



Introduction

Government grants
and incentives

Benefit-in-kind
tax

Practical
considerations

Alternative fuel
vehicle comparisons

Click **esc** to exit



THE BMW GUIDE

TO ALTERNATIVE FUELS



INTRODUCTION

Vehicle power systems that used to be referred to as 'alternative fuels' are now more widely available and becoming the default powertrain for many. Business user incentives have seen sales of Electric Vehicles (EVs) increase in recent years, while Plug-in Hybrids (PHEVs) offer flexibility, practicality and the best of electric and combustion power.

With the BMW model range already offering a wide range of both all-electric and Plug-in Hybrid models, the next generation

of BMW driving is already in view with the latest global pilot project of the new BMW iX5 Hydrogen. Comprising 100 vehicles, the fleet has been deployed across the globe. Its purpose is to explore the potential of combining a unique high-performance fuel cell with an optimised power battery that converts hydrogen fuel into electricity with zero driving emissions. While still in series development at this stage, the BMW iX5 Hydrogen signals exciting new possibilities for zero emission driving, complementing all-electric power.

The Government's Zero Emission Vehicle Mandate, which became law in January 2024, requires manufacturers to increase the number of EV registrations by 22% in 2024, with further increments year on year until it comprises 80% of new car sales in 2030, and 100% by 2035.

This BMW Guide to Alternative Fuels offers guidance on selecting the right vehicles for your business to enable a more efficient fleet.



GOVERNMENT GRANTS AND INCENTIVES

Government Plug-in Grant

The Government Plug-in Car Grant of up to £2,500 is available only to wheelchair accessible vehicles priced up to £35,000* with zero CO₂ tailpipe emissions and a zero-emission range of at least 70 miles. Grants are also available for motorcycles, mopeds, taxis vans, large vans and trucks.

Click **here** for more information and details of Government-approved vehicles.

The grants are administered by the Office for Zero Emission Vehicles (OZEV), and the process of application is managed by the vehicle manufacturer and its retailer network rather than the purchaser.

*The definition of recommended retail price includes VAT (including VAT reclaimable by a business) vehicle manufacturer or dealer's mandatory extras including delivery charges or administration fees, the battery cost (including where the battery is leased), any non-standard option fitted by the manufacturer or dealer affecting the capacity of the battery, drivetrain configuration or maximum net power, and excludes any non-standard option fitted by the manufacturer or dealer which does not affect the capacity of the battery, drivetrain configuration or maximum net power, modifications such as 'police packs', ambulance/fire engine modifications, modifications for disabled users, including WAV conversions, warranty/insurance and service packages etc, first registration fee and cost of first-year VED and any discounts (including rebates). **UK model specifications may vary**

Electric Vehicle chargepoint grant

The EV chargepoint grant replaces the Electric Vehicle Homecharge Scheme (EVHS) and is open to homeowners (including those with mortgages) living in flats and rental accommodation from 1 April 2022.

Those living in single-unit properties such as bungalows and detached, semi-detached or terraced housing, are no longer eligible for the grant.

The Grant provides a 75% contribution to one OZEV-approved homecharge unit per eligible electric or plug-in vehicle, capped at £350 including VAT. The unit must be installed by an OZEV-approved chargepoint installer who must confirm ownership of the property. Customers are no longer be able to claim for two chargepoints if they own a second electric vehicle.

Click **here** for further information on the Grant. To find out if your vehicle qualifies for the Grant, click **here**.

