best in breed petrol and diesel rivals so for fleets currently operating less efficient vehicles the savings would be even more significant.

**EXAMPLE ‘WHOLE LIFE COST’ DATA**

<table>
<thead>
<tr>
<th>EXAMPLE MODEL</th>
<th>P11D VALUE</th>
<th>CO₂ g/km</th>
<th>FUEL TYPE</th>
<th>MONTHLY FUEL COST</th>
<th>2016-17 FUEL COST</th>
<th>WHOLE LIFE COST</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BMW i3</strong></td>
<td>30,925</td>
<td>0</td>
<td>Electric</td>
<td>£72</td>
<td>£543</td>
<td></td>
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<tr>
<td><strong>BMW 120d</strong></td>
<td>26,800</td>
<td>109</td>
<td>Diesel</td>
<td>£96</td>
<td>£541</td>
<td></td>
</tr>
<tr>
<td><strong>Volkswagen Golf GTE</strong></td>
<td>33,940</td>
<td>39</td>
<td>Petrol</td>
<td>£72</td>
<td>£549</td>
<td></td>
</tr>
<tr>
<td><strong>Nissan LEAF Acenta</strong></td>
<td>27,835</td>
<td>0</td>
<td>Electric</td>
<td>£38</td>
<td>£431</td>
<td></td>
</tr>
<tr>
<td><strong>Ford Focus 1.5 EcoBoost Zetec 5</strong></td>
<td>25,155</td>
<td>99</td>
<td>Diesel</td>
<td>£89</td>
<td>£468</td>
<td></td>
</tr>
<tr>
<td><strong>Volkswagen Golf GTE</strong></td>
<td>24,770</td>
<td>40</td>
<td>Petrol</td>
<td>£104</td>
<td>£584</td>
<td></td>
</tr>
<tr>
<td><strong>BMW i3</strong></td>
<td>24,105</td>
<td>129</td>
<td>Petrol</td>
<td>£117</td>
<td>£593</td>
<td></td>
</tr>
</tbody>
</table>

\[\text{Whole life savings (example): £72 over four years/60,000 miles when compared to a petrol-only model (see opposite)}\]
WHOLE LIFE COSTS

PROFESSIONAL FLEET EXPERTISE IS KEY TO UTILISING WHOLE LIFE COSTS

Many organisations do not employ full-time professional fleet managers, particularly in the SME sector, to manage their company car operations.

The trend for organisations to outsource fleet responsibility to a third party and leave management of the contract with perhaps the HR or finance department is highlighted by ACFO as one of the reasons why whole life costs are ignored by many companies.

A further reason is the complexity around sourcing all the required data, but many leasing companies actively promote the use of whole life costs. Switching to whole life costs as the basis for company car choice can frequently enable employers to offer staff a more attractive car than perhaps they may have previously been entitled to have.

Utilisation of whole life costs was a major topic at an ACFO seminar where deputy chairman Caroline Sandall said: “The fact that many businesses don’t use them is a symptom of lacking internal fleet management knowledge, particularly in SME fleets. “Whole life costs should be embedded in every company, but it is not because it is not known about or understood in many cases. That is why it is important that companies have a level of internal fleet expertise.”

But, she continued: “Whole life cost management offers space to be flexible and should be adapted to the needs of individual fleets. “Businesses should consider how they can refine their current company car choice model and implement improvements.”

Underpinning that data capture was critical to fleet cost management, she continued: “Businesses cannot achieve a whole life cost management structure unless they have effective data which comes from many sources including internally and suppliers. It is critical to capture all income and expenditure to create a baseline position.”

Mike Brazel, specialist consultant (funding and taxation), at LeasePlan, added: “Many businesses struggle to capture all their costs in one place. But it is critical to measure, monitor and manage what is really happening. Whole life cost management is a continual process of review, and using it will deliver significant benefits to both employers and the business. “Using whole life costs as the basis for vehicle selection is eminently doable, but there must be a desire to do it.”

Ms Sandall, who has more than 20 years’ fleet management experience, continued: “Whole life cost management doesn’t have to be complicated. Businesses can take a step transition to get a baseline and start building up data that may be required. Treat whole life costs as a menu because you can’t always start with perfection. “One of the biggest issues with whole life cost modelling is shifting costs – residual values, purchase price discounts, funding costs and interest rates and insurance, as well as supply chain changes and legislation – therefore businesses should ensure they monitor and look for change and try to predict the future.”

Ogilvie Fleet has promoted the use of Ogilvie True Cost (OTC) – its own interpretation of whole life costs incorporating all known vehicle expenditure – as the basis for company car choice lists for a number of years.

Nick Hardy, sales and marketing director of Ogilvie Fleet, said it was vital that fleet managers kept all vehicle options open and using whole life costs was the straightforward mechanism for doing so to easily identify the optimum choice.

For many years diesel has been the fuel of choice for fleets. But now with the ever-growing EV choice, Mr Hardy, who has a plug-in hybrid as his own company car, said: “Fleets should not be restrictive in their vehicle choice by self-imposed limitations. “Fleet operators should be open to alternative power sources – there is no need to be fearful of new technologies. “We are finding that an increasing number of businesses have a relatively open fleet policy and are mindful of the different engine technologies and fuel types available,” said Mr Hardy.

Saga Group calculates that it is on target to realise savings of £1,400 per vehicle per year after replacing four diesel vans with a quartet of Renault Kangoo ZE models.

The introduction of the four zero emission vans followed detailed analysis and recommendations provided by mobility solution provider Alphabet’s AlphaElectric consulting team.

Saga Group, the UK’s leading provider of products and services tailored to the needs of the over 50s, introduced the vans in the interest of long term sustainability and due to competitive costing.

AlphaElectric used its AlphaElectric E-Vehicle tool to study the day to day operation of 10 light commercial vehicles in a bid to test the viability of replacing them with electric vans.

Saga’s fleet and in house services manager, Lukas Jansen Van Vuuren, worked with the AlphaElectric consulting team to carry out the necessary analysis of the operating patterns and running costs of a mix of Citroen (Berlingo, C1 or Nemo), Vauxhall (Combi or Vivaro) and Volkswagen (Caddy) vans, drawing from data ranging from 1.2 to 1.9 litres engine capacity.

The project monitored the vehicles’ daily average and highest daily mileage over a 10-week period. Each vehicle was compared with an equivalent plug-in vehicle to establish whether it was possible to make a positive business case for using electric to reduce the fleet’s environmental impact.

Mileage monitoring revealed that six of the vans never exceeded 75 miles per day, and three others exceeded 75 miles on 2%-3% of days. In the test stage of the review, the consulting team compared the diesels’ leasing and running costs with those of zero-emission electric vehicles (EVs).

The four Kangoo ZE models were selected as the nearest like-for-like equivalents, with cost profiles based on 48-month contracts and nearest like-for-like equivalents, with cost profiles based on 48-month contracts. The Kangoo ZEs were selected as the nearest like-for-like equivalents, with cost profiles based on 48-month contracts and the nearest like-for-like equivalents, with cost profiles based on 48-month contracts.
The motoring tax regime is designed to favour the take-up of electric vehicles (EVs) with Government grants furthering the incentives for corporate customers.

Additional funding is available to help with the purchase of vehicles and installation of chargepoints, meaning there is a solid business case for introducing such cars and vans to fleet operations.

The business case for introducing EVs is further supported by the requirement of companies – employing 250 or more people in the UK or with an annual turnover exceeding €50 million and a balance sheet exceeding €43 million – to complete energy audits, including fuel used by company cars and vans and privately-owned vehicles driven on business trips.

The deadline for the first audit reports under the four-yearly reporting Energy Savings Opportunity Scheme (ESOS) was December 5 last year with non-compliant companies facing the risk of fines.

Furthermore, approximately 1.800 companies listed on the London Stock Exchange and local authorities must report their greenhouse gas emissions, which includes emissions from cars and vans ‘owned or controlled’ by organisations.

Embracing EVs is one way that businesses can drive down energy consumption and display their ‘green’ credentials to customers, suppliers and shareholders.

**ELECTRIC CARS: THE ANSWER TO TAXING QUESTIONS**

<table>
<thead>
<tr>
<th>TABLE 1: BIK TAX RATES</th>
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<tbody>
<tr>
<td>CO₂ (g/km)</td>
</tr>
<tr>
<td>0-50</td>
</tr>
<tr>
<td>51-75</td>
</tr>
<tr>
<td>100-104</td>
</tr>
</tbody>
</table>

Employers over the four-year period businesses will save themselves a total of £2,556 in Class 1A NIC by choosing the BMW i3. On a fleet of just 10 models, this would amount to a saving of more than £20,000.

**TABLE 2: DRIVER BIK TAX BENEFITS**

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<tr>
<th></th>
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<tbody>
<tr>
<td>£30,905</td>
<td>£4,493/E865</td>
<td>£5,057/E11,131</td>
<td>£5,604/E1,268</td>
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<td>£1,266/E2,727</td>
<td>£1,488/E2,975</td>
<td>£1,675/E3,347</td>
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**TABLE 3: EMPLOYER BIK TAX BENEFITS**

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<th></th>
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<tbody>
<tr>
<td>£30,905</td>
<td>£290</td>
<td>£384</td>
<td>£555</td>
<td>£683</td>
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<td>£895</td>
<td>£941</td>
<td>£1,026</td>
<td>£1,195</td>
</tr>
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</table>

The government says it will consult on reform of the bands over four years.

It means that based on the main rate BIK charge in 2016/17 of £3,170 the charge for an electric van will be £634, with an inflation-linked increase due in 2017/18. Employers pay NIC on the taxable benefit.

**TABLE 4: CAPITAL ALLOWANCES**

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
<th>CO₂ Emissions</th>
<th>VAT</th>
<th>Taxation and Discounts</th>
<th>Taxable Expenditure</th>
<th>Capital Allowances</th>
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</thead>
<tbody>
<tr>
<td>Nissan LEAF</td>
<td>£24,990</td>
<td>0g/km</td>
<td>20%</td>
<td>100%</td>
<td>2016/17 to 2022</td>
<td>£2,981</td>
</tr>
<tr>
<td>CDTi 170PS Start/Stop</td>
<td>£25,004</td>
<td>18%</td>
<td>20%</td>
<td>100%</td>
<td>2016/17 to 2022</td>
<td>£2,981</td>
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**NEW VED SYSTEM FOR CARS REGISTERED FROM 2017**

<table>
<thead>
<tr>
<th>EMISSIONS (g/km) CO₂</th>
<th>2017/18</th>
<th>2018/19</th>
<th>2019/20</th>
<th>2020/21</th>
<th>2021/22</th>
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<tbody>
<tr>
<td>0-50</td>
<td>£0</td>
<td>£0</td>
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<tr>
<td>51-75</td>
<td>£10</td>
<td>£14</td>
<td>£14</td>
<td>£14</td>
<td>£14</td>
</tr>
<tr>
<td>76-90</td>
<td>£100</td>
<td>£100</td>
<td>£100</td>
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</table>

**OVER A FIVE YEAR-PERIOD, COMPANIES CAN SAVE THEMSELVES £5,963 IN BIK TAX BY CHOOSING AN EV**

**EXAMPLE OF CAPITAL ALLOWANCE BENEFITS**

**DID YOU KNOW?**

Over a five year-period, companies can save themselves £5,963 in BIK tax by choosing an EV.
**EVs: THE SALARY SAVING OPTION**

Salary sacrifice car schemes are growing in popularity for employees with no entitlement to a company car or a cash alternative. What’s more, some employers are introducing the salary sacrifice option in place of company car schemes. David Hosking, chief executive of Tusker, a leading provider with more than 250 schemes, explains why electric vehicles are a particularly attractive salary sacrifice option.

