

How to Drive down

company car and van
CO₂ emissions



Key Solutions
Thought Leadership



GE imagination at work

Welcome

Why care about CO₂?

Chances are that little more than a decade ago, you didn't even know how much CO₂ any of the cars and vans on your fleet produced. Now it might be the first statistic you look for when presented with a new model.

How has this shift come about? It is, of course, thanks to concerns over climate change and how CO₂ emissions from transport subsequently impact on the environment. This has translated into a series of taxation and legislative changes, most notably the CO₂ based Benefit in Kind taxation regime launched in the UK in 2002 as well as a series of ever more stringent emissions standards introduced at a European level.

These moves have fundamentally affected the reasoning behind the vehicle choices made by employees and employers, and continue to do so. Consequently, there is a very strong impetus for providing drivers with vehicle choices that minimise their tax liability and also ensure a degree of "future proofing" against likely taxation changes in the months and years ahead.

Driving down CO₂ is not just good for drivers. It also delivers a range of benefits for employers such as, a reduced fuel bill. Additionally, an environmentally friendly fleet is one that underlines your commitment as a responsible corporate citizen to reducing your carbon footprint.

On the following pages are 16 ideas that could help you reduce the carbon footprint of your fleet. Each is based on the thinking of our industry renowned Key Solutions fleet consultancy team who can provide further guidance on any of the points raised.





Set progressive CO₂ targets

An ideal place to start your campaign to reduce CO₂ is to look at your fleet policy and specifically the vehicle choice list.

A sensible first step is to rewrite your choice list to remove any cars with CO₂ figures of more than 160g/km and average fuel consumption figures below 45mpg. Around two-thirds of the cars currently on the market would achieve these criteria, so you should be able to offer a wide range of choice while dramatically reducing your carbon footprint. Combined savings at this level across a 500 vehicle fleet, each travelling 10,000 miles per year will be around **£36,000** a year in fuel, National Insurance and Vehicle Excise Duty.

Once this level of CO₂ is established as a norm and the savings for both driver and employer become obvious, you can move to make a further reduction. An achievable development would be to move to 130g/km and 55mpg vehicles. Around one third of new vehicles available on the market currently meet these targets. Creating a choice list based on these requirements will require some degree of care but savings of **£85,000** could be realised.*

Key Solutions view

Setting a fleet-wide CO₂ strategic policy is an important statement of intent for your organisation and a crucial first step in minimising the fleet carbon footprint.

Changes announced in the 2012 Budget to Capital Allowances suggest that the Government sees 130g/km as the new "gold standard" in company car carbon output. This will take effect from April 2013, and we strongly advise that you make changes to your CO₂ targets before then.



* based on a 500 vehicle fleet each travelling 10,000 miles per year.



Establish a green grade within your policy

One way to really create downwards momentum when it comes to your fleet CO₂ average is to create a “green grade” of, for example, cars which are sub 111g/km. There are many vehicles now available within this band including not just small hatchbacks but vehicles that are large enough for general fleet and everyday family use.

There are many practical reasons for having a green grade. It allows drivers to minimise their current tax and fuel bills and hedge their bets as much as possible against likely tax changes that will push CO₂ bands ever lower. From an employer point of view, vehicles in this category are likely to prove extremely cost-effective to run,

with 100% first year allowances* and, lower fuel and NI costs, as well as strong residuals.

Importantly, a green grade also creates a natural level of corporate interest among your drivers and other staff in the whole issue of low CO₂ transport. It is a signal that you are taking the whole issue very seriously.

Key Solutions view

A green grade can mean big gains for drivers and employers - and cars of this type could deliver savings of **£500** per annum against other grades thanks to reductions in fuel, National Insurance and Vehicle Excise Duty.

* This is valid until April 2013





Incentivise drivers into lower CO₂ vehicles

An idea linked to the introduction of low CO₂ vehicle choices and green grades is to offer to increase the trim or equipment levels for drivers who choose cleaner vehicles, effectively sharing with them some of the savings that you will make.