- **Wheelchair Access Vehicles** – Government-approved wheelchair access vehicles priced up to £35,000* with zero CO₂ tailpipe emissions and a zero-emission range of at least 70 miles qualify for a grant of up to £2,500.
- **Motorcycles** – motorcycles with zero CO₂ tailpipe emissions while riding and a range of at least 31 miles benefit from a maximum grant of £500.
- **Mopeds** – mopeds or scooters with zero CO₂ tailpipe emissions while riding and a range of at least 19 miles benefit from a maximum grant of £150.
- **Taxis** – taxis with CO₂ emissions of less than 50g/km and a zero-emission range of at least 70 miles benefit from a maximum grant of £7,500.
- **Vans** – N1 vans under 2.5 tonnes GVW with CO₂ emissions of less than 50g/km and a zero-emission range of at least 60 miles benefit from a maximum grant of £2,500, or £5,000 for vans between 2.5t and 3.5t.
- **Large vans and trucks** – vehicles with zero CO₂ tailpipe emissions range of at least 60 miles, benefit from a maximum grant of £16,000 (N2 - 3.5t-12t GVW) or £25,000 (N3 - 12t + GVW). Volume limits apply.

For more on low-emission vehicles on the Office for Zero Emissions website, click **here**



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BENEFIT-IN-KIND TAX

Benefit-in-kind (BIK) tax

Company car BIK tax is based on a car's P11D price and CO₂ emissions. Since 1 April 2022 all company cars have been taxed according to WLTP CO₂ emissions, with the BIK percentage rates shown in the table opposite applying until 31 March 2025.

Drivers of cars with zero emissions of CO₂ when driving, such as EVs, are liable for BIK tax based on 2% of taxable value. From April 2025, the percentage paid in each band increases by one point, and by a further point from April in subsequent years to 2028.

For cars with CO₂ emissions of 1-50g/km, the number of miles they can drive with zero emissions of CO₂ has a significant bearing on tax liabilities, as the table, right, shows.

BIK TAX BANDS FOR LOW-EMISSION CARS

All company cars

WLTP CO ₂ emissions (g/km)	Zero CO ₂ emissions range (miles) ¹	BIK band 2024 – 2025 (%)
0	All	2
1-50	Over 130	2
1-50	70-129	5
1-50	40-69	8
1-50	30-39	12
1-50	Up to 30	14

Source: HMRC. ¹Measured in miles when driving. Rates apply until 31 March 2025.



PRACTICAL CONSIDERATIONS

Fuel duty

Fuel duty is paid on each litre of road fuel purchased (or per kilogram in the case of gases). Therefore the fuel efficiency of a vehicle, the way a vehicle is driven and the distance driven will determine the total amount of duty paid. As electricity is not subject to fuel duty, EVs are duty-exempt.

Fuel Benefit Charge (FBC): recharging in the workplace

Electricity is not considered a fuel for taxation purposes, so there is currently no fuel benefit charge. This means that if an employer allows an employee with a company or personally owned car to top up the battery of their EV or PHEV at work, this does not constitute a fuel benefit and no tax is payable.

Government Advisory Fuel Reimbursement Rates (AFR)

AFR reimbursement rates apply to petrol and diesel hybrids. There is no HMRC-set AFR equivalent for electric vehicles because electricity is not a fuel.

Enhanced capital allowances (ECA)

Eligibility for enhanced capital allowances (ECA) for cars is based on CO₂ emissions while driving. If a car has zero emissions of CO₂ while driving, it qualifies for a 100% first-year allowance (FYA) in 2024/25, but it must be a new registration. Cars with CO₂ emissions of 1-50g/km qualify for an 18% allowance while those with CO₂ emissions exceeding 51g/km qualify for 6%. Leased cars are not eligible for the 100% FYA.

Business mileage, private car

HMRC Approved Mileage Allowance Payments (AMAPs) – the tax and NIC-free amounts claimable by a driver using his/her own car for business mileage – are shown below for 2024/25.

All cars and vans	
Up to 10,000 miles	Over 10,000 miles
45p	25p



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PRACTICAL CONSIDERATIONS (CONTINUED)

Vehicle Excise Duty (VED)

VED exemption in 2024/25 applies only to cars with zero CO₂ tailpipe emissions costing £40,000 or less, with an exception made for cars over £40,000 with zero CO₂ emissions. Cars costing over £40,000 (except those with zero CO₂ emissions) attract an additional £410 a year for five years from the second year. For details of 2024/25 VED rates, see the table (right).