Electric vehicles (EVs) work extremely well in car benefit schemes. Salary sacrifice or ‘salary saving’ as we like to call it, works by eligible employees saving part of their salary in exchange for a company car.

As these schemes are viewed by the government as a benefit, employees need to pay BIK. This tax works on a sliding scale based on the CO2 emissions of each vehicle. EVs attract the lowest tax liability of just 5%. With Tusker’s Salary Saving Car Scheme, National Insurance and income tax savings heavily outweigh BIK, enabling the employee to save hundreds of pounds each year.

They have been growing in popularity particularly as government policy keeps related taxes very low, and manufacturers have responded with an ever-expanding range of low emission models to meet all needs and pockets, from the family-friendly run-around to the top-of-the-range supercar.

It’s no surprise then that nearly half of all cars ordered through Tusker’s Salary Saving Car Scheme have a CO2 of less than 100g/km and 5% of those are EVs with CO2 of 75g/km or less. The most popular EV on Tusker’s fleet, accounting for more than half of total orders, is the versatile Mitsubishi Outlander PHEV which appeals to drivers looking for a bigger family car.

Tusker has been at the forefront of promoting EVs for several years. The executive board of directors at Tusker drive EVs and the company has installed four chargepoints at its Watford headquarters for employees and visitors to use. EVs are available to all company car drivers at all grades and to non-car eligible staff on Tusker’s own Salary Saving Car Scheme.

Employers also have a role to play. Installing charging points in the office car park is essential to encourage employees to adopt EVs and drive down the company’s carbon footprint.

Choosing the right EV for each individual driver is critical to their success. Different types of low emission vehicles work best under different sets of circumstances. Drivers do need to do some research when first looking into these vehicles and fully understand their journey profile.

An electric car with range extender works well for someone with a fairly long but predictable commute, while anyone mostly doing short, local journeys will find a fully electric car is ideal. The combination of the petrol hybrid electric vehicle is often a good compromise as it offers electric driving for short journeys with the compromise of a petrol engine to reduce ‘range anxiety’ for longer journeys.

If an EV does not work for a particular company car driver, because they typically drive a very high daily mileage with little opportunity for recharging, drivers should look into obtaining an EV as a second car. Conversely for a family requiring a conventional car at weekends, an EV may be ideal just as a car for the regular daily commute.

With salary saving, there are no tax limits on the number of cars employees can have, therefore salary sacrifice is an ideal opportunity for someone to drive an EV as their first or second car. The scheme gives drivers flexibility to adapt their car to their journey profile.

**Choosing the right EV for each individual driver is critical to their success.**

**David Hosking, Tusker**

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**GO ULTRA LOW FLEET GUIDE TO PLUG-IN VEHICLES**

**DID YOU KNOW?**

ART OF LIVING HAS HALVED ITS FUEL BILL SINCE INTRODUCING FIVE MITSUBISHI OUTLANDER PHEVS TO ITS FLEET

**CASE STUDY**

**THE ART OF LIVING GROUP**

Introducing five Mitsubishi Outlander PHEVs to The Art of Living Group’s company car fleet is paying financial dividends for the employees as well as the organisation. Driven are several thousands of pounds in company car BIK tax and the company calculates that it has cut its fuel bill by as much as 60%.

The successful interior fittings company is also making savings in Class 1A National Insurance contributions and, having purchased the plug-in cars, is benefitting from 100% capital allowances.

Two of the cars are also London Congestion Charge registered so are exempted from the daily charge when driven into the zone.

Glen Blythe, a director of the family-owned, Camberley-based company, said: “Our attention was drawn to an advert in a motoring magazine and I investigated. From both a financial and environment perspective it was a no-brainer.”

The company traded in five diesel SUVs for the Outlanders a year ago and Mr Blythe, explaining that the tax saving was the equivalent of a pay rise, said: “I’m now paying £14 a week in BIK tax and I was paying £50 a week. That’s brilliant.”

The financial savings are even greater for Mr Blythe’s father, Clive, managing director, who has seen his annual BIK tax reduce from around £10,000 to below £1,000. Mr Blythe’s brothers and fellow directors, Dean and Craig, are also making significant savings alongside warehouse manager Phil Johnson.

Three of the men have had chargepoints installed at home – the property configuration means the other two employees have not...

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Mr Blythe calculates he achieves around 30 miles on electricity when the battery is fully charged and more than 600 miles on a tank of petrol.

He explained: “We’re very eco-minded and always looking for ways to reduce our carbon footprint. I live five miles from the office and charge the cars every two days. If I have a longer journey the petrol engine kicks in. From filling up every week I’m now refuelling every five or six weeks.

“We run the cars as frequently as possible on electricity as that is where we gain the maximum financial benefits in terms of fuel cost savings.”

The Art of Living Group operates a 15-strong fleet of cars and vans and Mr Blythe anticipates introducing more ULEVs to the fleet in the future.

He concluded: “The cars will more than pay for themselves over three years saving the business and drivers thousands of pounds in tax and fuel costs. Other businesses should go down this route. I firmly believe ULEVs will increase in popularity as more businesses take advantage of the cost savings; you cannot ignore them.”

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MEETING THE CHALLENGE

T he national network of vehicle chargepoints is growing rapidly to the extent that the number of publicly accessible points has overtaken the number of fuel stations in the UK. Research from the RAC Foundation found that an EV driver will now be no more than 20 miles from a service station chargepoint on 98% of the motorway system in England, 98% of the 270 miles of motorway in Scotland and 100% of the 83 miles of motorway in Wales. When the analysis is broadened out to the whole of the strategic road network managed by Highways England – not just motorways but also major A roads – then 82% of the system is within 20 miles of a chargepoint. Equivalent figures for Scotland are 28% of the 1,963 miles of strategic road network and in Wales 45% of the 1,044 miles of strategic road network.

The toll out of the charging infrastructure means that Highways England is already close to the £15 million commitment made in the Government’s 2014 Autumn Statement, to ensure that by 2020/21 electric car drivers would never be “more than 20 miles from a chargepoint on the strategic road network.” Meanwhile, data from leading infrastructure provider, Chargemaster, showed that more than 90% of EV recharging takes place at home. Concern around the accessibility of the UK’s recharging infrastructure is frequently cited by drivers in surveys as one of their key issues in EV decision-making. But, the reality suggests that such concerns are misplaced. The average UK commute is less than 10 miles and the majority of plug-in car and van drivers are able to charge their vehicles entirely at home or work, only occasionally using public chargepoints as a back-up or additional top-up for longer journeys. As well as only commuting short distances, more than a third of UK motorists never travel more than 80 miles in a single trip, comfortably within the 100-mile range of most pure EVs. For those who regularly need to travel further or don’t have a driveway for home-charging, the electric vehicle with the longest range (Toyota Prius Plug-in) can travel up to 700 miles without needing to refuel.

Poppy Welch, Head of Go Ultra Low, suggests that fleet decision makers and company car and van drivers should consider updating their approach to plug-in vehicles. She said: “The reasoning is simple – drivers do not have to go out of their way, regularly spending time at petrol stations, when it is easy to ‘refuel’ from the comfort of their own home, simply by plugging in an EV.”

“Electric vehicle sceptics sometimes question the usability of the UK’s roadside charging infrastructure, but this data indicates that it is an important, but not critical, facility for most electric vehicle owners.”

PUBLIC RECHARGING POINTS

There are already more than 10,000 publicly accessible chargepoints across the UK – many provided by government investment and others by private organisations. On a daily basis, more chargepoints are opening in public car parks, shopping centres, railway stations, hospitals and other locations to further expand the UK’s recharging infrastructure. Chargemaster is the largest operator of EV chargepoints in the UK and last year announced plans for a near doubling in its POLAR chargepoint network taking it to around 7,000 locations. A chargepoint location map is available on goultralow.com.

The vast majority of residential, business and public chargepoints available today are fast chargers. They use AC current and take 2–4 hours. Customers are advised to talk to a chargepoint supplier about the differences, as the configuration of the chargepoint required will depend on the EV chosen.

RECHARGING YOUR BATTERY

Chargepoints are categorised by the power they produce. It’s measured in kilowatts (kW), and the higher the number, the faster a vehicle’s battery will be recharged. Most networks offer a mix of ‘rapid’ (43kW-50kW), ‘fast’ (7kW-22kW) and ‘standard’ (up to 3kW) charging options:

- **Rapid** – will charge a battery from flat to 80% in under 30 minutes. They are generally installed at motorway service stations enabling 100% EVs to travel across the country, as well as retail outlets and other locations.
- **Fast** – can re-charge a battery in two to four hours depending on battery size and can be installed in public locations. Their low cost means they are ideal for use at work and home and also in car parks and other ‘destination’ locations like supermarkets and cinemas. It usually takes more than eight hours to fully charge a battery, but suitable for a top up charge.
- **Standard** – generally used at work and home and also in car parks and other ‘destination’ locations like supermarkets and cinemas. It usually takes more than eight hours to fully charge a battery, but suitable for a top up charge.

Charging involves attaching an electric cable between the car and the socket. Standard charging uses the universal three-pin plug. Most plug-in vehicles on sale today use J1772 or Type 2 connectors for ‘fast charging’, with different options available for ‘rapid charging’.
Employers generally take the view that employees will achieve BIK tax and fuel cost savings as a consequence of choosing an EV so they should not be put off by any recharging unit cost.

Additionally, asking an employee to fund any further recharging unit cost indicates a commitment from them to support a corporate move to carbon footprint reduction and also safeguards employers from ‘losing’ out in the event of an employee moving.

However, other employers could decide to remove any barrier to employees choosing an EV and opt to fund any additional recharging unit cost. Such a move would incur a BIK tax charge at an employee’s marginal rate.

