Matters relating to the adoption of EVs in East Harptree 2021-2035

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LATEST NEWS

1 Introduction

The UK Government's **Net Zero Strategy (NZS)**, published on **19 October 2021**, sets out the Government's long-term plan to end the UK's domestic contribution to human-caused climate change and achieve a net zero greenhouse gas emissions economy by 2050

One of the major elements of **NZS** relates to the **Decarbonising of Transport (DCT)** in the UK by:

- **ending the sale of petrol and diesel cars by 2030**
- **making all cars zero emission capable by 2035**
- **funding local electric vehicle infrastructure**
- **trialling zero emission methods of transporting freight**
- **improving public transport systems**
- **funding the development of sustainable aviation fuel**

The driving force for all this is the generally widespread adoption of the theory of **Anthropogenic Global Warming (AGW)** which is a theory explaining today's long-term increase in the average temperature of the Earth's atmosphere as an effect of human industry and agriculture.

Climate Change would be a consequence of **AGW** and has been a hot topic for a number of years and many of the **NZS** elements have therefore been well signposted**.**

Major fundamental changes to the way the vehicles we drive function and the procedures we require to maintain and power them are already beginning to change the nature of vehicle purchasing.

The adoption of widespread electrification as the motive force for land based transport is inevitable.

But for cheap oil the electric motor vehicle industry, which sees its earliest origins in the 1830s (yes 1830s !) and commercial products at the end of the 19th Century, might have saved us from all this mess (and cost)..

As the **DCT** is implemented for transport, the coming decade will see dramatic changes, which will be resisted by some, but will ultimately enhance the quality, not only of the environment, but of life itself.

Despite the current upward energy price trend, the continuing move away from fossil fuels to power our lives and economy will benefit every economy as energy prices will trend lower and energy rich nations lose their monopoly clout. International political tensions will begin to ease and inflation will stabilise. 2050?

This document is focused on the electrification of personal land transport, mainly the car, and the practical aspects of adopting Electric drive Vehicles (EVs).

2 Where are we now?

These latest new car registration numbers issued by **The Society of Motor Manufacturers and Traders (SMMT)** shows a dramatic shift from diesel and petrol-powered new cars to electric and hybrid electric petrol/ diesel cars is already underway. But it is only the start.

October

	2021	2020	% change	Mkt share -21	Mkt share -20
Diesel	7,028	20,941	-66.4%	6.6%	14.9%
MHEV diesel	4,502	6,129	-26.5%	4.2%	4.3%
Petrol	48,384	69,704	-30.6%	45.5%	49.5%
MHEV petrol	13,165	16,023	-17.8%	12.4%	11.4%
BEV	16,155	9,335	73.1%	15.2%	6.6%
PHEV	8,382	7,794	7.5%	7.9%	5.5%
HEV	8,649	11,019	-21.5%	8.1%	7.8%
TOTAL	106,265	140,945	-24.6%		

Year to date

	YTD 2021	YTD 2020	% change	Mkt share -21	Mkt share -20
Diesel	124,633	230,034	-45.8%	8.8%	16.6%
MHEV diesel	89,673	50,480	77.6%	6.3%	3.6%
Petrol	669,982	789,612	-15.2%	47.1%	57.0%
MHEV petrol	172,941	93,446	85.1%	12.2%	6.7%
BEV	141,296	75,946	86.0%	9.9%	5.5%
PHEV	95,422	50,277	89.8%	6.7%	3.6%
HEV	128,932	94,806	36.0%	9.1%	6.8%
TOTAL	1,422,879	1,384,601	2.8%		

3 Where might we be…

See the very thorough forecast for the UK car market to 2035 through the eyes of the UK's motor industry body:

SMMT-new-car-market-and-parc-outlook-to-2035-by-powertrain-type-11-06-21.pdf

4 A guide to the types of Electric Vehicles (EVs)

4.1 MHEV and HEV

Although sporting very small rechargeable batteries MHEVs (Mild Hybrid Electric Vehicle) and HEVs (Hybrid Electric Vehicle) are **not** plug in vehicles. Their batteries are charged by either a petrol or diesel Internal Combustion Engine (ICE) and /or energy recovery during braking or coasting.

As such they do not require charging capacity and the only fuel they currently consume is traditional fossil fuel with the consequence of tailpipe emissions.

In MHEVs the battery provides assistance to the ICE. The battery is only charged by energy recovery during coasting and braking.