VAT

Vehicles are subject to standard levels of VAT (20%) regardless of their emissions of CO₂, but electricity has varying treatment.

Electricity that is supplied for domestic, non-business and charity use attracts 5% VAT, while electricity that is supplied for business use is subject to VAT at 20%.

Petrol, diesel and hydrogen are considered to be road fuels and therefore also attract the standard level of 20% VAT while electricity that is used to recharge an EV or PHEV at home attracts VAT at 5%.

Electricity for low-emission vehicles that are recharged at work attract 20% VAT. Hydrogen used to refuel fuel cell electric vehicles (FCEV) also attracts VAT at 20%.

VED rates 2024/25

VED Band	CO ₂ emissions (g/km)	First year rate (£)	Standard rate Yr2 on (under £40,000) (£)	Standard rate Yr2 on (over £40,000) (£)*
A	0	0	0	0
B	1-50	10	190	600
C	51-75	30	190	600
D	76-90	135	190	600
E	91-100	175	190	600
F	101-110	195	190	600
G	111-130	220	190	600
H	131-150	270	190	600
I	151-170	680	190	600
J	171-190	1,095	190	600
K	191-225	1,650	190	600
L	226-255	2,340	190	600
M	Over 255	2,745	190	600

Alternative fuel vehicles, including hybrids, bio-ethanol and LPG, pay £155 a year. *Cars with a list price over £40,000, except those with zero CO₂ tailpipe emissions, pay an additional £410 on top of the standard rate for five years following the first year, after which it reverts to the standard rate. 2024/25 rates apply from 1 April 2024



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ALTERNATIVE FUEL VEHICLE COMPARISONS

