Alternative Fuels:

Thriving in a changing landscape

AA

Foreword

The transition to electric and alternatively fuelled vehicles is picking up pace and the automotive landscape is evolving rapidly. I think we can all see and feel it. The data speaks for itself. In 2021 EVs made up 11.6% of new car registrations, compared to just 6.6% in 2020 according to the SMMT. Just eight months into 2022 and total EV sales were up 48.8% year-on-year, with EV registrations 83% higher than diesel.

Edmund King OBE
AA President

It's an interesting and exciting time and I'm proud to be at the centre of it here at the AA. Not least because I am a long-time EV convert, but that does help me understand the journey drivers go on to transition and this fuels my passion further. I drove my first EV more than 20 years ago now and I have experienced all the pros and cons of driving an EV over two decades.

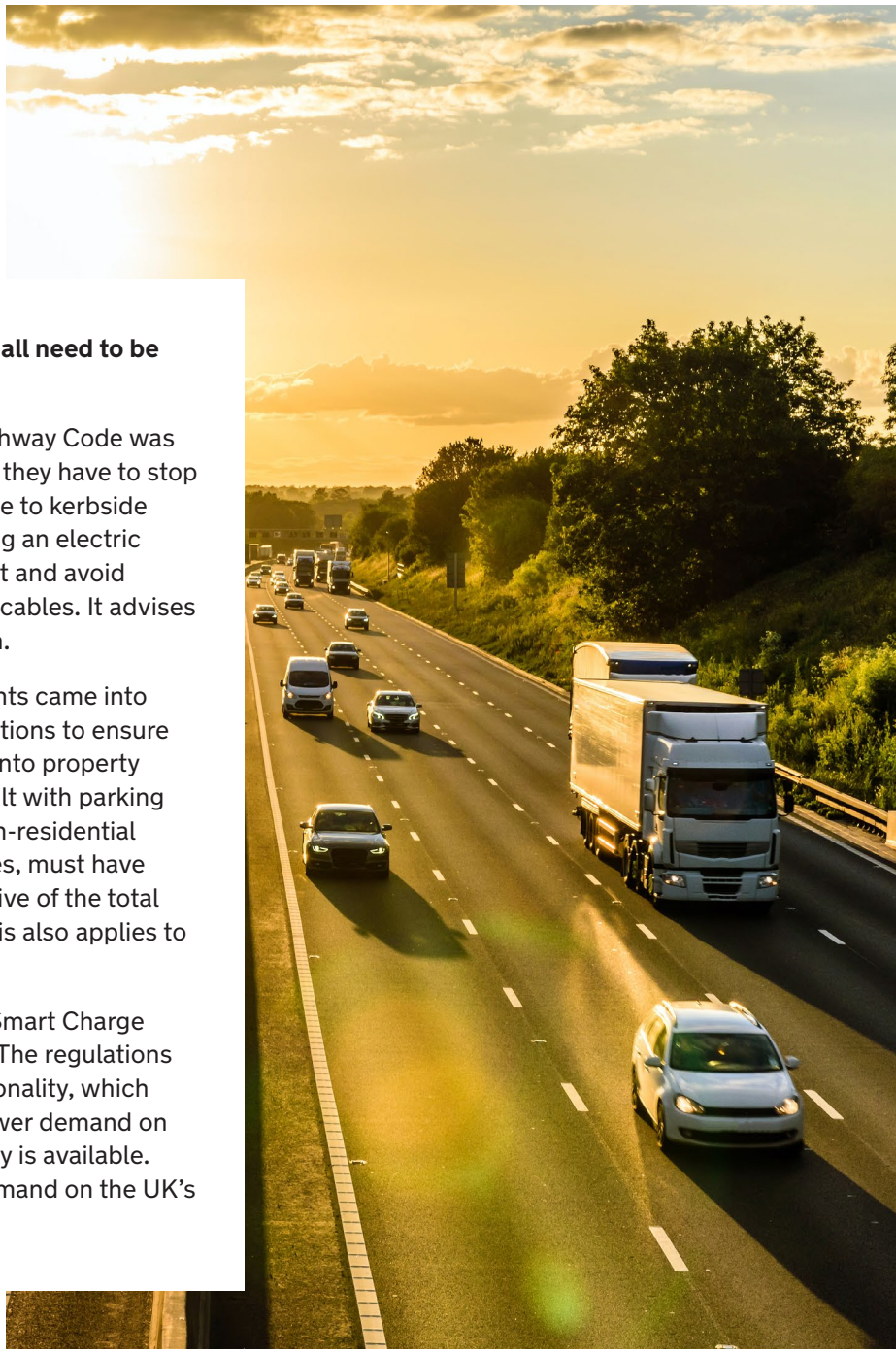
Today, we know the pros according to drivers. A recent AA Yonder survey of over 13,000 drivers showed the top three good reasons for buying an EV as: helping the environment 62%; lower fuel costs 54% and no congestion charge 32%. Yet, while the benefits of decarbonising our transport to protect the environment and save costs are clear, this evolution I speak of is naturally still generating uncertainty and ongoing change around the practicalities, legalities and reality of driving without the aid of petrol or diesel.

At the AA we've made it our mission to support drivers and businesses with the transition to EVs and alternative fuels. We want to empower drivers and give everyone the confidence to get behind the wheel of an EV and I'm proud to say today we're the leading provider of services to support EVs.

With so much change in the world of EVs and alternative fuels, we've created this paper to explore the current landscape and how it's impacting businesses and look at how factors such as the tax framework and charge payments are going to progress. We've also brought together the viewpoints of some of the leading minds working in this space. It makes for inspirational reading; I hope you'll agree.

The regulatory and legal landscape

Today, we're all working towards the government's date for decarbonising transport. 2030 will mark the end of sales of new petrol and diesel cars and vans. For HGVs, all new vehicles sold from 2040 must be zero emission.



What other regulatory and legal changes do we all need to be aware of?

