Confronting The Critics

Examining the EVidence

Overview

Car park fires, tripping over cables and app fatigue. We're all familiar with the negative comments of electric vehicle (EV) sceptics, including large sections of the mainstream media. Negativity fuelled by concerns around cost, range, batteries and charging infrastructure has left many of you feeling a little uneasy on how to respond to these queries.

We completely get it. Some anxieties are valid and need to be clearly addressed by the EV industry, because we all want to bring sustainable transport to everyone. The challenge is that many of these anxieties are rooted in fiction, some of which are even appear to be part of a wider anti-EV agenda.

Trepidation towards technological innovation is not new – from the internet and online banking, to even chip and pin when it first arrived on shop floors – we know change is scary for many people. Yet these innovations are now run-of-the-mill technologies used every day and by nearly everyone. We are still confident that in 20 years' time, people will giggle when they say, 'remember when we had to fill up our cars with petrol?'.

Until that time when everyone is charging an EV is upon us, we've put together this handy guide on what queries you may get from different quarters who doubt your aspirations. We're not going to get all Barack Obama 'yes we can' with you, but we do know that the only way to convert sceptics and reassure your residents is through clear evidence-based information. You don't need us to tell you that language matters. So hopefully this will help you tell your story.

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Policy

Myth

The delay to the 2030 phase out of new petrol and diesel car sales will slow down EV production and adoption

Policy

Reality 1

In truth, the delayed phasing out of the sale of new petrol and diesel cars will not change much. The car industry has been clear about on its investment trajectory.

Reality 2

It's important to remember there has never been a ban on petrol and diesel vehicles, it is simply a phasing out of sales of new ones.

Reality 3

So, people can still drive their petrol and diesel vehicle or buy a used one beyond this date. That's the key message to get out to the public, that it's a gradual transition, not an overnight transformation.

Reality 4

But, we know that the delay may have a negative impact on public perception. To counter this, it's important to emphasise the Zero Emission Vehicle mandate – requiring 100% of new cars and vans sold to be electric by 2035 – will play a really important role in continuing to drive uptake of electric vehicles. We will continue to deploy charging infrastructure so the charging network is ready too.

Myth

The Zero Emissions Vehicle mandate is complicated, and won’t have an impact on EV adoption

Policy

Reality 1

The Zero Emission Vehicle (ZEV) mandate is a regulatory framework, designed to ramp-up the number of electric vehicles on our roads, and ultimately drive the switch to electric vehicles.

Reality 2

The ZEV mandate is the type of policy needed to encourage OEMs (the manufacturers of vehicles) to ramp up EV production, which in turn will provide more options for drivers and play an important role in encouraging EV uptake across the country.

Reality 3

It requires 80% of new cars and 70% of new vans sold in Great Britain to be zero emission by 2030, which will increase to 100% by 2035 – a very important move to get more electric vehicles on our roads. Only the most efficient petrol/diesel vehicles will be sold after 2030 and volumes mean EVs will be more cost-effective at the point of sale (not to mention across their lifespan).

Electric Vehicle Adoption

Myth

EVs aren’t particularly popular at the moment, I’m going to wait a while until I buy one

EV Adoption

Reality 1

EV adoption is improving around the country.

The last few years have been positivel for electric vehicle adoption, with nearly one million on UK roads today, and a further 550,000 plug-in hybrid vehicles. Comparing today's figures to 2020 – where there were just 205,000 EVs on the UK's roads – we've seen a 336% increase in EVs in just three years. And this number is increasing month in, month out.

Reality 2

Autotrader data does show a growth in adoption, although mainly among fleets, with the charging infrastructure the main concern for most people. But the number of EVs on our roads isn't the only thing on a steady rise – the choice of models are too. Whether you're a BMW lover or a MINI enthusiast, there's an electric option for everyone, with over 80 models available this year from 32+ popular car manufacturers. The ZEV mandate will play a really important role in ramping up the number and types of EVs on offer.

Reality 3

This, alongside the rise of the second-hand EV market means there are a range of prices on offer. You can find used electric vehicles for under £10,000, and brand new EVs will start at around £20,000.

Reality 4

But that's not all – there's lots of different financial options on offer. Salary sacrifice, for example - whereby a portion of an employee's earnings (before tax) are used to fund repayments of leasing an EV - is widely used to drive down the cost of driving an EV, helping to make payments easier and ultimately, increase adoption

Costs

Myth

Electric vehicles (EVs) are too expensive

Costs

Reality 1

Yes, it's true that electric vehicles cost more to buy outright, but they sure are cheaper in the long run.

Today, an EV can save around £92 per 1,000 miles driven. In fact, mileage aside, a petrol car typically costs double in fuel compared to an EV.

Reality 2

We can even look beyond the cost of charging up or buying an EV, even taxes are less. Until 2025, EV drivers pay zero road tax.

The second-hand car market represents around 82% of all car sales, so it's no surprise that the used EV market is also on the rise.

Reality 3

This is brilliant news for the EV transition, as it will play a big role in driving down costs. Even today, used electric cars can cost as little as £10,000, with brand new EVs starting at around £20,000.

