Technical Consultation on Zero Emission Vehicle Mandate Policy Design

Transport & Environment consultation response

June 2022

Summary

The Government proposals put forward in its Technical Consultation are a major step in the right direction. Overall, the design of the proposed ZEV Mandate is good, but the ambition of the proposed targets fall way short of where they should be if the Mandate is to drive the market as intended, especially for vans. The Government should increase its 2024 targets to at least 34% for cars and 17% for vans.

It is important for the Government to remember that the purpose of this regulation is to drive ambition, not be a backstop or insurance policy. The Government should not set targets that are lower than the market would achieve anyway. Targets should be ambitious, but realistic, ensuring that manufacturers produce and deliver increasing numbers of zero emission vehicles in and to the UK.

The proposed targets for vans are simply not ambitious. Although we agree with the approach to set different targets for cars and vans, the proposed van targets in the early years are way too low. Furthermore, in the later years the proposed targets pose a significant risk of opening up a market for plug-in hybrid (PHEV) vans that does not currently exist. If the Government fails to implement far more ambitious targets for vans, it risks losing out on a golden opportunity to create a thriving battery electric (BEV) van market in the UK that attracts additional investment, manufacturing, and jobs.

The demand for electric vans already exists. Over 30 UK headquartered companies, and many others with significant operations in the UK, have signed up to the EV100 campaign to electrify their car and van fleets by 2030. Furthermore, a survey of British van drivers showed that among respondents who do not already own an electric van, almost half (49%) want to buy one in 2022.

As well as the demand, the financial business case is also there for electric vans. A study by T&E showed the total costs of owning and running an electric van in the UK are between a fifth (19%)

and a quarter less than equivalent diesel vans, even before the recent spike in fuel and energy prices. In fact, electric vans are cheaper on a total cost of ownership (TCO) basis across all use cases studied, without subsidies.

The main thing holding back the BEV van market currently is the lack of supply. Ambitious ZEV mandate targets are key to ensuring manufacturers start supplying the UK with the vans needed to meet demand from British businesses. ZEV mandate van targets should be 17% in 2024, 48% in 2027 and 80% in 2030.

The proposed targets for cars are less likely to fall behind what the market would achieve without intervention, although the early targets should be higher to drive ambition. BEV cars sales are booming in the UK, currently at 14% of the new vehicle registrations for 2022. Their sales are consistently over performing against Government and industry predictions and at the current rate of increases in new BEV registrations, the Government's proposed target for 2024 falls short of where the market will likely be by 12% - the current trajectory of sales is broadly in line with the SMMT's high scenarios for BEV uptake. More ambitious targets in the early years lock in long term CO2 savings. They also help develop an earlier second-hand BEV market. ZEV Mandate car targets for 2024 should be at least 34%, and the 2027 target at least 60%.

In the wider design of the regulation, the proposal that only zero emission vehicles (ZEVs) count towards the awarding of certificates makes sense, and we support keeping the criteria simple by awarding one certificate for one ZEV. Simplicity also means that there should be no banking or borrowing. Including these can put pressure on early targets to be weakened, which would have a significant impact on the UK's ability to meet carbon targets. Finally, the proposed system design of fixing the CO2 regulation at its current level and keeping that separate from the ZEV Mandate also makes sense. This keeps the focus on development and sales of ZEVs.

The Government is a climate leader that has committed to rapidly phase out Russian oil imports. A well designed ZEV Mandate would accelerate the switch to BEVs and provide a triple win: boosting energy security, reducing emissions from transport, and saving the population and businesses money via reduced running costs.

1. Introduction

This paper has been prepared by Transport & Environment (T&E) UK in response to the Technical Consultation on Zero Emission Vehicle Mandate Design from the Department for Transport (DfT).

T&E is Europe's foremost sustainable transport NGO, a federation of almost 60 national organisations campaigning for greener transport. T&E has been closely involved in developing previous EU car and van

CO2 regulations, defining the WLTP test, and has detailed understanding of policies to reduce vehicle CO2 emissions.

