

24 May 2023

Energy UK Response - Consultation on a zero emission vehicle mandate and CO2 emissions regulation for new cars and vans in the UK

Executive Summary

Energy UK is the trade association for the energy industry with over 100 members - from established FTSE 100 companies right through to new, growing suppliers, generators and service providers across energy, transport, heat and technology. Our members deliver nearly 80% of the UK's power generation and over 95% of the energy supply for 28 million UK homes as well as businesses.

The sector invests £13bn annually and delivers nearly £30bn in gross value - on top of the nearly £100bn in economic activity through its supply chain and interaction with other sectors. The energy industry is key to delivering growth and plans to invest £100bn over the course of this decade in new energy sources. Our members are highly active in the electric vehicle (EV) space, offering EV tariffs, smart charging and vehicle to grid, leasing and selling EVs either directly or in partnership with companies, and installing and operating chargepoints in homes, businesses and in the public domain.

Energy UK strongly welcomes this consultation on requirements of the zero emissions vehicles (ZEV) mandate and CO2 emissions regulation. The ZEV mandate is Government's defining policy tool to directly reduce the impact of passenger road transport emissions on the climate. The benefits of EV uptake do not conclude in the automotive sector however, as swift mass uptake of EVs is paramount in delivering our future energy system at lowest cost to the electricity grid and to consumers. We are therefore encouraged that Government is actively looking to move quickly on this critical policy tool with implementation on 1 January 2024. We stress that only the legal binding of implementation on this date will ensure the required benefits to the energy system which cannot be delayed.

Notwithstanding this, delivery of policy objectives is principally dependent on clear policy design. The various flexibilities within and between Government's current proposals for both the ZEV mandate and CO2 emissions standards are highly complex. Such complexity allows actual delivery of ZEVs to vary widely below appropriate margins of the intended car and van trajectories. We urge Government to tighten these flexibilities for the mandate to meet its objectives, deliver the carbon savings required, increase investment in EV-related industries and play its necessary role in the energy transition.

Counterintuitive complexity:

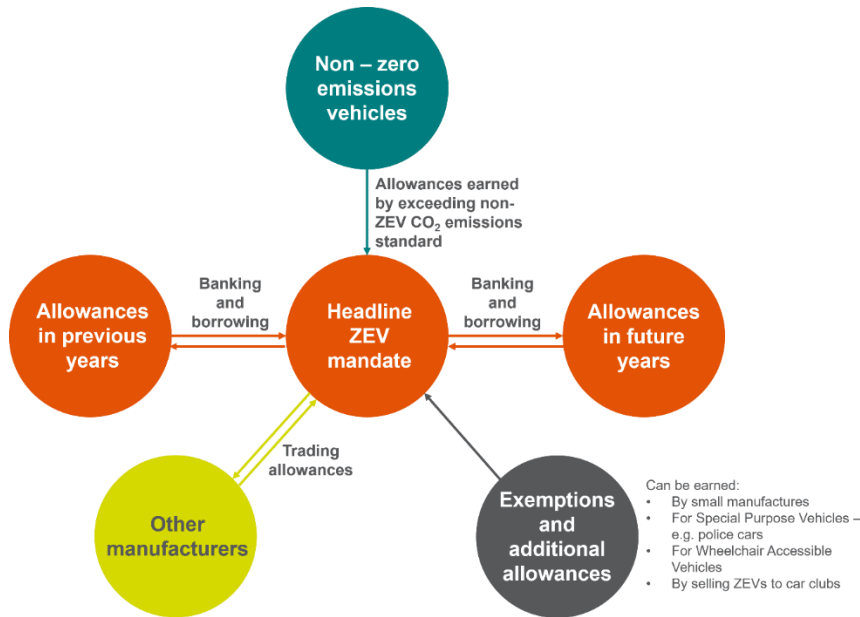
The primary objective of the ZEV mandate is to provide regulatory certainty and build confidence in the pace of the transition to EVs, allowing businesses and investors to plan and allocate capital accordingly, including for the wider energy system and required charging infrastructure. The window to attract this investment in the UK's e-automotive sector is brief and highly competitive given recent efforts by global competitors to ramp up ambition in growing their domestic ZEV markets. Most notably, EV provisions in the US' Inflation Reduction Act and the EU Council's adoption of stricter CO2 performance regulation effectively place ambitions to phase out ICE vehicles squarely with the UK's. Actual delivery of ZEVs sold following Government's central trajectories provides regulatory certainty and is necessary to attract this investment.