In general, EV drivers may be faced with a slightly higher insurance quote than what they're used to when driving a petrol or diesel car. There are a few reasons for this, however it mainly comes down to the fact that EVs have more expensive parts.

Reality 4

But there's good news here too. The cost of insuring an EV has already lessened in recent years, as uptake has grown. Over time, it's expected that an EV will cost the same to insure as a petrol or diesel car.

Myth

Owning an EV won’t save me any money in the long term

Costs

Reality 1

The total cost of ownership for an electric vehicle is typically less than that of a petrol or diesel car.

Reality 2

Whilst purchasing a shiny brand-new electric car can be more expensive than a petrol or diesel alternative, the total cost of owning an electric vehicle can actually be far less.

Electric vehicles have fewer moving parts, meaning lower maintenance and repair costs compared to petrol and diesel.

Reality 3

EVs can also cost far less to charge up than filling a car up with petrol or diesel - even when charging in public - helping to lower the total cost of ownership compared to petrol or diesel. As more renewable energy enters the mix, the cheaper electricity will become, which in turn will help to drive down the cost of charging up an EV even further.

Reality 4

Smart charging also offers cheaper tariffs, with the choice of scheduling a charge during off-peak times – in fact, Connected Kerb trialled this across areas of its public charging network. Through the trial, we found drivers could save a whopping £600 every year by 2030 utilising smart energy tariffs. We'll be rolling smart charging out across our entire network in the first half of 2024!

Myth

All of these charge points are costing the taxpayer billions

Costs

Reality 1

Not all charge points are funded from the taxpayer's pocket, many are fully funded by charge point operators like Connected Kerb.

Reality 2

While it's true that the UK government has provided a large amount of funding to support the rollout of charge points across the UK, many charge points are privately funded.

Reality 3

In fact, Connected Kerb and others offer both a profit share and fully funded model, with potential for zero cost whatsoever to the land owner.

Reality 4

As with any major transformation – like the EV transition – financial support from government is needed, particularly for less viable locations where utilisation may be lower but charging is a necessity. However it's certainly not the only way in which charge points are funded.

Charging Infrastructure

Charging infrastructure: Realities of charging an EV

Myth

It takes too long to charge an EV

Charging infrastructure: Realities of charging an EV

Reality 1

Most charging will be done at or near home overnight where it is cheapest and less draining on the grid where the length of time taken to charge is not considered important as the car is stationary.

However, quick charging is also widely available – some chargers can deliver over 200 miles of range in just 10 minutes at rapid charge points, the time it takes to enjoy a cup of coffee.

Reality 2

However, it's important to understand that charging is different to refuelling at a petrol station, and as with any transition, requires some behaviour change.

Reality 3

Simply put, different types of charging cater to different needs. Fast charging networks, like Connected Kerb, resemble charging a smart phone – you simply plug in and carry on with your day whilst your car charges up.

Reality 4

Rapid and ultra-rapid charging networks are all about speed – you can go into the service station, grab a coffee and come back to a charged car. So, it's about selecting the charging based on what's most convenient for the driver. Speed isn't always the preferred solution.

Myth

EVs cannot be driven or charged in the rain

Charging Infrastructure: Realities of charging an EV

Reality 1

Not true.

EVs need to comply with really tough technical rules before entering the market, including crash and electrical safety. So, they are safe to drive and charge in a wide range of weather conditions.

Reality 2

Drivers should take the usual precautions by:

- **following the manufacturer's instructions**
- **only using the correct charging cable**
- **checking the EV and cable are not damaged**

Reality 3

As with any vehicle, drivers should also consult the owner manual for guidance on the maximum depth of water a car is safe to drive through – not because of dangers to the battery or motor but the risk of water entering the cabin!

Myth

There’s no point installing chargers at scale now if they aren’t being used today

Charging Infrastructure: Realities of charging an EV

Reality 1

The EV industry is facing a classic ‘chicken and egg’ scenario. What comes first, the charger or the driver? Financers want to avoid investing in charge points too far ahead of demand, and drivers won’t make the switch if there aren’t chargers in the ground.

Reality 2

But what’s important here is that it’s not an “if”, but a “when” drivers make the switch. Research has shown charging infrastructure plays a huge role in driving adoption of EVs. By investing in charge points today, we can give drivers across the country confidence to make the switch, which in turn will drive higher utilisation rates and ROI for charging points.

Reality 3

It’s no secret that EV charge points are unevenly distributed across the country. The North East of England, for example, has just 3% of the UK’s charge points, whilst London is home to 35%. There are similar disparities across rural and urban areas.

Reality 4

Investing in charging infrastructure across the entire country is really important to enable everyone to make the switch to electric.

Charging Infrastructure: Availability of charging points

Myth

There are too many electric vehicle charging bays, and not enough parking spaces for petrol and diesel cars

Charging Infrastructure: Availability of charging points

Reality 1

If deployed well, we shouldn't be taking away parking spaces but providing parking/charging spaces for the EVs in the area. From delivery parking bays to disability bays, electric vehicle charging bays are just another addition.

With more electric cars on the UK's roads, dedicated EV charging bays are exceptionally important.

