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UNEVEN ROAD AHEAD

MAKING ROAD TAX FAIR AGAIN



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00 Executive summary

The way we pay for roads is about to change. For more than a century, taxes on fuel and vehicles have been a critical part of fiscal structures around the world. A global shift to clean energy and electric traction means that these will disappear.

This unbalances the politics of the road. Motoring taxes are critical to household budgets, and change often prompts strong pushback. At the same time, the gap between the treatment of electric and conventional vehicles is growing, to the extent that the Chair of the National Infrastructure Commission has described change as "inevitable". The chances of electric vehicles becoming a political battleground are growing.

Much has been written about the design and shape of a new system of motoring taxation. This report asks a different question. Historically, the challenges of implementing road pricing or its equivalents have not been around designing a system, but around securing political and public support. The key question is whether or not the political circumstances will actually allow a new tax to make up for lost revenue, and whether change now can protect the path to decarbonising transport. For a government at the start of a five year term, with a secure majority, a decision on whether or not to act on this is best taken now.

The five sections of this report highlight the political developments that are changing the political landscape for the introduction of a new form of motoring taxation.

The public do not think that it is fair for electric vehicles to pay no tax. Polling data shows that there is a consensus that electric vehicles need to pay at least some tax equivalent to fuel duty. This is true across the political spectrum, though the idea that electric vehicles should pay equal tax to other vehicles is strongest on the populist right. There is an unprecedented mandate for reform, and a need to resolve this risk to protect the pathway to decarbonisation.

The fall in tax revenue creates a need for reform – nationally and locally. The loss of fuel duty is equal to the entire cost of running the UK's primary schools. Change also comes at a time when local government is desperate for revenue, and can potentially be brought into a new motoring tax system to improve its legitimacy. Reform has the potential to provide billions for public services and raise tens or hundreds of millions for councils.

For a very short time, there is an 'electric window' to make changes without losers. There are few electric vehicles on the road today, compared to the future. This makes a tax purely on electric vehicles much less contentious than a reform covering the entire fleet, but just as effective in the medium-term. A new tax can apply solely to new electric vehicles – 'grandfathering' existing vehicles on existing taxes – so that no one is brought into the system against their will.

There is a generational shift in attitudes towards privacy and other key issues. In the 2000s, privacy was a top concern about a national system of road pricing. Since then, the arrival of smartphones and ubiquitous connectivity has changed what privacy means, and this is reflected in the attitudes of younger people. The same break can be found in attitudes to motoring tax more generally, and also to where tax revenues are best spent.

Experience from other tax reforms show that smart tax design can drive faster sales of electric vehicles. The 2015/17 reforms to vehicle excise duty used grandfathering to set records for new car sales that have never been broken.

Taken together, these findings suggest that there is a viable path to a new form of motoring tax – even including road pricing – if it follows four design principles:

1. Fix the fact that electric vehicles pay no tax per mile, and re-establish parity of treatment.
2. Apply only to new vehicles, so no existing motorist is made to join the system against their will.
3. Implement rapidly, while the numbers of existing electric vehicles are small and the costs of exempting them is low
4. Let local authorities handle the local details – and give them a share of the revenues that result.

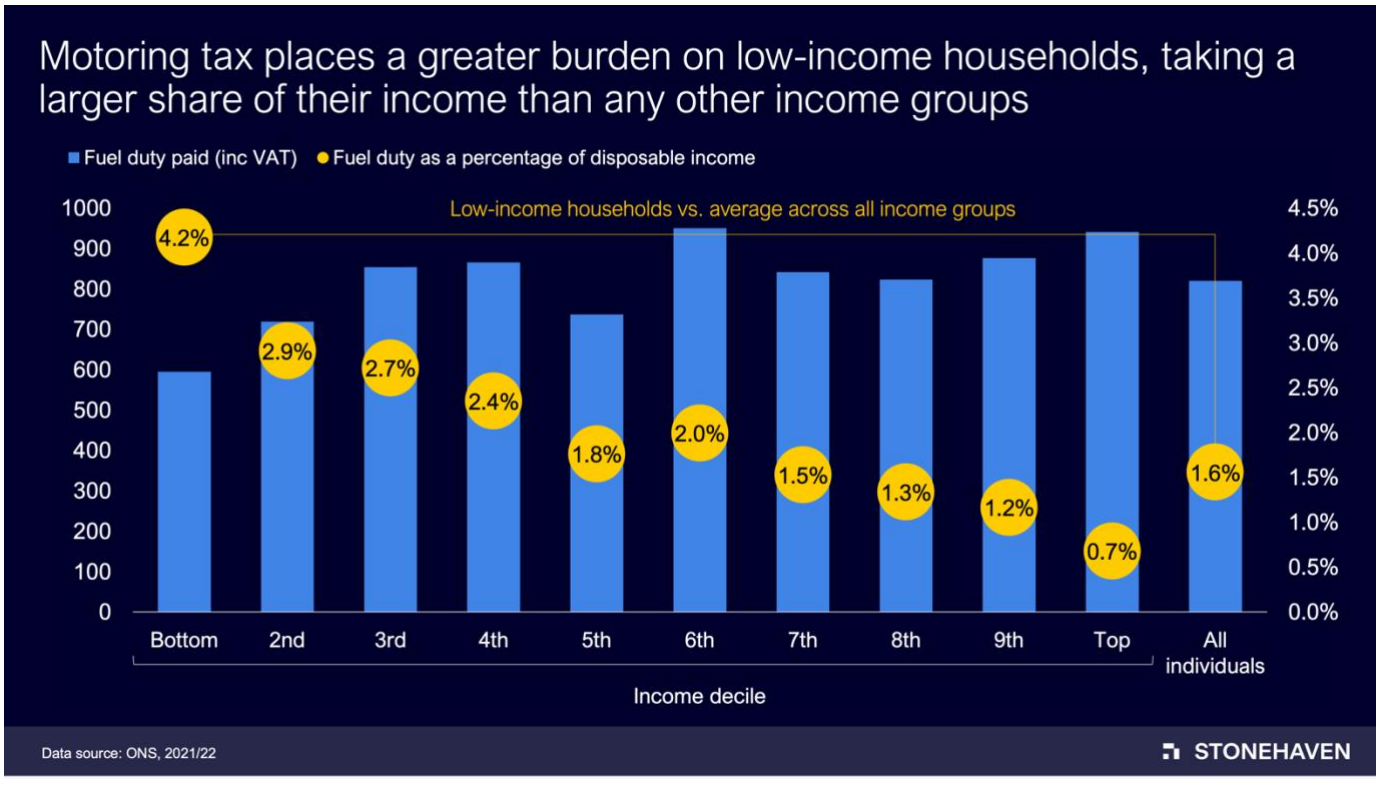
01 Motoring tax is becoming less fair

Motoring taxes began as a tax on luxury. In the early 1900s, when the system was established, driving was the successor to the horse and carriage. Ever since there has been an assumption that motoring taxes are paid mostly by the rich.

This is not true: for decades, these taxes have fallen heaviest on poorer families. Mass motoring began in the 1960s, and today driving is an activity that unites richest and poorest. The rich drive more, and pay the most tax in absolute terms; but the poorest families are the ones who pay the most as a share of income, and who feel the effects most when motoring taxes rise.

The distributional effects of motoring tax

A typical working household in the UK pays £820/year in fuel duties (including VAT). A working household in the bottom 10% of the income distribution currently pays £595/year in fuel duty and associated VAT, worth 4.2% of their disposable income.

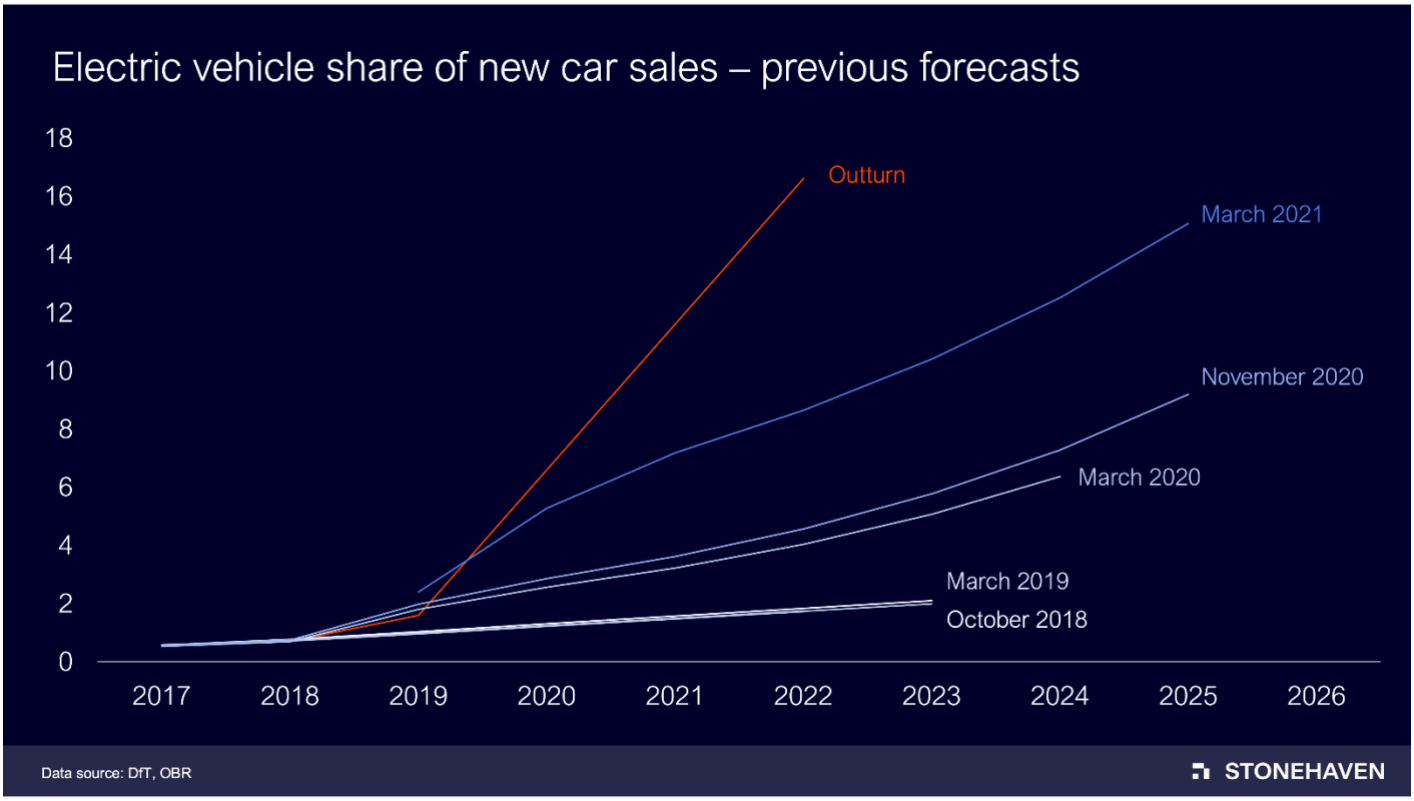


This is even more remarkable given that only 40% of households in this decile have access to a car. Data on households with cars in the bottom decile suggests that fuel duty accounts for more than 10% of their disposable income (and motoring costs nearer to 20%). Such households pay more in fuel duty than income tax.