Ideally, the recharging point should be installed in a garage or on a driveway. A range of homecharging hardware, both floor and wall-mounted, is available to cater for multiple users and vehicle types.

However, if neither a garage or driveway option is available, a similar grant is offered to local authorities to have residential on-street chargepoints installed.

For safe and faster home charging it is recommended that a weather proof, wallbox is installed on a dedicated electrical circuit, and an earth stake is fitted if necessary. The cost of recharging can be from as little as £1 depending on the electricity supplier’s tariff.

WORKPLACE RECHARGING

Numerous employers are installing chargepoints in their company car parks in a bid to reduce both their own and their employees’ carbon footprint.

There are many suppliers of charging equipment and electric car manufacturers typically have their own partnership with a provider. The range of charging equipment includes dual charging boxes allowing one or two vehicles to be plugged in simultaneously as well as freestanding chargers.

Alphabet has launched a temporary charging solution exclusively to its fleet customers. ‘Charge before you buy’ has been developed and supplied by EDF Energy. The short-term discovery solution enables customers to explore whether EVs fit their needs. Three chargepoints are available for customers to lease for between one and three months. Enlightened businesses considering installing chargepoints at work should remember that there is no taxable benefit if the employer provides the facility.

CHARGE ON THE MOVE

Nissan is working on a wireless system with a company called Plugless that passes power to vehicles when they’re parked in the right place. The manufacturer is also developing automated parking that aligns the car and the chargepoint precisely. A firm called Qualomm, which is also working on the same technology, believes it could have production-ready systems on the market within two years.

What is clear is the expansion of plug-in vehicle choice, coupled with the progress of technology, means company car and van drivers will increasingly find a model to meet their business and lifestyle requirements. In turn that will help businesses to cut fleet costs and reduce their carbon footprint.

Selecting a BMW i3 range extender as his new car, Mark Constable estimated that 70% of his round trip commute, during which the car is recharged in his employer’s car park, has so far been on electric power at a cost of less than £200.

What’s more, Mr Constable points out that driving the BMW i3 range extender is actually more convenient and time-saving than a petrol or diesel car as he’s not having to stop at a forecourt to refuel once a week.

His car is subject to a four-year/60,000-mile lease agreement with around two-thirds of journeys estimated to be business miles.

Whether using workplace or public recharging points or one at home, Mr Constable says ULEV motoring delivers financial benefits.

He cites the price of electricity compared with the price of petrol or diesel, coupled with his employer’s mileage allowance payments to reimburse business miles.

He opted for the BMW i3 range extender having driven a Toyota Prius Hybrid for three years and previously a number of diesel company cars.

‘After I took delivery of the Prius I resolved never to have a diesel car again, and now I will never have a car that is not electric,’ pledged Mr Constable. “The major success for cars like the BMW i3 range extender is how many electric mile drivers clock up out of their total mileage.”

The BMW i3’s electric range almost exactly matches Mr Constable’s commute one-way, and supported by its two-cylinder 647cc petrol engine it can travel up to 180 miles, for longer business journeys.

Mr Constable, manager of systems and process readiness at EDF Energy, chose the car because he “…wanted to reduce my own carbon footprint, and contribute to improving my local environment.”

Key behavioural lessons that Mr Constable has learned in driving an electric car daily is to ‘pre-condition’ the vehicle before commencing a journey.

“At home on colder mornings I demount the car and warm it up while it is plugged in so as not to use battery charge, and the same when leaving work in the evenings. Additionally, rather than using the battery to heat ‘space’ in the car I switch on the heated driver’s seat which uses less energy.”

Nevertheless, Mr Constable uses the car’s navigation suite and his iPod for music during journeys, pointing out: “I don’t make any compromises.”

Finally, message to fellow drivers is ‘do your homework when selecting your next car’.

Mr Constable concluded: “Identify recharging point locations, but if the daily commute is not too great then integrating home and workplace recharging points into your life is not onerous.

“My experience is that the chief reservations around vehicle range and recharging point availability can be dispelled. Living with a plug-in electric car is much easier than most people expect.”

He’s electric

93% OF MARK CONSTABLE’S 4,130 MILES IN HIS BMW i3 RANGE EXTENDER HAVE BEEN ON ELECTRIC POWER. COSTING ONLY £90
Fuel savings are one of the many benefits of driving electric vehicles (EVs), with the Go Ultra Low campaign suggesting that costs for a pure electric vehicle can be up to 90% less than for a conventional vehicle. Employees paying for fuel used privately could also make significant financial savings.

That’s why it is important that fleets use whole life cost figures as the basis for their company car decision-making as they include fuel costs as well as all other operating costs.

The Department for Transport calculates that EV running costs are as low as just 2p a mile and the Energy Saving Trust suggests such vehicles cost around £2-£3 to fully charge, for a typical range of 100 miles. Following recent reductions in the pump prices of petrol and diesel, the Energy Saving Trust suggests that an equivalent petrol or diesel car costs £9-£13 to drive 100 miles – more than 400% more on a mile for mile basis – thus EVs deliver major fuel cost savings. However, pump prices are notoriously volatile and despite reductions in 2015 and into 2016, the long term indication is a potential return to higher petrol and diesel fuel costs as crude oil prices increase alongside global energy demand, according to experts.

Just last year, the Energy Saving Trust calculated it cost £12-£18 to drive 100 miles in a petrol or diesel car and research published by Go Ultra Low suggested that collectively British motorists were missing out on savings of almost £24.5 billion annually by not taking advantage of ultra low emission motoring.

While those collective savings have diminished due to the reduction in pump prices, calculations reveal that individually fleets and drivers can continue to save hundreds of pounds per vehicle per year by adopting electric motoring.

With the average annual mileage of a household car being 7,900 miles in 2014, according to latest data from the Department for Transport’s Annual Travel Survey, the difference in annual spend between the cost of a petrol or diesel car, around 9p per mile (£700), and an EV, 2p per mile (£150), is a massive £550. Multiplied by the 29.6 million cars on the nation’s roads, according to latest department vehicle licensing statistics, and the saving is a colossal £16.2 billion.

The table (below) highlights potential fuel costs over 10,000 miles. The data reveals that the Renault ZOE supermini delivers a potential saving of more than £470 versus a petrol engine supermini over 12 months/10,000 miles. Multiply that across an electric car fleet replacement cycle of four years/40,000 and the fuel saving rockets to almost £1,900 on just one vehicle.

Similarly, comparing the fuel economy of the new Toyota Prius Plug-in with conventionally powered petrol and diesel models and there are significant savings: more than £450 versus the petrol rival and almost £240 versus the diesel. Multiply that across a typical fleet operating cycle of four years/80,000 miles and it translates into savings of more than £1,800 and £960 respectively per vehicle.

Therefore, as experts highlight and the figures prove, a higher on-the-road price for a plug-in vehicle can be offset by fuel savings.
MILEAGE REIMBURSEMENT AND CAR FUEL BENEFIT

Employees can save themselves hundreds and potentially thousands of pounds a year in fuel-related costs by selecting an electric vehicle as their company car.

ADVISORY FUEL RATES

EVs deliver major fuel savings to fleets and drivers alike and the absence of official tax-free company car Advisory Fuel Rates (AFRs) for pure electric vehicles should not stop the corporate sector from including them on choice lists, according to experts.

AFRs are used by employers to reimburse employees’ business travel in their company cars or for employees to repay the cost of fuel used privately. HM Revenue and Customs (HMRC) publishes AFRs quarterly, but does not recognise electricity as a fuel, hence the lack of a figure for pure electric cars. HMRC’s decision not to provide an AFR was based on the premise that it would be unworkable, considering the wide variation in electricity costs during certain times of the day, the likelihood that EV drivers would charge both at home and at work where the electricity was paid for by their employer, and the lack of reliable data on miles per kilowatt consumption rates.

The Miles Consultancy (TMC), the UK’s leading fuel card and mileage expense management specialist, says that fleets should reimburse ‘fuel’ used by EVs at a pence per mile rate calculated to closely reflect actual cost using available data, manufacturers’ figures for miles per kilowatt (kW) and electricity cost data from the Energy Saving Trust, which publishes representative costs for domestic electricity.

What’s more, it has even calculated a recommended mileage reimbursement rate. For example, says TMC, a car with a 25 kWh battery and a typical range of 85 miles returns 3.4 miles per kW. Using an average cost of 10p per kW – assuming the vehicle is primarily charged at home overnight, the cost per mile is 2.94p. That, it says, should be the mileage reimbursement rate.

TMC managing director Paul Hollick said: “This approach enables the company to agree a pence per mile rate for an electric car based on known parameters: car’s battery capacity; range in real world conditions and the average cost of electricity from typical sources – home, workplace, public chargepoint.”

Agreement came from Jon Burdekin, head of product management at business mobility specialist Alphabet, which has 3,000 EVs on its fleet with more than 1,000 on order. He said: “It’s vitally important for fleets to understand the true position on reimbursing EV charging costs.

“It’s not that HMRC won’t pay for plug-in vehicle recharging. It’s that it doesn’t have a defined rate. Fleet must be proactive and go to HMRC with a realistic suggestion for a pence per mile rate for the cost of electricity. We’ve helped customers calculate the charging cost for their vehicles, which is typically 2.5p-3.5p per mile. They’ve gone to HMRC with the figures behind the proposal and been given the go-ahead.

“Fleets will benefit far more from being proactive on this than if they’re reactive. Once a figure has been agreed, a big perceived barrier between drivers and the substantial cost advantages on offer to both sides if they choose electric vehicles is removed.”

Mr Burdekin concluded: “I realise that some managers genuinely perceive the AFR issue as a real barrier to adopting electric vehicles, but if they looked closely they would see that it isn’t. However, some seem to use AFRs as a convenient, official-looking excuse for not perceiving the AFR issue as a real barrier to adopting electric vehicles.”

Calculations would suggest a rate of 2.5p-3.5p per mile is applicable. Employers might therefore decide to pay the driver 2.5p per mile for business trips in their cash allowance car, a significant benefit saving compared to internal combustion engine cars. “Cash allowance drivers can then claim tax relief (42p) on the difference between the rate they receive and the full 45p AFR rate,” the report concludes.

Calculations show that even for drivers claiming the full 45p AFR, employers might save up to £1,240 per annum per driver.

However, some seem to use AFRs as a convenient, official-looking excuse for not looking seriously at plug-in vehicles, despite the mounting evidence of their potential to cut fleet costs.

ADVISED MILEAGE ALLOWANCE PAYMENTS

Similar calculations can also be reflected in mileage rates paid to employees who receive a cash allowance in lieu of a car and elect to drive a 100% electric vehicle.

Employers typically use tax-free Approved Mileage Allowance Payments (AMAPs) of 45p for the first 10,000 miles and 25p thereafter to reimburse business mileage. The AMAP rate is intended to cover the vehicle’s ownership and running costs, including fuel. However, there is no official ‘fuel element’ in the AMAP rate.