Reality 2

The electric vehicle transition will ultimately change the way parking bays work around the country, saving EV drivers time and money.

Reality 3

By educating drivers and collaborating with councils and local businesses alike to improve signage and awareness, the transition to electric vehicles will come with a form of etiquette, which will become a part of everyday life for drivers.

Reality 4

Additionally, some EV charging bays can be used by other vehicles as well, such as Connected Kerb's charging network in West Sussex – providing plenty of car parking spaces for all vehicle types.

Charging Infrastructure: Availability of charging points

Myth

There are not enough charge points to meet demand

Charging Infrastructure

Reality 1

The UK's charging infrastructure has increased by 45% from October 2022 to October 2023 alone. In fact, the UK has one of the most extensive charging networks globally.

As of October 2023, there were 51,516 EV charge points across the UK, spanning 30,360 locations – a 45% increase to the year before. This also doesn't include the charge points installed at homes or at workplace locations, which is estimated to be over 680,000. It's fair to say charging infrastructure is being deployed at pace and scale.

Reality 2

We know this fast pace of charge point deployment will continue. On average, over 1,300 new charge points are being installed across the UK's network every month.

The reality is, no matter where you are across England's motorways or A-roads, a driver today will never be more than 25 miles from a charge point, and that gap is rapidly closing.

Reality 3

Many drivers will charge up at a home, and this trend isn't likely to change. However, around 30% of drivers – a higher figure in urban areas - do not have access to off-street parking, so are entirely reliant on public charging infrastructure to power up their cars.

Reality 4

Having a balanced network that provides the right numbers of rapid chargers and fast chargers is essential – but they must be in the right places. That's where Connected Kerb's site selection tool comes in, suggesting optimal locations based on over 60 factors such as EV ownership levels, existing street furniture and socio-economic factors.

Charging Infrastructure: Availability of charging points

Myth

Only people with off-street parking will be able to easily charge their EV

Charging Infrastructure: Availability of charging points

Reality 1

On-street charge point operators, like Connected Kerb, are working hard to ensure no one lives more than a five-minute walk from a charger. But this will take time and Auto Trader data shows that on-street adoption has been slower.

Around 30% of the UK's population do not have access to a driveway, so, it's important we ensure that lack of access to off-street parking is not a barrier to realising the benefits of owning an EV.

Reality 2

Local authorities around the country have really ramped up the deployment of on-street charging infrastructure, which is supported by the likes of the On-Street Residential Chargepoint Scheme (ORCS), helping local authorities to provide public charge points for residents without access to private parking.

Reality 3

Workplace charging is also growing, so those without access to driveways can easily charge up at work.

The government has also provided support to future-proof electrical grid capacity at service areas across the motorways and major A-roads, through the £950 million Rapid Charging Fund (RFC), to prepare the network for the uptake of EVs ahead of demand.

Reality 4

Rapid charging hubs and electric charging stations (equivalent to current petrol and diesel stations) are also popping up around the country, as another option for EV drivers to charge up.

Charging Infrastructure: Availability of charging points

Myth

There are loads of chargers in London but hardly any in other cities or in rural areas

Charging Infrastructure: Availability of charging points

Reality 1

Yes, there are loads of chargers in London, but EV charge points are increasing everywhere.

Reality 2

From residential buildings to workplaces, through the EV Homecharge Scheme and Workplace Charging Scheme, the government has supported the installation of charge points across the UK, including rural areas.

Not to mention, councils up and down the country are rapidly investing in charging infrastructure, and expanding networks across more rural areas.

Reality 3

EV charge points are also popping up across the UK's smaller cities at pace and scale. In Coventry, for example, Connected Kerb is rolling out over 800 charging sockets in 50 locations across the city, to ramp-up access to charging infrastructure for residents and visitors.

Reality 4

Government also provides additional funding to install charge points for small accommodation businesses, which are disproportionately found in rural areas. This will help boost destination charging across the UK in such locations.

Charging Infrastructure: Reliability of charging points

Myth

Public charge points are all broken

Charging Infrastructure: Availability of charging points

Reality 1

90% of charge points are working on any given day, and this is set to improve once older chargers are replaced.

Reality 2

EV users should expect a reliable public charging network, regardless of where they live and drive in the UK. For the most part, charging networks have average uptimes of well over 90%. In fact, Connected Kerb's uptime sits at 99.1% – which is still something we are always improving.

Reality 3

The UK government has introduced a 99% reliability standard for rapid charge points in the UK, and a free, 24/7 helpline for anyone struggling to charge. So, the charging network will only become more reliable.

Reality 4

Whilst delivering new charge points is a top-priority, ensuring those that are already installed are working is equally important. That's why, in areas like South Tyneside, Connected Kerb is upgrading existing infrastructure, turning redundant chargers into long-standing, future-proofed charge points.


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Electric vehicle
recharging point
only

Myth

We need more rapid charging, it’s the best solution

Charging Infrastructure: Types of charging points

Reality 1

There's not a "better or worse" when it comes to EV charging, because it's not a one size fits all solution. Overnight fast charging, for example, is like charging a smartphone – the owner can just plug it in and get on with their day or even go to sleep. Rapid charging, on the other hand, is exactly what you need on the go, because well, it's superfast. However, due to idling charges, drivers need to be present and ready to move their car once the charge is completed – a matter of minutes, not hours.