T&E is pleased with many of the proposals put forward by the Government in this technical consultation. Although we believe that the early annual targets for cars, and certainly vans, needs to be improved, the proposals put the UK on the right track to meet its target of 100% zero-emission car and van sales by 2035 at the latest. The ZEV Mandate regulation must be complemented by tax incentives for people to buy BEVs over internal combustion engine (ICE) vehicles, and the installation of a comprehensive, reliable and accessible charging network across all regions of the country. This regulation will create policy certainty that will enable manufacturers to supply appropriate numbers of ZEVs, thus ensuring the country maintains its status as a climate leader.

It is important for the Government to remember that the purpose of this regulation is not to be a backstop or insurance policy. The Government should not base targets on what existing market conditions would get us to anyway - it must push ahead of this for the ZEV Mandate to be an effective regulatory tool. This is in the spirit of the Government's climate commitments, which have emphasised ambition all along, including in the original July 2021 New Road Vehicle Green Paper, which stated that *"Outside the EU, the UK can, and will, go further in order to achieve more".*

From comparing the CCC and BNEF western Europe projections[1] and current sales, we think a series of targets broadly based on the SMMT's 'High' scenario are both realistic and achievable, though it may be that these are too conservative and ambition needs to be updated at a later date.

2. ZEV uptake trajectories

2.1. Cars (Questions 1a & 1b)

So far in 2022 (up to May), SMMT vehicle data shows that sales of battery electric vehicles (BEVs) are 12.4% of the market, far outstripping 2021s equivalent sales point (8.4%). BEVs are the fastest growing vehicle segment, and sales are continuing to outperform predictions as drivers, including fleets, continue to ditch petrol and diesel vehicles in favour of BEVs that are cheaper to own and run as well as better for the planet. In fact, current BEV sales are broadly in line with the SMMT's highest uptake scenario rather than the central scenario that the Government's proposed targets broadly follow.

Against the backdrop of the Government's commitment to rapidly phase out Russian oil imports, accelerating the switch to BEVs provides the great opportunity for a triple win: boosting energy security, reducing emissions from transport, and cleaning up our air. For this reason, the early targets set out in the ZEV Mandate must be more ambitious than initially proposed. It is crucial to see a sharp increase in targets in the early years to generate better CO2 savings and push the market to its tipping point earlier. The higher the earlier targets, the earlier the UK can create a thriving second-hand BEV market that will unlock the potential for millions of people to benefit from the cheaper running costs BEVs provide.

[1] See Appendix

Fleets will be one of the primary drivers behind accelerated BEV sales in the early years, since BEVs are cheaper to own and run than ICE alternatives on a TCO basis (particularly with favourable benefit-in-kind (BIK) rates). In fact, 31% of new orders by BVRLA members in Q4 2021 were BEVs. With fleets purchasing more than half of new vehicles in the UK, procurement decisions of fleet operators have a huge impact on the wider vehicle market. After 3-5 years, fleet vehicles go into the second-hand market. To ensure fleets continue to be the driving force behind early BEV adoption, the Government should ensure longer-term certainty and stability of BIK rates, alongside strong ZEV Mandate targets.

Some industry groups have claimed that we should be cautious against rapid electrification because the UK charging network isn't adequate. These claims are ill-informed. Our recent briefing shows that the UK public charging network is currently sufficient to meet current BEV numbers in all regions, but that some regions could fall behind when the expected rapid uptake in BEV numbers occurs post-2025, creating a postcode lottery for EV charging. The Government must introduce a statutory obligation for local authorities to plan and deliver charging to ensure the target of 300,000 charge points by 2030 is met and provides a sufficient network for all. We applaud the financial backing the Government has provided in its EV Infrastructure Strategy, but throwing money at a problem is not a strategy - it also needs the policies to ensure it follows through.

