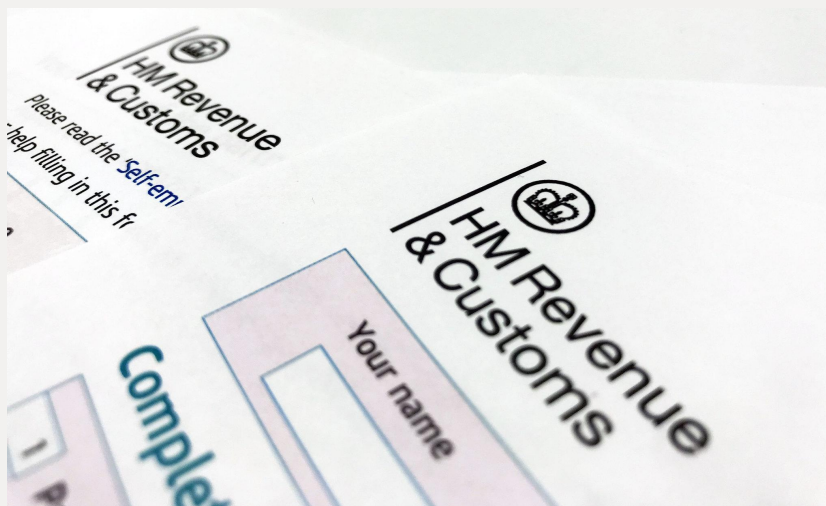


Electric cars and VAT



Andy Burnham's first policy announcement as UK prime minister was to cut the rate of VAT on electricity from 5% to nil, from 1st October for six months.¹ Beyond this being an extremely positive signal about the new government's approach to electrification, what does this mean for EV-owning households?

The Institute for Fiscal Studies (IFS) estimates that this measure will save the average household £25.² Households with an electric car naturally have higher electricity costs, consuming on average 70% more power than non-EV-owning households.

In this briefing we consider how this shifts the burden of VAT across different charging routines that carry different costs. Some households use a standard tariff, some use a time of use tariff. Others rely entirely on the public charge point network. There are different underlying electricity costs and different rates of VAT applied to each of these scenarios.

Summary of Key Findings

Segment	% of fleet	VAT on public	Home VAT saving
A: Dedicated charger + EV tariff	41%	£42/yr	£13/yr
B: Dedicated charger + standard tariff	35%	£62/yr	£27/yr
C: Alternative home method	15%	£113/yr	£21/yr
D: Totally public	9%	£216/yr	£0/yr
TOTAL	100%	£172m/yr	£40m/yr

These figures represent annualised costs, and assume that all VAT reductions are passed onto drivers by charge point operators.

1. [New PM cuts tax on household electricity bills to give breathing space on cost of living – GOV.UK](#)

2. [Temporary VAT cut on household electricity bills: IFS response | Institute for Fiscal Studies](#)

Methodology

We used data from DVLA, DVSA and DfT's EV Driver Tracker (August 2025) and associated data¹ to carry out the analysis, as well as the latest average electricity pricing data from ZapMap.

We assumed a BEV fleet of 2.2m cars, estimated BEV mean average mileage of 9,091 miles (based on latest odometer readings from the MOT database).

We also assume that CPOs will pass on all savings to EV drivers. In reality this is far from certain.

From the *EV Driver Tracker*, we divided the nation's EV owners into 4 segments:

Segment A – Dedicated charger + specific EV tariff

These households:

- Have a dedicated EV home charger installed
- Are on a specific EV energy tariff (e.g. Octopus Go, OVO Drive, British Gas EV), which give very cheap off-peak electricity, typically 7–15p/kWh overnight
- Are predominantly homeowners with driveways; more likely to be rural or in the Midlands
- More likely to have been driving a BEV since before 2023 (early adopters)
- - 58% of those on EV tariffs are aged 17–34

Key assumptions about this segment:

- Home charging rate: 12p/kWh – weighted

average between the "0–9p" (31% of home chargers) and "10–19p" (18%) bands from the DfT survey, reflecting off-peak EV tariff rates

- Public charging share: 15% of miles. The DfT Driver Tracker data shows BEV drivers charged at public chargers 1.8 times over 2 weeks out of ~4 total sessions – but home sessions deliver much more kWh per session (overnight top-ups vs partial top-ups on the road). So in terms of energy, public is closer to 20–30% fleet-wide, and 15% for the most home-centric segment we consider conservative and defensible.
- We estimate these households to represent 41% of all EV owning households. This figure is derived as follows: 76% (have dedicated charger) × 54% (proportion of home chargers who are on a specific EV tariff, i.e. 49% of all BEV drivers / 91% with home charging)

Segment B – Dedicated charger + standard tariff

These households:

- Have a dedicated EV charger at home, but on a standard variable or fixed tariff, we assume paying the full Ofgem price cap
- This group is slightly older (55–65 year olds are more likely to have no EV tariff at 15% vs 6% for under-35s)
- Represent 35% of all EV owning households, derived from: 76% (dedicated charger) × 46% (on standard tariff)

Key assumptions about this segment:

- Home charging rate: 28p/kWh (below the Ofgem SVT cap (~29p) to account for some fixed-rate tariff users)

1. [Electric vehicle \(EV\) driver behaviours and attitudes tracker – GOV.UK](#)

- Public charging share: 22% of miles, slightly higher than Segment A as they're somewhat less optimised (no cheap overnight window)

Segment C — Alternative home method

These households:

- Have some home charging access, but via a 3-pin socket, extension cable, or other non-dedicated method — not a proper wallbox
- 82% of this group charge off-street (so mostly homeowners with a driveway, but without a dedicated charger installed)
- 18% charge on-street via a cable run from the house (the "gully charging" method)
- Those who first drove a BEV from 2023 onwards are more likely to be in this group (41% have a dedicated charger, vs 62% of earlier adopters)
- Represent 15% of EV owning households, or 340,000 electric cars.

Key assumptions about this segment:

- Home charging rate: 28p/kWh, which is the Ofgem price capped standard tariff
- Public charging share: 40% of miles — significantly higher than A/B because 3-pin socket charging is much slower (roughly 6–8 hours for a typical BEV vs 2–3 hours from a wallbox), creating a practical incentive to use faster public chargers for convenience. This figure has a higher element of uncertainty about it.

Segment D — Totally reliant on public charging

These households:

- Represent 9% of EV owning households, c. 200,000 electric cars
- Are disproportionately renters: 28% of renting BEV drivers have no home charging (vs only 6% of homeowners)
- Are more likely to be BEV non-primary vehicle users (13% of non-primary BEV users rely on public, vs 6% of primary users)
- More likely in the South of England (13% vs 6% in the North, 3% in Midlands), perhaps because of the widespread lack of off-street parking in London
- Use primarily business/org car parks (27%), dedicated EV charging hubs (23%), work/school (19%)
- Charger speed: 42% primarily use 22–49kW, 23% use 50kW+

Key assumptions about this segment:

- We assume a weighted average cost of charging of 50p/kWh. This is likely to vary significantly depending on the personal circumstances and usage patterns of vehicle owners. Those who drive more are likely to pay more per kWh than those who do fewer miles.

Key caveat: The n=63 base size in the survey data means we should treat this 9% with some caution — it's a small survey sample. However, 9% is directionally consistent with the off-street parking data (10% of BEV drivers have no off-street parking access), and the renter data (9% of BEV drivers are renters, of whom 28% have no home charging). It's also directionally consistent across multiple survey sources.

Findings

Total VAT burden on public EV charging

Across the full fleet of 2.2m BEVs, we estimate that **UK electric car drivers collectively pay approximately £172m per year in VAT on public charging**. This compares with a total annual saving from the abolition of VAT on domestic electricity of approximately £40m per year, meaning **the unaddressed public charging VAT burden is more than four times larger than the saving delivered by the government's recent policy change**.

These aggregate figures mask significant variation by driver type, which the segment analysis reveals in detail. The figures are presented as annualised costs and savings.

Table 1 presents the estimated annual VAT impact for each segment under the current policy regime (in which home electricity VAT is 0% and public charging VAT is 20%).

Two key findings stand out from this breakdown:

1. The home electricity VAT cut disproportionately benefits those who need it least

A counterintuitive finding emerges from the segment analysis: the drivers who stand to save the most from the home electricity VAT cut are not those most dependent on home charging. Segment B drivers, on standard variable tariffs with dedicated home chargers, save the most (£27/year), precisely because their home electricity costs are highest. Segment A drivers

Segment	Share of fleet	~Vehicles	VAT paid on public	VAT saving: home cut	Net annual VAT position vs pre-cut
A: Dedicated charger, EV tariff	41%	934,000	£42 per car per year	£13 per car per year	–£13 per car per year
B: Dedicated charger, standard tariff	35%	797,000	£62 per car per year	£27 per car per year	–£27 per car per year
C: Alternative home method	15%	342,000	£113 per car per year	£21 per car per year	–£21 per car per year
D: Totally reliant on public	9%	205,000	£216 per car per year	£0 per car per year	£0 per car per year
Total	100%	2,278,000	£172m	£40m	

Table 1: Annual VAT burden by driver segment

save only £13/year from the same policy, because their cheap off-peak EV tariff rate means there was relatively little VAT to abolish.

Meanwhile segment C drivers save £21/year but continue to pay £113/year in public charging VAT. And segment D drivers - the 9% of EV owners with no home charging - receive no benefit, while bearing the highest VAT burden of any group at £216/year.

2. The distributional pattern is regressive

The policy gap produces a regressive distributional outcome. Across all four segments, the ratio of VAT paid on public charging to VAT saved on home electricity worsens as home charging access decreases:

Segment	Public VAT paid	Home VAT saving	Ratio
A	£42	£13	3.2×
B	£62	£27	2.3×
C	£113	£21	5.4×
D	£216	£0	—

In every segment, the VAT paid on public charging exceeds the saving from the home cut. For Segment D, no saving exists at all.