In HEVs the battery may provide assistance to the ICE or drive the car alone for very short distances.. The battery is charged either by the ICE and/or by energy recovery during coasting and braking.

Both HEV's and MHEVs offer somewhat reduced fuel consumption and emission levels compared to equivalent ICE engined vehicles.

These ICE hybrids and all ICE vehicles will be withdrawn from sale in 2030 under the government's current net zero plans.

4.2 PHEV

PHEVs (Plugin Hybrid Electric Vehicles) have an ICE combined with a larger battery (relative to those in MHEVs and HEVs) which is charged by an external plugin charger, the ICE and/or recovered energy during braking and coasting.

Typically PHEVs can be driven 10 - 50 miles on stored electricity only.

Despite their continued use of ICE, PHEV sales will cease from 2035 under the Government net zero strategy.

4.3 BEV

A BEV (Battery Electric Vehicle) is driven only by electricity stored on board in a large (and heavy) battery.

A BEV produces zero emissions at the point of use.

BEV vehicles require charging.

BEVs are currently seen as the dominant zero emission technology and, provided battery technology continues to develop – enabling lower cost, lighter and more powerful batteries. Current R&D in 'solid state battery technology' - rather than the current and dominant 'Lithium Ion battery technology' - is looking encouraging.

4.4 FCEV

A FCEV (Fuel Cell Electric Vehicle) is capable of producing electricity from hydrogen stored at high pressure with pure water as its waste product.

In a fuel cell hydrogen reacts with oxygen from the atmosphere to produce electricity, water and heat. The electricity powers the drive motor(s) and may also charge a small onboard battery, which may be used to provide an instant power boost to the motor(s).

Hydrogen is currently a relatively expensive fuel to manufacture and store, is highly inflammable and has a high energy density. For a 300 mile driving range, an FCEV will only need about 5 kg of hydrogen. However at 700 bar (~10,000 psi) a storage system to store this mass would have a volume of about 200 litres or 3-4 times the volume of petrol tanks found in typical ICE cars.

There are cost and infrastructure problems still to fully overcome. But they will be overcome.

Hydrogen fuel cell powered buses are already on the streets, even in the UK, as are cars from Toyota (Lexus), Honda and Hyundai.

Commercial vehicles, HGVs, working vehicles including farm tractors, cranes, JCB type diggers, quarry equipment etc are also suited to Hydrogen Fuel Cells technology

5 Battery Electric (BEV) and Plug in Hybrid (PHEV) charging

5.1 HOME CHARGING

The **known electrification future is BEV** and, until 2035, PHEV. Other technologies will come to the fore (eg fuel cells) but battery technology will improve, perhaps significantly. Electric drive will remain in all technologies.

Although the upfront cost of an electric vehicle is often higher, BEVs in particular can be considerably cheaper to run than their ICE equivalents, due to the lower maintenance and servicing costs and the lower cost of the electricity ‘fuel’ compared to petrol or diesel. Some of this advantage maybe reduced as Governments around the world seeking to mitigate dwindling fossil fuel tax incomes by introducing EV taxes or road use taxes.

As with smartphones so with BEVs and PHEVs, battery recharging is required and recharging at home (overnight) will normally result in the most convenient process offering almost the lowest ‘fuel’ cost, is a straightforward process, easy, clean and it works. ‘Almost’ because ‘free electricity’ is available if you generate it and, preferably, store it or when you use the public charge points which provide ‘free electricity’ as a service to their customer’s – eg some supermarkets.

It is currently estimated that around 80% of BEV and PHEV charging takes place at home, usually overnight, and 20% at workplaces or public charge points.

To complement home charging a network of charging points is being established throughout the UK.

A charging cable to connect an EV to a regular UK three-pin socket is invariably supplied with a new EV. Providing a 2.5 - 3 Kw charge it offers a slower speed charging option than a dedicated fixed wall charger but is a perfectly viable and portable charging option.

Three pin chargers can add around 9-12 miles of range per charging hour (and you can take the cable with you when you visit 'kind' friends or family willing to let you plug in to their 3 pin socket to charge your EV up for the return journey!)

If you have a driveway or garage, you may wish to have a dedicated faster 7 Kw fixed wall charger installed. These can typically add 20 – 30 miles of range per hour of charge but are relatively expensive despite current grant levels.