Although the upfront cost of a BEV car is still higher than ICE alternatives, those costs are continuing to fall with upfront price parity in Europe expected by 2025-2027. Although there are some legitimate concerns that the tightening of the supply chain could have an impact on battery prices, this is not expected to last as mining and recycling companies are already announcing expansions which should stabilise prices in the coming years. As a result, the inflection point for price parity is not expected to be heavily impacted. T&E's recent study also found that concerns that we don't have enough raw materials to meet electric vehicle demand to be incorrect; in fact there are enough raw materials globally to make 14 million cars in 2023, even without Russian supplies. Even if raw materials supplies tighten, 21 million BEVs could still be produced in 2025 - 50% higher than market estimates. The semiconductor chip shortage is a short-term problem that shouldn't be a constraining factor on the market in 2023.

T&E analysis of car production forecasts by IHS Markit shows around a quarter of cars produced in the EU by 2025 will be BEVs, rising to half by 2030. Since this data was published, additional production, including in the UK, has also been announced. Pre-pandemic (2019), 14 million cars were manufactured in the EU (then including UK) so this will amount to around 3.5 million BEVs in 2025 and 7 million in 2030. UK car sales are typically less than 2.5 million per year, and during the last two years car sales have been around 1.6 million per year.

2.1.1. ZEV Mandate Targets

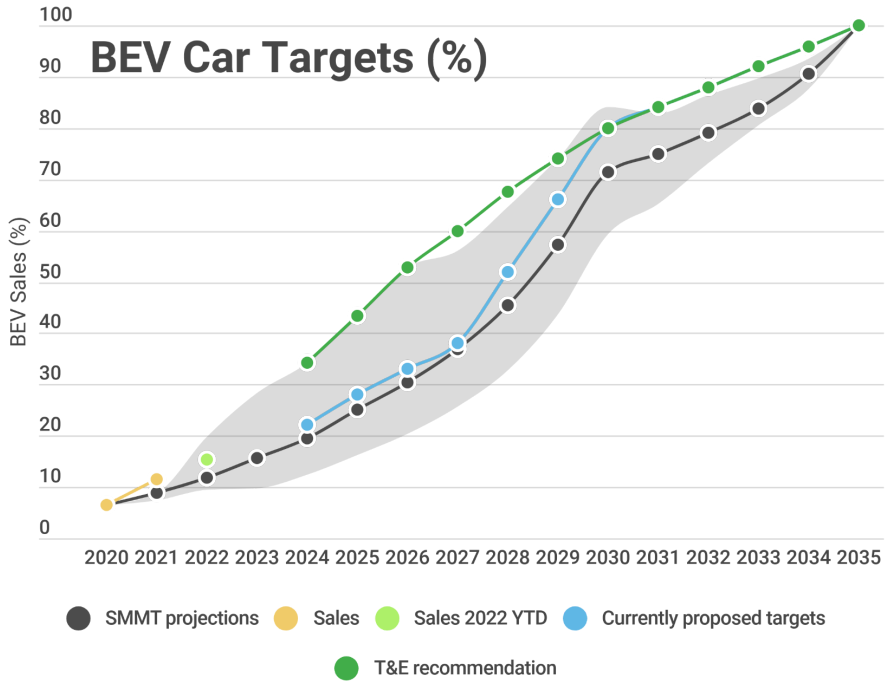
Strong targets in the ZEV Mandate can and will increase & accelerate European and UK BEV production plans, as well as ensure that manufacturers are prioritising the UK market for sales. Whilst some manufacturers' EV plans are progressing well, a recent report by Influence Map shows that others are

lagging behind on the switch to electric vehicles and actively lobbying against national and regional targets aligned with the Paris Agreement.

In our initial response to the Green Paper last year, T&E recommended the UK adopt 3 yearly targets instead of annual targets. Annual targets can pose a challenge for carmakers in terms of having to sell a set proportion of vehicles each year which does not necessarily fit with production plans. However, with the Government's proposal for an open trading system, without banking or borrowing, we are happy to support the Government's approach.

The proposed annual targets for cars can, and should, be more ambitious in the early years of the Mandate. With BEV sales already around 15% of the market and rapidly rising, a target of just 22% in 2024 is below what we can expect the market to deliver anyway. We therefore propose a target of 34% in 2024.