For example, offering drivers a “green credit” on top of their whole life cost-based vehicle band could enable them to trade up, without cost, to an agreed level, supported by the savings realised by acquiring lower CO₂ vehicles.

How does this work? Savings made in fuel, National Insurance and Vehicle Excise Duty could mean a spending reduction of more than **£600** per annum - or **£50** per month - per car. From these savings, a green credit of, for example, **£25** per month could be offered as a top up to

encourage uptake by drivers. You are effectively sharing 50% of the savings realised.

Adopting this kind of thinking does mean taking a good look at the figures behind the vehicle choices offered and the kind of savings you are likely to achieve before you can offer sensible levels of reward to the driver.

Key Solutions view

A little encouragement for drivers to choose low CO₂ vehicles can have a dramatic impact on the level of take up.





Right size

your commercial vehicles

On many fleets, commercial vehicle buying habits are just that - habits. Larger panel vans often tend to be treated as the norm because they have formed the basis of the fleet for decades. However, there is now a diverse choice of size and shape of vans available on the market ranging from small car derived vans, "cube" and midi models through to traditional panel vans and larger vehicles that are almost classifiable as trucks.

Bearing this in mind, it is worth spending some time looking at "right sizing" the composition of your fleet, carefully examining your needs in terms of capacity and payload. It may be the case that your core vehicle can be taken down a whole class in size, with commensurate savings in costs ranging from fuel to taxation as well as significant reductions in CO₂. Similarly, it could be that for some applications, a larger van is a better solution than using a couple of smaller vehicles on the same routes. There are many possibilities.

Key Solutions view

The vehicle choices facing commercial vehicle fleet managers mean that there is a van size and payload to almost exactly match every requirement - fitting each vehicle to each need will have a definite impact on your carbon footprint.







Defleet

older high CO₂ vehicles

The speed of improving technology alongside continuing legislative and taxation pressures mean that even vehicles that are just a few years old can have carbon figures that look unduly high compared to the latest choices.

For example, a 2009 version of the previous model Mercedes Benz C Class C220 diesel could have a CO₂ figure as high as 170g/km while its 2012 equivalent can be as low as 117g/km. While this is an extreme example, there are many other similar improvements that can be found in fleets, such is the rate of progress.

The arguments for de-fleeting cars that are well adrift of your current CO₂ target are convincing enough that they are worth considering. These vehicles may be costing your drivers an excessive amount in taxation and are almost certainly a drain on your budgets in terms of fuel and other costs.

Certainly, savings of around **£30** per month per car can be realised, driven by reductions in National Insurance and fuel spending, although there are also the costs of early termination to be considered. Carrying out a few basic calculations should help you to identify the correct "time to benefit". The same thinking can be applied to vans.

Key Solutions view

While it is clearly not practical to de-fleet a one year old vehicle just to move a driver one bracket lower in the BIK table, you may want to seriously consider expediting a car or van that is within six months of disposal from your fleet for very sound financial reasons.





Implement a fuel card

Once you have made effective changes to your vehicle choice policy, probably the single most important step you can take towards driving down CO₂ is to adopt a fuel card.

Reduced CO₂ and improvements in MPG go hand in hand, and buying all your petrol and diesel through a fuel card will provide you with a structured reporting mechanism that will not only allow you to calculate your entire fleet carbon footprint but to identify vehicles and drivers that are heavy on fuel and so therefore bigger CO₂ offenders.

A parallel idea to adopting a fuel card that is especially popular on commercial vehicle fleets is the use of fuel bunkering. This provides a direct level of control over your fuel buying and use. However, care will need to be taken that you are putting in place controls and reporting that enable you to track fuel use and your carbon footprint as closely as possible.

Key Solutions view

A fuel card can provide you with an extremely high level of control over your petrol and diesel spend. Analysing the fuel card data to identify areas of cost improvement will ultimately allow you to accurately measure your fleet's carbon footprint and any reductions in this footprint.





Help drivers to drive better

Once you have acquired a vehicle, the single biggest factor impacting on the CO₂ output of a vehicle is usually driving style.