- Back in January 2022, rule 239 of The Highway Code was revised. It covers what drivers should do if they have to stop at the roadside, and now includes reference to kerbside charging points. It requests that when using an electric charge point, drivers should park close to it and avoid creating a hazard for pedestrians from the cables. It advises drivers to display a warning sign if they can.
- In June 2022, new EV charging requirements came into force in England as part of Building Regulations to ensure the EV charging infrastructure is factored into property development. It means that each home built with parking must have an EV charge point and new non-residential buildings, with more than 10 parking spaces, must have a minimum of one charge point for one in five of the total number of spaces. It's worth noting that this also applies to buildings undergoing major renovation.
- In the same month, the Electric Vehicles (Smart Charge Points) Regulations 2021 came into force. The regulations require charge points to have smart functionality, which allows the charging of an EV at times of lower demand on the grid or when more renewable electricity is available. The move is to help manage increasing demand on the UK's electricity transmission network.

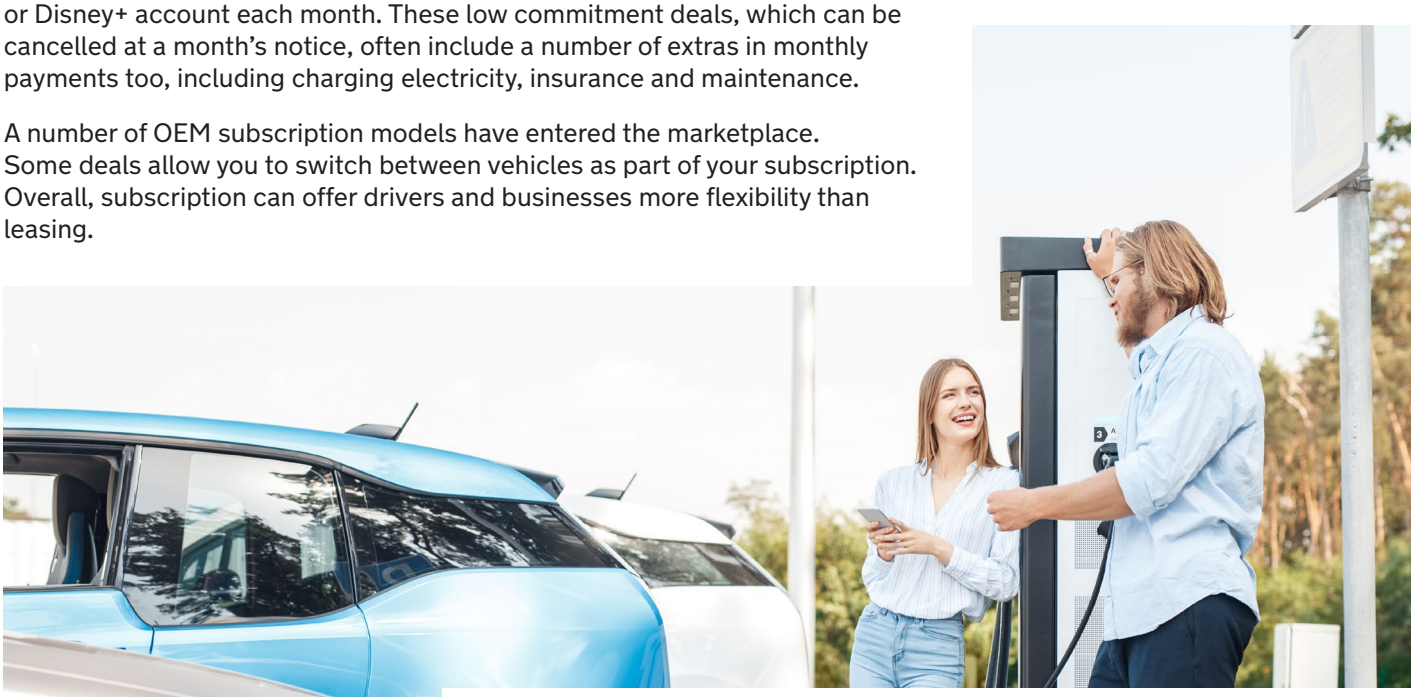
Current funding options

The government's consumer plug-in grant, which contributed towards the cost of a new EV, has now closed. But drivers and businesses making the switch to EVs now have a number of payment options at their fingertips without having to buy a vehicle outright, including leasing or even subscription.

Car ownership for the Netflix generation

A growing number of businesses offer drivers a subscription service, in which you subscribe to a car much in the same way as you would pay for a Netflix or Disney+ account each month. These low commitment deals, which can be cancelled at a month's notice, often include a number of extras in monthly payments too, including charging electricity, insurance and maintenance.

