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Intelligent Transport Systems UK
Empowering Transport Technology

Smarter Alternatives for collecting Electric Vehicle Excise Duty (eVED)

Intelligent Transport Systems UK Briefing Note

Overview

The Autumn Budget set out plans for a per-mile charge on EVs, known as the electric vehicle excise duty (eVED). In their consultation, HM Treasury have stipulated that the eVED would be collected through self-reporting through measurements of the odometer. Intelligent Transport Systems UK (ITS UK) and, the 200 transport technology organisations we represent, believe this is a missed opportunity to deliver a smarter charging system that delivers wider benefits on congestion, decarbonisation and network management.

Background

The Government is consulting on the introduction of Electric Vehicle Excise Duty (eVED) a self-reported, per-mile charge on electric and plug-in hybrid cars, to be introduced from April 2028. The aim of the charge is to replace declining fuel duty receipts.

- EVs will be charged **£0.03p per mile** and hybrids will be charged **£0.015 per mile.**
- Alongside paying VED, motorists will **estimate their mileage**, pay an upfront charge based on the estimate and spread payments across the year.
- The car owner will **submit their actual mileage** at the end of the year and trigger a reconciliation (at their MOT or on their second or third anniversary for new cars). Credit will be provided for the following year.

A smarter way of charging for eVED

The introduction of eVED is a much-needed move to reduce the falling tax revenue from fuel duty. However, as proposed by the Government, the system will be a 'blunt tool', limiting policymakers' ability to influence transport users' behaviour. It will also be more open to fraud and non-compliance.

ITS UK proposes a smarter system utilising technology. A number of technological solutions could be utilised:

- **Satellite positioning combined with cellular network communications** (GNSS-CN), sometimes referred to as telematics, which enables vehicles to report their journey through a charged road network.
- **Roadside equipment** (including ANPR cameras) which is used to verify that vehicles within a charged road network have a valid means of payment.
- **Tags and readers** that use dedicated short range communications (DSRC) which use radio frequency tags operating in the 5.8GHz band and which provide a secure ID for the road user.

A smarter, location and time-based pay-per-mile scheme, would keep the core idea of "pay by the mile" in e-VED, but use modern technology to create policy levers, wider benefits and a more resilient, sustainable scheme. Overleaf we set out the main benefits in comparison with an odometer reading.

Limitations of eVED as proposed	Benefits of smart location-based pricing
⊗ **Fraud:** Pure odometer-based mileage reporting can be manipulated, given odometer readings are capable of being electronically altered, undermining both revenue and trust.	√ **Fraud:** Location-based road pricing is much harder to manipulate. Tax payers can be surer everyone pays.
⊗ **Efficiency:** Unlike fuel duty, where higher fuel consumption for heavier or inefficient vehicles means paying more per mile, a uniform per-mile rate risks under-charging the most damaging and congesting vehicles relative to lighter, more efficient ones.	√ **Efficiency:** Charges can be differentiated by vehicle class and emissions use, so that efficient, lighter vehicles pay less, and those causing more wear, congestion and pollution pay more, improving both fairness and environmental outcomes.
⊗ **Cross-border:** There is no way of excluding miles driven abroad by UK-registered vehicles or of charging foreign vehicles using UK roads, creating both revenue leakage and perceptions of unfairness for UK drivers.	√ **Cross-border:** A data-rich system allows miles travelled and revenues raised to be attributed accurately to specific road authorities (cities, regions, national networks), supporting transparent revenue and investment in the roads people actually use.
⊗ **Planning:** Unable to distinguish between peak and off-peak times or congested and uncongested roads. It will also not be able to differentiate between areas with access to public transport alternatives, or with poor air quality, where it may be better to encourage alternative forms of transport.	√ **Planning:** Location-based charging can vary rates by date, time and place e.g. higher rates on congested urban roads or peak times; and lower rates on uncongested rural roads or off-peak times. This means you can actively manage demand and improving journey time reliability.
⊗ **Freight and logistics:** A flat per-mile charge offers weak incentives for load consolidation and reductions in empty running.	√ Freight and logistics: By rewarding efficient routing and consolidated freight loads, location-based charging can cut unnecessary mileage and emissions.
⊗ **Regional:** Revenues cannot be attributed to particular routes, cities or regions, missing an opportunity to build public confidence by allowing people to "see" what they pay into their own networks.	√ **Regional:** Road users can see that how their taxes fund maintenance, upgrades and safety measures on those same networks, building trust.
	√ **Data for better transport:** Telematics can provide anonymised but detailed traffic data, supporting network planning, digital twins, real-time traffic management and better targeting of safety interventions

The consultation says that privacy is a concern for the ulitisation of technological solutions. However, modern road user charging architectures can send anonymised data to the charging authority, with true-identity strictly limited to law-enforcement purposes. This already takes place in a number of Low Emission Zones, Congestion Charges and tolling zones, both in the UK and around the world.

Intelligent Transport Systems UK (ITS UK) is the national industry association for transport technology. We have 200 members, from both the private and public sector, covering all sizes and disciplines, with members working in all areas of transport technology.

If this would be of use, please email ITS UK Public Affairs & PR Executive Eduardo Pitts, at eduardo.pitts@its-uk.org.