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Figure 1.0



However, as illustrated in Figure 1.0, under Government’s current proposals, between 2024-2026 there are simply too many flexibilities that vehicle manufacturers can use in conjunction to alter requirements of the headline mandate. Though the extent to which manufacturers will deploy these tools to lower the number of ZEVs they are required to sell is uncertain, in Figure 2.0 we present three car scenarios which highlight how significant the discrepancy between the central trajectory and actual vehicles sold could be.

Figure 2.0



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- Scenario 1: Illustrates what could happen if manufacturers fully employed each flexibility in the mandate to delay the rollout of ZEVs in 2024.
- Scenario 2: Builds on Scenario 1, but with a smoothed profile of borrowed allowances where there is not a large spike in 2027 when allowances are repaid.
- Scenario 3: Offers a more realistic profile based on existing progress of delivering ZEVs, where the proposed ZEV mandate allows no growth until 2027.

The scenarios above demonstrate how manufacturers can use the various flexibilities proposed by Government to significantly underdeliver against the headline mandate, by between 880,000 (Scenario 1) and 1 million (Scenario 3) cars by 2035. This shortfall is even more pronounced in comparison to the trajectory recommended in the Climate Change Committee's (CCC) Sixth Carbon Budget. Here, Government's central trajectory with full use of flexibilities could see 4.3 million more carbon-emitting cars sold in the UK than is consistent with reaching Net Zero through the CCC's projections.

Under current proposals, the ZEV mandate is complicated by design. This is especially true between 2024-2026 where this complexity greatly reduces certainty for investors, businesses, consumers and for the energy system. It may ultimately risk the mandate underdelivering on its benefits.

Delivering the mandate's necessary benefits

The ZEV mandate is the single policy tool which if implemented correctly will deliver the highest carbon savings through the *Carbon Budget Delivery Plan*. It will also bring forward various benefits of competition, future-proofing green jobs, locking in the long-term resilience of the UK e-automotive sector and stimulating the second-hand vehicle market.

However, benefits of the mandate do not end with zero emissions at the tailpipe nor in the automotive sector alone. From investment in progression of market-wide-half-hourly settlement to millions in grid reinforcement and creation of necessary, yet currently loss leading, time-of-use tariffs, the energy sector is investing heavily in a future system which depends, partly, on early mass ZEV uptake for its success.

In particular, smart EV charging and vehicle-to-grid (V2G) technology were key highlights in the *British Energy Security Strategy* for balancing the grid and lowering costs for both the electricity system and for all consumers, including those without EVs. Indeed, Ofgem estimates that both technologies functioning together have the potential to reduce peak demand by 32GW by 2050.¹ Whilst V2G capability evolves, smart charging is already enabled and is proving highly beneficial with one EV charging tariff recently managing 100MW of power with the potential to save consumers upto £760 a year.²

For smart charging to deliver the necessary benefits for consumers and the energy system at the scale required, and for EVs to play their full vital role in facilitating Net Zero, actual sale of vehicles must follow the mandate's central trajectories for car and van markets. Energy UK strongly recommend Government pursue simpler policy design to ensure such benefits are delivered, and tighten the mandate's flexibilities as follows:

- 1) **Halve the maximum borrowing caps** proposed in each year between 2024 to 2026 to reduce the wide margins within which current proposals allow actual vehicle sales to fall. Tightening this flexibility will increase certainty for investment and ultimately confidence for consumers, whilst

¹ <https://www.ofgem.gov.uk/sites/default/files/2021-09/Enabling%20the%20transition%20to%20electric%20vehicles%20-%20the%20regulators%20priorities%20for%20a%20green%20fair%20future.pdf>

² <https://t.co/Bbi6jrF96B>

manufacturers remain able to purchase allowances from others to account for initial challenges faced in meeting targets.

- 2) Pursue the ‘tightening’ baseline CO2 scenario and limit ability to transfer credits from overcompliance in the CO2 emissions scheme to the ZEV mandate.** Tightening proposals in this way avoids the risk of the CO2 scheme running counter to the primary objective of the mandate itself, the displacement of petrol and diesel vehicles.