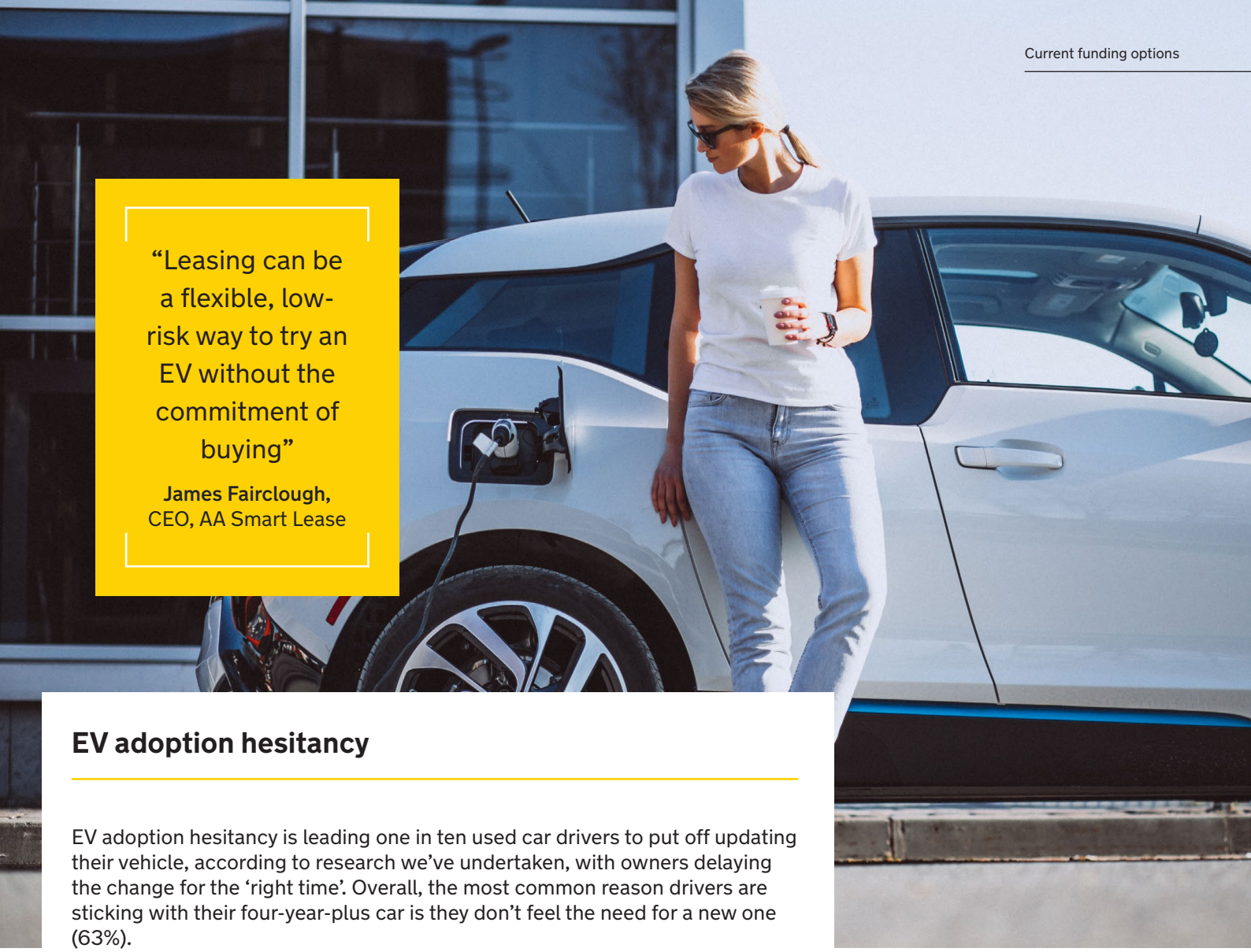
A number of OEM subscription models have entered the marketplace. Some deals allow you to switch between vehicles as part of your subscription. Overall, subscription can offer drivers and businesses more flexibility than leasing.



Exploring EV leasing

Meanwhile, EV leasing options, also based on monthly payment cycles, run for longer periods of time, often between two and four years, and can often prove more competitive than buying outright. Leasing protects drivers and businesses from vehicle depreciation, although many EV models are still holding their values well on the used market.

Leasing is becoming an increasingly popular option to boost EV affordability worldwide and is even creeping its way into legislation. France is currently preparing to launch an EV subsidy programme that would give drivers from low-income households the option to lease an EV for €100 a month.



> "Leasing can be a flexible, low-risk way to try an EV without the commitment of buying"
>
> **James Fairclough,**
> CEO, AA Smart Lease

EV adoption hesitancy

EV adoption hesitancy is leading one in ten used car drivers to put off updating their vehicle, according to research we've undertaken, with owners delaying the change for the 'right time'. Overall, the most common reason drivers are sticking with their four-year-plus car is they don't feel the need for a new one (63%).

"Making the switch to an EV can feel daunting and our research clearly shows many drivers are teetering on the brink of changing, but still feel unable to take the plunge," said James Fairclough, CEO, AA Smart Lease. "There are ways to make the change easier though and being an EV driver doesn't necessarily mean you have to be an EV owner. Leasing can be a flexible, low-risk way to try an EV without the commitment of buying.

"With fuel prices remaining high, the deals you can find on EVs are even more appealing at the moment, particularly for those drivers, like Londoners, who face the double financial hit of high fuel costs and clean air zone charges. We are also aware that three fifths (63%*) of drivers say the rising cost of domestic energy may put them off buying an electric vehicle (EV)* at the moment, however, the reality is that even with the hike in domestic electricity costs, running an EV is still considerably cheaper than a petrol or diesel car," concluded Fairclough.

Plug-in truck grants: The commercial vehicle picture

To support the uptake of zero-emission HGVs, government announced an extension to the plug-in truck grants until 2024/25. The plug-in truck grant reduces the purchase price of zero emission commercial vehicles for consumers with grant rates for eligible trucks set at 20% of the purchase price, with up to £25,000 of funding available for the largest HGVs.

* AA Yonder Driver Poll, September 2022. 12,545 respondents.

The used EV landscape

The future of EV adoption is dependent on establishing a thriving second-hand market for used vehicles. Due to a variety of factors, including the recent semiconductor shortage, vehicles have been slow to hit the used car market.

"From a used car perspective, EV numbers are still quite small in terms of the total number of vehicles we show on our site, making up 1.5% of our stock." said Mark Attwell, Marketing and Product Director, AA Cars and AA Financial Services.

"The used car market is still waiting for vehicles to come through into this space. However, looking at search results on our site, 8.5% are for EVs. We also saw 24% more views on our electric pages in July 2022, compared with the same month in the previous year. In summary, there is rapidly increasing interest and searches for used EVs are rising, but stock levels have yet to catch up."

New data from the Society of Motor Manufacturers and Traders (SMMT) saw used EV sales climb by 57.1% in Q2 2022. This shortage of stock, coupled with increased demand, means we could well see used EV prices increase for new models entering the used EV market.

Servicing EVs

Best practice tips from Penny Stoolman, Managing Director of Prestige Fleet Servicing

"Just like traditional ICE vehicles, EVs require regular servicing and checks. At AA Prestige, we are seeing more electric vehicles coming into our garage network and we are fully supporting them with the transition.

"For fleet managers considering, or those who already have electric vehicles, we recommend applying the same disciplines for EVs as they would do for ICE vehicles:

PLAN AHEAD
There are fewer EV-capable garages in the UK, compared to ICE, so it's important you work with your fleet management provider to ensure they have SMR coverage local to your drivers

GARAGE CAPABILITY
Ensure your SMR provider has the right equipment, and their technicians are trained to the appropriate level (minimum of Level 3). Having to move vehicles to another provider due to lack of capability will only increase downtime

BE PROACTIVE
Monitor SMR spend by vehicle type and telematics data to identify trends and any areas of concern. Electric vehicles are well-known for their rapid acceleration which places increased stress on tyres. By combining with telematics data, you can quickly identify drivers with a heavy right foot who could benefit from additional training interventions

"Whilst electric vehicles have fewer mechanical parts, the increased vehicle weight combined with their acceleration does place extra strain on suspension and associated parts. Recent research by GiPA has shown franchised dealers are charging a premium for EV servicing, so work with your fleet management provider to find the most cost-effective option.