Reality 2

Let's clarify the difference between an AC (Alternating Current) and DC (Direct Current) charger. Simply, Direct Current goes with the flow – it's a method in which electricity flows in one direction, and refers to the flow of electricity gained from batteries, for example. Alternating Current is a method in which positive and negative sides are constantly switching and the direction of flow of electricity changes accordingly – this is the type of electricity flow from outlets or generators, for example.

Reality 3

It's important to remember that EV batteries can only store DC power. So, by 'skipping' the step of converting AC power into DC, the quickest charging time for your EV is achieved through a DC car charger.

So, when you're looking for an EV rapid charger or an EV fast charger, using a DC charger may be your best choice on the move.

Reality 4

However, AC chargers can fit in with your routine – much like charging a smartphone. Not to mention, they also fit in with the traditional street landscape, and feed directly from existing street infrastructure. Connected Kerb's Chameleon, for example, looks just like a typical street bollard – but provides way more benefits., offering smart charging where we can both reduce costs and the strain of the grid.

Myth

There are too many different apps and types of connectors

Charging Infrastructure: Types of charging points

Reality 1

There are a few apps on the market but as the charging network grows and roaming agreements between networks increase, you can choose what charging point provider you prefer and stick with their app. There are at the moment five charging connectors. We know that sounds like a lot, in reality it's pretty simple.

Type 1 AC charging

A five-pin plug, and suitable for single-phase electricity supply, what you'd usually find in your home. They can charge up to a speed of 7.4kW, making it a slightly slower charge compared to newer EV chargers. If you can't get a hold of a charger, don't stress. You'll find a handy EV charger adaptor.

Type 2 AC charging

A slightly different look to the Type 1, a type 2 connector has a 7-pin plug design and can carry a more powerful three-phase electricity supply (typically what's delivered at charging stations), and can charge an EV up to a speed of 43kW.

The 'granny charger'

Often a standard charger with most EVs, it's a portable EV charger allowing you to safely plug your EV into a domestic 3-pin plug socket, reaching speeds of 2.3kW, so it is pretty slow. The charger itself consists of a 3-pin plug connected to a box containing the charger, and either a type 1 or type 2 connector which connects to your vehicle.

CHAdeMO DC charging

Converting AC power into DC Power, CHAdeMO chargers are considered rapid chargers, capable of charging EVs up to the speed of 400kW at certain public charge points. They need a handy adaptor to be compatible with type 1 and type 2 EV chargers.

CCS (Combined Charging System) DC charging: Providing the best of both worlds (AC and DC charging), the CCS charger plug is combined with either a type 1 or type 2 charger and can charge an EV up to a speed of 350kW.

Charging Infrastructure: Payment Methods

Myth

There are far too many apps to download to charge your car

Charging Infrastructure: Payment Methods

Reality 1

Contactless payment is widely available across charge points, as an alternative payment option.

Reality 2

The UK government has mandated that contactless payment must be available on all chargers above 8kW to make sure drivers have plenty of payment options.

Reality 3

But apps have distinct advantages. The likes of Zap-Map, and our very own Connected Kerb app, for example, mean drivers can easily find available chargers, and plan journeys.

Reality 4

Apps are also important for utilising smart charging – so drivers can charge up when it's cheapest, and cleanest to do so.


ELECTRIC VEHICLE
RECHARGING ONLY
Parking charges apply
Every day 8 am - 6 pm
Maximum stay 4 hours
ELECTRIC VEHICLE
RECHARGING ONLY
Parking charges apply
Every day 8 am - 6 pm
Maximum stay 4 hours

Charging Infrastructure: Charging point usage

Myth

It’s hard to measure successful utilisation of a charge point

Charging Infrastructure: Charging point usage

Reality 1

There isn't one set metric for utilisation, it's measured in a few different ways. Utilisation figures are particularly important for investors and lenders, however due to the nascent nature of the market, there is limited long-term data around charge point usage, and uncertainty about what 'good' looks like.

Utilisation of an individual charger can vary based on a number of factors, like cost of charging, reliability of the network, and behaviour. Once drivers see new charge points pop up in their local area, they may begin to change their charging habits.

Reality 2

Equally, we know that installing charge points can really give drivers confidence to make the switch to electric, so uptake in the local area may begin to grow, which will also impact utilisation.

The most popular measurements are time-based utilisation (how long a vehicle is plugged into a charger) and energy-based utilisation (the energy supplied by a charger, in relation to the potential maximum energy that could have been supplied in the same period).

Reality 3

Over the last couple of years, time-based utilisation for slow and fast charging has ranged anywhere from 9-15.7%, whilst rapid and ultra-rapid ranged from 4%-16%.

In terms of energy-based utilisation over the same period, slow charging had a range of between 9.9%-11.3%; fast charging between 5.3%-9.2%; rapid charging between 2.9%-10.6%; and ultra rapid charging between 3.3%-4.4%.