The proposed target of 38% for 2027 is also too low; it is towards the lower end of the SMMT's projections, meaning it is what would happen anyway. As stated previously, the ZEV mandate should not be a backstop: it should encourage realistic ambition. We therefore propose a target of 60% ZEV sales in 2027.



Year	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
T&E recommendation	34%	43%	53%	60%	68%	74%	80%	84%	88%	92%	96%	100%
Current proposal	22%	28%	33%	38%	52%	66%	80%	84%	88%	92%	96%	100%

Figure 1. T&E proposed targets for cars. The grey shaded area represents the SMMT's "High Low range". [2]

[2] Methodology in Appendix.

Setting ambitious targets for cars, particularly in the early years is a great opportunity for a triple win of CO2 savings, better air quality and energy security. The currently proposed targets fall short of where the market will likely take us without intervention anyway, with current sales figures significantly outperforming projections.

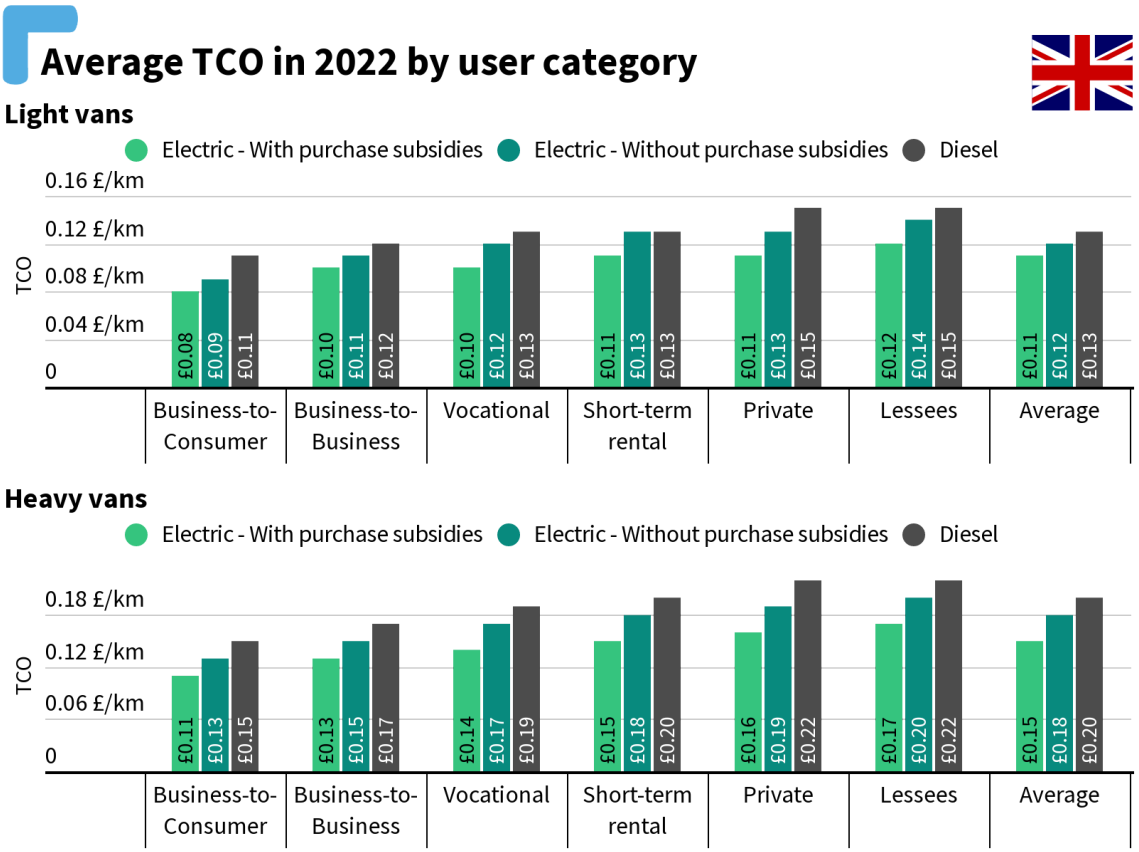
2.2. Vans (Questions 2a & 2b)

The targets proposed for vans are about 3 years behind where they should be. Although it's understandable to set the initial target at a lower level than cars due to the differing maturity of the electric van market, the targets beyond 2024 must accelerate at a much faster rate than currently proposed. This is especially true when considering that the vast majority of the nation's vans are powered by diesel, and that 19% of UK diesel comes from Russia.