"There are many independent garages with equally as good EV servicing capabilities so don't exclude them from your search criteria."

Prioritising safety

Driver training specialist Drivetech, part of the AA, urges drivers and fleets not to overlook the differences between EVs and petrol and diesel vehicles when it comes to prioritising safety.

Did you know, EVs instantly accelerate as they don't have manual gears and this instant power can cause safety risks for untrained drivers? Regenerative braking is another clear development EV drivers will encounter. This has an impact when pressure is taken off the accelerator and the car slows down instead of coasting, which can add risk in terms of stopping distances.

Providing driver training for your fleet is one of the most effective ways of reducing such risks for drivers. It not only builds confidence and familiarity with the technology, ultimately it could save lives. Beyond this, driver training also improves a driver's awareness of risk and how better driving habits can save money by conserving the power used.

Future tax framework

As we move to a future of alternatively fuelled vehicles, we will also see an evolution in car taxation. Currently EVs are exempt from car tax but as more drivers make the transition to EVs, the government is examining how it can best tax road usage to maintain its income and treat road users fairly.

Our president, Edmund King, has suggested government looks to introduce a 'Road Miles' system which gives all drivers a tax-free mileage limit after which drivers are charged per-mile. It would be beneficial as it would make people think about the trip they're making, and it would promote the use of cleaner, greener vehicles as they would pay less.

The outcome of our future tax framework remains to be seen. The Transport Select Committee has made the suggestion the government develops a new car tax scheme by the end of 2022 but the implementation of the changes will follow at a later date.

A new tax landscape for a new way of motoring

VIEW FROM THE BVRLA

"The UK is working towards ambitious net zero targets that demand wholesale changes at an individual and industrial level.

"Any tax framework needs to consolidate the success of EV uptake long-term. As drivers move out of petrol and diesel, it is not just how they power their vehicles that changes, driver habits and attitudes to mobility are evolving too. One constant among that turbulence is the need for the cost of motoring to remain acceptable.

"Fair and proportionate taxation is part of the solution and balances the numbers for drivers and government. Up to now, policies have been determined by vehicle emissions, the relevance of which is diminishing as zero emission vehicles become commonplace on UK roads.

"The long-term solution to that shift is a complete overhaul of our road tax system. As emissions-based parameters become obsolete, a new national scheme must be developed. This will be a generational change impacting all road users.

"The replacement is likely to be in the form of universal road pricing, administered as a pay-per-mile tax that has different rates based on vehicle type and usage. It is imperative that solutions are considered and trialled now to ensure a smooth transition. Drivers and fleet operators need clarity, and any new road pricing scheme must be easy to pay and have the simple aim of providing a revenue-neutral replacement for the current system.

"That system should apply nationally and be supported by local policies to manage congestion. As seen already through Clean Air Zones, Low Emission Zones and Congestion charges, local solutions can be effective in managing traffic volumes and the way people move through urban areas. They are likely to become more prevalent but must be aligned with national charges to give drivers fair, convenient payments.

"With the right tax framework in place, electric vehicles can continue to offer an appealing and cost-effective way to reduce the automotive industry's carbon footprint. The market remains fragile and the detrimental impact of a poor framework cannot be understated.

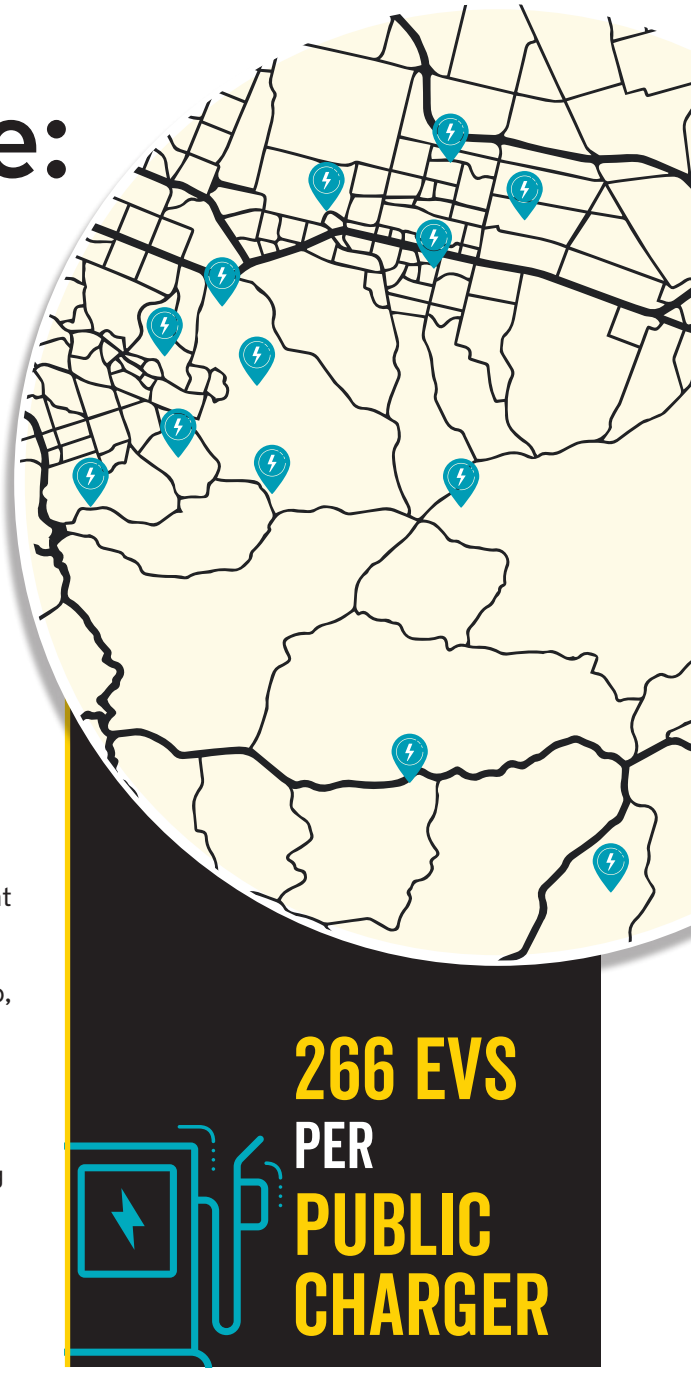
"In order to meet bold, ambitious phase-out targets, we need bold, ambitious tax policy."