This imbalance is about to get worse. The structure of the tax system means that the drivers of electric vehicles pay no fuel taxes, and only begin paying vehicle excise duty in 2025. Historically, the driver of a large SUV or a high-powered sports car would pay more for fuel and pay more in tax. Now, however, that new, luxury vehicle is increasingly likely to be electric; and

as a result escapes most of the taxes that other vehicles pay. The third-hand family runaround will remain within today's tax system, paying for yesterday's level of performance until it is finally taken off the road. The imbalance between old cars and new cars, and between rich and poor, is set to grow.

The pace of electrification is high, and governments around the world are determined to keep it high. In Norway, it is under 100 days until new petrol and diesel cars and vans can no longer be sold. In the UK, it is less than 2000 days until the same will be true. There seems little appetite for slowing or reversing this trend. The speed of uptake has taken the OBR by surprise – so much so that between October 2018 and March 2021 they had to raise their electric vehicle uptake forecasts five times, and still fell short of the reality.



What manifests at a national level as a general fall in motoring taxation does not apply equally to the amount of tax that individual motorists pay. A 2015 VW Polo will be no more fuel efficient in 2030 than it is today, and will pay no less in tax. The mechanic underpinning the overall fall in taxation is that some drivers simply stop paying fuel duty altogether. This privilege is only available to those that change their car, and change it to a model that is usually more expensive than the conventionally-fuelled alternatives.

That challenge is made worse by the circumstances of the switchover. Drivers are incentivised to go electric by salary sacrifice schemes, which inadvertently mean someone earning £125,000 a year can get a 62% reduction in the purchase cost, while those below the income tax threshold get nothing. Electric vehicles cost less to run than their petrol counterparts – but it costs twice as much to charge a car on a public charger as a driveway. [1] This is good news for the 81% of owner occupiers who can park off street, but not to the 69% of social renters who cannot.

With a relatively small proportion of the vehicle fleet electrified as yet, this is not a gap that people are talking about. But fuel duty is already one of the most regressive taxes in the UK, and public reactions to 'unfair' fuel taxes have been fierce – as with the 2000 fuel protests in the UK and the Gilets Jaune in France in 2018. There is real potential for a similar moment to come in the near future. By 2025, every new Jaguar sold will be electric and drive tax-free; by 2030, every new Rolls Royce

[1] *Getting the Green Light*, Corlett A et al, 2023

[will be the same]; but the cars many families will depend on are the ones already with us and firmly within the existing tax regime.

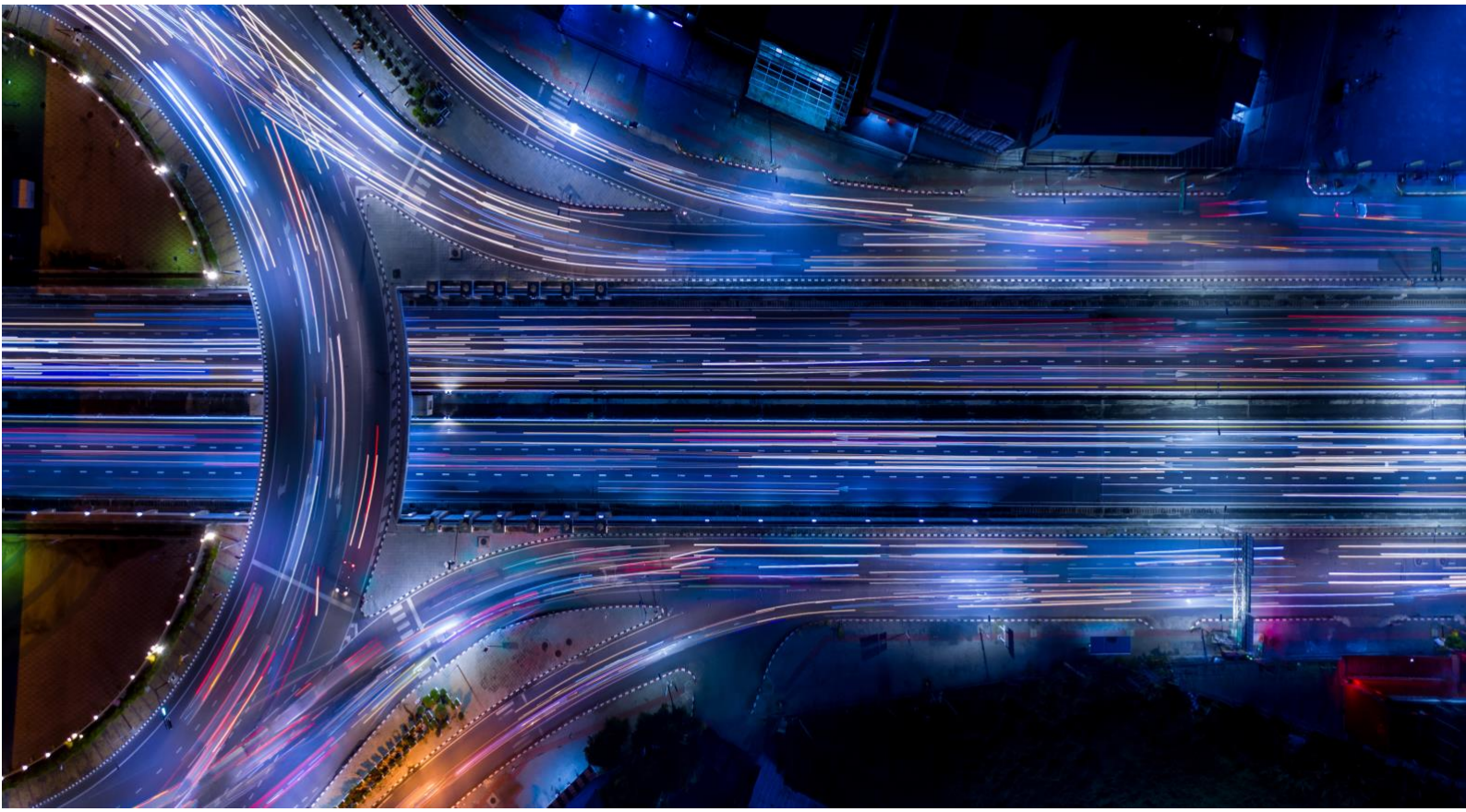
This situation is unstable. Stonehaven asked 2,200 UK adults whether they thought electric vehicles should pay no, some or equal tax to conventional vehicles. The results show a widespread view that electric vehicles should pay at least some tax; and many people think it is right that they should pay broadly the same amount as other vehicles. This is especially true of those aged over 45; and amongst those over 65 nearly two thirds of those surveyed thought the current situation was wrong.

Net favourability of different tax positions for electric vehicles

	Overall	18 - 24	25 - 34	35 - 44	45 - 54	55 - 64	65+
Electric vehicles should pay no tax	-25	2	-8	-6	-23	-34	-48
Electric vehicles should pay less tax than conventional vehicles	8	27	27	26	4	1	-10
Electric vehicles should pay the same tax as conventional vehicles	13	4	10	11	8	14	23

Data source: Stonehaven Polling | October 2024

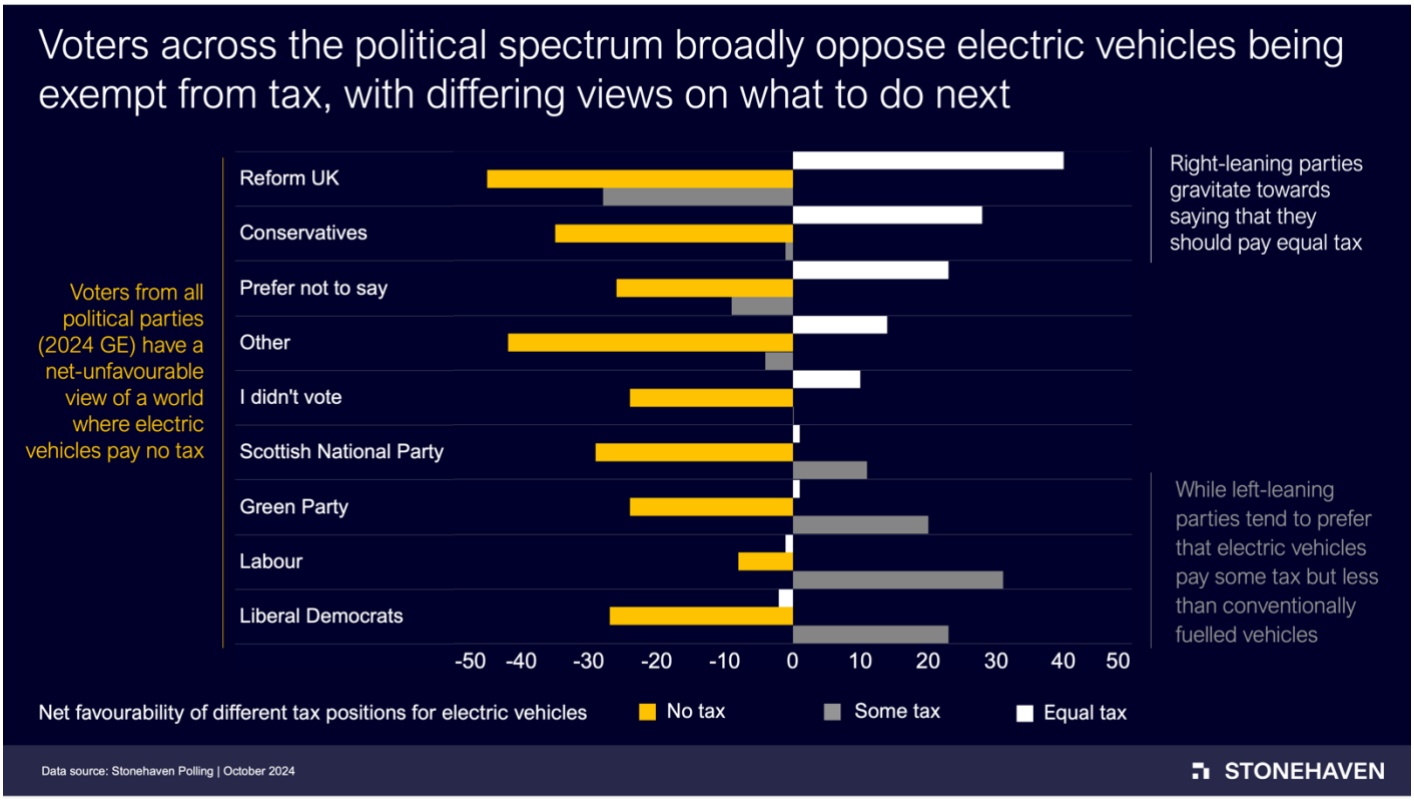
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Breaking this down by party shows that there is a significant difference across the political spectrum. Voters from all parties have a net-unfavourable view of a world where electric vehicles pay no tax. There is then a broader left-right divide on what to do next, with more left-leaning parties tending to prefer that electric vehicles pay some tax, but less than conventionally fuelled vehicles; while right-leaning parties gravitate towards saying that they should pay equal tax.