Nevertheless, said Paul Hollick, from The Miles Consultancy, it was accepted practice to apply the appropriate AFRs in circumstances where fuel needed to be calculated. As a result, for owner-drivers at the wheel of electric cars, ‘fuel’ would account for a much smaller proportion of their total cost of motoring than it would for the employee driving their own petrol or diesel car on business.

In relation to a cash allowance driver, Mr Hollick said: “The employer needs only to pay for the fuel element of an employee’s business use of the vehicle, since ownership overheads are ostensibly covered by the allowance.

Calculations would suggest a rate of 2.5p-3.5p per mile is applicable. Employers might therefore decide to pay the driver 2.5p per mile for business trips in their cash allowance car, a significant benefit saving compared to internal combustion engine cars.

“Cash allowance drivers can then claim tax relief (42p) on the difference between the rate they receive and the full 45p AFR rate. The driver can claim relief on 42p per mile (45p – 3p) whereas a diesel car driver claiming 14p per mile would be able to get relief on 33p per mile. Assuming both are higher rate taxpayers, the electric car driver will get 4.4p per mile more tax relief than the diesel driver.”

TMC recommends that employers driving their own EV, which was not funded through a cash allowance, should receive the full AMAP rate due to the higher purchase price of the car.
SERVICE, MAINTENANCE & LITTLE REPAIR

Service, maintenance and repair (SMR) costs for plug-in vehicles would appear to deliver major savings when compared to internal combustion engine models, according to initial findings from expert providers.

LITTLE REPAIR MAINTENANCE SERVICE, diesel car – more than four times maintenance for their petrol or forks out £400 for servicing and switching to a new electric car. £306 a year in garage bills by financial savings versus internal Nevertheless, the ‘simplicity’ of the definitive SMR figures based on a battery units remained entirely years and relating to the proprietary data going back five suggestions would appear degradation, but such of electric vehicle battery also warned of the potential SIGNIFICANTLY OVER TIME?

SERVICE, MAINTENANCE & LITTLE REPAIR

Electric vehicle sceptics have also warned of the potential of electric vehicle battery degradation, but such suggestions would appear to be ill-founded. Nissan, last year, published proprietary data going back five years and relating to the European sale of more than 35,000 LEAF models. It showed that 99.99% of battery units remained entirely fit for purpose. The failure rate of the battery power unit – less than 0.01% or just three units in total was. Nissan said, a fraction of the equivalent industry-wide figure for defects affecting traditional combustion engines. Analysis of a basket of 50,000 cars aged three to six-years-old over a five-year period by independent insurance specialist Warranty Direct indicated that 0.25% of vehicles on its books had experienced an issue that led to an immobilisation of the internal combustion. Common problems ranged from leaks in the coolant system and damage to the head gasket to engine flooding. The reliability of plug-in vehicles has been further highlighted by Nissan with more than 140 LEAF hatchback and e-NV200 Combi models being operated as taxis and many more taxi firms waiting for vehicles to be delivered. Six UK-based taxi fleets have to date collectively clocked up more than three million miles in Nissan electric cars, which Nissan says proves the two models’ reliability and durability as well as cost efficiency. A Nissan LEAF operated by Cornwall-based taxi company CSC Taxis has passed 100,000 miles with the owners reporting it had not lost a single bar of battery life. The company now operates a further five LEAFs and a five-seat Nissan e-NV200 Combi. Mark Richards, fleet manager at CSC Taxis estimates that each vehicle saves the business around £8,500 per year in fuel bills and maintenance costs.

He said: “When we speak to other taxi operators they often tell us range and battery life are the biggest factors preventing them from considering an electric taxi. Then, when we tell them we have our LEAF has done 100,000 miles and still has full battery health, they’re left speechless.” Furthermore, at least three other LEAF taxis have passed the 100,000-mile mark with more than 30 having covered more than 30,000 miles.

Case Study

Chris Chandler, principal consultant at Lex Autolease, the UK’s largest vehicle leasing and fleet management company, which has 4,500 plug-in vehicles on its books – the most of any provider – explains the importance of service, maintenance and repair (SMR) costs and how electric vehicles can deliver savings versus petrol and diesel models.

Calculating service, maintenance and repair (SMR) budgets for cars is a complex activity, requiring a mass of data on parts costs, routine maintenance requirements and scheduling, and component wear rates, or ‘burn rates’ as they are more commonly known. It is of vital importance for leasing companies to get these budgets right as they are factored into the standard vehicle warranty with anything up to eight years considered an “inducement” to nearer three years for most internal combustion models.

For traditionally fuelled vehicles, and models that have been in the marketplace for some time the risks are reduced as the SMR experts will have a raft of information, not just the servicing intervals and parts costs, but importantly experience of vehicle reliability and ‘burn rates’ of components such as brakes. Where SMR budgets become more challenging is where new vehicles come to market, or even more so, when new vehicle technologies are introduced. Although common costs and servicing regimes may be known, the ‘burn rates’ and reliability are significant unknowns. So leasing companies such as pure electric and plug-in hybrids come to market there are significant challenges in assessing the SMR budgets.

At Lex Autolease we now have more than 4,500 plug-in vehicles on our fleet, including almost 300 pure electric vehicles. We have been operating some of these vehicles since early in 2012. As a result we are able to provide some strong SMR data on our established plug-in vehicles, and are also able to identify trends in the new technology. For new vehicles coming to market it can still be difficult to assess some of the costs for plug-in cars, however we have seen some very positive trends with regards to reliability and maintenance costs for these new vehicle technologies. Typically, pure electric vehicles will have a lower SMR cost to petrol or diesel equivalents, especially for vehicles that have been on the market for a little while and hence some maintenance experience and history has been obtained. The following SMR examples (see table below) demonstrate the cost savings that can be achieved by pure electric cars over a four-year/60,000-mile operating cycle.

Much of the cost savings are down to the reduced complexity of pure electric vehicles, however we have also noted from operating our electric fleet that brake and tyre wear are noticeably reduced due to the regenerative braking systems. This means the amount of work the brakes do and also reducing heavy braking overall.

BATTERY LIFE

DO BATTERIES DETERIORATE SIGNIFICANTLY OVER TIME?

Electric vehicle sceptics have also warned of the potential of electric vehicle battery degradation, but such suggestions would appear to be ill-founded. Nissan, last year, published proprietary data going back five years and relating to the European sale of more than 35,000 LEAF models. It showed that 99.99% of battery units remained entirely
RESIDUAL VALUES: CLOSING THE GAP

Rupert Pontin, head of valuations at automotive lifecycle data provider Glass’s, explains the residual value evolution of ultra low emission vehicles to the point where they could be leading the field in many market sectors.

A s little as five years ago the UK motor trade was not really taking the development of electric vehicles (EVs) seriously. Manufacturers were clear on the need to develop vehicles with low emissions because legislation had shown that without this type of vehicle they would be financially penalised for missing emission targets. However, most used-vehicle dealers and traders viewed them as something of an annoyance that probably would not become popular. The contract hire and leasing industry was also wary due to a lack of understanding and, more importantly for them, exceedingly limited levels of demand from their customers due to the complexity of the technology; a misunderstanding of their potential value to their businesses; and the contribution they could have to the reduction in running costs. As a direct result, new vehicle forecast values for these cars were very low on the basis that there would be little if any demand for them when they appeared in the used market. A point that, at the time, was entirely relevant as the used retail customer had neither the interest nor any incentive to buy one. Due to the limited enthusiasm of the franchised dealers who were meant to be selling these cars, quality information to help customers understand the benefits of running costs and the positive impact on the environment meant that EVs were easily passed over. This is a scenario that has significantly changed as dealers recognise the opportunity for greater profit. The Toyota Prius was the first truly accepted hybrid vehicle and the reliability of the technology over the years has been a key factor in the trade beginning to embrace today’s more advanced technologies. Table 1 below shows a cross section of the forecast residual values for the Toyota Prius and other comparison hybrid cars. (Data from GlassForecast March 2016)

It is immediately clear from this chart that the motor trades’ trust and acceptance of the tried and tested Toyota technology has put this car at the head of the pack in residual value terms. Indeed this car is not only a family favourite but also very popular with taxi drivers who appreciate the build quality and running costs, although it also helps that there are older versions of this car in the market at lower prices making it more affordable. With the understanding that trust and reliability of technology is a key point, it is also wise to appreciate that for any vehicle with an electric motor as part of the propulsion system, the distance the vehicle will travel using that part of the propulsion system is not only important but critical when looking at pure EVs. Whilst for many private customers, so called range anxiety can be overcome with education and understanding of how the vehicle will work for them in a day to day situation, for business use confidence that the vehicle is appropriate is essential.

It is also interesting to note that brand values also seem to have a bearing on matters as can be seen in Table 2 (below left) which shows residual forecast values as a percentage of original cost new for key market players in the EV market sector. (Data from GlassForecast March 2016)

The chart shows that the best performing vehicle is the Tesla which has slowly grown in popularity over the past six months and become more accepted in the market, hence its RV has now shifted above the previous leader the BMW i3, which has taken the market ‘by storm’. Where Nissan worked so hard with the LEAF, the i3 challenger came to the market and it would appear that the power of the BMW brand has pushed demand and therefore forecast values to an impressive level. Indeed the widely acclaimed Kia Soul and the revised Renault ZOE now also stand above the LEAF although it probably has the most proven technology to date.

When discussing this with trade contacts and in anecdotal discussions with retail buyers it is range and price that are the real drivers behind decisions. Remove range anxiety and make the car the same price as a petrol or diesel variant and there should be few reasons why retail buyers or business users would shy away from EVs. Table 3 shows the residual value forecast as a percentage of original cost new across comparative propulsion types. (Data from GlassForecast March 2016)

The charts demonstrate that the residual value gap is no longer pre-determined to be in favour of the traditional fuel types. In 2015, the majority of pure EV and hybrid models lagged behind their diesel and petrol counterparts in forecast residual value terms, so it is clear that the customers and drivers are giving a greater level of acceptance to EVs which is driving forecast values upwards. It is clear that EVs are becoming more popular. In summary the nation is finally beginning to embrace the first true change in propulsion method since the invention of the internal combustion engine in 1876. In the coming months and years we will continue to see an ever increasing volume of EV sales that will be driven by three key points: cost of ownership; emissions and the impact on the environment, and ease of use. This will in part be facilitated by the strength of residual values which is directly related to the original forecast value given to any car combined with consumer demand. The retail buyer, whether they are looking for a new or used version, needs to understand that the new technology can provide the range and reliability for them to live their lives in the way they want to with minimal disruption.