Gerry Keaney
Chief Executive, BVRLA

"With the right tax framework in place, electric vehicles can continue to offer an appealing and cost-effective way to reduce the automotive industry's carbon footprint."

EV infrastructure: the real picture

The reality of the UK's EV charging infrastructure is rapidly evolving in terms of volume and technology. As of August 2022, there were 33,996 public electric vehicle charging points across the UK, according to Zap-Map data. This represents a 34% increase year-on-year. However, this figure doesn't include the many charge points installed at home or at workplace locations, which could be more than 400,000.



Regardless of the exact final total today, we need to see a significant increase in charging infrastructure to meet increasing demand. GoCompare found that there were 266 EVs to each public charger in the UK in 2021 and unless infrastructure is significantly scaled up, the ratio will be 527 vehicles per charger in 2031.

In March 2022, the government stated in its 'Taking charge: the electric vehicle infrastructure strategy" that: "We expect around 300,000 public chargers as a minimum by 2030. Our goal is to ensure these charge points are installed ahead of demand, inspiring confidence in drivers who have not yet made the switch."

To help put the demand for charging infrastructure into focus for businesses and help them prepare, recent research from Drax showed that businesses should ensure 1 in 5 parking spaces have charging by 2027.

Commercial vehicles

Options for vehicle charging have hitherto focused on consumer vehicles, but operators of buses, trucks and vans can now take advantage of a one-stop-shop service. Fleete has launched its charging-as-a-service model to help bus, truck and van operators accelerate their transition to commercial EVs, installing high-powered DC charging equipment on site, delivering between 60kW and 600kW depending on fleet requirements. For smaller operators, Fleete is set to build innovative hubs in locations such as car parks that can be used by multiple fleets by vehicles of all sizes, including taxis and light commercial vehicles.

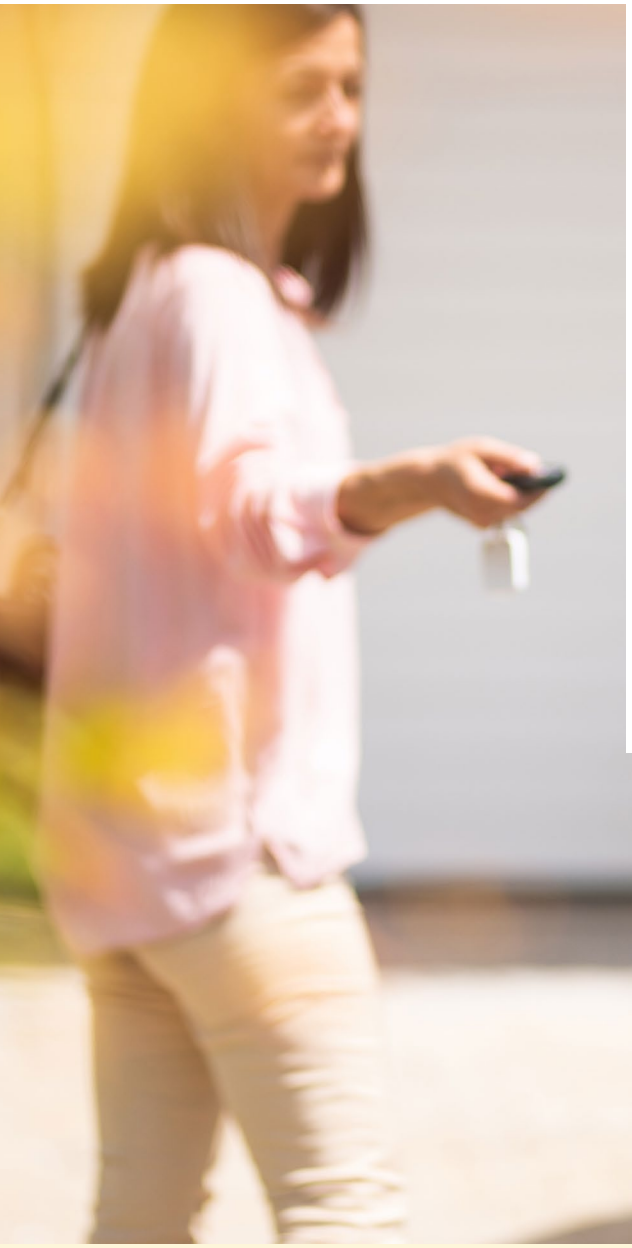
Addressing accessibility

It's not just the number of charge points that is going to make a difference, charge points need to be accessible to all drivers, including those with disabilities. At the AA we've been campaigning for great accessibility for the one in five drivers who has a disability. And this call is supported by the majority of drivers. A 2021 AA Yonder survey found that 73% of drivers say charge post spaces should be wheelchair friendly and 79% say charge post design should consider users with limited mobility and / or physical disabilities.

Charity Motability has worked on changing this with disability charity Designability, the British Standards Institution (BSI) and the Office for Zero Emission Vehicles (OZEV). National standards for electric vehicle charging infrastructure have now been published to ensure accessibility for all.

Whenever you are installing a charging point make sure you've taken the time at design phase to ensure the point will be accessible for all drivers, even those with disabilities or limited mobility.

Looking ahead, robotic charging technology could be set to help EV drivers with disabilities. One example is the ROCIN-ECO consortium which is working to bring to life its vision of equipping fast charging stations across European highways with robotic charging lanes.