The UK inherited weak CO2 targets for the van market from the EU. While the stronger CO2 targets for cars have helped to accelerate the electric car market to where it is today, the van market has lagged behind. These targets have meant that manufacturers haven't needed to supply many electric vans to be compliant, leading to the weak electric van market we currently have today. As a result, vans account for the largest emissions increase from road transport in the UK with a 61% increase between 1990 and 2019. So far this year, electric vans account for 5.2% of the UK van market, more than doubling from 2.4% at this stage last year.

The vast majority of new vans registered are by commercial users, who tend to operate on a total cost of ownership (TCO) basis: looking at the whole lifetime costs of the vehicle whilst they own it (including fuel and maintenance costs which are lower for BEVs). As soon as the TCO is positive for BEVs in comparison to an ICE van, the market will shift as it makes financial sense (as long as there are not major operational constraints). As Figure 2 shows, in the UK that point has already been reached, with electric vans already between a fifth and quarter cheaper than diesel equivalents across all use cases, for light and heavy vans,[3] with or without subsidies, assuming a 4-5 year ownership cycle.

[3] Light vans below 1.76t; heavy vans above 1.76t



Notes: Average TCO in 2022. Assuming 4 years ownership for short-term rental services and lessees, and 5 years for other user groups. Includes all taxes and subsidies.

Figure 2. TCO of electric and diesel vans in the UK.[4]

According to BNEF forecasts, the upfront cost of electric vans is continuing to fall, with upfront price parity expected to be reached with diesel vans in 2026 in the light and heavy segments. Based on economics alone, the cost-optimal trajectory would lead to 100% electric van sales in 2025 - when electric vans will be cheaper to own across the board, even when owned for much less than four years. In other words, after a year of the ZEV Mandate being operational, electric vans will be cheaper to own and run for all use cases without subsidies. This is borne out by the rise in electric van sales, which are increasing (up 62.7% from the year-to-date last year). Diesel vans, much like diesel cars, are in decline, with a 27.8% drop in the year-to-date this year compared to last.

A survey by Dataforce for T&E of British van drivers shows that 89% either already own an electric van or would consider one for their next purchase. Among respondents who do not already own an electric van, almost half (49%) want to buy one in 2022. The survey also shows that the main reasons people want to have an electric van is for environmental or economic reasons.

Furthemore, the EV100 campaign shows that many of the UK's largest fleets are ready to go to 100% EV fleets by 2030. 4 of the 5 largest corporate fleets (BT Group, Centrica, M Group and Mitie) have made

[4] From T&E Van TCO report: UK.

commitments to collectively switch nearly 55,000 vehicles to zero emission by 2030 at the latest, alongside many other fleets of significant size (including SSE, OVO, National Grid, Siemens, Severn Trent & Schneider Electric). Most of these fleets have a significant number of vans. Collectively, commitments from corporate fleet signatories to the campaign stand at over 175,000 vehicles in the UK. Furthermore, a number of the largest leasing companies have also joined EV100 to commit to 100% electric customer fleets by 2030 (e.g. LeasePlan, Lex Autolease (part of Lloyds Banking Group), Zenith).

Charging infrastructure is not as big a barrier for the UK market as many people suggest, but it is key that vans are not forgotten about as public EV infrastructure is installed. Our recent charging briefing outlines some policy recommendations, including requiring all non-residential car parks to have charging installed. These car parks could be crucial in unlocking the potential for fleets that don't have the ability to charge at depots to switch to electric vans.