These are parties that are already arraying themselves in different positions for or against net zero. Electric vehicles should be an uncontroversial element of decarbonisation – vehicles that emit no tailpipe carbon whilst costing their owners less to drive per mile – and broadly welcome. Yet in practice, the accidental disparity in taxes makes this simple story complex and fraught with risk. At a technological level, there is no reason to resent electric vehicles; but when seen in terms of legacy taxes, there are grievances to stoke.

In this light, the left-right division of attitudes should be a source of real concern – a dividing line between the parties that can be used to complicate and slow the spread of a beneficial technology.



This situation will change over time. Most people will buy their first electric car through the second-hand market, and electric vehicles will become more and more available as the fleet generally becomes more electrified. But until then, this disparity will be a source of frustration. Focus groups with hard-pressed voters show they think that electric vehicles are 'not for them' at present, priced at a level which means that they do not have access. We also know, from Stonehaven's work on Hero Voters, that many of the groups that decided the last election are extremely sensitive to cost-of-living questions; and in this case see themselves on the wrong side of the petrol/electric divide.

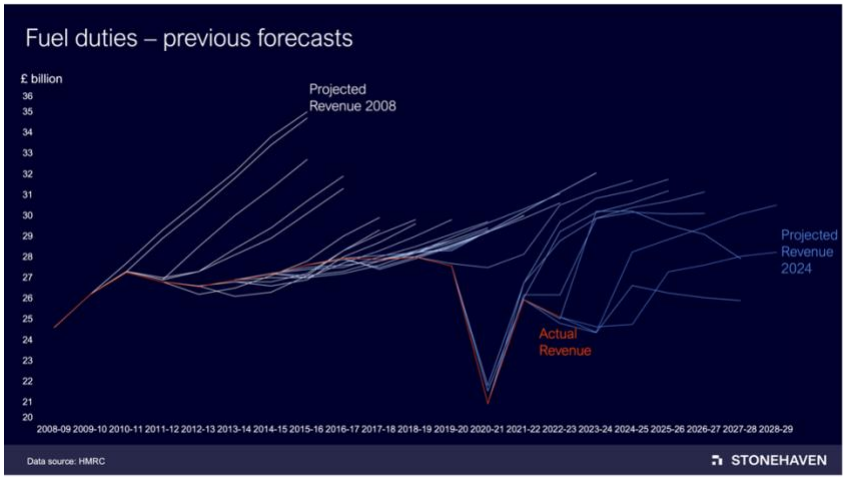
The debate over motoring taxes in the UK has been anchored in a sense of common interest – the owners of 41 million vehicles pay the same tax and react to change as one. For the decade ahead, this assumption will cease to be true. There will be a growing debate about how to bring electric vehicles within the system of motoring taxation, and the public does not back the status quo. This is a mandate for reform that has never existed before.

02 Government needs the money

Motoring taxes have been a mainstay of the Treasury for over a century. Currently, fuel duties raise £25.1bn for Treasury, with VAT on fuel and duty[2] raising more. As the OBR notes, these taxes have halved since 2000 as a proportion of GDP, and are certain to disappear as the shift to electric vehicles continues. To put this figure in a human context, this is roughly equal to the cost of running all the primary schools in the UK.

Over the past quarter century, fuel taxes around the world have become increasingly brittle. The initial reason for this was increased fuel efficiency. Efforts to reduce consumption and to limit carbon emissions have now been in place for decades, and become increasingly core to vehicle manufacturers' product development. This has resulted in less fuel being used, and less duty being paid.

Fuel duties do not uprate in line with inflation, meaning that political capital needs to be expended simply to maintain existing tax levels in real terms. Petrol and diesel are arguably the most visible prices in the economy, literally placed on illuminated signs up and down the country. It has been proven politically advantageous to defer an annual price rise; but over time this habit has turned into an expectation that fuel duties will not rise. As a result, the federal gas tax in the US has not changed since 1993, and the UK the rate of fuel duty is 5p lower (in absolute terms) than it was in 2010.



This change has been underway for decades. However, this erosion is now turning into the structural collapse of the fuel duty system. From 2030, no new conventionally fuelled vehicles will be sold in the UK. From 2035, hybrids will become unavailable. No date is yet set for the same to happen to conventionally-fuelled HGVs, but this can be expected to follow. As a result, all carbon- and fuel-driven tax-revenue from the roads will disappear.

Government is currently pursuing a £22bn black hole in existing finances; the choices around what to fund and not have set the wider political climate. It is already established that there are no easy options for cuts or countervailing revenue rises that can relieve government of the need to confront this problem. And, while a loss of revenue on this scale does not need to be met by a new charge on motorists, there is an intuitive logic to filling this hole with some form of charge on what is currently untaxed driving.

Local needs

The crisis in central government's revenues is well documented, and has been highlighted by the OBR since 2016. What is less recognised is that there is also a link to the emergency in local government finances.

Taxes on fuel are highly centralised, driven by the logistics of their collection. Fuel duty has been described as a 'perfect tax' in administrative terms: collected at oil refineries, from closely audited oil companies, who pay their duty in bulk based on their total level of production. Rather than monitoring millions of individual motorists, the taxman waits for the oil companies to send a cheque.

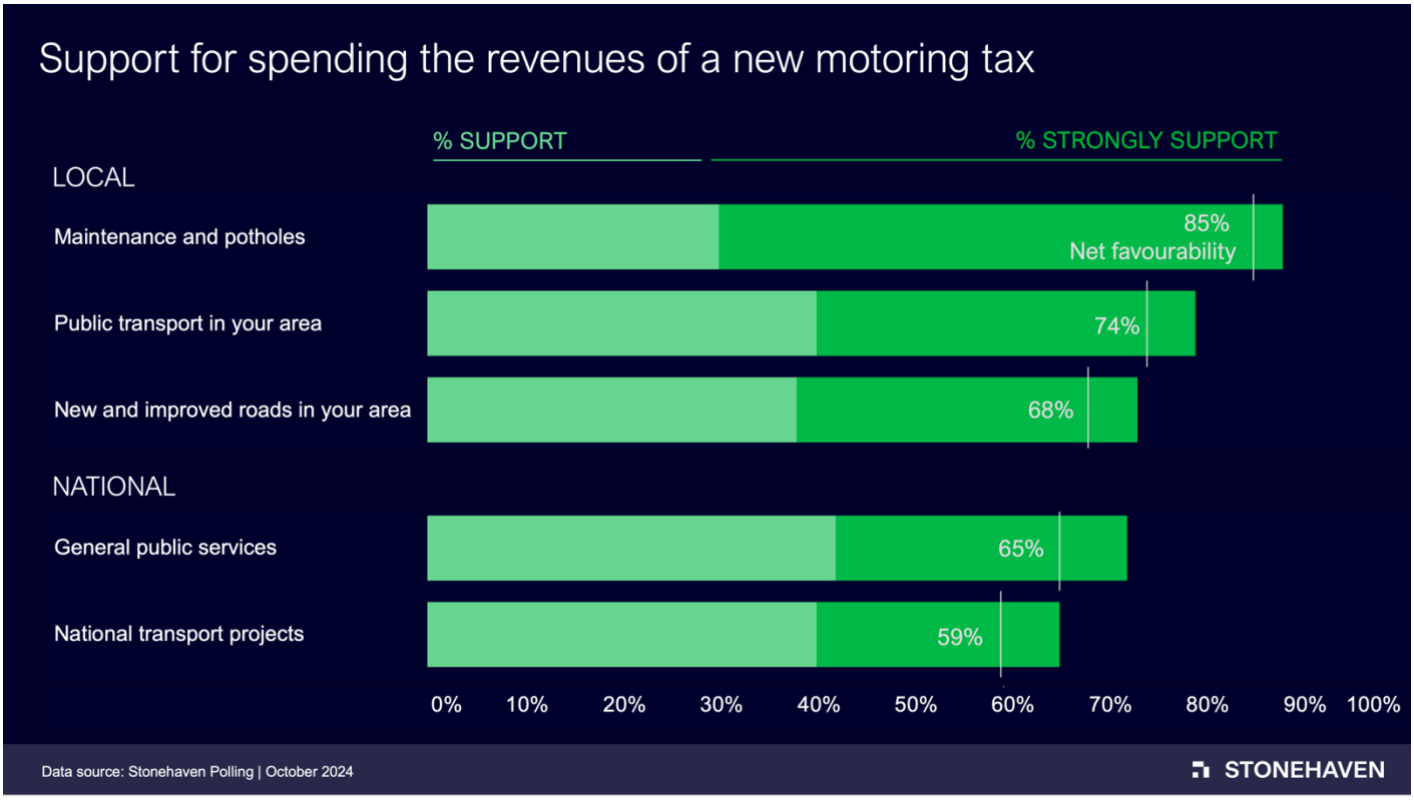
[2] Drivers are obliged to pay VAT both on the fuel they buy, and on the fuel duty upon that fuel.

The drawbacks of this arrangement only becomes visible in the long-term. By managing fuel taxes in this highly centralised way, the tax system also unites the interests of everyone who pays. As drivers are close to ubiquitous in western society, there is an enormous voting bloc for keeping this tax down. When taxes go up, there is nothing to show for it other than a general improvement in the national budget. This is why fuel duty rates across multiple jurisdictions have become locked in place – huge political costs from a nationwide rise because of the impacts on family budgets, with no real benefits.

This is a system with no scope for local variation, and no role for local partners. But, as discussed in section 3, the replacement systems for fuel duty will not operate in the same way. In particular, any structures that change the cost of charging by location – such as a system of road pricing – have a natural role for local partners.