If you can routinely keep your EV's battery charged to 80% by plugging in when you get home at the end of the day a 3 pin charger can be all you need. If you have to go on a long journey you may need to charge at a public charge station en route.

> NOTE : The Office for Zero Emission Vehicles (OZEV)'s ***Electric Vehicle Homecharge Scheme*** covers up to 75% of the costs of installing a home wall charger, up to a limit of £350.
>
> Officially, the 'OZEV Grant' for **homeowners** finishes on **March 31st, 2022**, which is the final date for installations under this scheme. The scheme is expected to be replaced with one aimed at landlords and their **rental properties**.

Smart charging can be used to make cost savings by scheduling charging to take advantage of off peak electricity tariffs or to use otherwise exported excess electricity if you have generation eg Photovoltaic (PV) panels.

In the future the EV and its battery are expected to become the key component in a truly integrated power generation, storage and use home power and transport system.

The wind blows or the sun shines, your turbine or PV system converts it to electricity, which is used in your house and stored in the EV battery for use to power the car or the home when the sun is obscured. Self sufficiency at last?

The battery in current BEVs have a typical storage capacity of 50 – 80 Kwhr enough to supply all the electricity for a typical house for 5 -8 days.

New EVs from Kia and Hyundai already allow devices to be powered from the car's battery via a 3 pin socket.

Take you microwave oven with you and your EV for that picnic on Dartmoor!

5.2 ON STREET CHARGING and COMMUNITY CHARGER SHARING

For those without off street parking charging an EV near your home is more challenging. The **On-street Residential Chargepoint Scheme** gives local authorities access to a funding pot for on-street chargepoints in areas without off-street parking however they may still be some distance from your home.

Only local authorities can apply for this type of funding, but EV owners can ask their local council to consider installing a chargepoint near your home. This may help the council to forecast demand for chargepoints and decide the best locations.

An alternative is to charge up at work. Businesses and public-sector organisations can apply for funding for chargepoints through the **Workplace Charging Scheme.**

How about sharing your neighbour's wall charger if you don't have off street parking? Great idea!! No driving to the nearest public chargepoint!

An EV with a 60 Kwhr battery should provide 200 – 250 miles of range so your neighbour, in theory, would only require one full overnight charge per week to charge the battery for 10000 miles of driving per year. The charger would be idle for most of the time. Why not share it?

The leading UK independent EV chargepoint online and app mapping provider **Zap-Map** (based in Bristol) has more than 25000 nationwide charge points listed (including more than 5000 free to use). Zap-Map is a go to app for all UK EV owners and is much more than a mapping app. See Zap-Map.com or download the Android or IOS app.

Zap-Map also welcomes those with home based EV chargers (mainly 3 pin plug and 7Kw wall chargers) to join its **Zap-Home** home charger database.

If you can't find a friendly neighbour with an idle charger, Zap-Home maybe the place to look for a 'community network' of mainly home based EV and charger owners willing to share their charger usually, but not always, for a competitive fee. Good idea, but I could only find very few Zap-Home chargers available in the Bristol area. There does appear to be one in Compton Martin however.

US based **PlugShare**, operating also in the UK, has a similar offering to Zap-Map. Just download the app.

Both Zap-Home and Plugshare share elements of their offerings with those early EV enthusiasts (in the 2010s) who existed with very few public charge points to enable long distance travel, nor in most cases the battery capacities to undertake them. Gradually communities of enthusiasts offered to share their home chargers to each other on an ad hoc basis. This quickly evolved and smartphone apps proved the ideal marketing opportunity to publicise these network and possibly to show off their adoption of EV technology!

Both Zap-Home and PlugShare and no doubt other apps, now offer the prospect of contacting local community charging networks, which can be more convenient and usually significantly cheaper than regular public charging stations.

Consider that a 20 – 80% charge for a typical 70 Kwhr battery may take 6 hours on a 7 Kw charger or up to 16 hrs using a 3 pin connected charger. Note: There is no requirement to charge to the recommended 80% in a single charge. You can charge as much or as little as you like, however to charge the battery to 100% is **not recommended** unless you are planning to continue your journey immediately after charge completion. This is to protect the active life of the battery.