The difference in fuel consumption between a driver with a heavy right foot and one with a smoother driving style can easily be 35%, and the disparity in CO₂ will be the same.

Many drivers simply do not know that they are having such a negative influence on the fuel and CO₂ performance of their car or van and a basic driver education programme, even one as simple as circulating hints and tips on smoother driving, can have an impact.

Ideas might include :

- > Anticipate the road ahead and take your foot off the accelerator earlier so your brakes have less work to do
- > Leave sufficient distance between yourself and the car in front of you so you have space and time to anticipate and react to traffic movements ahead
- > Where possible, use the display in your vehicle dashboard to indicate current fuel consumption during your journey to see the impact of your driving style
- > Remember that the most economical speed to maintain is 55-65mph. Any faster and fuel efficiency falls rapidly - driving at 85mph uses 40% more fuel than at 70mph
- > Change gear between 1500-2000rpm in a diesel car and 2000-2500rpm in a petrol one. Driving slowly in a higher gear burns less fuel

An idea that is popular on some commercial vehicle fleets is the use of speed limiters, effectively taking away from the driver some of the potential for CO₂ abuse that exists out on the road. A vehicle fitted with a speed limiter will generally have a top speed that is closely aligned to the van's most efficient operating point, maximising fuel use and cutting CO₂, as well as reducing general mechanical wear and tear.

Key Solutions view

For some drivers simply supplying a few ideas on how to drive in a more efficient manner is enough to change their driving style for the better forever.

Available from GE's Toolbox is a comprehensive Top 10 Tips Guide designed to help drivers reduce fuel consumption. Visit gedrivertoolbox.co.uk

Key FACTS

- > A 5% improvement in fuel consumption could save around 40 litres of fuel per car per annum
- > 40 litres of diesel equates to **£59** per car every year* which adds up to a **£29,500** annual saving across 500 cars
- > 40 litres of diesel also equates to 107kg of CO₂** per car every year which is a 53.5 metric tonnes reduction across 500 cars

* based on current pence per litre of 147.9

** Based on data published by Defra/DECC in August 2011 that 1 litre of diesel equates to 2.6676kg CO₂. Source www.carbontrust.com



Implement driver training

A step on from simply offering advice to drivers is to implement a driver training programme. Many companies do not undertake a company-wide initiative to take in all their drivers because of the cost but instead target training at those that need it.

A good way of deciding who is likely to benefit from driver training is to examine the data provided by your fuel card. This will immediately show which drivers are using the most fuel. Remember that you may need to take operational factors into account; for example, is a driver delivering poor fuel consumption simply because he or she is working mainly in urban areas and so spending a lot of time stuck in stop-start traffic?

Training itself can take many forms, from online tests to in-car instruction. However, whatever the method, the real world results tend to be

impressive, with drivers showing an increased awareness of how their driving style impacts on CO₂ output and fuel use. For this reason, over time, most driver training programmes are self funding.

It is also worth bearing in mind that driver training of this nature can also significantly improve safety, cutting your accident rate and ultimately reducing your insurance premium.

The introduction of a driver training programme can typically deliver upwards of a **25%** reduction in accidents and financial savings of around **£150,000** across a 500 vehicle fleet.

Key Solutions view

Driver training can be expensive but is an effective way to target drivers who are using exceptional amounts of fuel and producing excessive amounts of CO₂.





Keep the pressure on

There are many reasons for taking the issue of tyre pressure seriously. For a start, tyres that are maintained at the right pressure are safer and wear more slowly.

However, what your drivers may not know is that correctly inflated tyres can also reduce fuel consumption and therefore CO₂ output. Under-inflated tyres have a greater degree of rolling resistance, resulting in the engine using more fuel simply to keep the car or van moving forward. The figures are perhaps surprising; for every one pound per square inch a tyre is under-inflated, the fuel consumption increases by 3%.