Consultation Questions

Q1a and Q2a: Do you agree or disagree with the UK Government’s preference to introduce a UK-wide regulatory framework? // Do you agree or disagree with the UK Government’s preference to introduce UK-wide annual targets?

Energy UK strongly agree with the Government’s preference to introduce a UK-wide regulatory framework with UK-wide annual targets. Differences in the mandate’s regulation will add complexity for both manufacturers and regional bodies, increasing administrative cost and adding burden on efficiency. Furthermore, disparate schemes risk disparate delivery of air quality benefits to consumers, whilst ultimately, the climate impact of unabated carbon emissions will affect all regions of the UK regardless.

Both operationally and environmentally, a UK-wide scheme is the only viable option.

Q3 and Q4: Do you agree or disagree with the proposal for the central trajectory for new zero emission cars and vans set out in Tables 1 and 2?

In isolation, the central trajectories for new ZEV cars and vans are suitably ambitious and will fulfil the mandate’s objective to provide regulatory certainty and build confidence on the pace of the transition to EVs. However, as we discuss in our executive summary and response to questions 7, 8 and on regulating emissions from new non-ZEVs, flexibilities which assist compliance to these trajectories are too broad and may serve against intended delivery of vehicles.

Q7: Do you agree or disagree with the proposals for banking during the 2024-2030 period?

Again, when considered in isolation proposals for banking during the 2024-2030 period are adequate. However, the combination of this flexibility mechanism alongside proposals on borrowing credits and transfer between the CO2 standard to ZEV mandate risk actual delivery of ZEVs between 2024-2026 to vary significantly from Government’s own proposed trajectory.

The early years of the mandate are vital in bringing forward benefits which will be driven, in part, by investor confidence. High variance in delivery of actual vehicles in these years dampens the investment case and therefore delivery of these necessary benefits.

Q8: Do you agree with the proposed provisions for borrowing in the 2024–2026 period? If you disagree with the proposal, please provide alternative options and your rationale.

Energy UK is responsive to certain levels of provision in the borrowing mechanism to account for challenges that may be faced in meeting targets in the initial years of the mandate. However, to send clear signals to investors, consumers, the charging industry and the energy system, we strongly urge Government to tighten the capped percentages which, as proposals currently stand, may lead actual numbers of vehicles delivered in these vital years to fall anywhere within wide lower margins of the intended trajectories.

Table 4 in the consultation illustrates how a manufacturer producing 100,000 vehicles a year can max out on the capped 75% borrowing mechanism to produce only 5500 ZEVs in 2024, i.e. 5.5% of total

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vehicles sold, and 16.5% less than Government's 22% trajectory for the year. Whilst it may be unlikely that a majority of manufacturers max out on the borrowing mechanism as illustrated, the high 75% cap creates a very broad window of delivery in the ZEV market as illustrated in figure 2.0. of our executive summary.

To avoid such wide margins, Energy UK urge Government to tighten maximum borrowing caps in the period between 2024-26. We suggest halving the caps as a balanced alternative, at 37.5% in 2024, 25% in 2025 and 12.5% in 2026. As the flexibility measure with the highest potential to impact actual numbers of vehicles sold, tightening it will greatly increase certainty for investment and therefore ensure that benefits for consumers, the charging industry and energy system are delivered. Nevertheless, manufacturers will still be able to borrow some allowances, alongside the ability to purchase from other manufacturers as well as any appropriate interaction with the CO2 emissions regulation.

Q9: What are your views on the proposed minimum requirements for ZEVs (emissions, minimum range and warranty)?

There is some concern that the proposed 120 mile minimum range requirement for ZEVs may lead manufacturers to reside along this lowest common denominator provision. This is particularly pressing as batteries are the most expensive component in a vehicle and therefore likely to be compromised in order for manufacturers to meet mandate supply targets. We hold that this minimum level does not stimulate innovation in battery technology, but rather encourages downsizing.

However, ultimately the mandate's primary objective is to displace ICE vehicles and simple policy design will deliver this. Government should consider whether consumers are likely to purchase ZEVs if low range dominates the market, particularly as range anxiety, even if not reflective of actual market reality, remains a significant blocker to consumer uptake of ZEVs.