As the strength of this sector of the market grows, Glass’s will constantly review the shape of the depreciation curves and the econometric factors that affect the Glass Forecast figure. We expect to see the SHT to similar depreciation curves and ultimately comparable EV to petrol/diesel values continue in the next three years. Only time will tell where forecast residual values and used values will be in five years, but there has to be a good chance that EVs will be leading the field in many market sectors.

DID YOU KNOW?

TOYOTA PRIUS
PLUG-IN RETAINS
HALF OF ITS VALUE OVER
THREE YEARS
AND 36,000 MILES

TABLE 1: HYBRID Forecast VARY COMPARISON

<table>
<thead>
<tr>
<th>Model</th>
<th>1 year / 12,000 miles</th>
<th>3 years / 36,000 miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audi A3 1.4 TFSI 3dr (184bhp) 3dr 625cc 6G-Tronic (2016MY)</td>
<td>65.42%</td>
<td>51.46%</td>
</tr>
<tr>
<td>VW GOLF E-TRON 5dr (150bhp) 5dr 95.9cc 6G-DSG (2016MY)</td>
<td>50.83%</td>
<td>38.12%</td>
</tr>
<tr>
<td>Toyota PRIUS Plug-In 5dr (136bhp) 5dr 54.2cc 6M-CTV (2012MY)</td>
<td>70.58%</td>
<td>51.66%</td>
</tr>
<tr>
<td>BMW i3 (170bhp) Extended Range Hatchback 5dr 5do Ac (2014MY)</td>
<td>69.45%</td>
<td>51.75%</td>
</tr>
<tr>
<td>Mitsubishi OUTLANDER Plug-in 4x4 7Seat SUV 5d 163cc CVT (2016MY)</td>
<td>57.72%</td>
<td>46.64%</td>
</tr>
</tbody>
</table>

TABLE 2: PURE EV ForeCAST VARY COMPARISON

<table>
<thead>
<tr>
<th>Model</th>
<th>1 year / 12,000 miles</th>
<th>3 years / 36,000 miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kia Soul EV (Ivory) Hatchback 5d 60kwh eD (2017MY)</td>
<td>60.27%</td>
<td>46.66%</td>
</tr>
<tr>
<td>Nissan LEAF (Nissan) 5dr Hatchback 5d (2012 MY)</td>
<td>26.14%</td>
<td>19.33%</td>
</tr>
<tr>
<td>Tesla Model S E (190kW) Dual Motor Long Range Dual Hatchback 5d Auto (2014MY)</td>
<td>53.86%</td>
<td>38.48%</td>
</tr>
<tr>
<td>Renault ZOE E (90kW) Dynamique Nav (Rapid Charge) Hatchback 5d Auto</td>
<td>51.23%</td>
<td>36.25%</td>
</tr>
</tbody>
</table>

TABLE 3: FORECAST VARY COMPARISON ACROSS SIMILAR PROPULSION TYPES

<table>
<thead>
<tr>
<th>Model</th>
<th>1 year / 12,000 miles</th>
<th>3 years / 36,000 miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smart fortwo Electric Drive Coupé 2dr 48kwh 47kwh 7G-DCT (2017MY)</td>
<td>64.12%</td>
<td>51.18%</td>
</tr>
<tr>
<td>Smart fortwo Electric Drive Coupé 2dr 48kwh 47kwh 7G-DCT (2017MY)</td>
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</tr>
</tbody>
</table>

There is a good chance that EVs will be leading the field in certain market sectors RUPERT PONTIN GLASS’
Vehicle manufacturers from the Go Ultra Low consortium share their views and ideas on the future of mobility.

An ever greater number of manufacturers are entering the arena with EV offerings, which can only foster increased competition and accelerate the evolution of the technology.

“Audi UK has seen consistently strong demand for the A3 Sportback e-tron, not least from business users, and interest in the new Q7 e-tron quattro is building steadily ahead of its 2016 release.

“As battery technology evolves to extend driving range and features such as Audi wireless inductive charging makes the benefits of the electrified drivetrain even easier to exploit we believe demand will rise ever more steeply.”

A Nissan spokeswoman said pure EVs, such as the Leaf, are “very important” in helping fleet emissions targets for regulatory compliance, while corporate demand for EVs would continue increasing markedly in both short and long term.

“We see the UK’s electric vehicle market as still having plenty of room to grow and it’s encouraging to see fleet sales of pure electric vehicles beginning to gather real momentum as models start to become more mainstream, and a wider variety of customers show interest.”

“However, carbon footprint, air quality, cost savings and fuel cost stability are just as important as these drive customer demand.”

“The market will continue to change and there will be a mix of powertrains in place that will meet the diverse demands of fleets.

There is no one answer but fleets will specialise more depending on the operational requirement for each vehicle so types of technologies used in each fleet may multiply.”

Motor manufacturers are queuing up to introduce new EVs to the UK market, while exciting new fuel sources and technological breakthroughs designed to extend vehicle range and revolutionise charging are also being delivered.

Leading the charge is BMW, which has unveiled plug-in hybrid versions of the 2 Series Active Tourer and the perennial fleet favourite 3 Series.

What’s more the manufacturer, which already has the plug-in 330e Saloon, also in showrooms, costs from £33,395 on-the-road (excluding plug-in grant). The PHEV, which produces 252bhp from its combined 2.0-litre petrol engine and 65kW electric motor, delivers combined fuel consumption of 148.7mpg and CO2 emissions of 44g/km. The car has an emission-free range of around 25 miles, the same as the 225i.

The two models follow the X5 xDrive40e, which was BMW’s first PHEV, although with CO2 emissions of 79g/km it does not meet plug-in grant qualification regulations. The PHEV range will expand further in late summer with the arrival of the 740Le xDrive iPerformance, a high performance luxury saloon and its first plug-in hybrid to be introduced in the UK market.

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Nissan has answered the call for longer electric vehicle range with the 2016 showroom arrival of a revised LEAF delivering up to 155 miles of motoring on a single charge, 25% further than the previous model, through the introduction of a brand new 33 kWh battery. This is a sector first and charge, 25% further than the miles of motoring on a single revised LEAF delivering up to 155 the 2016 showroom arrival of a longer electric vehicle range with manufacturers MANUFACTURERS technology are vast.” applications and scope of this investing and developing its battery vehicle market, Nissan is constantly spokeswoman said: “Like all vehicle road sign in the UK, a Nissan campaigns for an official electric produced in Sunderland – and model in its portfolio in the long-term, following the Q7 will be e-tron versions of the A6 and A8. The manufacturer also plans to introduce its first pure electric SUV in 2018. Expected to be based on the e-tron quattro concept unveiled at last September’s Frankfurt Motor Show, the car is likely to sit between the Q5 and Q7 ranges and be capable of more than 310 miles on a single charge. But spearheading the pure electric vehicle range will be the e-tron. Price and launch date details have yet to be confirmed for the car expected to travel 279 miles on a single charge and anticipated to enter low volume series production shortly. The Mitsubishi Outlander PHEV is the UK’s best-selling plug-in vehicle with more than 15,000 sold since the pioneering SUV entered the nation’s showrooms in 2014. The manufacturer’s facelifted version of the model was launched in the final quarter of last year. Mitsubishi has also previously unveiled a concept XR-PHEV, an SUV smaller than the best-selling Outlander PHEV but featuring the same technology. Although a concept, the manufacturer has indicated that the XR, delivering CO2 emissions below 40g/km, is expected to be its next plug-in hybrid model to reach UK showrooms. Mitsubishi’s current ASX Crossover range is due for replacement and the indications are that the model will be replaced by two ranges. The XR-PHEV is likely to feature in the revised model structure. Mitsubishi says that over the next four to five years every model range on sale in the UK will have a plug-in hybrid drive train derivative. ADDRESSING RANGE CONCERNS Renault views electric power as the most environmentally sound automotive solution, and a viable countermeasure against climate change. Range anxiety is frequently highlighted by drivers as an electric vehicle concern, but last year Renault took steps to address the issue with the launch of a new electric vehicle that delivers 149 miles of driving in the New European Driving Cycle (NEDC), a 15% increase, and translates into a real-world driving range of around 106 miles. The new battery powers the all-electric, five-door ZOE family hatchback, which recorded a 102% rise in sales last year to 2,053 units and is billed as the “most affordable electric vehicle on the market” costing from £13,945 (including plug-in grant). The original power unit, which has an official NEDC range of 130 miles, continues to be available in some ZOE models. The decision to offer two motors came about, said Renault, because it had identified distinct types of use among its electric vehicle customers. Many had regular driving patterns, and therefore required the increased range and reduced charging requirements of from one to nine hours with the new R240 motor. But others were less predictable in the way they used their car. For them, ultimate range was usually not a handicap – but they needed the ability to rapid charge to 80% of battery capacity in the shortest possible time (30 minutes) on occasions. In 2015, Renault was the best performing electric vehicle brand in Europe, with sales rising 49% to 23,086 units, with a 23.6% European electric vehicle market share.

INCREASING THE RANGE Volkswagen has four plug-in models available in 2016 – the e-up! E-Golf, Golf GTE and the Passat GTE. Like the Golf GTE, it has two engines: a 1.4-litre 110 PS TSI direct injection and a 115 PS electric motor, producing a maximum of 218PS pure electric drive. The Passat GTE will be available in both saloon and estate forms and will have a 0-62 mph time of 7.4 seconds. Price details of the Passat GTE are not available, but expect the saloon to be capable of covering up to 31 miles in all electric mode and have a total driving range of more than 620 miles. Combined cycle fuel economy is likely to be almost 149mpg with CO2 emissions of 44g/km.

Meanwhile, at this year’s North American International Auto Show in Detroit, Volkswagen unveiled a plug-in hybrid concept version of its Tiguan SUV. The Tiguan GTE Active Concept is slated to arrive in the United States later this year and is available in the UK a right-hand drive version of the Tiguan GTE Active Concept should not be ruled out. Volkswagen’s strategy is to introduce alternative drives in high-volume production vehicles. For example, the iconic and long-established Volkswagen Golf is available in the UK with a choice of petrol or diesel engines, 100% electric car and as a plug-in hybrid and that list may be extended with the availability of a hydrogen model. Late last year, the Toyota Mirai became the first hydrogen fuel cell vehicle to be eligible for grant support alongside plug-in cars and vans. The £6,000 (excluding plug-in grant) car is available in the UK in limited numbers and has an estimated driving range of 312 miles on a single tank. The Mirai four-door saloon is also available to lease at a monthly cost of £750 over a four-year period. The package includes the vehicle’s hydrogen fuel and routine servicing costs, together with a dedicated concierge service to deal with customer requirements, including the organisation of servicing and maintenance. Meanwhile, the second generation of Toyota Prius plug-in will go on sale following the model’s global debut at the 2016 New York International Auto Show. It will be powered by an 88kW/h battery twinned with a 1.8-litre petrol engine promising an all-electric range of up to 31 miles, further than any other PHEV, and CO2 emissions of 102g/km. Estimated average fuel consumption is 202mpg, the best of any plug-in hybrid currently available. The first generation Prius Plug-in presently remains on sale.
What may seem like the distant future is just one vehicle replacement cycle away, so strategic decisions for the long term must be made now.