For these reasons, drivers should be instructed to regularly check the tyre pressures on their vehicles in accordance with manufacturer guidelines. This is especially important in the

summer; air generally escapes from tyres at the rate of up to two pounds of pressure (measured in PSI) every month but this increases during warm weather.

Key Solutions view

You should ensure that your drivers are checking tyre pressures for a whole range of reasons, from a basic duty of care and to monitor wear through to reducing fuel usage and CO₂.





Lighten the load

A further step in educating drivers about CO₂ is to address the unnecessary weight that they carry in their vehicles.

You almost certainly have drivers who keep their golf clubs permanently in the boot and parents that always seem to have a buggy in the load space. However, there is a strong argument for encouraging them to tidy up their car - for every extra 100 lbs (45kg) they carry, fuel efficiency can drop by 1-2% and so CO₂ output increases.

This thinking also applies to roof boxes and roof racks. At motorway speeds, approximately 50% of the energy required to keep moving is devoted to overcoming wind resistance and removing unused racks and boxes can have a dramatic impact. It may be worth pointing out that, if car

drivers really do need to transport bulky items, a trailer is more economical.

Clearly, the same thinking applies even more acutely to your commercial vehicles in terms of carrying unnecessary weight. However, this needs to be carefully managed so that both payload and load space are maximised to ensure that your van fleet is being run as efficiently as possible and, in turn, minimising your carbon footprint.

Key Solutions view

Encouraging drivers to keep their vehicles tidy and well presented is always a good idea - and the effect that unnecessary clutter can have on fuel use and carbon footprint provides a very strong argument for doing so.

Key FACTS

- > A fuel consumption improvement of around 1.5% from reduced weight and clutter could save around 15 litres of fuel per car per annum
- > 15 litres equates to **£22** per car every year* which is a saving of approximately **£11,000** across 500 cars
- > 15 litres of diesel also equates to 40kg CO₂ per car per year** which is a reduction of 20 metric tonnes across 500 cars

* based on current pence per litre of 147.9

** Based on data published by Defra/DECC in August 2011 that 1 litre of diesel equates to 2.6676kg CO₂. Source www.carbontrust.com



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Search out the best sat nav

We have come to take the technology for granted fairly quickly but satellite navigation has quietly revolutionised the working lives of company car and van drivers. While they are not foolproof, a sat nav that can be bought for less than £100 gives car or van drivers an easy way to follow probably the most efficient journey route available to them and even tells them when they are likely to arrive.

The impact has been significant as it has helped reduce the miles wasted by drivers who could not use a map efficiently and tended to take an unnecessarily long route; those who could plan a journey and simply became lost; and also employees who hit roadworks and couldn't easily plan an alternative route - all of which have been removed from your fuel bill and therefore reduced your CO₂ output.

In the last couple of years, we have even started to see sat navs that provide real time traffic

information, allowing drivers to anticipate and drive around congestion, meaning fewer vehicles sitting in jams with their engine running, burning fuel.

The bottom line is this - the potential savings in fuel and CO₂ mean that you should be ensuring that every driver across your fleet is making use of some kind of effective sat nav technology. While it remains a relatively expensive optional extra on some cars, it is now reasonably priced on others and cheap, high quality aftermarket units are widely available.

Key Solutions view

Sat nav is a highly cost effective way for drivers to ensure that they are following an efficient journey route and should be used across your entire fleet.



Key FACTS

- > A 5% mileage reduction from sat nav technology means typically 500 miles per car every year which could save around 41 litres of fuel
- > 41 litres equates to **£61** per car every year* which means a saving of **£30,500** across 500 cars
- > 41 litres of diesel also equates to 109 kg of CO₂ per car per year ** which is a reduction of 54.5 metric tonnes across 500 cars

* based on current pence per litre of 147.9

** Based on data published by Defra/DECC in August 2011 that 1 litre of diesel equates to 2.6676kg CO₂. Source www.carbontrust.com



Implement telematics

A step on in terms of journey planning is the use of telematics. This is something of a catch-all term that covers a whole range of technologies potentially of use in helping you reduce the miles covered by your fleet, especially if you run commercial vehicles involved in delivery and distribution.