5.3 PUBLIC CHARGE POINTS

The use of Public chargepoints is essential when travelling far from home beyond the EV's return range. There are an increasing number of such points and many of these operate at much higher speeds than domestic chargers. Provided your EV can take high power charging, rapid chargers can add range at 150 miles per hour or higher. They are usually much more expensive per Kwhr to use than home chargers so savvy EV owners often do a quick 'splash and dash' top up charge if they run short on the way home with just enough charge to get home. When home they then top up at the cheaper rate.

In a state of flux currently, domestic electricity has recently been in the £0.10/Kwhr (off peak rate) to £0.22/Kwhr (peak rate) range.

The fastest public chargers have the ability to charge at over 200 Kw but most BEVs cannot charge at this rate although this is slowly changing Charging costs for electricity on rapid chargers are typically £0.40 -0.60/Kwhr range. Several times the domestic rate.

But many of the public charge points listed by the bigger networks are still little no more than home chargers i.e. 7 Kw. Prices for using these more typically range from £0.0 to £0.25/Kwhr).

PHEV's can usually only charge at around 7 Kw or less as their batteries are relatively small.

A point to note is that whilst car batteries provide Direct current (DC) to the electric motors most BEVs can accept DC or Alternating current (AC) for battery charging. DC charges the battery direct. But AC needs to be converted, by an in car **inverter**, to DC to charge the battery.

Public charge stations can offer up to 22 Kw AC charging but if your new EV only has say a 6 Kw inverter you will only charge at 6 Kw. Get ready to order more Costa coffee while you twiddle your thumbs in a busy service station…

With rapidly increasing numbers of EVs many more and faster public charge points will be required and no doubt the large number of commercial companies building their charging networks will be falling over themselves for the new funds. New entrants will make an appearance too. Complicating an already complex assortment of charger speeds, providers and payment options. Very few providers offer the simple contactless card payment process. Instead you may need to fill your pockets with dedicated unique cards provided by the individual operators, with whom you will need to pre-register and supply debit/ credit card details. Crazy. This must change.

Following the release of NZS and its funding proposals, many new and existing chargepoint providers will come forward to chase the money.

For example, hot on the heels of the NZS launch, electric vehicle infrastructure 'specialist' **Connected Kerb** announced plans on 8th November 2021 to install 190,000 public on-street EV chargers throughout the UK, worth up to £1.9bn, by 2030. Currently they have only 1 chargepoint in the Bristol area at Emerson's Green!

6 A Guide to EV Charging speeds

A charger that's around 3Kw will give a 'slow charge,' averaging around 10-14 hours.

A charger with 7Kw – 22Kw will give your EV a 'fast' charge – usually in around 4 to 6 hours.

A charger with 50Kw – 120Kw is classed as a 'rapid charger' and will give you a full charge in about an hour.

And finally, 'Ultra-Rapid' chargers provide charging at up to 200 Kw (or sometimes even more). These are the next generation of rapid charge points and can charge a capable EV in less than half an hour.

NOTES: Charger speeds are increasing and so are the EV's capable of using them. Indicated charging times are for a 10 - 80% charge.

6.1 SLOW CHARGING

They might take a little longer – but slow chargers are arguably the simplest, most convenient and economical method for charging your EV. They are currently the most used chargers.

Slow charging is ideal for using at home – and slow charging points are also the type usually found at workplaces.

If the charger is tethered (ie with a cable attached), you can only charge a car model that's compatible with that connector type. This is down to the plug type at the end of the cable being used. For example a Type 1 tethered cable could be used by a first-generation Nissan Leaf, but not a second-generation Leaf, which uses a Type 2 inlet.

An untethered charger will allow a wider range of users to connect their vehicles with their own cable.

(Most current EVs are now equipped with a CCS standard cable connector).

Slow charging power ranges between 2.3 Kw and 3 Kw, depending on the location. If you're charging at home, via a 3-pin plug, your car will usually draw about 2.3 Kw (10A) – 3 Kw (13A). If you're using a lamp-post charger, they're often rated at 5.5 Kw – though you'll likely also find some 3 Kw lamp-post chargers.

6.2 FAST CHARGING

One step up from slow charging is the fast charging option. You'll find these types of chargers at homes, numerous urban locations, from supermarket car parks to recreation and shopping centres, cinemas and retail parks – in fact, anywhere you might want to park your vehicle and leave it for a while.

A 7 Kw fast charger will power up your EV battery in around 4-6 hours, while a 22 Kw unit could do the job in a couple of hours.

Most fast chargers are untethered – though some home and workplace units come with cables attached.