Q10: Are there additional minimum requirements that should be added to the regulation (in the first year or at a later point)? Please provide your rationale.

It is positive to see that Government have identified bidirectional charging as a capability of qualifying ZEVs to keep under review in future years. However, we stress the importance and value of smart charging as a capability that does not depend on additional requirements in EVs and is well under way in delivering benefits for consumers and the energy system, as detailed in our executive summary. For the ZEV mandate to adequately facilitate these benefits, provisions on borrowing and transfer between the CO2 mechanism to ZEV framework should be tightened.

Given the uncertainty and variance in vehicles sold that the mandate's complex proposals currently allow for, Energy UK hold that the ZEV mandate does not adequately value the necessity of smart EV charging in delivering our future energy system.

Q13: What are your views on the proposed payment levels in the ZEV mandate?

We agree with proposed payment levels, at £15,000 and £18,000 per excess activity in the car and van schemes respectively.

Regulating emissions from new non-zero emission vehicles

Government notes that the primary objective of the CO2 emissions regulation is to 'support the rapid shift towards ZEVs'. To deliver this objective, Energy UK urge Government to pursue the 'tightening' baseline target and reduce the ability for overcompliance in the CO2 emissions regulation to help toward compliance in the ZEV mandate. This provision under current proposals will result in displaced ZEVs and therefore undermine the objective of a 'rapid shift'.

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Motor vehicles remain the single most exported good from the UK to the rest of the world, and Europe remains the UK car and van markets' biggest trading partner with 57.6% of UK car exports going to the EU in 2022, followed second with significantly less to the US at 13.3%³. Therefore, the UK and EU car markets do not operate in isolation, where UK manufacturers will continue to build vehicles for the UK market which also meet EU regulations where possible.

With regards to CO2 performance, the EU Council has recently adopted stricter regulation which requires fleets to meet annually decreasing average CO2 performance targets from 2025. Until 2025, if the UK does not similarly reflect a business-as-usual ratcheting down in CO2 performance of vehicles, the consequence of the EU scheme coming into effect creates an incentive to sell higher emission cars and vans in the UK, locking in these emissions for the lifetime of the ICE vehicle.

Furthermore, analysis by *New Automotive* suggests a correlation between positive performance in the EU's current CO2 performance scheme with the production of plug-in-hybrid EVs (PHEV), but not battery electric vehicles⁴. Upon implementation of the stricter EU CO2 performance scheme in 2025, whilst the UK remains at a flat baseline trajectory, UK vehicle manufacturers may continue to produce greater numbers of hybrid vehicles following the integrated nature with the European market. This is especially likely given that, as Government's cost-benefit analysis notes, manufacturers often set production plans 5-7 years in advance and have therefore already planned for a ratcheting down CO2 regulation. Toyota's recent announcement on future PHEV models demonstrates this point⁵, whilst Government should also consider the harmful effects of NOx emissions in particular on both the climate and health given that recent tests on PHEVs indicate significantly higher levels of pollution than suggested⁶.

In this way, under Government's current proposals, between 2024-2026 many vehicle manufacturers are likely to over-comply with the flat baseline CO2 standard through higher production of hybrids. This in turn will produce numerous unused allowances that can then be transferred as credits for easing compliance in the ZEV mandate and serving against the primary goal of the mandate itself – displacement of petrol and diesel vehicles.

Therefore, Energy UK strongly recommend that Government pursue the 'tightening' baseline target and greatly reduce the ability to transfer credits from overcompliance in the CO2 scheme to the ZEV mandate. Such tightening of flexibilities again reduces the wide window within which Government's current proposals allow actual vehicle sales to fall, increasing certainty for investors and ensuring that the necessary benefits of the mandate are delivered.

³ <https://www.smmmt.co.uk/vehicle-data/manufacturing/>

⁴ <https://newautomotive.org/blog/zev-2>

⁵ https://www.fleetnews.co.uk/news/manufacture-news/2023/04/12/toyota-plans-to-launch-phevs-with-120-mile-range?utm_source=aimtell&utm_medium=push&utm_campaign=campaign-5415272

⁶ <https://www.transporentenvironment.org/discover/plug-in-hybrids-2-0-still-not-a-solution-for-the-climate/>

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