Reality 4

This utilisation was measured between Q4 2020-Q4 2022 and saw steady increases in utilisation across both metrics.

Charging Infrastructure: Installation & demand

Myth

You will have to dig up all of the country to lay more cables

Charging Infrastructure: Installation & demand

Reality 1

Ofgem ensures that electricity network companies are funded approximately to be able to meet the additional demand from EVs.

Reality 2

This incentivises them to plan and deliver upgrading works as efficiently as possible. This includes minimising unnecessary disruption and expense, for example by laying larger cables to avoid reopening roads twice.

Reality 3

But we get it – construction is loud and can be really disruptive. That's why Connected Kerb's underground and overground ecosystem means the ground is only dug up once, after which we can add new charge points when demand calls for it, without causing anymore disruption.

Charging Infrastructure: Installation & demand

Myth

The grid will not be able to cope if everyone switches to EVs

Charging Infrastructure: Installation & demand

Reality 1

The EV transition is a managed transition, it's happening gradually. In fact, EVs can help balance the system, and help drivers use green energy when it's at its highest.

Reality 2

Even if everyone switched to an EV overnight, it's estimated that demand would only increase by 10% – well within the range of what the grid can handle. There is enough power in the system but there has to be enough at the right times which is why smart charging in long dwell locations is so important.

Reality 3

Smart charging is an important part of the transition, allowing EV charging to take place when demand for electricity is lower, such as at night or when there's a lot of renewable energy on the grid. This reduces electricity system costs, and ultimately lowers prices for everyone. At Connected Kerb, we've proven this is possible across the public charging network.

Accessibility

Myth

There aren’t enough charging bays for those with accessibility needs

Accessibility

Reality 1

New guidance has been introduced by the British Standards Institute, called PAS 1899:2022, aimed at providing an inclusive experience for those with accessibility needs.

This covers the physical aspects around charge points, things like kerb height, ground type, location, placement and spacing of charge points – all of which are exceptionally important to ensure the EV transition is for everyone, not the few.

Reality 2

Accessibility has been a tough nut to crack for the entire EV industry. Widening bays, for example, presents some tricky challenges and extra costs. It means fewer spaces within an area of a given size, which in turn reduces the site owner's parking income. The process itself isn't cheap.

Reality 3

But nothing worth having comes easy. That's why Connected Kerb is taking crucial steps to really ramp up accessibility across its network, including helping local authorities to meet the PAS accessibility standard.

Reality 4

We know there's far more work to be done at Connected Kerb but also across the entire industry to ensure the UK's charging network is completely accessible. Connected Kerb is working to really champion the change we want to see and will continue to advocate for a more accessible charging network across the country.


MENZIES
BRIGHTER THINKING
Pwynt ailwefru cerbyd trydan yn unig
Electric vehicle recharging point only

EV Batteries

Myth

EVs do not have the battery range to travel as far as people need

EV Batteries

Reality 1

For the vast majority of drivers, a full EV battery will more than cover their journey.

Reality 2

99% of car journeys in England are under 100 miles, and the average commute is anywhere between 10-20 miles. So, an EV will easily meet the vast majority of drivers' needs.

Reality 3

For those travelling further, there are plenty of models available with 200+ mile range. In fact, there are some that go beyond 300 miles per charge – enough to get from Exeter to Leeds.

Reality 4

For most, travelling 200+ miles without stopping for a break isn't an everyday occurrence – the biggest limiting factor is more often the driver's bladder. However, when you do embark on longer non-stop journeys, the UK's motorway network is set up to cater to these distances, providing a one-stop-shop to get drivers charged up and back on the move, fast.

Battery prices are also continuing to fall, so we expect to see more EVs available with greater range.

Myth

The battery will need replacing after 5 years

EV Batteries

Reality 1

With well beyond 10 million EVs on the world's roads already, there's zero evidence to suggest lifespans are any different from a petrol or diesel car.

Reality 2

Most EV batteries have warranties of around 8 years (or 100,000 miles), but are expected to last much longer, and their lifespan continues to improve. Driving long distances in an EV is not uncommon, just ask one of the 6,000 London cabbies driving an EV.

Reality 3

But there's also plenty of work underway to improve things even more. The UK government, for example, has committed £330 million to the Faraday Battery Challenge. This programme supports the R&D needed to scale up world-leading battery technology in the UK, including pioneering work to improve battery lifespan.

Reality 4

Drivers will also find that electric vehicles need servicing less frequently than petrol or diesel counterparts. Not to mention, electric cars are around 30% cheaper to service and maintain compared to ICE vehicles.

Myth

Batteries cannot be recycled and will all end up in landfill

EV Batteries

Reality 1

Existing regulations ban the disposal of EV batteries to landfill and incineration.

Reality 2

Car manufacturers are obligated to take back EV batteries – free of charge – to ensure they are treated at permitted facilities that meet the required recycling efficiency standards. There are also an increasing number of recycling businesses being set up to while batteries can have a second life through powerwalls.