If your charger is tethered (ie with a cable attached), you can only charge a car model that's compatible with that connector type. This is down to the plug type at the end of the cable being used. For instance, a Type 1 tethered cable could be used by a first-generation Nissan Leaf, but not a second-generation Leaf, which uses a Type 2 inlet.

6.3 WHY CHOOSE FAST CHARGING?

Fast charging is, of course, a lot quicker than slow charging. And if you're out somewhere and intending to leave your car parked for a while, it really is the ideal solution for charging up while your EV is idle.

Having said that, there is some research to suggest that regular fast DC charging can reduce the lifespan of lithium-ion batteries. But the good news is that EVs automatically limit the power to its maximum capacity, to minimise wear on the battery. And the rate of charge is also automatically lowered if the car thinks too much power is being supplied to the battery too often.

6.4 RAPID and Ultra-Rapid CHARGING

Rapid chargers use a high-power current to recharge a car in the quickest possible time. They can charge an electric car to 80% full in as little as 20 to 30 minutes (with the final 20% usually taking another 20 minutes).

Pretty speedy! It does depend on the charger power capacity however as an average new EV would take around an hour to 80% on a standard 50 Kw rapid charge point.

It's worth pointing out that they use a huge amount of power – so you won't be able to get one installed at home. Instead, you'll find them at motorway service stations and other public charging hotspots

For EVs capable of accepting 100 Kw or more, charging time can still be as short as 20-40 minutes for a typical charge – even for those with a large battery capacity. And if your EV can only accept a maximum of 50 Kw DC, you'll still be able to use the latest 200 Kw+ ultra-rapid charge points, if you can find one, because the power is restricted to whatever your car can handle. With these chargers capable of charging 20-80% in around 20 minutes or less parity you barely have time to wash your hands and your are ready to go!

6.5 WHY CHOOSE RAPID CHARGING?

When you use a regular 50 Kw rapid charger, even just 15 minutes of charging would usually give you a 30–40 mile range – often more than enough to get you home. That makes them super-convenient, reducing "range anxiety" and making the idea of having an EV much more appealing for many of us.

You're also much more likely to use a rapid charger on a long journey than a shorter one… so it's a great opportunity to stretch your legs, grab a hot drink, and nip to the loo while you wait. Unless it's an ultra-rapid charger.

All rapid charge devices are tethered to the unit, so you'll need to make sure your EV is compatible with the charger you want to use. Plus, rapid charging can only be used on vehicles with rapid-charging capability. Most rapid chargers use either the CHAdeMO or CCS charging standards. But luckily, these are the most common types, so it's likely that your EV can use them.

To help protect the battery, the charging speed is reduced as the battery gets closer to full charge. This means that (as with fast charging), the battery's lifespan is protected as much as possible, even with regular use.

7 Local impact of the switch to EVs and General Comments

7.1 How many BEVs are there in East Harptree?

I don't know. But, as a current owner of 2 BEVs and a previous owner of a PHEV, the answer I believe is maybe as high as 8 BEVs and 10 PHEVs. They are difficult to spot! It is not a large number.

SMMT UK forecasts predict, in 2030, there will be 6.9 million BEVs (2021: 366000), 2.4 million PHEVs (2021: 349000), 34.3 million TOTAL CARS (2021: 34.6 million). Source: SMMT new car market and parc outlook to 2035 by powertrain type (11 June 2021)- ***see link Section 3. Report is well worth reading if you like that sort of thing!***

7.2 How many properties are there in East Harptree without Off Street parking for charging

From walking around the Village I would reckon at the most ten (10). Some of those have gates/ doors leading directly onto a public road or public parking space and provided it's safe and legal to do so could easily run a cable from their EV parked on the road to a professionally installed charger inside the gate/door.

I have recently seen a house in Chew Magna which has a wall mounted charger beside the front door. The front door opens onto the road and when charging the EV is parked right outside.

These are mainly in the High Street and opposite the playing field. If parking on the pavements to charge were permitted the answer is less than 5.

7.3 Environment

EVs as a proportion of cars in the Village will increase substantially over the coming years. Ignoring any building developments and accepting the SMMT forecast there will be no significant change in the total number of cars however.

BEVs are quieter than ICE cars and emission free. PHEVs can be quiet and emit far lower emissions than ICE cars on average but at anyone time may emit similar levels of pollutants/ particulates and CO2.

Overall a gradual switch to BEVs would not present a threat to Village life, rather it would quietly enhance it.