The public charging VAT burden and its determinants

The variation in public charging VAT across segments is driven by two factors: the share of miles charged publicly, and the per-unit cost of

those public charges. Segment D drivers charge all 2,597 kWh of their annual energy needs at public charge points – more than six times the 390 kWh charged publicly by Segment A drivers. At 50p/kWh (the blended rate reflecting their charger mix of primarily fast and destination chargers), this produces a gross annual public charging spend of approximately £1,299, of which £216 is VAT.

Critically, the difference in public charging volume is not primarily a matter of total mileage – it reflects whether each segment has a viable home charging option. Segment D drivers are not travelling further than other BEV drivers; they are simply paying 20% VAT on 100% of their energy needs, while the government has just made home charging entirely VAT-free.

Policy recommendations

We noted at the beginning that the VAT reduction on domestic electricity rates is temporary, in the sense that it is only funded from 1st October for the current financial year. **If the rate of VAT on domestic electricity returns to 5%, the rate of VAT on public charging should be reduced to match it.**

On current BEV adoption metrics, this measure would cost £120m in lost VAT from public charging, and raise £40m from the EV share of domestic electricity consumption (not including the hundreds of millions this would raise from all domestic consumption). Abolishing VAT on public EV charging would cost £172m.

While it would make sense to consider changes to VAT rates, **equalising VAT does not guarantee a reduction in charging costs.** Just like cuts to fuel duty, reductions in VAT rates are not guaranteed to be passed onto drivers. Government should therefore look at other routes to reducing the underlying cost of electricity.

Options for wider reform

One of the reasons that the VAT burden is so high is that the underlying price of the good that is being taxed is high, and much higher than electricity sold domestically. Since VAT burdens track the value of the good or service, reducing this underlying cost is an extremely effective way of reducing the VAT burden. This subject is currently under review by HM Treasury.¹

There is a wide range of solutions beyond VAT rates. One of the reasons that the VAT burden is so light for segment A is that these drivers charge on cheap overnight rates. Yet most public charging takes place on flat rates. Time of use

tariffs - especially those which have cheap overnight rates - offer a route to cheap charging for those whose cars are spending the night on the street for lack of a driveway.

Grid connection costs can be a major driver of high costs for public charge point operators (CPOs). Decisions taken by Ofgem have resulted in a rise in standing charges - in some cases 400%.² Ofgem has undertaken a range of reforms to how costs for grid connections are calculated and shared in recent years. Ofgem could reform grid costs specifically for EV infrastructure, reducing overhead costs. This could involve a temporary arrangement, recognising that this infrastructure is (uniquely) being built in anticipation of future demand.

There are a range of ways in which public charging - particularly in areas with high population density and low access to domestic charging - can be optimised to reduce costs for drivers and grid operators. In the Dutch city of Utrecht, pioneering V2G and smart charging approaches have yielded the triple benefits of easing grid congestion, reducing charging costs for consumers, and increasing solar gain.³

Lastly, government should further consider measures to give households without a driveway the means to charge their car from their domestic electricity supply. There are a range of solutions to this problem, with pavement gullies among the most advanced. Technology has not been the barrier to these solutions - rather it has been the unwillingness of the range of public bodies that must permit households to access these solutions. It is something that Whitehall should monitor and intervene in if necessary.

1. [Cost of public EV charging review: terms of reference - GOV.UK](#)

2. [Action on high energy costs needed to keep EV transition on track](#)

3. [Charged with potential: Lessons from Utrecht Energized vehicle-to-grid project. Letcher, M. et al. April 2026](#)

Conclusion

While the temporary abolition of domestic electricity VAT provides welcome relief for home-charging EV owners, it inadvertently highlights a structural inequality in the UK's transition to electric vehicles. The current policy framework produces a clearly regressive outcome: drivers with driveways and dedicated home chargers benefit from tax-free power, whereas the 9% of drivers who rely entirely on public charging disproportionately renters and urban residents continue to pay a 20% VAT rate. Across the UK fleet, electric vehicle drivers pay an estimated £172 million per year in public charging VAT, completely overshadowing the £40 million that will be delivered in domestic energy VAT savings.

To ensure an equitable and sustainable transition to electric mobility, policy reforms must extend beyond domestic tariffs:

- **Equalise VAT Rates:** Align public charging VAT with domestic rates (reducing it to 5% or 0%) to eliminate the tax penalty currently imposed on drivers without off-street parking.
- **Expand Public Time-of-Use Tariffs:** Encourage off-peak and overnight pricing models at public charge points so that street-parked drivers can access the low rates enjoyed by home-charging households.
- **Reform Grid Infrastructure Costs:** Leverage Ofgem reforms to lower grid connection overheads for public charge point operators, reducing the baseline cost of public power.

- **Adopt Smart Urban Energy Solutions:** Deploy smart charging and vehicle-to-grid (V2G) technology in high-density areas to lower driver costs while easing strain on the local grid.
- **Enable more households to access cross-pavement solutions,** allowing households to access the power they can buy from their own domestic electricity supply.

Addressing these tax and structural disparities is essential to ensuring that the financial and environmental benefits of electrification are shared fairly across all UK households.