The simplest, lowest cost point of entry is probably route planning software, which will simply find the shortest and most effective route for any journey and is especially useful across light commercial vehicle delivery fleets. A multi drop journey can be quickly planned at the start of the working day and given to the driver.

However, this is just the gateway to a whole range of options that make use of technologies such as GPS and mobile communications. This can include active journey planning that takes account of changing congestion and operational needs in real time, geofencing that will show when your vehicles move out of defined areas, diagnostics that can deliver information about the mechanical efficiency of a vehicle while it is on the road and even sensors that will tell you when the load door of a vehicle hundreds of miles away is opened.

The potential impact of telematics on your fleet is considerable and could play a very real part in reducing your CO₂ footprint alongside a range of other advantages. However, many of the more advanced solutions available are expensive and thorough consideration needs to be given to their cost and benefit.

Key Solutions view

Telematics provides a whole new level of control for the fleet manager and is especially worth consideration by commercial vehicle fleets but can be expensive.



Key FACTS

- > A typical 5.5% mileage reduction from telematics technology means 1,100 miles per van every year which could save 144 litres of fuel
- > 144 litres equates to **£213** per van annually* which means a saving of **£53,250** across 250 vans
- > 144 litres also equates to 384 kg of CO₂ per van per year** which is a reduction in CO₂ of 96 metric tonnes over 250 vans every year

* based on current pence per litre of 147.9

** Based on data published by Defra/DECC in August 2011 that 1 litre of diesel equates to 2.6676kg CO₂. Source www.carbontrust.com





Use your carbon reduction programme

If your fleet operates within a large company, then there is a good chance that there is a corporate carbon reduction programme in place, designed to minimise the CO₂ footprint of your organisation's activities. you may even have a corporate carbon reduction commitment that mirrors the UK Government's stated aim of achieving an 80% reduction in carbon emissions from 1990's levels by 2050.

Company car and van use can clearly play a very important role in this process and, by meeting targets set within an overall carbon reduction programme, you can tap into a large degree of corporate momentum that could enable you to more easily make the changes that will drive down fleet CO₂.

This additional impetus should not be underestimated - a board and senior management team that are genuinely committed to reducing CO₂ will make the life of a fleet manager trying to drive down their carbon footprint much easier.

Key Solutions view

Gaining corporate enthusiasm for a low CO₂ fleet is less challenging in companies that have formal carbon reduction programmes.





Conduct a mobility audit

Linked to the idea of a corporate carbon reduction programme is the concept of a mobility audit. This is an analysis of the entire transport needs of your organisation or its operations at just one site - covering not just the narrow definition of the fleet but also including activities such as commuting.

A mobility audit will allow detailed analysis of how the fleet sits alongside other transport methods used by your company, including everything from private cars and taxis to planes and trains to push bikes and motor cycles, and should include an accurate estimate of the likely CO₂ impact of each transport choice being made.

It may sound very high level but such an exercise can translate into some very useful, practical ways for you to reduce fleet CO₂. This could be as simple as putting in place guidance to ask drivers to effectively justify each journey made by car and show that they have thought about planning their work diaries in detail, examined different vehicle use options such as car sharing and considered other transport possibilities such as rail.

The potential results can be subtle but worthwhile. For example, if members of your sales team start to plan car use on a more geographical basis, not swinging from one end of the country and back again on successive days, without it having an impact on their sales performance, then quite an important shift in corporate mentality will have taken place.

As an indication of the savings available, replacing just one business journey per month

across a fleet of 500 drivers could deliver fuel savings of **£58,000** annually and reduce your carbon footprint by 130 metric tonnes.

Key Solutions view

These audits can help to identify areas for reducing your operational expenditure and the overall carbon footprint. Typical areas of cost savings include pool car management, daily rental spend, private car mileage reimbursement and taxi spend. If you have a number of sites within close proximity then the savings can be greater as an integrated transport solution may be possible including the provision of electric vehicles for travel across sites and other local journeys.