Reality 3

As EV adoption skyrockets, so does the number of EV batteries. The UK government is always reviewing these regulations to strengthen them. For example, the government's £330 Faraday Battery Challenge has an aim of increasing the recyclability of an EV battery to 95%, all while increasing the amount of materials (like lithium and cobalt) that can be extracted and reused.

Reality 4

Ultimately, we want to maximise the economic and environmental opportunities of the EV transition, and through continued innovation we'll see a circular economy future for EV batteries.

Myth

Materials used in batteries come from questionable sources

EV Batteries

Reality 1

Transparency and sustainability of materials goes well beyond electric vehicles, it's a concern across many manufactured goods including smartphones and laptops. But that certainly doesn't mean we should ignore it.

Reality 2

EV manufacturers are already committed to the responsible sourcing and reduction of 'rare earth' raw materials in their supply chains. They are also focusing on both transparency and security in their supply chain (for good business reasons) and on minimising the use of elements like cobalt and 'rare earths' in their designs.

Reality 3

The UK government is funding schemes to trial the recycling of key raw materials in batteries, and to localise more of the EV battery supply chain, all of which will help build the transparency and sustainability that's urgently needed.

Reality 4

And, as electric vehicle adoption continues to accelerate, there will be more materials to repurpose, reducing the need for mining new materials.

Myth

There is not enough lithium to manufacture the batteries needed

EV Batteries

Reality 1

There’s plenty of global resources for EV batteries to meet our global demand, until at least 2050. Mining will need to scale up in line with the increasing demand for EVs.

Reality 2

Recycling facilities and techniques are also improving to ensure a circular economy, and innovations in battery technology and chemistries are further driving down pressure on resources.

Reality 3

Alongside innovations in recycling, there have also been huge advancements in battery technologies. Sodium-ion battery technology could become a particularly promising solution for the EV industry, providing batteries that are entirely free from critical raw materials.

Electric Vehicle Sustainability

Myth

Building an EV generates more greenhouse gas emissions than it saves

EV Sustainability

Reality 1

This is a common myth, already debunked by numerous well-respected studies.

Reality 2

A brand new electric car has a third of the lifetime greenhouse gas emissions to an equivalent petrol car, and that's even taking into account battery production and disposal. Not to mention, the greener our electricity generation, the cleaner an EV will get.

Myth

EVs are not ‘greener’ because of emissions from electricity generation

EV Sustainability

Reality 1

Since 1990, the UK has reduced greenhouse gas emissions in our electricity system by over 70%. Taken together, renewables' share of electricity generation was at over 42% in 2023.

Reality 2

Whilst the UK continues to ramp up its share of renewable production, electric cars are far greener than ICE counterparts, for more than one reason. For a start, they are far more energy efficient than ICE counterparts, and do not have any tailpipe emissions meaning our city air is greener/cleaner

Health & Safety

Myth

EVs aren’t safe, they’ll set on fire

Health & Safety

Reality 1

To put it simply, electric cars are far less likely to catch fire than petrol or diesel cars. In fact, they are built to the same safety standards as petrol and diesel counterparts.

Reality 2

Fires are rare for all cars, EVs included, and an electric car is just as safe as a petrol and diesel car.

Myth

EVs are far too quiet, they are dangerous for those with visual impairments

Health & Safety

Reality 1

It’s true – electric vehicles produce far less noise than a petrol or diesel vehicle, but the safety risk this poses has been directly addressed.

Reality 2

As of 2019, all manufacturers are required to install sound generators, designed to produce a specified level of noise for when EVs are reversing or running below 20 km/h.

Reality 3

It’s now a regulatory requirement in the European Union and United Kingdom for all new electric and hybrid vehicles to have what’s called an Acoustic Vehicle Alerting System (AVAS) fitted in the vehicle. The noise produced by AVAS generates similar sounds to that of a petrol or diesel car to alert pedestrians and cyclists.

Myth

EVs cannot tow or be towed

Health & Safety

Reality 1

Like all other cars, electric vehicles need to be ‘type approved’ to tow a caravan or trailer. The number of EVs coming to market with this capability are quickly increasing.

Reality 2

A caravan or trailer towed by an EV can also display a green number plate. When an EV is being towed by another vehicle at higher speeds and longer distances, many manufacturers require that they must be towed with the wheels off the ground. This is also the case for any automatic petrol and diesel vehicles, so this is not a new challenge for vehicle recovery companies.

Reality 3

If an EV breaks down and is in immediate danger (for example, when in a live traffic lane), it can be towed slowly for a short distance to a safe location to await further assistance, just like any other vehicle.

Myth

Trailing leads are a safety trip hazard, and no one is liable

Health & Safety

Reality 1

Charge point operators and local authorities have a responsibility to ensure units are visible to pedestrians at all times, and the users are also partly responsible.

Reality 2

Trailing leads across our pavements is certainly a new thing to watch out for, but there are plenty of precautions in place to keep both drivers and pedestrians safe. Both councils and charge point operators like Connected Kerb have a responsibility to make sure the units are visible to pedestrians, through the likes of painted bays, signage, and reflective lighting.