Diesel power has dominated company car sales for many years, but the pendulum could be swinging away from plug-in vehicles, particularly in respect of perk cars.

Chris Chandler, principal consultant at Lex Autolease, said: “Good fleet managers operate in long cycles and five years is a minimum period.”

“Deciding which vehicles are suitable for which employees is a core role of being a fleet manager – it is not a challenge restricted to the use of EVs. All fleet decisions come down to understanding the benefits and disadvantages of each type of vehicle, and the various transportation needs within an individual business, and using both sets of insights to develop a mobility strategy which works. Incorporating EVs into a fleet strategy is no different. A thorough understanding of a business’s requirements, through an in-depth analysis of vehicle usage and the types of journey a fleet makes, will enable a fleet manager to decide whether vehicles to switch to EVs is the right move. Companies with a drive cycle which is high in volume but short in distance may find EV technology suits them perfectly.”

“Undertaking a whole life cost analysis, and factoring in any future changes to government incentives or tax levels, is also crucial to ensuring schemes are viable in the long term.”

Although a three or four-year vehicle replacement cycle is the norm among fleets, Matthew Walters, LeasePlan’s head of consultancy services, agrees that a “five-year strategy is a sensible solution”. He argues that a five-year strategy should be revisited and updated regularly to ensure that it always remains relevant for the forthcoming years.

Mr Walters said: “The focus should not be only on EVs. Instead, the focus should always be on which policy provides the most suitable solution for both the business and its employees.

“Needless to say in any long-term view, fleet managers must adopt a policy that takes into account location, the miles driven and driver lifestyle amongst other factors to ensure that the best solution is provided for their employees.”

WHOLE LIFE COST MODEL

David Bushnell, E-mobility consultant at Alphabet, agrees that any fleet policy must be flexible enough to adjust to the introduction of new legislation and vehicle types. With Alphabet declaring the average vehicle replacement cycle to be 42 months, Mr Bushnell explained: “ Fleet managers should have details at their fingertips of their individual drivers’ journey patterns to use within a whole life cost model to determine the most efficient vehicle.

“However, difficulties can arise if there is a solus or dual-badge policy with a manufacturer that does not provide EVs.”

Experts agree that in shaping long-term strategies it is critical for fleet managers to employ a whole life cost methodology to ensure an optimum cost focus, but also highlight that employees want to reduce their tax burden while retaining their company car. However, Wayne Milward a fleet manager turned fleet consultant at Arval, said he would be nervous putting together a long-term plan in place for vehicle selection.

Mr Milward said: “The current pace of technological change means that best in class vehicle performance, and costs, are changing all the time.

“We expect the development of plug-in electric technology, and also hydrogen fuel cell technology, to continue at pace as well as improvements in the supporting infrastructure. This will mean a totally different landscape in five years and a different fleet strategy.”

Ian Hill, Managing Director of Activa Contracts summed up the prevailing view among his colleagues. He said: “All fleets should use whole life costs as the basis for their fleet policies. We are witnessing a growing awareness of whole life costs among fleet decision-makers, but many organisations still use other criteria for vehicle selection.”

He believes that is frequently attributable to whether or not a business employs a professional fleet manager and where company car management lies within an organisation.

He explained: “Professional fleet managers understand whole life costs, but many organisations disappointing do not employ such expertise today. As a result, company car management may rest with HR, finance or another department and whole life costs are harder for them to understand.”

BIK TAX SAVINGS

Company car drivers at Ogilvie Fleet, which has almost 12,000 vehicles on its books, are using their marketplace knowledge and turning away from pure diesel when selecting their new company cars. A number of employees, including sales and marketing director Nick Hardy, have opted for plug-in hybrids as their optimum solution, driven by company car BIK tax savings.

Mr Hardy said: “Savings in BIK tax are way too powerful to be ignored. I’ve never had an issue with my tax bill.”

Ogilvie Fleet has installed chargepoints at its Sheffield and Stirling offices and employees have also taken advantage of government grant incentives for the installation of home chargepoints.

Mr Hardy points out that although working for a leasing specialist the considerations for him and his colleagues are no different to all other company car drivers.

He explained: “Our staff have all the information at their disposal and are using their knowledge and experience to make their car choices. But like most company car drivers our employees want to pay the lowest amount of BIK possible, while ensuring their chosen car meets their lifestyle requirements.”

While EVs make “absolute sense” from a company car driver’s perspective and an environmental standpoint, businesses must be conscious of real-world fuel savings. Mr Hardy said: “As long as fleet managers and businesses are aware and run vehicles on electricity as much as possible then fuel savings will occur versus petrol or diesel equivalents.”

Against that background fleet interest in plug-in vehicles had, said Mr Hardy, “gone from nothing to significant” in a short space of time.

“We are witnessing the early stages of a pendulum shift after years of almost total diesel domination. The company car choices that Ogilvie Fleet employees are making will be mirrored throughout the company car market.”

Therefore, in shaping company car policies, fleet managers should be mindful of promoting a range of fuel types: petrol, diesel, plug-in hybrid and pure electric.

In the fast lane...
“The workings of a good fleet policy will cater to all mobility requirements.”

DAVID BUSHNELL
ALPHABET

“Data will not only enable driver and fleet operation improvements but also enable policies to be updated.”

SCOTT HOLLAND
HERON CAPITAL
VEHICLE SOLUTIONS

EXPERT ADVICE TO ESTABLISH A ‘GOOD FLEET POLICY’

Fleet decision-makers must incorporate EVs into their strategies if they are to embrace a future that is being mapped out by the UK government and European Commission regulators, and being turned into reality by motor manufacturers with a myriad of plug-in vehicles. As David Bushnell, e-mobility consultant at Alphabet, explains: “The workings of a good fleet policy will cater to all mobility requirements, not just your traditional company car, ensuring all modes of travel are considered to adapt to the changing business mobility roadmap. Within every policy, there will be silos of business travel expenditure, so it is important to have full visibility of all costs to ensure the policy covers all travel, including grey fleet and cash allowance drivers.”

Data-driven whole life cost-based fleet policies are critical in supporting cost savings and a reduction in environmental impact, as well as fleet efficiency and driver safety.

That’s the overriding view of fleet experts with Wayne Milward a fleet manager turned fleet consultant at Arval, explaining: “The best fleet policies will incorporate a sensible CO2 emissions cap, which combines sustainable vehicle options with attractive choice and appropriate alternatives for drivers. It will also be based on a whole life cost methodology while at the same time ensuring compliance.”

Additionally, he advocates the use of in-vehicle telematics – so-called ‘black box’ technology that delivers a raft of vehicle and driver behaviour real-time data to fleet managers – adding: “The use of data is important in underpinning the operation of a fleet and telematics can provide a wealth of information.”

Chris Chandler, principal consultant at Lex Autolease, argues that the key to a good fleet policy is one borne out of a deep understanding of a business’s individual needs, and its drivers, and meets their requirements. Highlighting that there is no ‘one size fits all’ policy and that even businesses in the same sector of similar size will have different requirements of its fleet, Mr Chandler said: “Nevertheless, there are a number of steps a company can take to ensure that its policy works, and an experienced and dedicated leasing partner will be able to provide advice and expertise at every stage to ensure this is the case.”

“It is important to identify clear objectives at the start of discussions – whether it is improving staff recruitment and retention rates or providing vehicles that are fit for purpose and reducing fuel spend – and refer back to these at every stage of design, implementation and evaluation to ensure policy drives towards achieving them.”

Fleet managers must keep referring back to these baseline assumptions to check if policies have been successful.

“It is equally fundamental to the success of any fleet policy to strike a careful balance between economic viability for the business and a choice of vehicles broad enough to appeal to drivers and encourage uptake. Furthermore, the most effective fleet policies are those which are in a continual state of evaluation and change, analysing data such as driver behaviour and fleet efficiency to bring about changes and improvements to meet the pre-defined objectives.”

Simon Staton, Director of Client Management, Venson Automotive Solutions, said: “A good policy has to

be one that meets the operational needs of the business and the financial objectives of both the business and the driver. “The ability to measure and monitor the policy is very important. By having an understanding of predicted versus actual vehicle whole life costs, the business has a view on whether it is getting best value from the vehicle list in place, as well as understanding driver behaviour and the implications for overall fleet spend.”

Scott Holland, Interim Head of Operations, Hitachi Capital Vehicle Solutions, reiterated the importance of data, commenting: “Driving all of these improvements is data. Whether this comes from telematics, fuel cards, management information or other touch points, it is important to have visibility of the fleet and driver activity. “Only when data is captured can fleet managers identify trends and take steps to improve the fleet and the policy which governs it. “Data will not only enable driver and fleet operation improvements but also enable policies to be updated – in the modern world where technology and innovation move at an increasingly fast pace, having an up to date fleet policy is vital, especially when it relates to EVs.”

Fleet chiefs are also being advised to be aware of the introduction in towns and cities across the UK of Clean Air Zones. Birmingham, Leeds, Nottingham, Derby and Southampton are to have Clean Air Zones by 2020. Under the plans, vehicles have been grouped into classes with Birmingham and Leeds each having to include vans which means to meet entry criteria they must comply with Euro4 (diesel) and Euro4 (petrol) standard.

No cars will currently be charged to enter the Clean Air Zones in the initial five cities and newer vehicles that meet the latest emission standards will not be required to pay. However, if further towns and cities adopt Clean Air Zones that could change and Mr Bushnell said: “The development of Clean Air Zones could be another catalyst for further demand in plug-in vehicles, particularly vans. Fleets must comply with the proposals or pay the price.”

“FLEET PLANNING”

“Data-driven whole life cost-based fleet policies are critical in supporting cost savings and a reduction in environmental impact, as well as fleet efficiency and driver safety.”

“Fleet decision-makers must incorporate EVs into their strategies if they are to embrace a future that is being mapped out by the UK government and European Commission regulators, and being turned into reality by motor manufacturers with a myriad of plug-in vehicles.”
PRACTICE WHAT YOU PREACH

Professionals working within the UK fleet industry explain why they chose to go electric

MARK SINCLAIR, CHIEF OPERATING OFFICER, TUSKER

Mark Sinclair is already on his third electric vehicle. He is chief operating officer at Tusker, a leading salary sacrifice car provider, and like his three executive board directors keen advocates of electric power as they all drive EVs. The company has installed four charging points at its Watford headquarters for employees and visitors to use and electric cars are now available to all company car drivers at all grades and to non-car eligible staff on Tusker’s own salary sacrifice scheme. Each of Mr Sinclair’s electric vehicles have displayed the BMW badge – including the i3 range extender – and he explained: “I had a 100-mile round trip to work, so I could easily get to the office on a single charge. Because Tusker installed charging points in the staff car park, I could charge it during the day and return home, with my entire commute fully electric.”