There are several reasons for this:

- Any system based on geography will require local knowledge to be effective. There is no realistic way that the political centre can deliver a charging system that is tailored to local circumstances across the whole country. Local leadership ensures roads and areas are charged at the right levels.
- Motoring taxes are more legitimate when they are tied to local outcomes that people are able to relate to. The most effective examples of road charges around the world are ones where the outcomes can be seen locally. In Europe, all successful congestion charges were originally local initiatives, meaning funding was locked in for local purposes. In the UK, polling shows that local road maintenance, local public transport and local road improvements are substantially more popular uses of new revenues than national transport or general public services.
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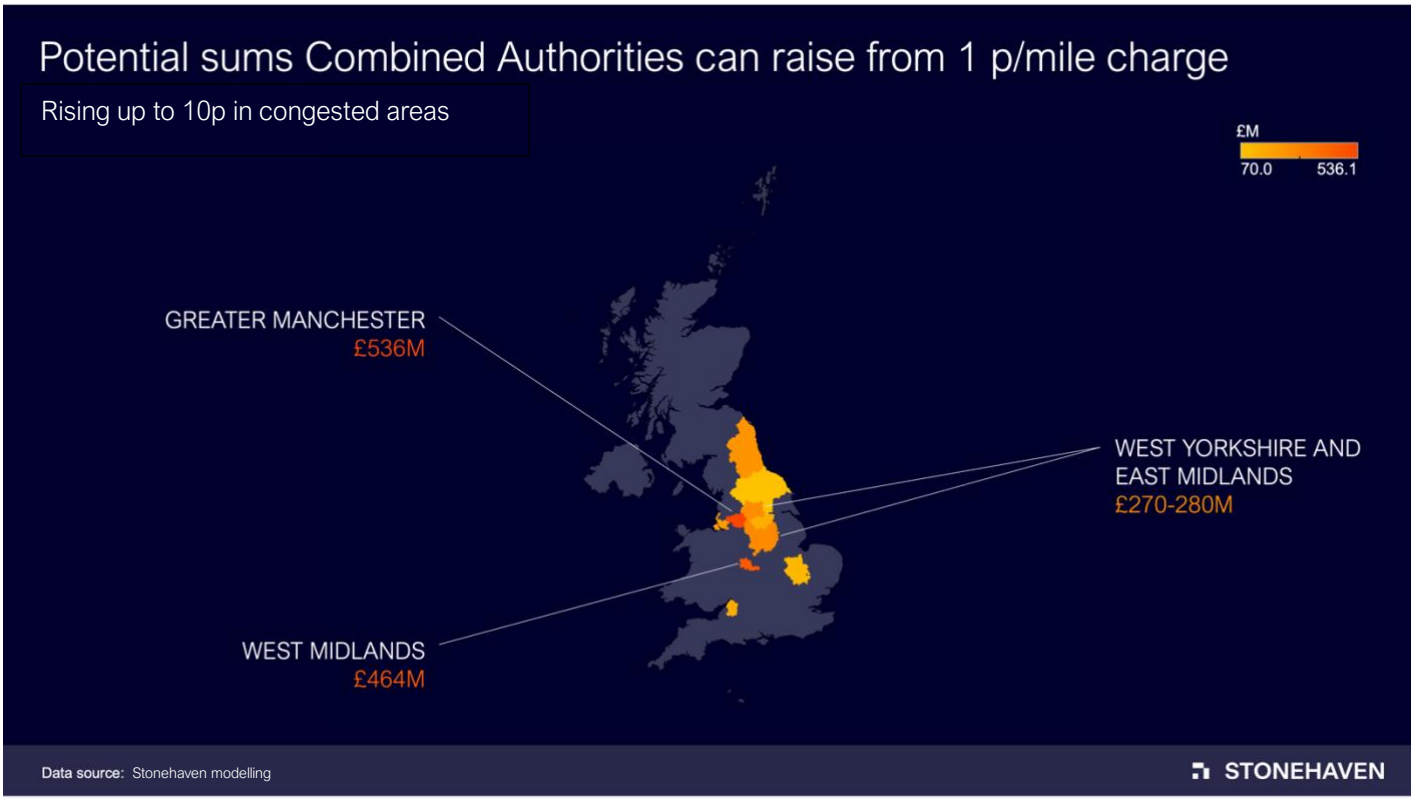
- Local government provides a stronger channel of accountability, and forces any tax system to balance revenue raising against economic impacts and wider public welfare. The ability to use price signals to control traffic and shift demand allows the balancing of environmental goals with mobility.
- In the biggest cities, it creates a particular opportunity to trade off road use against other modes of transport, for example by taking revenues and using them to cross-subsidise bus travel or new public transport assets. This can defray existing government costs.

All of this suggests a way that a new form of motoring taxation can avoid the 'trap' that fuel duty has fallen into. Local government can tailor the system and setting rates to match local circumstances. In return, they take a share in the revenue and have an incentive to keep the system effective, building in more flexibility and keeping the tax from seizing up.

Local authorities also have an urgent incentive to take such an opportunity. The growing burdens on council finances have led to increasingly difficult circumstances, with several local authorities filing a section 114 notice to declare their de facto bankruptcy. Any new revenue source can help to address this, but one under genuinely local control can also go further and actively support investments in improving local transport or delivering local services.

Quantifying any financial impact with precision is difficult, as much depends on the specific geography and pricing structure applied by the relevant authority. However, once a system of pricing covered the whole vehicle fleet:

- Individual authorities handle as much as 10bn vehicle miles a year. A simple 1p/mile charge would raise up to £93m for individual authorities.
- If charges were between 1 and 10p a mile, distributed by congestion, sizeable sums become available to county councils and large urban areas. Greater Manchester would raise around £500m/year, West Midlands £400m and EMCA and the West Yorkshire authorities £250m. The largest county councils might raise around £250m/year. Nottingham, which currently has a £60m turnaround plan for council finances, would raise £61m; Birmingham, with a £87m/year deficit, would raise £209m. A full map for English authorities can be found here.
- Levels of congestion charging around city centres that matched the social costs of congestion could potentially see large cities raising £1bn/year or more in local revenue.

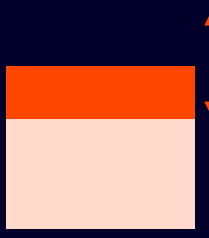


This does not need to be a free gift to local authorities. Central government transfers £1.2bn to local government to support local roads and local public transport. It also provides around £6bn in a typical year to the trunk road authorities who could also become self-funding. These costs can be taken out of central government and passed over to other parties. It would also be possible to pass a share of the cost of supporting capital investments in transport over to local authorities. This would mean that what began as a fall in motoring tax revenue could end up as a rebalancing of the state.

An example model

For the purposes of modelling revenue, this paper has used a road pricing model where

Central government sets a fixed charge per mile – an easy-to-administer charge similar to the flat rate of fuel duty per litre.



Local government sets a variable charge per mile, which can be different levels across the network. The specific rate would depend on the level of congestion on a particular road or environmental goals in a particular area.

Taken together, these trends create both a need and a structure for a reform to motoring taxation. Central government can address the collapse in a critical revenue sources; and local government can take a share in the proceeds in return for helping manage the system in a way that keeps it active and focused. This means there is a large constituency within central and local government that has an incentive to act.



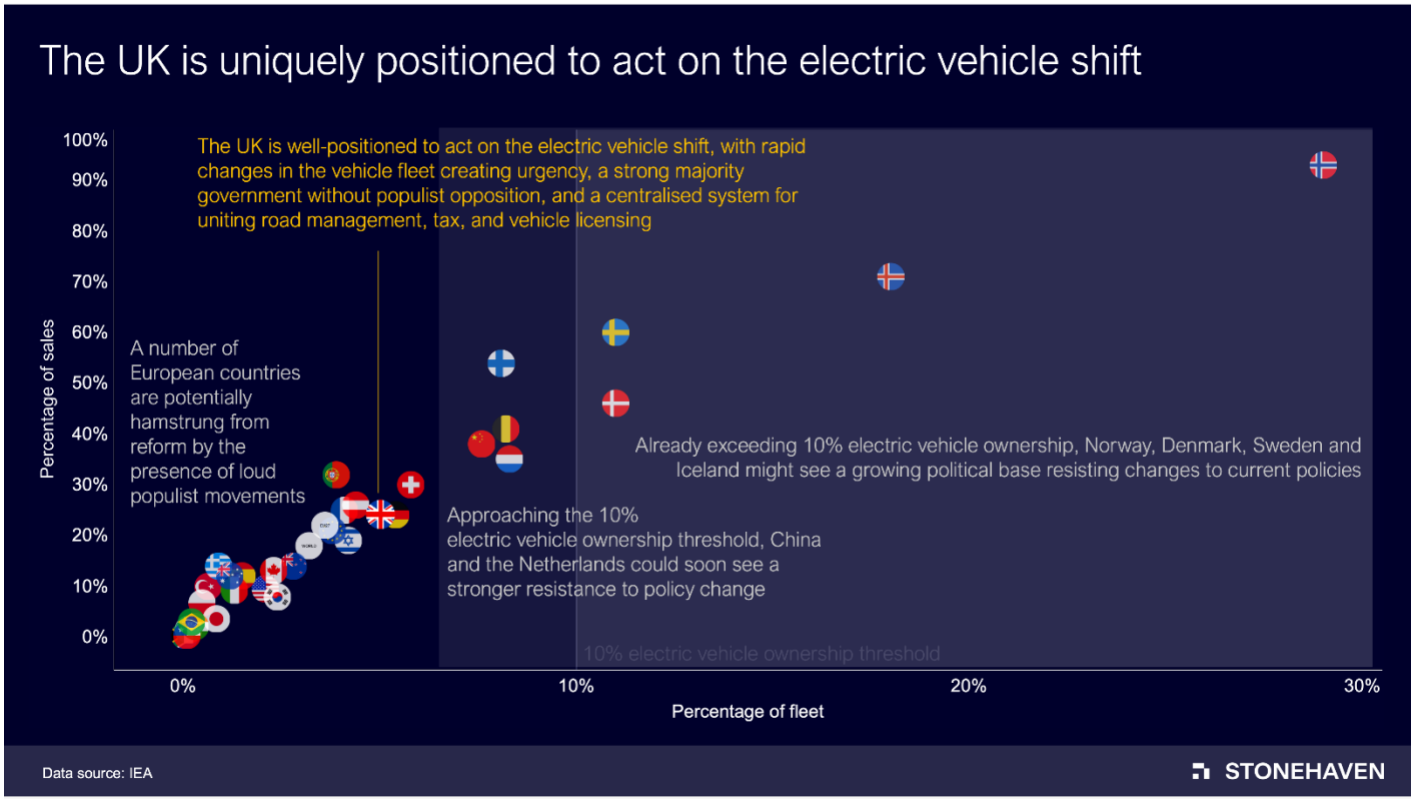
03 Victimless Reform

The rise of electric vehicles creates challenges in terms of equity and government revenue. Yet, at the moment, they still represent a small proportion of the UK vehicle fleet – one million vehicles out of over forty.