At-home charging

For the UK's workforce to transition to EVs, residential charging needs to be up to scratch. In a bid to improve residential EV charging access and support those without private driveways, in August 2022 government announced that drivers will have improved access to EV charge points through a new pilot, the Local EV Infrastructure (LEVI) scheme, supported by £20 million of government and industry funding. Its aim is to create better charging infrastructure for residents. The winners of the pilot fund were Barnet; Dorset; Durham; Kent; Midlands Connect; North Yorkshire; Nottingham; Suffolk and Warrington. It's expected more than 1,000 EV charge points will be installed across the nine local authorities.

At the time, our president Edmund King said: "It is essential that more on-street chargers are delivered to boost the transition to zero emission vehicles for those without home charging. This injection of an extra £20 million funding will help bring power to electric drivers across England from Durham to Dorset. This is one further positive step on the road to electrification."

FleetCharge by JustPark

The premise of FleetCharge is simple: FleetCharge provides a 'proxy driveway' for fleet drivers who cannot charge at home. As fleets transition to electric vehicles (EVs), this solves a major challenge facing those fleets with return-to-home vehicles whose drivers do not have access to their own driveways.

Across the UK, nearly 50% of the population do not have off-street parking at their home, for fleets, this figure increases to 75%.

Whilst across the UK, nearly 50% of the population do not have off-street parking at their home, for fleets, this figure increases to 75%. For businesses working to rebalance fleets ahead of the 2030 ban on the sale of new Internal Combustion Engine (ICE) vehicles, FleetCharge makes the transition to EVs a more cost effective and logistically viable proposition.

JustPark sources a space that is a short walk from the driver's home, installs the charging hardware, and provides dedicated access to that unit for the length of the contract with the fleet. The driver is able to park and charge via the JustPark app that also tracks energy usage.

FleetCharge enables drivers to charge overnight, out of work hours and taking advantage of cheaper energy costs. Research from JustPark shows that fleets relying solely on public charging networks carry material opportunity costs associated with the current pitfalls of these networks today.

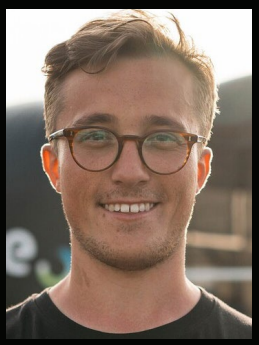
For example, the public charging network is not growing at the same pace as the number of EVs on the road leading to demand outweighing supply. Fleet vehicles are mission critical, if they are unable to access charging, they are unable to do their jobs.

For the chargers that are available; around 5%* are broken, slow (only 18%** are rapid), will have queues or even blocked by ICE vehicles. Over and above the charging time itself, these factors, and engaging with the public charging network take time out of the fleet's earnable day. On average, this list time amounts to 16 hours per month; at a conservative rate of £15 per hour, that adds up to a cost of £240 every month, per driver.

FleetCharge is one solution which hands this value back to the fleet, and the driver, by allowing the driver to experience benefits of their own private home charger. This minimises their dependence on the public charging network and associated challenges, enabling the driver to charge at a time and location that suits them best. A FleetCharge driver is able to effortlessly charge their car via an app, in a dedicated parking space located near their home.

*Channel 4 Dispatches, **DFT Stats Jan 2022

Charging tariffs



Tom Woodnott,
Product Manager, Rightcharge:

“Charging your EV, whether that’s using the vast networks of public charge points or at home, has never been easier. With over 32,000 public charge points available as of July 2022, terms such as range anxiety are hopefully a thing of the past.

“Whilst many EV fleets are making use of the vast array of public chargers, some fleets are using home charging to charge their electric fleets. Fleet drivers can charge their fleet vehicle at home overnight without having to invest in space and mass infrastructure at the workplace or vehicle hub. Companies such as Mina Energy are making paying home charging costs as easy as traditional petrol cards.

“Used in conjunction – or instead of home charging – workplace charging is heavily subsidised by government grants. Fleets are eligible for two government grants, the EV Infrastructure Grant for Staff and Fleets, offering up to £15,000 off the infrastructure costs of installing charge points and the Workplace Charging Scheme which offers up to £350 off each EV charging socket. Reducing the upfront investment required and subsequently the payback period of switching to EV fleets.

“Now EV fleets are becoming more common, fleets will look to improve the performance of their fleet. Once EV fleet productivity matches that of their ICE counterparts, fleets will look to minimise the cost of charging their fleet when energy is at its greenest, reducing their Scope 2 emissions.

“Solar energy capacity is expected to grow five-fold by 2035 and home battery storage allows for solar energy generated during the day to be used by drivers after finishing work at night. The battery in an EV can be used to also pass energy back to the grid during peak times to reduce the load on the national energy grid. This scheme is called Vehicle-to-Grid (V2G) and is currently being trialled in the UK. Recent trial success between Octopus Energy and National Grid ESO has provided proof of concept of V2G so we hope to see it available to the public in the near future.

"Domestic EV friendly tariffs provide drivers with periods of cheap off-peak energy to charge their car at home overnight. Due to the government intervention affecting energy prices from October 1st 2022, suppliers are still working out rates for both fixed and variable tariffs. A comparison service like Rightcharge can help EV owners find the most suitable tariff.”

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Community Charging

Joel Teague, Chief Executive Officer, Co Charger Ltd, said: "The benefits and drivers behind fleet electrification are obvious, but the main barrier often does not emerge until later in planning: how to charge return-to-home vehicles reliably and cheaply, when most of those homes are unsuitable for home charge points? For many companies this represents over 70% of the fleet.

"The quantity and quality of public infrastructure is improving rapidly and that has to continue as part of the array of charging options needed for the UK to decarbonise its transport. However, for the return-to-home fleet operator, paying for both driver and vehicle to charge during operational hours on public charge points eats into the financial gains from electrification. Moreover, it adds a layer of unpredictability to scheduling that hampers operators' efforts towards dependable, efficient scheduling.