Driveline	Electric Vehicle (EV) Eg BMW i4	Plug-in hybrid (PHEV) Eg BMW 330e Touring (Parallel Hybrid)
Description	A car which carries a battery to power an electric motor that drives the wheels. It is charged by plugging it into an electricity supply.	A petrol or diesel engine works with an electric motor. Both power units can be used together or individually, and the combustion engine can charge the battery.
Government Plug-in Grant eligibility	Only wheelchair-accessible vehicles with zero CO ₂ tailpipe emissions and a zero emissions range of 70 miles qualify for the maximum grant of £2,500, subject to Government approval and a price cap of £35,000*. Click here for a list of eligible vehicles. Click the Government grants and incentives tab above for details.	Only wheelchair-accessible vehicles with zero CO ₂ tailpipe emissions and a zero emissions range of 70 miles qualify for the maximum grant of £2,500, subject to Government approval and a price cap of £35,000*. Click here for a list of eligible vehicles. Click the Government grants and incentives tab above for details.
BIK tax and VED implications	Company car BIK tax is based on a car's P11D price and CO ₂ emissions. Since 1 April 2022 all company cars have been taxed according to WLTP CO ₂ emissions. In 2024/25, drivers of Government-approved EVs are subject to BIK tax based on 2% of taxable value, with this rate then increasing by one percentage point each April from 2025. Click the BIK tax tab above for details. As EVs are classified with zero CO ₂ emissions, they are exempt from VED in 2024/25. Click the 'Practical Considerations' tab above for more details.	Company car BIK tax is based on a car's P11D price and CO ₂ emissions. Since 1 April 2022 all company cars have been taxed according to WLTP CO ₂ emissions. For PHEVs with CO ₂ emissions of 1-50g/km, the number of miles they can drive with zero emissions of CO ₂ has a significant bearing on BIK tax liabilities. Click the BIK tax tab above for details. For diesels that do not meet the Real Driving Emissions Step 2 (RDE2) standard, a 4% BIK tax charge applies.
London Congestion Charge exemption	Yes. Government-approved EVs are classified with zero CO ₂ emissions and so qualify for Transport for London's 100% cleaner vehicle discount. From 25 December 2025, the cleaner vehicle discount will be discontinued. From this date, all vehicle owners, unless in receipt of another discount or exemption, will need to pay to enter the Congestion Charge zone during charging hours. Taxis and Private Hire Vehicles are exempt from the charge if actively licensed with London Taxi and Private Hire (TPH). To find out if your car qualifies for exemption or a discount, click here .	No. On 25 October 2021, the cleaner vehicle discount changed so that only EVs or Fuel Cell Electric Vehicles (FCEV) are eligible. From 25 December 2025, the cleaner vehicle discount will be discontinued. From this date, all vehicle owners, unless in receipt of another discount or exemption, will need to pay to enter the Congestion Charge zone during charging hours. Taxis and Private Hire Vehicles are exempt from the charge if actively licensed with London Taxi and Private Hire (TPH). To find out if your car qualifies for exemption or a discount, click here .
Refuelling	Recharging only. There are over 57,000 UK public charge points in over 32,500 locations, many of which offer rapid charging, a 47% increase in the number of devices since 2023.	Recharging or conventional refuelling – the combustion engine drives the car and also charges the battery. PHEVs can top up with fuel or recharge.
Advantages	Near silent running and smooth acceleration. Regenerative braking prolongs key parts such as brake pads. Electricity is cheaper than petrol or diesel and generates zero tailpipe emissions. EVs are VED-exempt in 2024/25 and drivers pay BIK tax at just 2%.	Capable of electric running for longer than a traditional hybrid. Significant BIK tax advantages available and eligible for reduced rates of VED. Drivetrain eliminates 'range anxiety', while the combustion engine and electric motors together offer increased power.
Disadvantages	Longer journeys may require planning with access to rapid charging en route but, although availability can be infrequent, the chargepoint network is rapidly improving.	Not eligible for the Government Plug-in Car Grant. Fuel cost savings may take longer to realise than with an EV.
Summary	The choice of EVs capable of more than 250 miles on a full charge is now very comprehensive, while the public charging network continues to improve with new sites opening regularly. Some chargers can be unreliable, however, so planning is key to making an electric car practical.	Initially popular with fleets and drivers, PHEVs lost impetus as the tax incentives favoured zero-emission vehicles more significantly. However, the latest models with larger capacity batteries offering electric range of between 40 and 70 miles could be appealing to some for whom the switch to fully electric would be impractical.

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ALTERNATIVE FUEL VEHICLE COMPARISONS (CONTINUED)