We expect this to change, and to change relatively fast. With all conventional car and van sales destined to end in 2030, the change in the vehicle fleet will soon be dictated by the turnover rate of the vehicle fleet. Even before then, the financial advantages of electric vehicle ownership are likely to remain sufficient to convince many people to change their vehicles out of rational self-interest.

This means that tax changes that affect electric vehicles today do not impact many people. However with high rates of sales, any tax changes will soon affect many more. This phenomenon – few people affected today but high impacts soon – creates unusually propitious circumstances for tax reform. This brief opportunity can be called **the electric window**.

This opportunity only comes once, and vanishes rapidly. If we imagine, somewhat arbitrarily, that 10% of the vehicle fleet represents a threshold over which reform becomes more complex, many nations, including the UK, will soon pass beyond that level. Any plausible reform cannot not come into effect for 1-2 years, so the opportunity to make use of this moment will not last beyond the general election.



Not creating losers

In the 2000s, government's attempts to introduce a national system of road pricing ran into unprecedented public opposition. In an age before ubiquitous social media, 1.7 million people signed the official online petition asking the government to reconsider its policy, with 150,000 signatures a day at its peak.

At heart, this pushback was driven by a high level of public mistrust. As outlined above, the costs of driving are a major factor in family budgets, and transport is a basic requirement for the daily choices of millions of people. Forced change threatened to disrupt lives across the country, and people responded fiercely.

Governments can avoid this risk, and would be likely to do so with any new motoring taxation. Since the 2000s, policymakers have found ways to implement motoring taxes more sensitively – working with the parts of the vehicle fleet most open to change. Indeed, in 2014 the UK even introduced a system of per-day road user charging for lorries, in the form of the HGV User Levy, and did so with the general support of the freight sector.

The most powerful tool that government for derisking these tax changes is through 'grandfathering' the existing vehicle fleet. Grandfathering in tax refers to the practice of not applying a new tax to existing taxpayers, only to those who incur it after a given (future) date. Here, this would mean existing vehicles continue under their current arrangements.

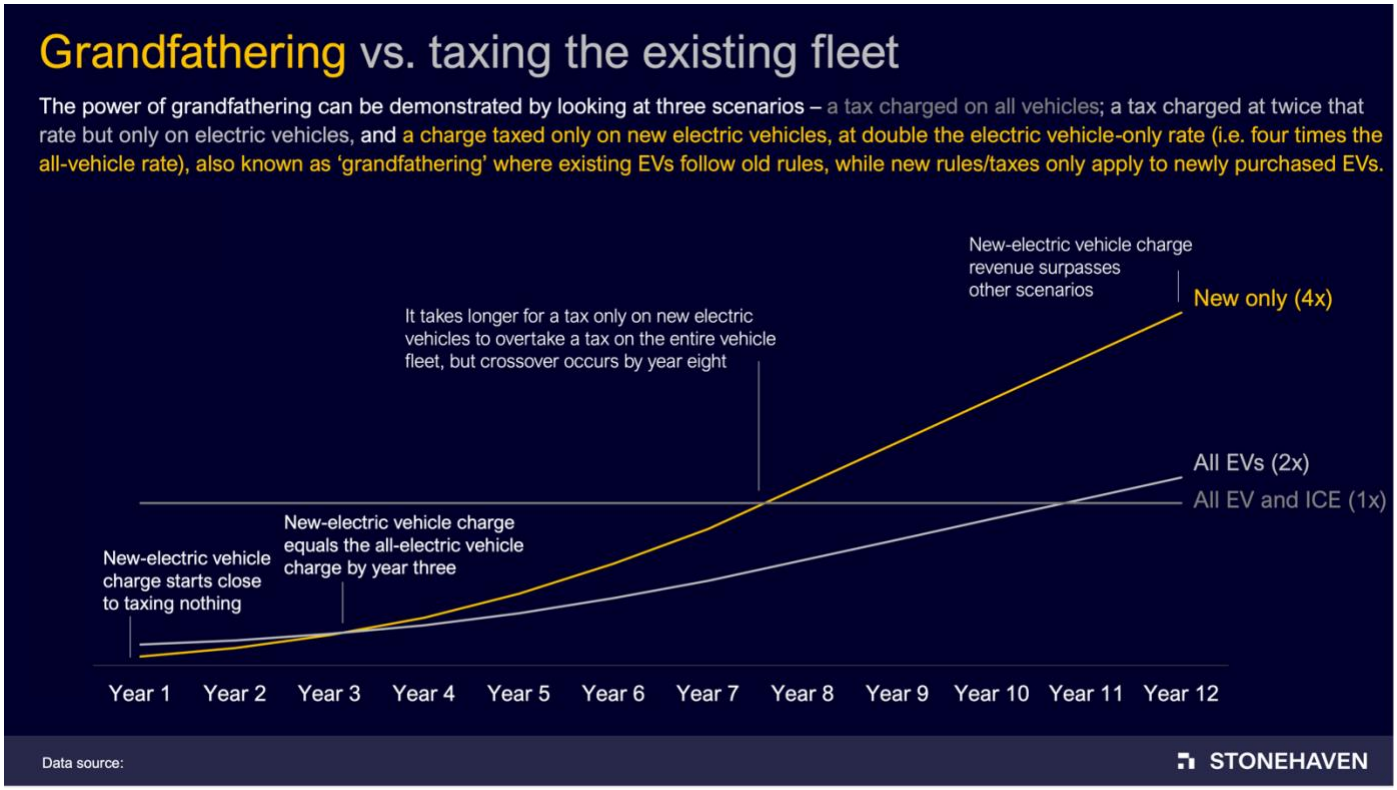
This is not a hypothetical concept. In 2015, Vehicle Excise Duty was substantially reformed, affecting all new cars and vans bought from 2017 onwards. This change raised the amount of tax paid by the greenest vehicles from zero to £140, increasing the revenue of the tax by around 200% from pre-reform projections. It passed without any public controversy, and even triggered the highest month of UK car sales on record as people bought low-carbon run-arounds under the old system. It has been proven that motorists are sanguine about new taxes once it is clear they apply only to other people's cars.

Technical developments also make it possible to apply motoring taxes to part of the vehicle fleet, allowing a system to work using in-vehicle connectivity and avoid expensive physical infrastructure. As such, any new tax can be designed so that it only applies to a vehicle that is 1) electric; 2) new; 3) purchased after a specified date that has yet to occur. This would mean:

- No current driver is affected by change. There is no 40+ million bloc of citizens worrying about the impact on their daily lives.
- The only people to pay a new charge would be those buying a new car, and doing so through choice. This is neither a large group, nor one inclined to revolution. If they are switching to an electric car for the first time, drivers will find any new expense offset by lower running costs, and anger defrayed by the pleasure of a new car.
- Drivers who invested in 'going green' early do not feel penalised for their past choices. Instead, the grandfathered status can significantly boost the second-hand value of their car, if it stays tax-free when it is sold.

Exempting vehicles from any new tax would reduce the revenue that that tax raises. But at present, this represents a small proportion of the total. Only a fortieth of the vehicles on UK roads are fully electric. If a future system aimed to mirror the current £25bn of fuel duty, this exemption would only forgo around £600m a year.

That reduction is offset against the difficulty of setting a rate low enough to be politically acceptable to existing drivers. If we assume bringing existing drivers into the system requires some compromise over the rate charged, that reduction quickly undermines the wider tax-raising power of any new measure. Whereas a measure purely aimed at new vehicles, set at a higher rate, rapidly overtakes a lower tax on part or all of the existing fleet.



Despite initially being a tax on nothing, the new-electric vehicle charge equals the all-electric vehicle charge by year three, and has raised more in total by year six. It takes longer for a tax only on new electric vehicles to overtake a tax on the entire vehicle fleet, but crossover occurs by year eight.

That relationship is even clearer if a grandfathered tax is assumed to be easier to introduce. A tax on newer vehicles, introduced a year earlier, will be even quicker to out-earn a lower, slower tax that covered a broader range of electric vehicles.

Helpfully, this is not a tax cut that must be directly funded: it is money that government is electing not to collect. Therefore, it does not cost the state anything extra to deliver. Instead, it only manifests in the balance sheet of government as lower net-increase in revenues.

For some nations, this opportunity has passed. But for many others, including the UK, the mid-2020s represent the last chance for painless reform.

Why road pricing? – in political terms

The existing system of fuel duty cannot be replicated in an electric world. Fuel duty is famous for being one of the most administratively efficient taxes possible, collected from a few refineries in tightly auditable circumstances. Electricity is available from every socket in the country. Short of a new general tax on electricity, there is no way to tax it at source.

Any new motoring tax that aims to broadly replace fuel duty will need to be at a variable rate. A typical working household in the UK pays £820/year in fuel duties. If this was combined with vehicle excise duty into a single annual payment, it would be a one-off cost of nearly £1000 a year. This is well above what any other country currently charges a typical car, and would not appear to be politically viable. This is doubly so when considering the effective tax-per-mile would vary more than 100x between different motorists, in favour of those that drive the most.

There is no requirement that a future tax would be a form of road pricing. However there has been an expert consensus dating back to at least 1964, supporting a variable charge for using a road that reflects congestion. Work by the Department for Transport in the 2000s quantified the potential benefits and found a revenue-neutral shift to pricing would mean up to a 48% drop in congestion with £10bn in public benefits. With the growing recognition of the crisis in motoring taxation, this consensus has been elegantly restated – by the Transport Select Committee, the Centre for Policy Studies, the Resolution Foundation, the Institute for Fiscal Studies, the Campaign for Better Transport, the Social Market Foundation and many able consultants, not to mention an equal range of international thinkers. The challenge has always been that delivery is thought to be politically impossible.

What is less well-recognised is that other new taxes have substantial drawbacks.