“The i3 is an ideal vehicle on salary sacrifice. Due to the significant tax savings – currently only 7% BIK – the car is made very affordable. Typically we find that drivers taking these cars on our schemes save around a couple of hundred pounds a month on fuel and tax.”

“I have since moved house and my commute was drastically reduced to just 15 miles each way. This provided me with the ideal opportunity to change my car once again and opt for a BMW plug-in hybrid. It’s every car you could ever need. It is both powerful and sporty when you want or need it to be, but it is also a very smooth and economical drive.”

“I have found that the petrol hybrid enables me to commute the new, shorter 50-mile round trip to the office mostly on electric power with the capability for much longer journeys if required. “The BMW’s petrol electric hybrid engine means that I achieve well over 100mpg during my commute and the CO₂ is officially under 50g/km. This combination of features has made me a complete convert. I can use the car for all my journeys, whether it is a straightforward commute to work, local trips or longer journeys at the weekends.”

“Having tried three EVs fully electric, range extender and plug-in-hybrid I have concluded that each type works best for different driver needs.”

He added: “My advice to drivers is to look closely at your typical journey profile and choose a car that works best. Someone with a fairly long but predictable commute will find the range extender the best, while anyone mostly doing short, local journeys will find a fully electric car is ideal. But for me, the combination of the petrol hybrid electric vehicle was the perfect solution and I really can’t see me driving anything else.”

NICK PAULKNER, CORPORATE ACCOUNT MANAGER, OGILVIE FLEET

Company car preferences could be changing as discerning company car drivers take delivery of tax and fuel efficient plug in hybrid models.

A recent survey by industry publication Fleet News suggested that plug-in vehicles would be the company car choice for almost one-in-three employees.

While diesel will remain the preferred option (47.2%), of 282 company car drivers responding to the survey 31% said they would be choosing either a plug-in hybrid (23%) or an electric vehicle (8.2%). A further 7.3% said they would opt for a conventional hybrid with only 12.4% saying they would choose a petrol-engined car next time around.

Alternatively-fuelled vehicles will account for 40.4% of future company car orders, according to the poll, with an environmentally-friendly choice being reflected in the view of those that responded ‘other’ (2.1%). Their future power train of choice was hydrogen.

Nick Faulkner, corporate account manager at contract hire and leasing company Ogilvie Fleet, took delivery of his new company car in late 2014. He had decided to replace an Audi A4 2.0 TDI Avant (CO₂ emissions of 124g/km and combined cycle fuel economy of 60.1mpg) with a Mitsubishi Outlander PHEV (CO₂ emissions of 44g/km and potential combined cycle fuel economy of 148mpg).

He said: “The Outlander PHEV relationship started in 2015 when a colleague came into the office raving about a new 4x4 model with auto transmission and CO₂ emissions of just 44g/km. “With a very tax conscious and zero petrol head attitude, it received some thought but nothing more, as my current car was not due for replacement until November 2014 and fulfilled my essential family and BIK tax criteria. “As car replacement time drew nearer, a lunchtime browse with the calculator comparing tax liabilities between the A4 Avant, Mitsubishi Outlander and other available cars in the choice list for my grade, a tax saving of more than £200 per month became apparent. With this information to hand, it was a no brainer – automatic, 4WD, large boot, Isofix child car seat fitting system and more than £200 per month in my pocket! “After arranging a test drive with Mitsubishi Sheffield, the car received the thumbs up, and was ordered. Delivery took place as planned and the car met my expectations. It was well specified, some clever safety gadgets and one or two minor quibbles soon disappeared once I’d notified the tax office of the change in company car and received my amended tax code.”

After the problem of an inconveniently located fuse box at Nick’s home was resolved, a chargepoint was installed by Chargemaster on the government’s Electric Vehicle Homecharge Scheme.

“Overnight charging transforms the efficiency of the car,” added Nick. “A typical home to office return journey is 28 miles and a full overnight charge offers enough fuel to complete the journey on battery alone, almost meeting the published MPG.”

“I’ve seen fuel bills cut by about half. For me, the PHEV is all about savings for me while providing me with a practical car. Even with year-on-year rises in BIK the Outlander is saving me money versus a traditionally-fuelled car and I’m continuing to save around £200 a month in car tax and fuel as a result of choosing the Mitsubishi over the current Audi equivalent to my previous company car – a total of almost £8,000 over the three-year operating cycle.”

“The Outlander PHEV will be due for replacement in November 2017 and even though the BIK tax rate will have increased to 92% by then, it will still deliver a significant saving compared to my previous company car which by then would be subject to a 26% tax charge. “The Outlander ticks all the right boxes for me and the fact that it is a hybrid means that perceived range anxiety associated with pure electric vehicles is not an issue. “So many drivers remain focussed on choosing what they perceive to be the best car within their grade or allowance, but that is not always the astute financial choice. The government’s BIK policy and manufacturer technology developments will be key in influencing my future company car choice. “Currently, the Outlander continues to perform admirably and the key thing. More than £200 a month saved in tax and fuel! You can’t afford to ignore that and such savings will continue to influence my future choice of company car.”

GO ULTRA LOW FLEET GUIDE TO PLUG-IN VEHICLES

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ELECTRIC VANS: GOOD COMMERCIAL SENSE

UK companies of all sizes are turning to electric vehicles to meet their business needs.

BRITISH GAS

British Gas has made a public commitment that by 2020 electric vehicles (EVs) will make up 10% of its current 12,700-strong vehicle fleet. The utility giant’s carbon emissions from transport are approximately 70.5 tonnes of CO2 per year, and British Gas has made a public commitment that by 2020 electric vehicles will make up 10% of its current 12,700-strong vehicles (EVs) will make up 10% of their 2020 fleet. During the trial the vehicles clocked up more than 70,000 miles.

The trial was considered a success that British Gas now operates 113 e-NV200 vans, which are driven by home-based engineers. Plug-in vehicles currently compose almost 1% of the organisation’s fleet, but that figure will continue to rise as British Gas strives to meet its stated target. With the average British Gas van emitting 3.77 tonnes of CO2 per year, the business saved approximately 70.5 tonnes of CO2 during the trial. The company is now saving more than 420 tonnes of CO2 per year with the 113 electric vans and that figure will further improve as more plug-in vans join the fleet.

Fleet vehicles are responsible for 60% of the utility giant’s carbon emissions and by the end of 2019 it forecasts a carbon footprint reduction of 25%. British Gas calculated that EVs represent a saving over their diesel counterparts, as long as they clocked up 10,000 miles a year, to pass the breakeven point. In London the savings are calculated to be as high as 20% when the cost of the Congestion Charge is included, with other locations representing a 6-10% saving over diesel.

British Gas fleet manager Colin Marriott said: “Taking on these vehicles on a permanent basis demonstrates our continued commitment to leading the adoption of this technology amongst large vehicle fleets in the UK. These vehicles are good for our business and for our customers, because they help us reduce our impact on the environment and cut our running costs.”

“With technology and infrastructure improving all the time, we look forward to expanding this number in the coming years.”

British Gas engineers have also reported that driving a Nissan e-NV200 electric van is a relaxing experience prompting Mr Marriott to comment that because engineers arrive for jobs feeling less tired customer service has improved. Mr Marriott said that the pressure for fleet managers to go all-electric can only increase and highlights the 2020 implementation of the world’s first Ultra Low Emission Zone in London as an example.

Then only zero and low-emission vehicles will be allowed into the capital’s centre with Mr Marriott commenting: “We’re all going to have to embrace electric vehicles eventually, so you might as well get on with it and secure the benefits sooner.”

British Gas provides advice to businesses to integrate EVs into their fleets and infrastructure charging solutions.

GNEWT CARGO

Gnewt Cargo is aiming to change “last mile logistics” globally and is doing so with what is currently the world’s largest single city-based fleet of 100% commercial electric vehicles. Gnewt Cargo operates in central London but has ambitious plans to launch in cities across the UK and worldwide, with a hub in Oxford due to open. Gnewt Cargo – an acronym for Green New Transportation – was launched seven years ago. It delivers parcels on behalf of a wide range of companies such as third party logistics companies, large retailers and also consults for other organisations including government departments.

Director and co-founder Sam Clarke says an increasing number of organisations recognised that while goods need to be moved around cities they can be transported more efficiently and in more environmentally-friendly ways than in diesel vans in stop-start traffic. He says: “Delivering goods in central London is both hard and expensive and we recognised that there was a more efficient way than the traditional method of companies travelling into cities from outside depots and using sub-contractors.”

As a result, Gnewt Cargo operates a combination of 100% pure electric two-and-three-wheeler cargocycles and light commercial vehicles displaying clients’ livery as well as its own logo. More than half the fleet is composed of Renault Kangoo Z.E vans and there are six Nissan e-NV200 vans as well as a mix of models from other suppliers. Vans are typically leased on three-year/30,000 mile contracts and travel an average 10-15 miles per day. Vehicle maintenance is undertaken in the company’s own workshops. Expansion into Oxford will initially add approximately 10 electric vans to the company’s fleet.

The company’s four central London hubs are each equipped with a bank of chargepoints. Independent verification by the University of Westminster suggests the company’s business model has cut CO2 emissions per parcel delivered by 63% and reduced kerbside space usage by 54%.

Mr Clarke explained: “Our cargocycles offer a flexible solution that combine the traffic beating agility of a bike with capacity comparable to a small van. Our vans are all electric and able to carry larger and heavier loads. This combination allows us to shape our service to suit all clients while reducing emissions and congestion. “Our electric delivery vans are only half full driving to the centre of a city and going to the same places. We consolidate deliveries that are going to the same place.”

Gnewt Cargo delivers between 5,000 and 20,000 parcels daily in central London and is currently seeing expansion of around 15% year-on-year in terms of deliveries on behalf of existing clients as well as securing new business.

“In the early days van range, payload and weight were issues, but we have now become experts in the efficient operation of electric vans and the technology has improved,” said Mr Clarke.

Gnewt Cargo also says there have been huge commercial benefits to operating a 100% pure electric vehicle fleet. “Businesses use Gnewt Cargo because they applaud the fact that we provide them with an environmentally-friendly option,” said Mr Clarke. “Electric vehicles are our greatest asset, our USP, our differentiator. We are 100% electric and always will be.”
OPERATING EFFICIENCY

The arrival of mainstream motor manufacturers – such as the eight Go Ultra Low campaign members – in the EV market is a game-changing moment in the history of plug-in vehicles.