Although there are some genuine concerns around operational constraints of electric vans currently on the market, these barriers are starting to be addressed. On range, for example, a T&E study found that in 2021, the average light electric van in Europe could drive 192km on a single charge in real driving conditions (up to 255km for longer range models), while a heavy electric van had a real range of 133km (up to 154km for longer range models). New models in 2022 are advertising higher official ranges (293km for light electric vans and 263km for heavy electric vans) demonstrating that range limitations are starting to be addressed.

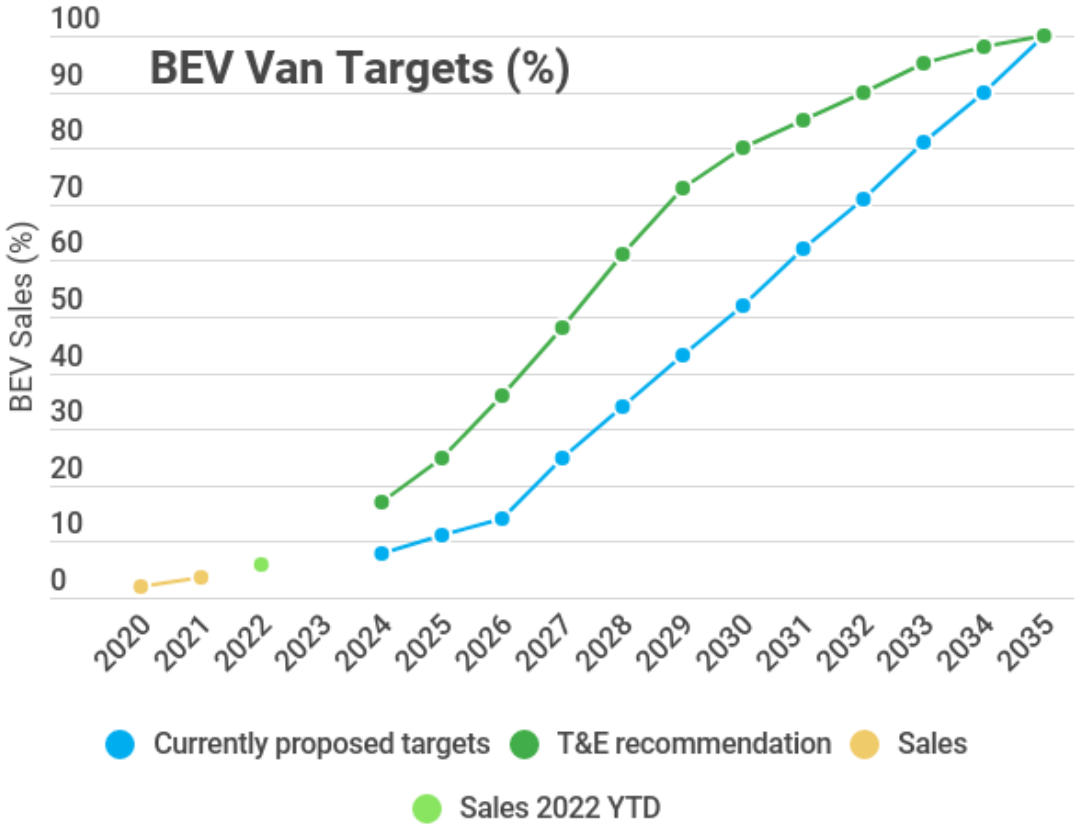
2.2.1. ZEV Mandate Targets

The electric van market is ready for rapid acceleration, but the targets need to be there to ensure manufacturers prioritise production and sales for the UK market. Under the EU CO2 targets, for example, car manufacturers delayed supplying EVs until they were required to do so and instead promoted sales of profitable ICE SUVs. Without strong targets, van makers may hold back the transition to electric vans for as long as possible to prioritise selling diesel. All told, the main thing currently holding back the electric van market in the UK is van makers holding back supply in favour of selling diesel. Strong, ambitious targets in the early years will send the right signal to van makers that they have to accelerate their plans to bring the right electric vans to the market, including models with better towing capabilities, loading capacity and other specifications.