- Charging electricity use by electric vehicles is much more complex than physical fuel. The batteries in electric vehicles are woven into a smart grid, taking power in and out in light of wider network demand. They cannot be metered at the socket, as they can recharge as they go. They can generate power from their own braking, and in some cases even carry their own solar panels. Getting vehicles to report this would require a new, bespoke method of electricity metering, implemented across the entire car industry.
- Another method would be a simple per-mile charge. Per mile charging has the benefit of simplicity, which plays through well into revenue collection. However, taken alone, it is a much larger departure from the taxes motorists already pay. At present fuel duty provides a partial link to congestion: a mile in heavy traffic burns more fuel than a mile on an empty road. As a result, moving to a per-mile cost represents a shift of the tax burden, placing a greater load on suburban and rural dwellers. DfT assessments in the 2000s suggest that around 70% of road miles would be overcharged by a flat rate price, meaning there would be an indirect incentive to drive more in cities.

Balanced against this, road pricing is the only form of motoring taxation that can simultaneously do three things that the existing tax regime already does:

1. Ensure that no one on the road is driving ‘free miles’ – by making sure everyone pays a marginal cost for each mile driven
2. Reflect where driving causes problems – so there is a higher cost for joining a traffic jam than travelling on the open road
3. Make bigger, fancier cars pay more – banding the amount paid by vehicles can tilt the system so that more expensive vehicles pay more, matching the tendency of fuel duty to make bigger vehicles cost more to run.

This partly reflects its customisability. Road pricing can be tailored to match the existing system of tax, both in spirit and in revenue terms. That also means it has the potential to deliver on wider goals of social equity: while there was never scope to charge a differential rate for fuel duty to reflect wider circumstances, this becomes possible for a system that relates to the individual vehicle or motorist. That means it can be a system that can reflect factors like income distribution or rural/urban living, which powerfully affect the way that tax impacts on ordinary peoples’ lives.

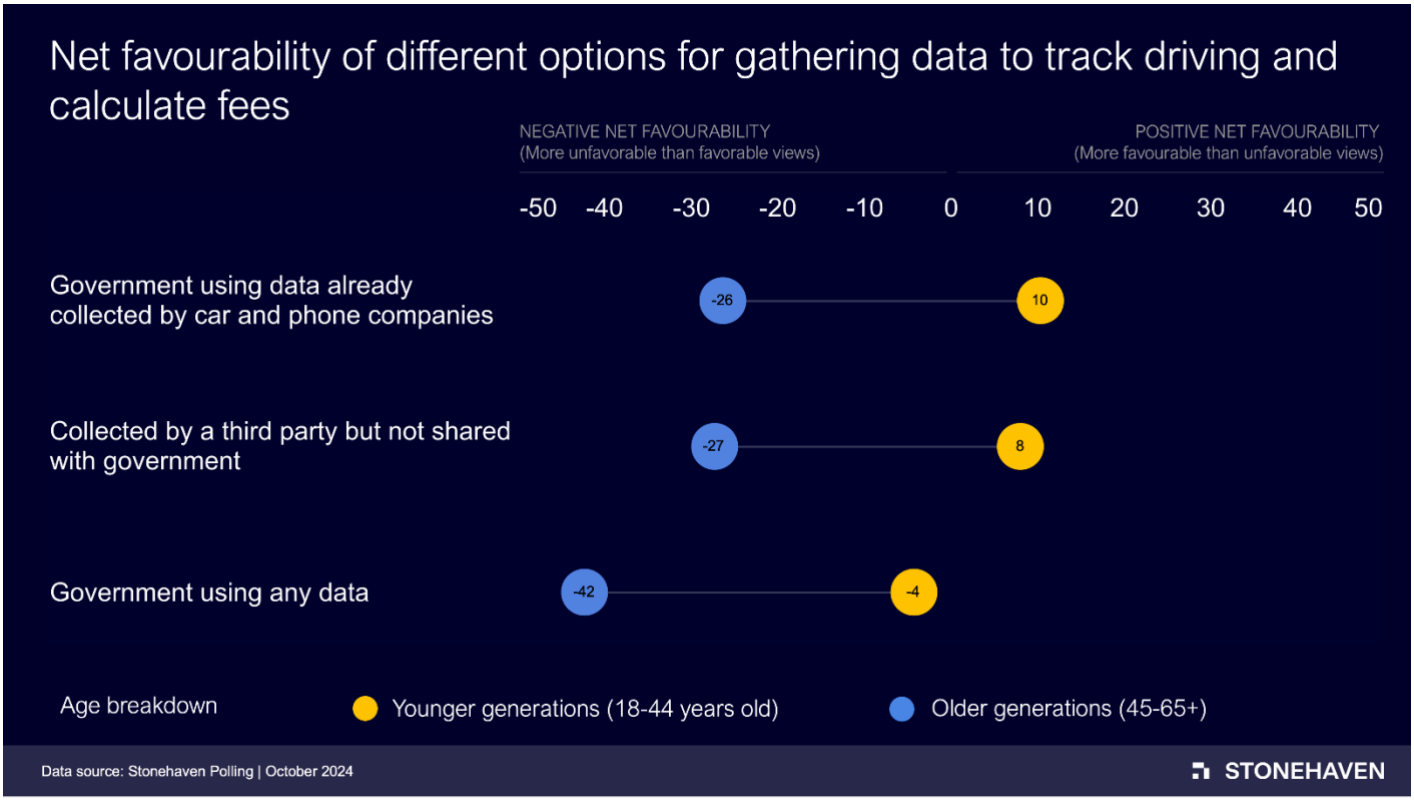
The circumstances of reform mean that government is not compelled to adopt any one model, but given the strength of technical support and the potential to best-match the existing regime, a pricing is more attractive than it first appears.

04 Generational Shift

The UK's attempt to introduce a nationwide system of road pricing expired in February 2007, in the face of mass public opposition. Alongside concerns about the impacts on household budgets, many opponents said they were worried about 'spy in the sky' systems, through which the government could track their movements.

One month earlier, Apple announced the first iPhone, ushering in a new age of ubiquitous connectivity. Not only is it now commonplace for people and objects to be constantly located in real time, but that data has been widely shared and used in a variety of ways. This development is not universally welcomed, but expectations about what privacy means have fundamentally shifted since the mid-2000s.

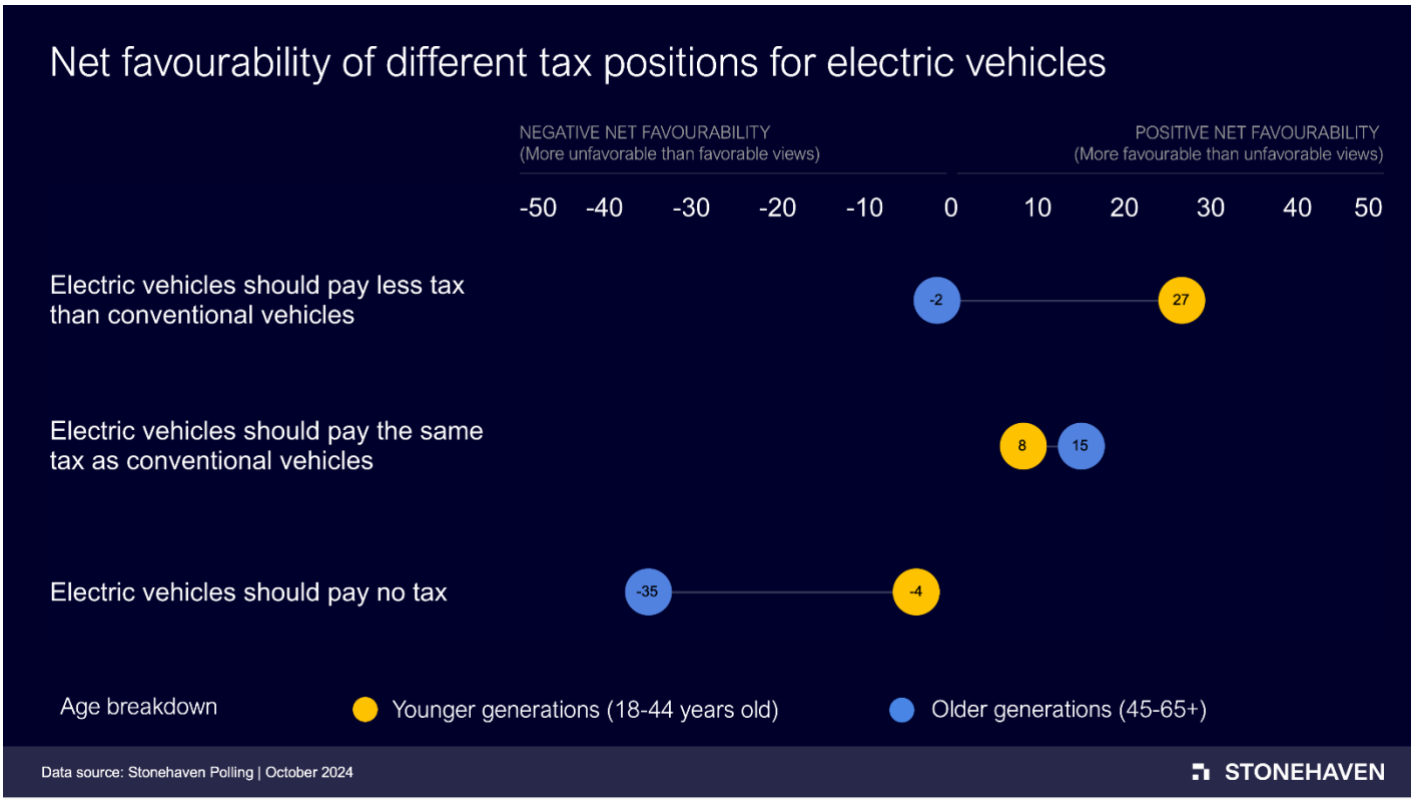
This change reveals itself in polling data. Asking respondents to give their views of different privacy options, there is a very clear difference between respondents aged 18-44, and those 45-65+. Those in the older group are hostile to all options for data tracking and fee calculation, but those in younger groups are much readier to accept the use of data, especially where it is held by companies or is already being collected.