Typical savings experienced following mobility audits are around **10%** of total transportation costs with commensurate savings in the carbon footprint.

For further information contact GE Capital's Key Solutions consultancy team.





Hold meetings by teleconferencing

Perhaps the most simple but radical line of thinking when it comes to fleet CO₂ reduction is this - don't drive the car.

The company car continues after many decades to be the UK's business transport method of choice because it is, for most people, simply the most efficient way to get around. Indeed, if you are making a multi-stop journey, it is often the only option.

But that does sometimes create a default mentality where people automatically get into the car and perhaps spend two hours driving to a one hour meeting that could just as easily have been carried out by teleconferencing.

Today, teleconferencing takes many forms - from simple but effective online desktop solutions like WebEx to sophisticated communications technology that allows international company boards to conduct meetings in almost exactly the same way as if they were sitting in the same room.

It will depend on the profile of your company, but in some organisations, teleconferencing removes the need for a very large number of journeys to be made.

Key Solutions view

Enthusiastic corporate promotion of teleconferencing as an alternative to travel can have a substantial impact on the miles covered by your fleet.

Key FACTS

- > Removing one business journey per month across a fleet of 500 drivers could deliver fuel savings of **£58,000** per annum
- > It could also reduce your carbon footprint by 130 metric tonnes every year





Embrace new technology

The very first idea that was mentioned in this guide touched on the way in which automotive CO₂ had fallen dramatically in recent years - and that rate of change looks set to continue

There are a number of breaking technologies arriving that are likely to make a real impact in the medium term.

> Euro 6 emissions standards

From 2011, all new cars and vans sold within the EU had to meet Euro 5 standards. This has reduced diesel car particulate emissions to similar levels to petrol vehicles. From September 2015, new cars and vans will have to meet Euro 6 which will cut diesel car nitrous oxide emissions, making them almost as clean as their petrol equivalents in terms of pollutants. Cars and vans that meet Euro 6 standards should offer an incremental but useful improvement in CO₂ and fuel consumption too.