That’s the view of Monica Guise, post, portering, transport and interim sustainable travel manager at University of Birmingham, which operates a 98-strong fleet.

The fleet already includes 19 100% electric vans – Renault Kangoo ZE’s and Nissan e-NV200s – and Ms Guise believes that 40% of the fleet will be plug-in by 2020.

The University has long had a focus on ultra-low emission technology, but a combination of production line plug-in vehicles and leasing companies making those models affordable is changing fleet opinion, according to Ms Guise.

She said: “Production of these vehicles by the world’s largest motor manufacturers is game-changing and the contract hire and leasing companies taking those vehicles seriously, providing fleets with viable whole life cost data and lease rates, is hugely influential.

‘Fleet managers cannot increase their transport costs, but leasing companies are supporting the introduction of ULEVs with figures that make those vehicles operationally viable.

“We have made a commitment to this technology and when ordering new vehicles our first choice is pure electric. If electric is not fit-for-purpose – and it is not in some instances, as the fleet includes refrigerated vehicles and large vans – then a case has to be made as to why plug-in is not suitable.”

The University’s 19 plug-in vehicles are leased from Lex Autolease and typically clock up around 5,000 miles a year.

The campus site has a number of chargepoints.

“With the great range of both battery electric vehicles and in hybrid electric vehicles available, now is the time to consider increasing the number of EVs within a fleet.”

Tim Anderson, Senior Knowledge Partner for Transport, explains.

DEVELOPING THE BUSINESS CASE FOR ELECTRIC VEHICLES

With what started as the Plugged-In Fleets Initiative in 2012 and developed into EV Reviews, the Energy Saving Trust has worked with over 250 organisations from the public and private sector in the UK to assess the business case for introducing EVs into their fleets.

Tim Anderson, Senior Knowledge Partner for Transport, explains.

The government’s ambition is for every car and small van to be zero emission by 2050. Now, with lower taxes, grants and reduced running costs, electric vehicles (EVs) can help to reduce fleet costs and carbon footprint, contribute to achieving local air quality improvements and offer a way of future proofing a fleet from unpredictable fuel costs.

Funded by the government, the Energy Saving Trust provides help and advice on running costs and energy efficiency within fleets and we have been instrumental in the successful adoption of these vehicles by a number of clients.

With the great range of both battery electric vehicles and plug in hybrid electric vehicles available, now is the time to consider increasing the number of EVs within a fleet and to look at the challenges associated with ensuring that charging infrastructure can keep up with demand.

“We have really benefited from the Plugged-In Fleets Initiative. It has provided an independent view of the viability for electric vehicles in our fleet. The Energy Saving Trust has provided specific expertise in an area that we don’t have internally, and their consultancy process has been very straightforward. I’d thoroughly recommend this initiative to any fleet operator.”

Ian Barnes, Transport Sustainable Development Manager, Boots UK.

For further information visit the Energy Saving Trust website www.energysavingtrust.org.uk/businesses/transport or email us at transportadvice@est.org.uk

“We pride ourselves on providing pragmatic, independent and realistic advice, which has led to significant cost and emission reductions by many of our clients. Through its EV Reviews, the Energy Saving Trust can:

• Assess where EVs can work to fulfil and maximise organisations’ needs both practically and economically
• Deliver up-to-date information on the EV market and availability of the range of makes and models
• Provide data to help develop business cases which can be essential to gaining board-level buy in for EV adoption.”

Our team also work with fleets to help them find solutions to issues around integrating EVs into their fleet, such as choice and suitability of different vehicles, charging infrastructure, driver training and optimising route planning and scheduling to improve utilisation of EVs.

For information on the Energy Saving Trust services call 0300 303 2003 or email businessadvice@est.org.uk.

Having delivered almost 500 Electric Vehicle Reviews: www.energysavingtrust.org.uk/businesses/transport/fleet-edevice-reviews
Journey Planning
The ACFO Guide to 'From A to B': the impact on business travel.

Cost management, carbon footprint reduction, risk management, business efficiency and effectiveness and time management are all issues that impact on business travel.

That’s the view of ACFO, the Association of Car Fleet Operators, which recently published the guide ‘From A to B: The ACFO Guide to Journey Planning’.

Historically, the car has always been the preferred form of travel for the vast majority of business meetings and appointments. But this is not always the optimum option in terms of cost, time, reducing risk exposure or carbon-cutting, for example.

ACFO chairman John Pryor said: “This guide is not about reducing corporate travel – although clearly such a thing would be desirable by both management and carbon emissions reduction. It is about smart working.

'From A to B: The ACFO Guide to Journey Planning’ is available to members via the website – www.acfo.org. Non-members should email the ACFO Membership Services’ Organisation at info@acfo.org.

The opportunities to implement a diverse, multi-faceted, sustainable mobility plan and display corporate social responsibility have never been greater.” But, he added: “It is not only vital to implement a business mobility policy – it is critical to communicate it clearly and coherently. By addressing the relevant issues relating to cost, safety and environmental matters, and whether the need for a journey is essential or if the objective can be achieved equally successfully using technology, while always being focused on ensuring optimum business efficiency. ‘Almost certainly organisations will already be using many of the business mobility options outlined in this guide to a greater or lesser extent. However, it is almost certain that the options have been introduced in a fragmented way. That is not to say that business mobility is disorganised – simply that old habits die hard and neither employers nor employees may be too certain as to how the decision-making responsibilities should work in the new age of business mobility.’

ACFO says that the guide does have the characteristics of being open and straightforward. It aims to assist employers to reduce travel costs, reduce their carbon footprint and reduce the risk exposure of the organisation and staff. That means for the majority of employers a radical overhaul of how work-related travel is presently conducted.

’Simultaneously, employers must ensure that both they and their employees have all the information available to make a clear decision on whether to travel by car, train or plane; whether to use a company car, their own or a hire vehicle; or for short journeys whether to walk, cycle or use public transport; or alternatively whether car share, taxi or one of the many technology options such as video or tele-conferencing are viable.

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Eight Go Ultra Low Cities have been awarded a multi-million pound investment from Government to increase uptake of electric vehicles.

**TALES OF GREEN CITIES**

To increase uptake of electric vehicles, a multi-million pound investment from Government will be spent in eight urban areas across the UK to kick-start a country-wide clean motoring revolution.

**Proposed initiatives in the other four urban areas**

- **London**: Will use £33 million to create ‘neighbourhoods of the future’ prioritising electric vehicles (EVs) in several boroughs across the capital. Proposals include streets in Hackney going electric with charging infrastructure such as car-charging street lighting, while Harrow will look to develop a low emission zone offering parking and traffic priority to plug-in vehicle owners. Westminster Council already provides free parking for EVs and London’s proposal aims to deliver 70,000 EVs sold by 2020 and almost 250,000 by 2025.

- **Milton Keynes**: Will receive £9 million to open a city centre Electric Vehicle Experience Centre – a ‘one stop shop’ providing consumer advice and short-term loans. The city also proposes to open up all 20,000 parking bays for free to electric vehicles and co-brand bus lanes as low emission lanes giving plug-in vehicles the same priority at traffic lights as local buses.

- **West of England**: Will use £7 million to offer residents free residential parking for EVs, access to three carpool lanes in the city and introduce over 100 chargepoints across the region. There are also plans to convert at least a quarter of their vans to electric power, and to work with business and supermarkets to encourage them to switch to EVs and build more chargepoints.

- **Nottinghamshire and Derby**: Will use their £6 million of funding to install 230 chargepoints and offer EV owners discount parking and access to more than 13 miles of bus lanes along key routes in the region. The funding will also pay for a new business support programme enabling local companies to ‘try before they buy’.

**Government backing Secretary of State for Transport Patrick McLoughlin MP** said: “Initiatives such as customer experience centres, free parking, permission to drive in bus lanes and hundreds of new, convenient public charging locations are sure to appeal to drivers and inspire other cities and local authorities to invest in the electric revolution.”

**EIGHT URBAN AREAS ACROSS THE UK ARE SHARING £40 MILLION OF GOVERNMENT CASH TO DRIVE THE GREEN CAR REVOLUTION**
**GO ULTRA LOW ONLINE**

Go Ultra Low is building strong communities online, reflecting the surge in popularity and interest in electric vehicles in the UK. **Why not join the conversation?**

- **GOULTRALOW.COM**
  - For information on the benefits that come with having ULEVs as fleet vehicles, head over to the Go Ultra Low website – www.goultralow.com. Catch up on all the latest news from the Go Ultra Low campaign, and learn more about electric vehicle technology on our blog.

- **YOUTUBE**
  - While owning an electric vehicle is a sensible decision, it can also be a lot of fun. The Go Ultra Low YouTube channel delivers video updates for the head and the heart. Check them out at www.youtube.com/user/GoUltraLow

- **FACEBOOK**
  - Find personal stories about driving electric cars from the Go Ultra Low Owners’ Club members on our Facebook page, as well as joining in discussion about experiences of switching to electric. Like the page at www.facebook.com/GoUltraLow

- **LINKEDIN**
  - Our LinkedIn page is the dedicated fleet hub for the Go Ultra Low campaign. To see the latest ultra low emission news relevant to fleets and to join in the discussion with other fleet professionals, go to www.linkedin.com/company/go-ultra-low/

- **TWITTER AND INSTAGRAM**
  - To stay up to date with all the latest news and pictures from the world of ultra low emission motoring or to ask us any questions you have about electric cars, follow us on Twitter @GoUltraLow and Instagram Goultralowcars

**FURTHER INFORMATION**

**BY THE NUMBERS**

ULEVs are increasingly the right option for fleets and company car drivers. Here’s what we’ve learnt from the Go Ultra Low Fleet Guide to Plug-in Vehicles...

- **106%**
  - Increase in fleet and business ULEV volumes in 2015

- **£200**
  - Amount company car drivers could save per month by switching to ULEVs

- **2p**
  - Cost of fuel compared to around 10-12p for a typical petrol or diesel car

- **£38 million**
  - Amount government is investing to create a network of public charge points

- **10,000**
  - More than 10,000 public chargepoints in the UK

- **11.5 million**
  - Motorists (36%) never drive further than 80 miles in a single trip

- **96%**
  - More than 96% of Motorway services have rapid chargers

- **Increase in fleet and business ULEV volumes in 2015**

- **More than £4,000 per vehicle over four years**

- **The average commute in the UK is less than 10 miles. Pure electric vehicles can travel around 100 miles on a full charge, while range-extended and plug-in hybrids can travel several hundred miles**

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**IN SUMMARY**

From 2p per mile

Cost of fuel compared to around 10-12p for a typical petrol or diesel car

**WWW.GOULTRALOW.COM**