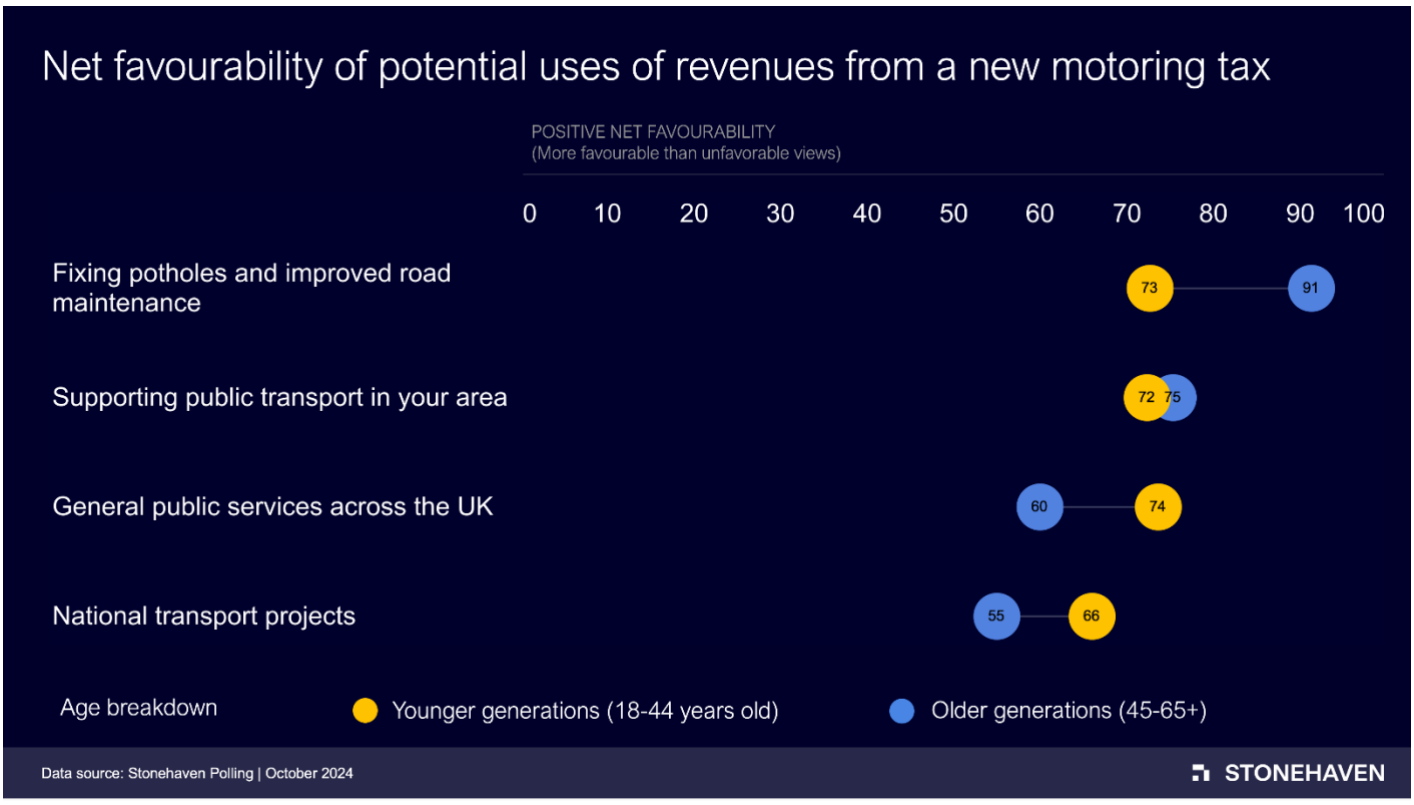


This shift in attitudes also matches a change in vehicle capabilities. Car companies now fit vehicles with modems and telematics units as standard, and an emergency geo-location system (eCall) has been mandatory in all EU and UK vehicles since 2018.[3] Mobile phone providers have also invested in making their vehicle-related data organised and useful.

[3] The designers of eCall intentionally disabled the functionality required to track a journey itself.

Privacy options based around existing dataflows are broadly able to deliver the options that this younger cohort can accept. In section 1, we noted the same division in attitudes between the young and the old over the level of tax electric vehicles should pay. There was a much stronger sense amongst older respondents that it was unfair for electric vehicles to pay no tax, and that the best outcome was for these vehicles to pay equal tax. Younger respondents were more open to untaxed electric vehicles, and also to the idea of an ongoing tax discount for electric vehicles.





We see the same trend come through on how the proceeds of a new motoring tax might be spent, with younger respondents more positive about the potential of a tax to raise revenue for public services generally. Older respondents tended to focus more on specific, local applications of the funding and have less enthusiasm about general use of taxes.

This suggests that there are two parallel narratives that can support reform of motoring tax.

- Older people are more concerned about electric vehicles paying less than 'their share' of motoring tax. They will naturally be more concerned about privacy. The plans that appeal to them most see revenues invested in maintenance, road upgrades and public transport at a local level. This suggests a narrative based around fairness, and locking in benefits locally.
- Younger people are less concerned about electric vehicles getting preferential treatment, but still feel that they should contribute to motoring tax. They are less worried about the use of their data or the impact on their privacy, and are more open to the idea that revenue should be raised to generally support public services. This suggests a narrative talking about electric vehicles making a fair contribution to the national finances.

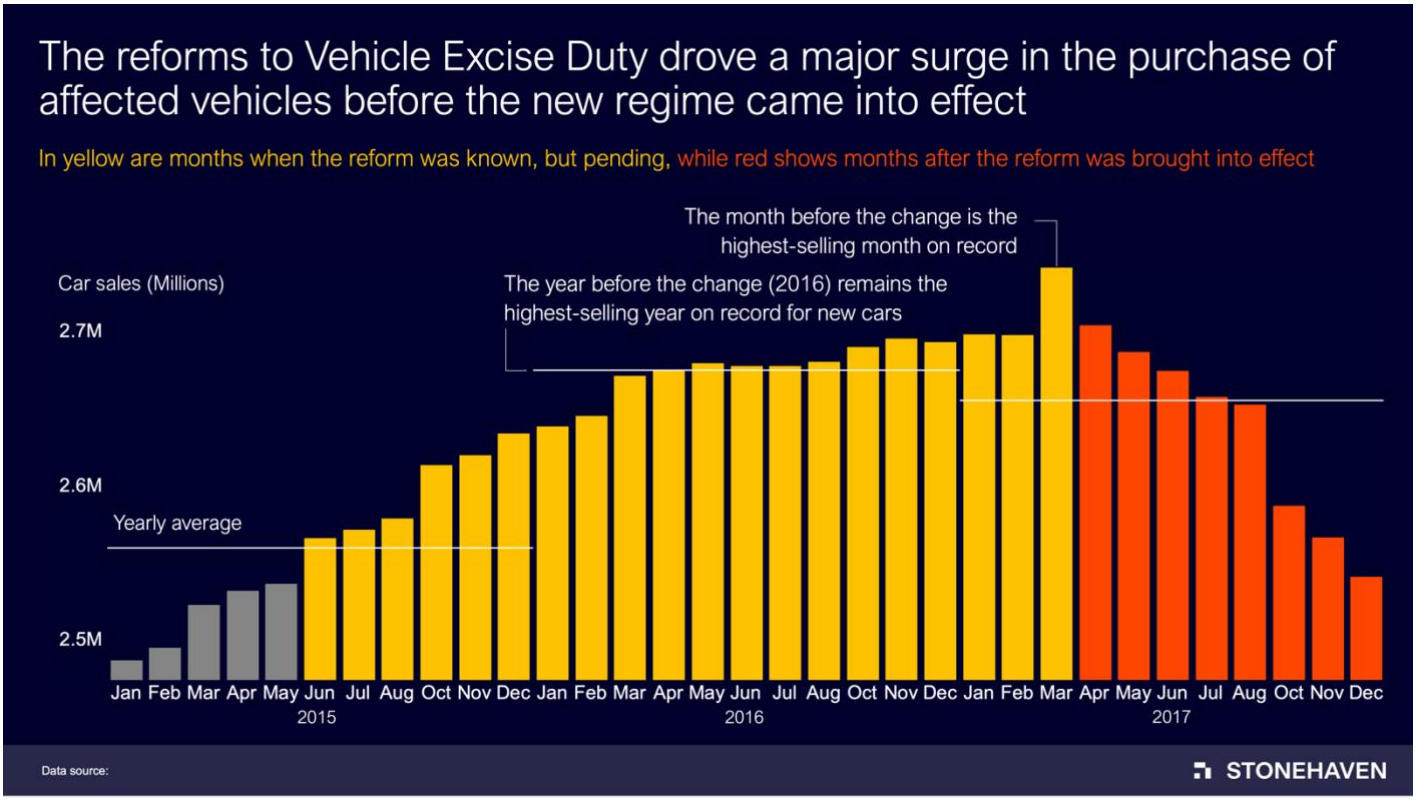


05 Impacts on electric vehicle take-up

One concern about new taxes on electric vehicles is that they will blunt incentives to switch away from petrol and diesel. This is a logical concern – when the cost of buying or using an electric vehicle increases we would naturally expect a lower level of uptake.

However, this may not be as great a problem as simple economic logic might suggest, depending on the nature of the policy design. Section 3 noted the experience of the reforms to Vehicle Excise Duty announced in 2015 and brought into effect in 2017. This *increased* the tax on the cleanest cars substantially, if they were bought after April 2017. However, because of the warning period, the result of this was to drive a major surge in the purchase of affected vehicles before the new regime came into effect.

- 2016 (the year before the change) remains the highest-selling year on record for new cars
- March 2017 (the month before the change) remains the highest-selling month on record, with 70,000 more cars sold than March 2015 and 88,000 more than March 2018
- Overall, 280,000 more cars were sold in this period than in the equivalent months preceding change, despite falling consumer confidence across the economy following the Brexit referendum



This demonstrates the power of grandfathering an existing vehicle fleet from a future date. In 2015-17 vehicle-buyers were only avoiding a £140 charge, but in the case of a new system to replace fuel duty, the value of escaping a new tax may end up being substantially more. Assuming that this privilege can be transferred at sale, this value would be captured both in direct savings, and in the value of the vehicle itself.

As such, the grandfathering approach set out in this paper offers a way to accelerate electric vehicle uptake. Indeed, it can do so multiple times, as there is no reason this mechanic can only be used once. It would be entirely possible to introduce a new system in a series of steps, with declining exemptions at each stage. This could last from here until the end of conventional vehicles sales in 2030.

Investing in electrification

If a new tax is likely to apply to electric vehicles, there is an obvious political logic to using some of the proceeds to deliver improvements specifically aimed at electric vehicles.

The first motoring tax was introduced in 1906. The proceeds raised from this were reserved for the Roads Fund – a hypothecated budget for replacing dirt roads with paved surfaces and making other improvements necessary from the arrival of a new form of transport. Overseen by a board of road experts, these measures were so successful that by the 1920s, the UK had effectively completed the paving of its entire 200,000 mile road network, making it one of the first places in the world to do so.

Government can reserve a share of early revenues of any new motoring tax for a similar fund for adaptation to electric vehicles.