Reality 3

The Highway Code (rule 239) has also been updated, which places responsibility on the user of the vehicle to avoid danger to others. The user must ensure they are parked close to the charge point, to avoid creating a tripping hazard for pedestrians, and are encouraged to display a warning sign where possible. When charging has finished, drivers are responsible for ensuring that both cables and connectors are neatly put away to minimise danger to pedestrians, and avoid creating any obstacles on the road for other drivers.

Myth

Charge points attract vandalism

Health & Safety

Reality 1

Much like everything on our streets, charge points are at risk of being vandalised, but there are steps taken to avoid this and ways to ensure they are replaced.

Reality 2

No one wants the lamppost on their street to be vandalised, nor do they want the EV charger to be – but sadly, it's hard to avoid. However, by contacting our Customer Service team, we can easily have vandalised charge points replaced. Luckily, it's a pretty easy process for our Connected Kerb charge points.

Reality 3

Due to the modular design of Connected Kerb chargers, we can simply replace the part of the charge point that's been damaged, rather than the whole thing. Another advantage is that Connected Kerb's charge points don't have screens, which typically attract more vandalism.

EV Alternatives

Myth

EVs can’t be great, there’s so much negativity in the press

EV Alternatives

Reality 1

“Electric vehicles don’t work” is brilliant clickbait.

Reality 2

As with any big change, there are sceptics, critics and the odd horror story. But a lot of what we are seeing as ‘anti-EV’ attitudes is merely a response to change and its ability to entice readers to click on a headline.

Reality 3

It does, however, call for myth busting – clear, accurate and accessible information that addresses these concerns head on.

Myth

You could easily just switch all petrol and diesel cars to burn hydrogen without going to all this trouble

EV Alternatives

Reality 1

Currently, combustion hydrogen in a conventional engine still produces nitrogen oxide (NOx), and some CO2 exhaust, so for now, it is not zero emissions. It's also not as efficient as you lose energy producing it as well as in the car to generate motion.

Reality 2

Hydrogen is expected to be the most effective for heavier transport applications – like heavy goods vehicles, and the aviation and marine sectors.

Reality 3

But much like EVs, hydrogen is only as green as the energy creating it and only 2% of hydrogen is currently green.

DISCLAIMER: This information has been provided by Connected Kerb and informed through various sources hyperlinked throughout this document. Additionally, this document includes questions and responses from the Office for Zero Emission Vehicles (OZEV) own guidance.

Proposal

Octopus EV

X Connected Kerb

Octopus EV x Connected Kerb: A shared mission

Goal 1

To make more drivers switch to EV

Goal 2

Make EV more affordable

Goal 3

To be a one-stop Shop for EV drivers

Goal 4

To educate communities

Goal 5

To put our planet first

The idea

Myth

Batteries cannot be recycled and will all end up in landfill

EV Batteries

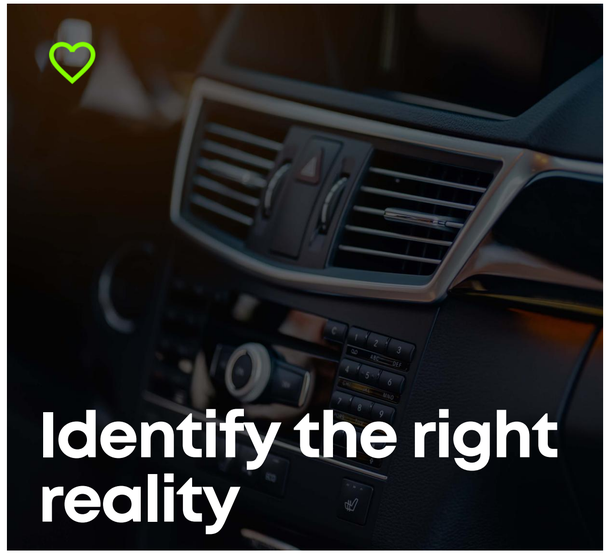
TRUE

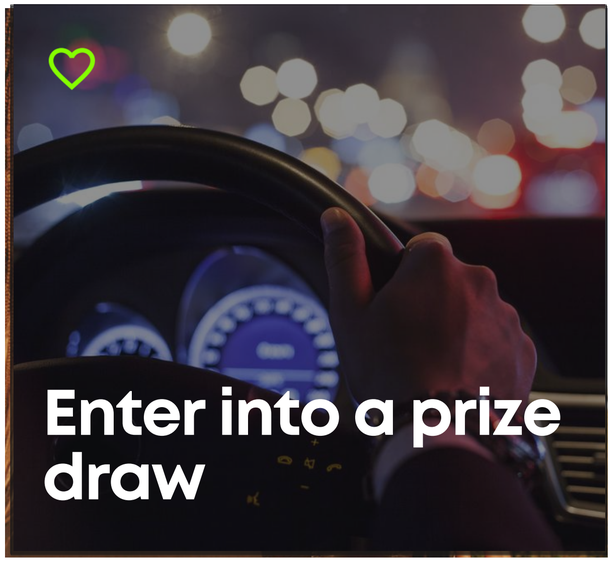
Existing regulations ban the disposal of EV batteries to landfill and incineration.