> New hybrid technology

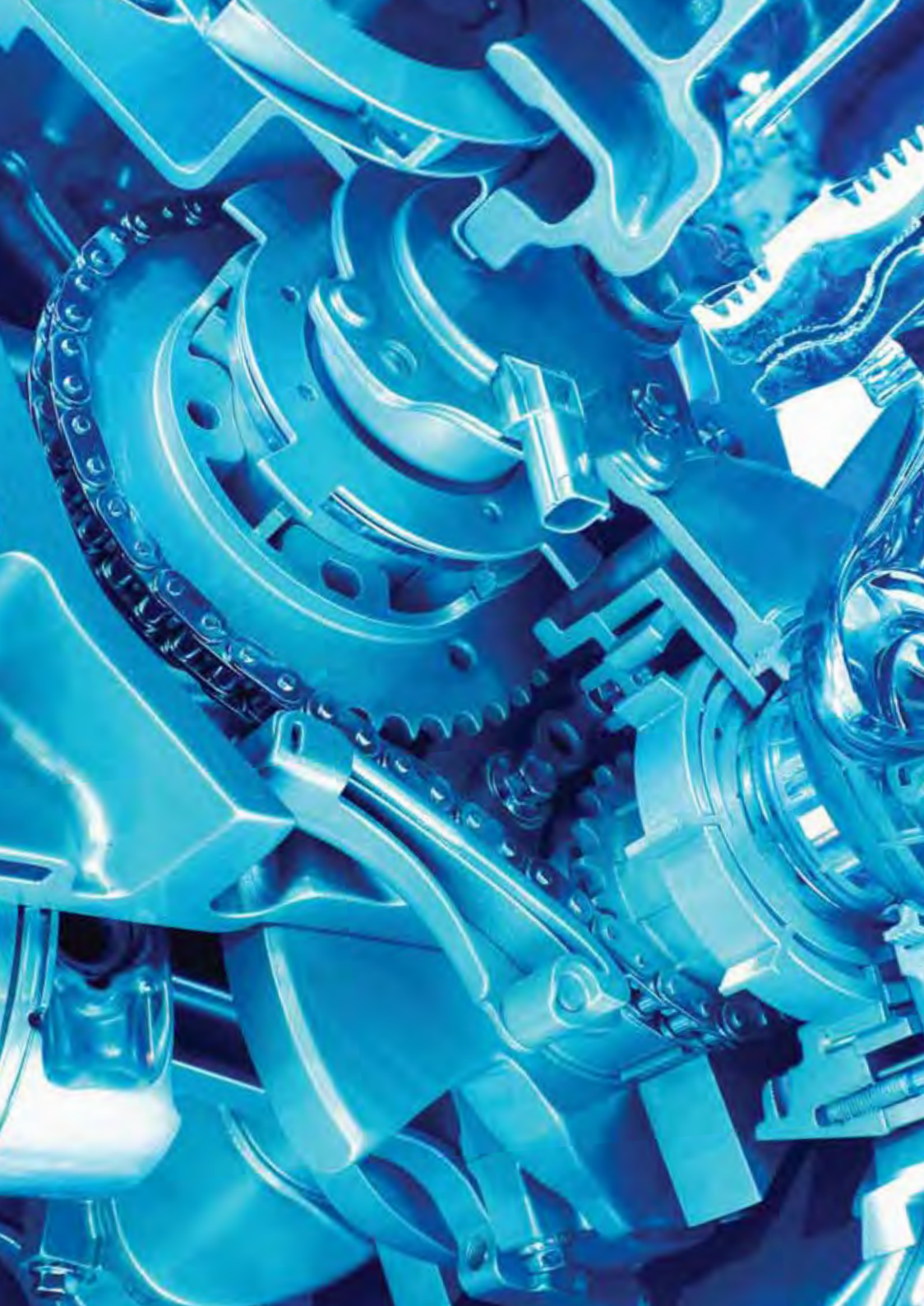
Many fleets have longstanding experience of running hybrids, largely through the Toyota Prius, but also through a widening variety of other models. A further increased choice of hybrids is also starting to arrive on the market using a more diverse range of technologies. Perhaps the most interesting from a fleet point of view is the Vauxhall Ampera - technically a range extended electric vehicle - which employs an electric motor to power the car through a potential 50 mile range before a petrol engine kicks in. Its official CO₂ figure is just 27g/km.

> Electric vehicles

By now, many of you will have seen your first Nissan Leaf on the road, arguably the first serious effort at producing an electric vehicle from a major manufacturer available in the UK. The Leaf's range of between 62 and 138 miles means that it is not suitable for a wide range of fleet applications but its CO₂ figure - zero - makes it worth a look for any fleet determined to reduce their carbon footprint to an absolute minimum. More electric cars are expected to come to market soon and similar developments are taking place in the commercial vehicle arena where the first electric vans, are becoming available. The depot-based nature and predictable journey routing and timing of many van fleets means that electric motive power may be more practical than for car applications.

Key Solutions view

Embracing new technology can accelerate the reduction in carbon footprint and drive savings across the fleet. A 10g/km fall in CO₂ emissions will deliver fuel improvements of **£36,000** per annum across a fleet of 500 cars covering 10,000 business miles per annum whilst reducing the carbon footprint by 80 metric tonnes annually.





Summary

This report presents a wide range of ideas about how to make reductions to the carbon footprint of your fleet.

However, every fleet situation has at least some unique requirements and if you need any further advice, please get in touch. Our Key Solutions consultancy team has helped thousands of companies and would be very pleased to discuss your needs.



Your online Toolbox for essential driver support

Whether you manage your company's fleet or are a driver, Toolbox by GE Capital is packed with essential information, latest guides and tips for the journey ahead. Simply visit gedrivertoolbox.co.uk to find out more.



Key Solutions Thought Leadership

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GE Capital
Old Hall Road
Sale
Cheshire
M33 2GZ

gedrivertoolbox.co.uk
gecapital.co.uk/fleet

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