Funding electric vehicle take-up: Electric vehicles have low running costs and high purchase prices. Mechanisms for spreading this cost already exist through leasing arrangements, but the lease-price of a typical low-end electric vehicle is around £150/month. This is around as much as the median UK family pays in vehicle costs, meaning it is out of reach for those on lower incomes.[4] Leasing could be subsidised from the revenues for new taxes, and could be managed to specifically target those who cannot currently go electric.

More public charging: More than a decade into the electric transition, charging capacity remains an ongoing concern for EV drivers. While an initial network has rolled out quickly, it does not yet have the ubiquity of the petrol and diesel fuel network. Range anxiety still affects 40% of drivers who rely on public chargers, and 20% of those that charge at home.[5] Five sixths of the UK target for 300,000 public chargers by 2030 is as-yet undelivered.

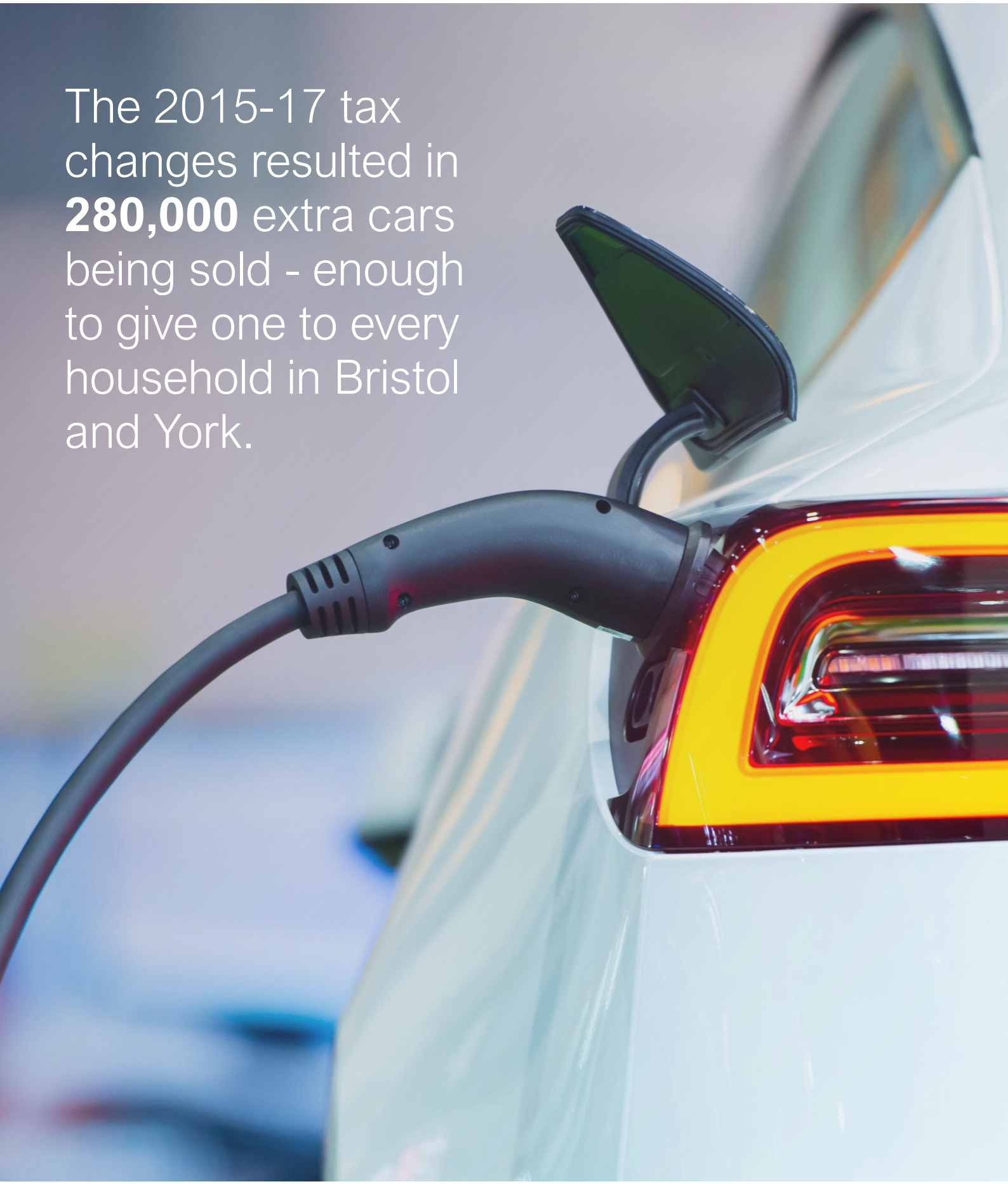
More home charging: The majority of electric vehicle charging will take place at home. For 25% of households this will mean charging on streets (rising to a third in large cities).[6] The mechanics for doing this have yet to be developed, with many electric motorists relying on cables across the streets, with or without permission.

The price of public charging is currently twice that of charging at home. This means enabling electric motorists to charge at home more than outweighs the cost of any likely new tax. Whether this be through a legal right to recharge across the pavement, a market that allows people to charge at 'home' rates in more locations, or the provision of actual kerbside infrastructure – all increase the attractiveness of electric vehicles and enable greater takeup.

On-road charging: most investment in apparatus for electric vehicles has focused on charging stationary vehicles. Trials in Sweden, Germany and the US are all showing that charging in motion is also possible and does not require unsightly overhead wires. Countries are already committing to building national networks that allow vehicles to charge as they go, and the UK would offer a particularly attractive opportunity for this kind of infrastructure.

If a new tax has a local component, some elements of revenue raising can be limited until a given level of charging infrastructure is in place, providing councils with an incentive for delivering the charging infrastructure needed to make electric vehicles thrive.

A dedicated funding stream for electric vehicle infrastructure not only delivers better services, but if organised well can be a wider psychological guarantee that the infrastructure for electrification will be in place and will keep up with demand.


The 2015-17 tax changes resulted in **280,000** extra cars being sold - enough to give one to every household in Bristol and York.

06 Implications for policy

The world has changed greatly since the last great debate on motoring taxation. In the 2000s, government failed to convince the public that the roads would run better if drivers paid directly for driving on the roads. Today, much has changed:

- The vehicle fleet has fractured into two groups – the richer of whom pays no tax per mile to drive. There is latent potential for real public anger against the status quo.
- Central and local government urgently need to raise more funds, especially to compensate for a fall in motoring taxation.
- There is a brief window in which there are few electric vehicles on the road, but we are confident that they will make up nearly all of the future vehicle fleet. Policies for a whole fleet can be set now without disrupting peoples' lives.
- Public attitudes have moved on. The young and the old see the situation differently in terms of the equity of the existing system, the ways in which privacy needs to be protected, and how revenue should be spent.

This is not a licence for clumsy policymakers to repeat the policies of twenty years ago – these would still be destined to fail. But there is now an opportunity for a well-designed reform to motoring taxation to work. Reform of many kinds is possible, including road pricing.

In order to be successful, the evidence in this paper suggests four principles that any reform would sensibly abide by.

1. Fix the fact that electric vehicles pay no tax, and re-establish parity of treatment

   Past motoring tax reforms have failed because of a lack of public support. However, that was in a world where tax was thought to apply broadly equally to all motorists. The arrival of electric vehicles has inadvertently made the motoring tax system more regressive, and this will worsen in the coming years, and has broken that sense of unity.

   Previously, motorists have opposed change because they feared its effects on them. Now, most motorists would see a change to equalise the treatment of electric vehicles as a way of protecting their interests and ensuring they are treated fairly.

   This does not mean that electric vehicles need to pay the same level of tax as other vehicles – voters still differ on whether this is desirable – but it does mean everyone paying something per mile to drive, as they do with fuel duty.

   Any reform must begin from here – the views and the tolerances of ordinary citizens – and not from the technical and transport goals that have previously anchored discussions of road pricing.

2. Apply only to new vehicles, so no existing motorist is made to join the system against their will.

   Millions of motorists depend on their vehicles to get about their daily lives, and fear any change that may unsettle this balance. This is especially true for the poorest in society. Any sensible reform will avoid affecting the existing pool of motorists as much as it practically can.

   The purchase of new cars is mostly limited to high-income groups, making it a distant concern for most ordinary motorists. This is even more true of electric vehicles, where the purchase price makes many from lower income groups view them as 'not for us'.

   By grandfathering existing vehicles, no existing motorist will find themselves losing out. This undercuts the formation of any mass opposition. First, because no large mass of motorists is being brought into the new tax as a group. Second, because everyone who joins the new system does so when they voluntarily buy a car (new or, eventually, second hand). Third, those who have just bought a car are more likely to be happy with their vehicle than they are angry at the tax system.

3. Implement rapidly, while the numbers of existing electric vehicles are small and the cost of exempting them is low

   At present, around a million vehicles - one in forty – are electric. Exempting them permanently from a new tax regime greatly reduces potential opposition, and costs only 2-3% of final revenue. But the total is expected to pass two million during 2025. If the secret to securing political buy-in to a tax reform is exempting existing electric vehicles, the price of doing so is rising quickly.

   The impact of motoring taxation reform comes from swift implementation, and establishing a meaningful level of tax on the future vehicle fleet. Moving slower makes it more expensive to lower the impacts on existing motorists and raises the political risk. Compromising on revenue so a new system can cover existing vehicles (electric or conventional) is likely to cost more in delay than it gains in revenue.

   Government may not be inclined to rapid solutions of this kind, but a 3-5 year policy development process followed by a long implementation plan is a recipe for failure.

4. Let local authorities handle the local details – and give them a share of the revenues that result

   If a system of motoring taxation attempts to reflect congestion (and thereby mirror the existing incentives on motorists), it must overcome the challenge of linking charge levels to the local road network. The fine balancing of the system is a task best left to local expertise, and carried out in a way that is accountable to a local electorate.

   That locally-led system can only function effectively if the people taking the political risks of managing the system also get a share of the revenue it creates. This allows the system to have more local legitimacy, with local results to show for the money paid in.

   Local involvement also provides an ongoing incentive to keep the system up to date and locally relevant, and to prevent the tax becoming as difficult to update as fuel duty has proven.

   This local role does not need to be in place on day one, but should be built in to the system so it can be switched on before new norms are established.

No one began the decarbonisation of the vehicle fleet in the expectation it would might open the door to road pricing. Yet, as we work through the consequences of swapping cylinders for batteries, we learn that motoring tax cannot stay the way it is. To maintain fairness, and to avoid passing costs on to the rest of the economy, reform is required. Smart action now can ensure these costs fall on vehicles that no one has yet purchased, and present real benefits within the life of this parliament.

Such a chance for reform exists only once in a century, and will be lost well before the decade ends. Whether it will be used, remains to be seen.