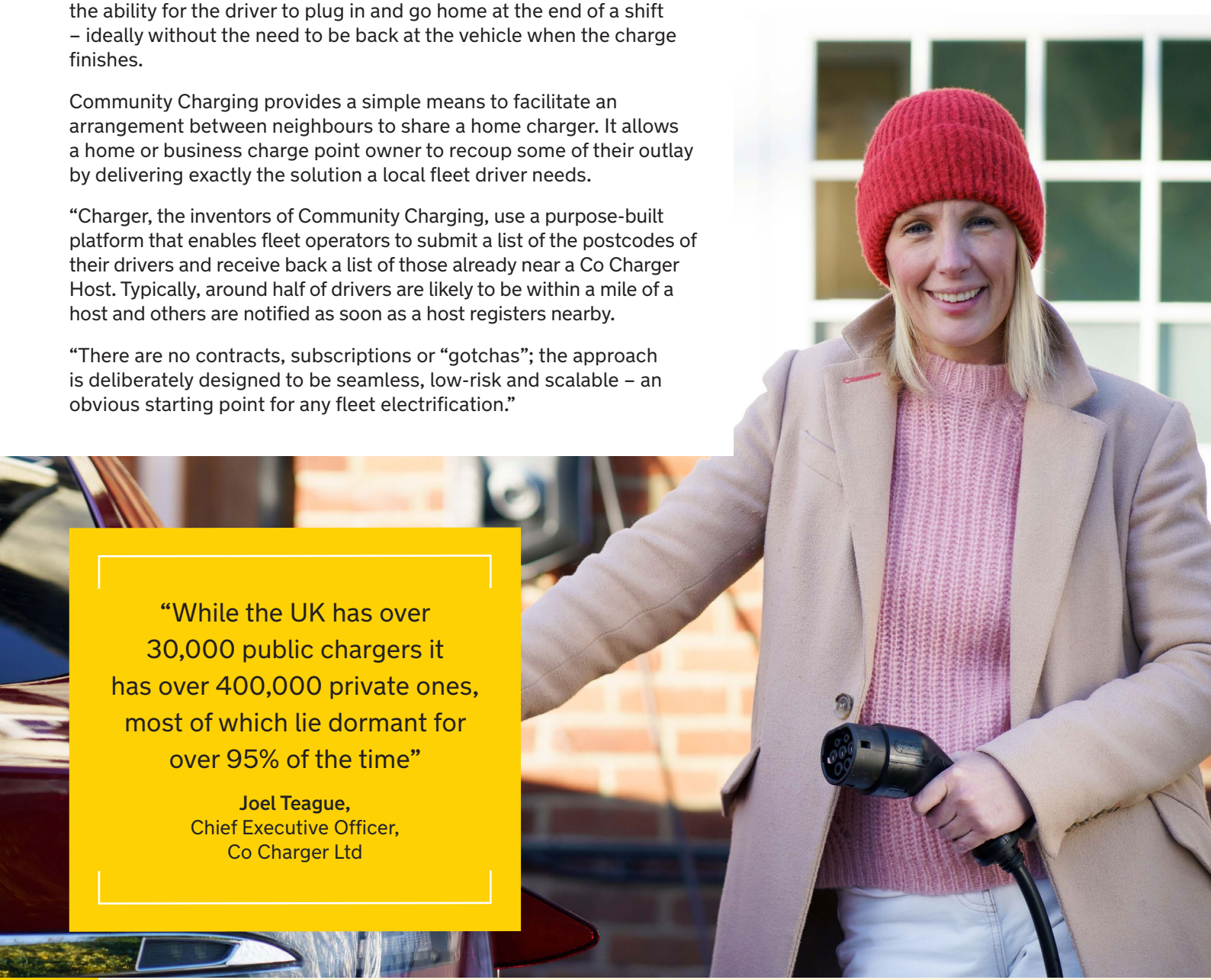
"While the UK has over 30,000 public chargers it has over 400,000 private ones, most of which lie dormant for over 95% of the time. Moreover, these have high reliability and are usually located in residential areas. They even have an on-site maintenance and customer service agent – the owner – who has a vested interest in maintaining that reliability.

"There is an acute need for a means of charging that replicates the benefits of home charging: low-cost, bookable and dependable, with the ability for the driver to plug in and go home at the end of a shift – ideally without the need to be back at the vehicle when the charge finishes.

Community Charging provides a simple means to facilitate an arrangement between neighbours to share a home charger. It allows a home or business charge point owner to recoup some of their outlay by delivering exactly the solution a local fleet driver needs.

"Charger, the inventors of Community Charging, use a purpose-built platform that enables fleet operators to submit a list of the postcodes of their drivers and receive back a list of those already near a Co Charger Host. Typically, around half of drivers are likely to be within a mile of a host and others are notified as soon as a host registers nearby.

"There are no contracts, subscriptions or "gotchas"; the approach is deliberately designed to be seamless, low-risk and scalable – an obvious starting point for any fleet electrification."



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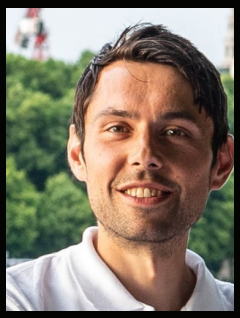
Joel Teague,
Chief Executive Officer,
Co Charger Ltd

The EV payment evolution

As EVs go mainstream, the need for the charging experience to become seamless is ramping up. However, the large number of separate networks makes the process of charging an EV somewhat tricky. Only a few charging points can be paid for via debit or credit card, and none accept cash. Users have the option of downloading an app, visiting a website or owning a pre-registered RFID smart card.

Unfortunately, the number of multiple apps or smartcards needed, depending on the charge point, means the driver experience has been somewhat mixed historically. The Department for Transport (DfT) is now compiling regulation to mandate bank card access or equivalent on every rapid charger.

PARTNER SPOTLIGHT: **PAUA**



Steven Currie, Head of Sales & Marketing at Paua, said:

"Charging an EV is fundamentally more difficult than fuelling a petrol or diesel vehicle, primarily because only around 2% of the vehicles on the road today are electric. At present, the infrastructure is barely developed for a greater figure than this 2%. Despite this limited coverage, a common theme with many new EV drivers is their exasperation at the vast number of different charge point membership accounts they're required to keep, with their associated cards and apps filling up gloveboxes and wallets.