Driveline	Electric Range-Extended Vehicle (EREV)	Fuel Cell Electric Vehicle (FCEV)
Description	A car driven by an electric motor and fitted with a small petrol engine which recharges the battery but does not drive the wheels.	A vehicle fuelled by hydrogen and oxygen in a fuel cell stack which generates electricity to drive the car using an electric motor, with water vapour the only exhaust emission.
Government Plug-in Grant eligibility	Only wheelchair-accessible vehicles with zero CO ₂ tailpipe emissions and a zero emissions range of 70 miles qualify for the maximum grant of £2,500, subject to Government approval and a price cap of £35,000*. Click here for a list of eligible vehicles.	Only wheelchair-accessible vehicles with zero CO ₂ tailpipe emissions and a zero emissions range of 70 miles qualify for the maximum grant of £2,500, subject to Government approval and a price cap of £35,000*. Click here for a list of eligible vehicles.
BIK tax and VED implications	Depending on range and emissions, these vehicles are treated in a similar way to PHEVs, as they require the engine to run during the official WLTP test cycle and produce emissions including CO ₂ .	With zero CO ₂ tailpipe emissions, FCEVs are treated in the same way as EVs for BIK tax and VED purposes, with BIK tax payable at 2% for 2024/25 and zero VED.
London Congestion Charge exemption	No. On 25 October 2021, the cleaner vehicle discount changed so that only EVs or Fuel Cell Electric Vehicles (FCEV) are eligible. From 25 December 2025, the cleaner vehicle discount will be discontinued. From this date, all vehicle owners, unless in receipt of another discount or exemption, will need to pay to enter the Congestion Charge zone during charging hours. Taxis and Private Hire Vehicles are exempt from the charge if actively licensed with London Taxi and Private Hire (TPH).To find out if your car qualifies for exemption or a discount, click here .	Yes. FCEVs are classified with zero CO ₂ emissions and so qualify for Transport for London's 100% cleaner vehicle discount. From 25 December 2025, the cleaner vehicle discount will be discontinued. From this date, all vehicle owners, unless in receipt of another discount or exemption, will need to pay to enter the Congestion Charge zone during charging hours. Taxis and Private Hire Vehicles are exempt from the charge if actively licensed with London Taxi and Private Hire (TPH).To find out if your car qualifies for exemption or a discount, click here .
Refuelling	Recharging and conventional refuelling.	Hydrogen refuelling only. There are very few hydrogen refuelling stations at present in the UK, with a handful near London and the remainder, totalling around 15 in 2024.
Advantages	Less 'range anxiety' than an EV as the combustion engine is refuelled conventionally to charge the battery, although with improved battery technology range is becoming less of an issue.	Ultra-clean operation and silence on the road. Hydrogen is abundant and refuelling is quick. Performance is similar to a conventional car with a range of around 300 miles before refuelling is needed. Drivers of FCEVs are subject to BIK tax at the same low level as drivers of EVs. FCEVs are exempt from VED in 2024/25.
Disadvantages	Only a handful of manufacturers have gone down the Range Extender route, so choice is extremely limited. Fuel economy when the combustion engine is running can be disappointing, extra weight can compromise handling and fuel tanks for the range extender motor often tend to be small.	Expensive to buy and, at present, impractical as there is only a small established refuelling network in the UK. Hydrogen requires large storage tanks in the car that impact on interior space.
Summary	With improvements in battery technology and range benefiting EVs, most manufacturers have moved away from range extender technology. But EREVs have no range anxiety issues and can claim to be driven by electric power.	In its infancy as a practical mobility solution but with potential. Infrastructure is needed to make it viable, but production and current purchase costs make it prohibitively expensive for most users.

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ALTERNATIVE FUEL VEHICLE COMPARISONS (CONTINUED)

Driveline	Traditional Hybrid (Parallel Hybrid)
Description	A vehicle, sometimes known as a self-charging hybrid, with a combination of a petrol or diesel engine and an electric motor to reduce fuel consumption and emissions.
Government Plug-in Grant eligibility	Only wheelchair-accessible vehicles with zero CO ₂ tailpipe emissions and a zero emissions range of 70 miles qualify for the maximum grant of £2,500, subject to Government approval and a price cap of £35,000*. Click here for a list of eligible vehicles.
BIK tax and VED implications	Traditional hybrids have reduced CO ₂ emissions, but are more in line with the best petrol and diesel cars for BIK tax and fuel-efficiency. VED applies according to emissions.
London Congestion Charge exemption	No. From 25 October 2021, the cleaner vehicle discount changed so that only EVs or Fuel Cell Electric Vehicles (FCEV) are eligible. Hybrid Taxis and Private Hire Vehicles are exempt from the charge if actively licensed with London Taxi and Private Hire (TPH).To find out if your car qualifies for exemption or a discount, click here .
Refuelling	Traditional forecourt refuelling only.
Advantages	Can be less expensive to buy than a 100% electric car or plug-in hybrid. Does not require plugging in and is refuelled like a conventional car. Several manufacturers offer traditional hybrids and the technology is now well understood after over 20 years on the market.
Disadvantages	Electric assistance to the combustion engine makes it attractive in town and for short distances, while BIK tax can be reduced compared with conventional cars. Long-range motorway economy can be worse than for a conventionally powered non-hybrid that doesn't carry a hybrid's weight burden.
Summary	Traditional, or self-charging, hybrids have been accepted as an alternative to diesel by some fleets, particularly those based in urban areas.

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