7.4 Public Charging points in East Harptree

Given the ease and low cost of home charging I do not believe that there will be **real** demand from East Harptree EV owners **with off street parking** for rapid + public charging point(s) in the Village. We are just not really on the long distance travellers' routes. These are the users of such facilities. It's a commercial decision.

For medium stay visitors and residents without off street parking, there is an argument for a small number of fast charging posts in the Pavilion car park and probably in Whitecross road between Middle street and Water street for fast charging posts to be installed in the next few years.

The nearest rapid charger currently is in Chew Magna. Like Tesco who provide free fast charging while you shop, the Waldegrave Arms might consider a charger at some time to encourage customers. It's a commercial decision.

Then there are new technologies, similar to wireless smartphone charging, where suitably equipped EV's can charge 'on the go' by driving over induction chargers placed under certain long sections of

road. Technically such chargers work but installing them on long lengths of roads would be disruptive and challenging. However the convenience and invisibility of them may out even the trusty charger and cable at some point. And then there is Hydrogen….

Nothing stays the same for ever.

Finally, the Government has recently delayed announcing its Electric Vehicle Infrastructure Strategy until the end of this year – see LATEST NEWS below.

Just 6 weeks to go.

Until we have the details of this latest Strategy and the role of local government in implementing it, I see no reason in speculating on the full outcome other than that more public and private money will be available to expand existing schemes!

Nicholas Jones, 3 Ashwood, EH 28 Nov 2021. Version 28.11.21

LATEST NEWS:

1. Electric car charger plans delayed by Government amid criticism over lack of vision and targets

Source: inews.co.uk 4.11.2021

Electric Vehicle Infrastructure Strategy will now be published "by the end of the year", as councils warn the UK has "no targets in place"

Vital Government plans for building a national network of public chargers – allowing millions of drivers to power electric cars – have been delayed.

Councils warned there of a "lack of coherent strategic direction" on what to build and where.

Earlier this year, the Government had pledged to publish an Electric Vehicle Infrastructure Strategy "this autumn" – but the Department for Transport (DfT) now admits the revised target is "by the end of this year".

A report based on a survey of 84 local authorities warned of a "lack of coherent strategic direction at a national level, including no articulation of the vision for the future and lack of clarity over the role authorities were expected to play in delivering EV charging infrastructure".

The report, commissioned by the Local Government Association, highlighted that there are "currently no targets in place for delivery of EV charge infrastructure, nor specific powers or duties for local authorities", and that "current funding structures are too short term to allow strategic planning".

The need for chargers is growing fast, with as many as 14 million electric vehicles forecast to be in use in the UK by 2030, when the sale of new petrol and diesel models will be banned. However, at least 8 million households have no off-street parking to install their own chargers.

"Urgent action is needed to expand our charging network as consumers will only have confidence to invest in a fully electric vehicle if it's as easy to recharge as it is to refuel." Mike Hawes, chief executive of the Society of Motor Manufacturers and Traders (SMMT), said.

Documents show that the Government has not yet decided whether local authorities in England and Wales should be compelled to oversee the installation of chargers, or whether energy companies or chargepoint operators should take the lead. Public consultation on this is not due to end until 22 November, though the DfT says its infrastructure strategy is not dependent on the result.

A DfT spokesperson said: "The Government has supported the installation of almost 26,000 publicly available charging devices and has just committed an additional £620m to support the transition to electric vehicles, which will include accelerating the roll out of local charging infrastructure across the UK."

2. Transport Secretary Grant Shapps has revealed an ‘iconic’ on-street EV charger at COP26, designed by the Royal College of Art. Source: Cars UK

If, as it seems, we’re all going to be driving EVs in the next decade, it’s going to mean big changes to our urban landscape as the received wisdom is we need endless EV charging points on every street to keep our electric cars topped-up.

With that in mind, the UK Government has had an on-street EV charger designed by the Royal College of Art, which has been revealed (above) by Transport Secretary Grant Shapps at COP26.

The aim, it seems, is to deliver a charger that will become iconic street furniture, just like red post boxes and London buses. Perhaps they should have painted it red?

Beyond revealing the charger, we have no real details – although it’s reasonable to assume the chargers will deliver 7-22Kw charging – and nor do we know whether the Government is going to mandate the design to ensure familiarity and recognition whichever company is rolling out on-street chargers.