"From these complexities, at Paua we've identified three clear steps in the journey to charging an EV. These currently exist as find, charge, and pay. We set about improving this experience specifically for fleet customers, creating a solution that can be tailored to any business from SMEs and sole traders to large corporates.

"We recognise finding a charge point that is working, accessible, and offers both the connectivity and speed to make it practicable isn't always straightforward, even in areas with a high number of charging options. That problem is something we set about solving. As a result, inside the Paua app, users can find a range of information on locating charge points, the ability to navigate to them, and live information about their status.

"The charging stage raises even more complexities. Fortunately, using an app and RFID card that work both independently and in tandem means that you can start and stop a charge with either, depending on the network. An additional benefit of using the Paua app, is that charging sessions can be viewed live on many networks.

"One of the biggest challenges faced by fleets is time spent managing charging costs and chasing potentially thousands of individual receipts. A single bill, issued at the end of each month simplifies this process significantly for our customers.

"We believe a fourth option will soon present itself too. Authentication data will be stored in the car. Drivers will simply connect the car to a charging station (advancements here may even mean driving over a conductive or charging surface), and payment for charging will be taken automatically. This will feel not too dissimilar to innovations being made in convenience retail from the likes of Amazon, which have been rolling out shops with no checkouts or cashier staff. This is something our technical team is actively investigating, and we hope to offer this as a new feature in the medium term."

Spotlight on hydrogen

Hydrogen is a clean fuel that produces only water when consumed in a fuel cell. Decarbonised hydrogen has a major role to play globally in reaching net zero emissions targets. The UK Government launched its Hydrogen Strategy in April 2021 and its Hydrogen Investor Roadmap in April 2022. Its aim is to have up to 2GW of green hydrogen production capacity by 2025 and up to 10GW installed by 2030.

Hydrogen's major advantage is that it can be stored in large amounts for extended periods of time, helping to improve fuel security. Generated by a number of resources, including natural gas, nuclear power, biomass and renewable power like solar and wind, hydrogen can be stored at high density as a liquid or a gas.

Just like battery-electric vehicles (BEVs), hydrogen fuel cell electric vehicles (FCEVs), including passenger cars and buses, are powered by electricity. As a result, they produce no carbon dioxide (CO2) or other harmful emissions from their tailpipe – just water vapour. In a hydrogen vehicle, energy is stored in the form of compressed hydrogen fuel, rather than in a battery. The hydrogen fuel cells convert compressed hydrogen from their fuel tanks into electricity that powers the electric motor in the vehicle, providing a similar range to vehicles powered by internal combustion engines (ICE) using petrol or diesel.

The hydrogen transport market

There are more than 300 hydrogen vehicle types on UK roads, mostly passenger cars and buses, and the government is supporting hydrogen use in transport with a £23 million Hydrogen for Transport Programme. An alternative to EVs particularly well suited to commercial vehicles, hydrogen requires much smaller batteries – a lithium-ion battery made to power a 44-tonne truck would in itself weigh several tonnes, vastly reducing space available to cargo. Hydrogen has the potential to power HGVs, trucks, trains, buses, small aircraft and even ships.

Diesel and petrol HGVs contributed 18% of all road emissions in 2019, according to UK government data. Transport is a key early market for hydrogen, driving some of the earliest low-carbon production in the UK, especially when it comes to commercial vehicles.

However, hydrogen supplies will undoubtedly prove a barrier to take-up – collectively, at the end of 2020, France, Germany, the UK and Italy collectively only had 218 hydrogen charging points. Equally, if hydrogen is to contribute to the energy transition, the fuel used must be green hydrogen.

Meeting the needs of our roadside fleet

At the AA, we have set ambitious goals to decarbonise our fleet of 2,600 LCVs and 220 trucks. We are working with OEMs to explore a diverse range of alternative-fuelled solutions including EV, bio-fuels, HVO, GTO, CNG and hydrogen to transition our roadside fleet. The focus is on ensuring solutions that meet the needs of the roadside fleet, including towing capabilities and unpredictable working patterns that rule out EVs based on the currently available vehicle options.

We're also a member of The UK Aggregated Hydrogen Freight Consortium (AHFC), a partnership of leading UK hydrogen industry and mobility companies, working with large fleet operators to map out a workable solution for hydrogen transport in the UK.

Each type of hydrogen is labelled with a colour to show the source:

Green hydrogen is created using renewably-powered electrolysis, which splits water into hydrogen and oxygen. With the only emission from hydrogen combustion being water, green hydrogen is a zero-carbon solution. There are already a number of initiatives where offshore wind is being used to power the process

Blue hydrogen is produced by natural gas-fired steam methane reformation, with the resulting emissions managed through underground carbon capture and storage (CCS)

Brown or grey hydrogen is produced through steam methane reformation powered by coal (brown) or natural gas (grey). It is designated grey as opposed to blue when there is no CCS involved in the production.

Conclusion

The transition to EVs and alternative fuels is well underway. It marks a significant automotive evolution, and I for one am excited to be in the middle of it here at the AA.

As with most things in our lives, this evolution is impacting us all differently. We're all at varying points on our journey to adopting net zero vehicles, depending on a whole myriad of factors, be they work or personal. Yet, what unites us, is that this change is happening to us all and we have the government's 2030 date, which will see a ban on sales of new petrol and diesel cars, as one of our future milestones.

We've looked at the landscape today, what might lie ahead and brought together some of the leading voices in this space and I hope this provides support for drivers and businesses as you continue on your journey to decarbonise our transport.

It's certain that we are going to experience a huge amount of innovation, regulatory and legal developments on this journey as both the vehicle technology and infrastructure continue to improve and we'll be with you at every stage, helping you navigate the landscape and grab the opportunities it presents with both hands.

James Starling
Business Services Director, The AA

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There are more than 4 million vans and trucks on UK roads. As the UK's number one breakdown service provider, we cover 65% of the UK's top 20 car and van fleets.

We serve almost 10 million business customers, attending 3.5 million business and personal breakdowns each year. Offering 24/7 assistance, we also support more than a quarter of sole traders who operate vehicles and invest in breakdown cover. We have more highly skilled Patrols than anyone else, with almost 3000 of them.

Our cutting edge technology and expert Patrols means that we can fix 8 out of 10 cars at the roadside.

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