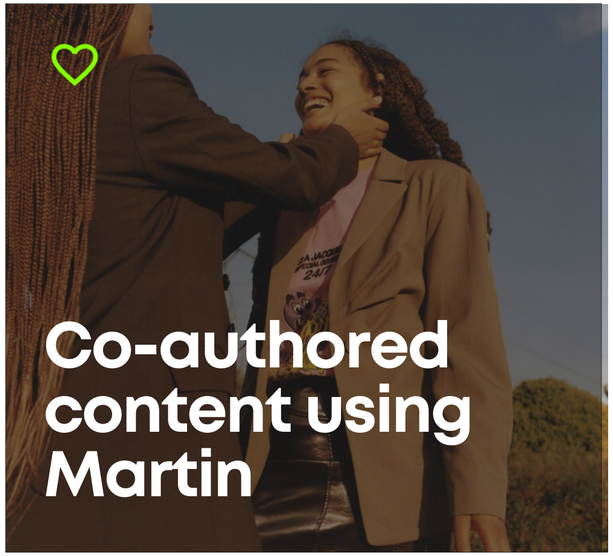
FALSE

Car manufacturers are not obligated to take back EV batteries.

The idea







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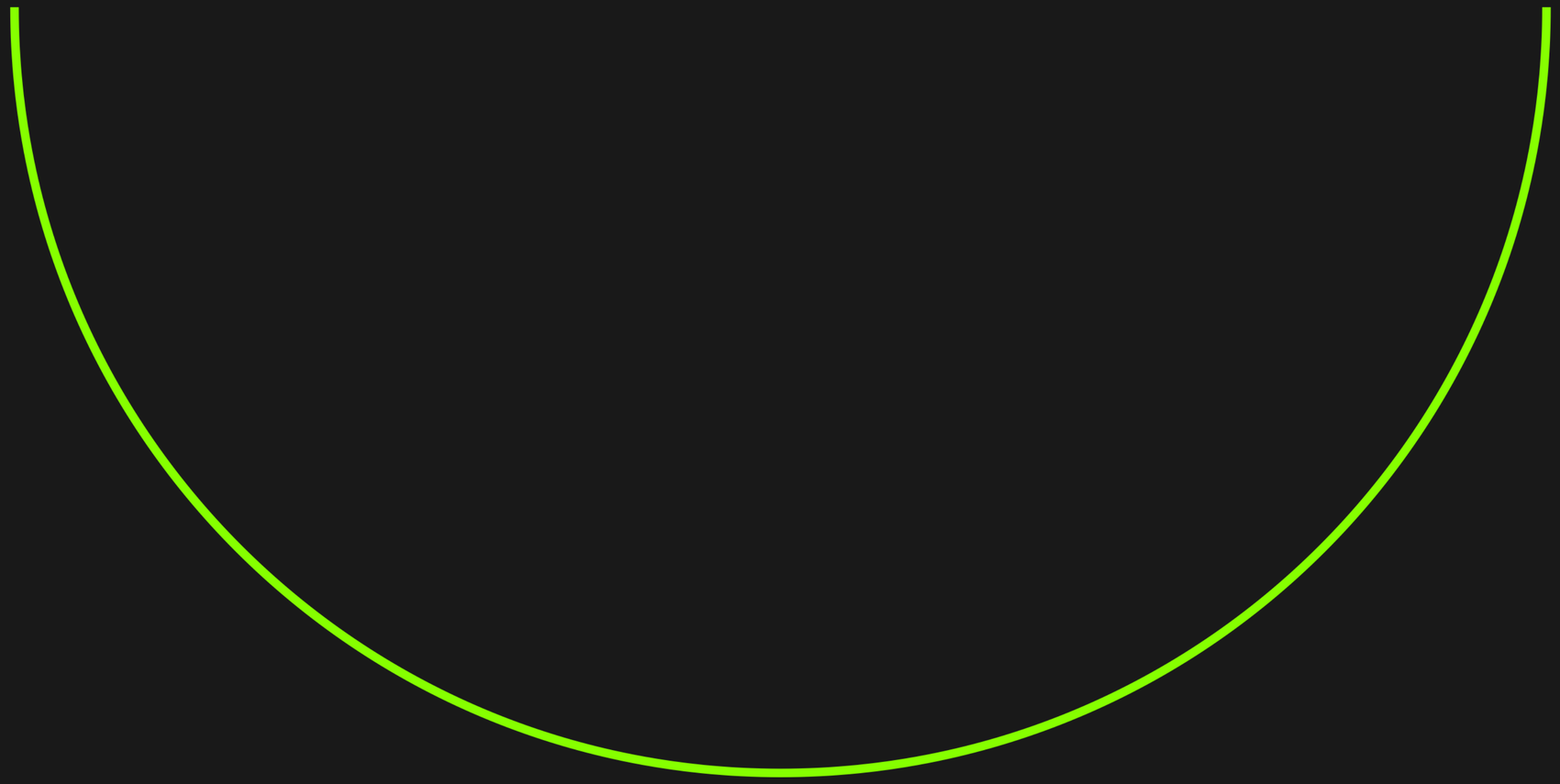

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