The Government should aim for targets that significantly ramp up electric van production and sales between 2024 and 2030 to catch up with targets proposed for cars. In 2024, we recommend the Government sets the target at 17%. We believe this sets the ambition at the right, but achievable, level to ensure the supply of electric vans is increased to meet current demand in the UK. As set out above, once the van market starts to move and the financial business case is positive for fleets, it will move very quickly towards an electric market. As a result, we believe setting a target of 48% in 2027 is very realistic.

We are particularly concerned about the proposed targets for 2030. The consultation itself states that "there is a much lower proportion of plug-in hybrid electric (PHEV) vans" relative to cars. PHEV vans do

not play a significant role in the van market, with diesel and BEV vans equalling 98% of new registrations currently. PHEV and hybrid electric vans only accounted for 0.6% of van orders in 2021. BEV vans are technologically and economically superior to PHEVs and only a couple of manufacturers even produce them. Research by IHS Markit for T&E found that by 2030, PHEV vans will only make up 2.5% of the total vans produced in Europe. Since the proposed regulations would mean that no more new diesel vans will be able to be sold after this date, the other 48% of vans sold could be PHEV. There is therefore a real danger that the proposed targets only serve to "accidentally" create a market for PHEVs. PHEV vans are not competitive on CO2 savings in comparison to BEVs (even when benefiting from generous accounting methods, namely on the assumed electric range driven) and HEV vans only provide a 14% average CO2 saving compared to an ICE van.



Year	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
T&E updated proposal	17%	25%	36%	48%	61%	73%	80%	85%	90%	95%	98%	100%
Current proposal	8%	11%	14%	25%	34%	43%	52%	62%	71%	81%	90%	100%

Figure 3. T&E's proposed targets for vans.

The ZEV Mandate is a great opportunity for the UK to get ahead of other markets and ensure a strong supply of electric vans into the UK market. They are cheaper to own and run, saving UK businesses money; and they can, importantly, attract new investment and create new jobs in the UK for van

production. In the UK, we have already seen Stellantis' Ellesmere Port plant switch to an all-electric facility, and strong targets could lead to others switching too, as well as manufacturers setting up new plants in the UK. London Electric Vehicle Company also manufactures vans and start-ups such as Arrival will establish new manufacturing in the UK.

The UK can achieve this by setting ambitious targets, setting fines at a high level and maintaining strong tax incentives for zero-emission vans. The level of BEV van sales recommended is achievable but will require the UK to be a key market for sales of electric vans manufactured in Europe. This can be achieved by levying a penalty through the ZEV Mandate higher than the equivalent EU target. There will also need to be significant additional BEV van production in Europe and the UK. We will submit evidence on the setting of fines separately from this consultation.

In a similar fashion to cars, annual targets could pose a challenge for vanmakers in terms of having to sell a set proportion of vehicles each year which does not necessarily fit with production plans. However, this is negated with the Government's proposal for an open trading system that does not involve banking or borrowing, and we therefore support the Government's approach.

3. ZEV certificate allocation

3.1. Operation of ZEV certificate system & list of rewards and incentives (Questions 3a, 3b & 3c)

The Government's preference is to reward 1 certificate for 1 ZEV, and not reward other types of vehicle - especially HEVs and PHEVs - makes sense. Simplicity is important for regulations to avoid too many loopholes. The danger of adding a number of incentives is that the system ends up inflating the number of real ZEV sales there are; easy-to-reach incentives will be a way some manufacturers could get around providing the number of BEVs we need on the roads. However, we will be looking further into the potential unintended consequences of a 1 for 1 certificate system over the coming months, to specifically identify risks to the market being flooded with poor quality vehicles.

Our view is that the eligibility criteria should be kept simple to just 0g CO2/km. Adding too many criteria on eligibility could stifle the market.

If the Government wants to address some of the issues set out in its list of eligibility criteria and incentives, these can be addressed in separate legislation. For example, we believe the UK Government needs to address the environmental and social sustainability of batteries, from start to end of life - this should be addressed in separate legislation (rather than adding more complex layers to the Mandate), by setting strong rules on environmental sustainability of manufacturing, due diligence of mining and high recycling and reuse targets for metals and batteries themselves.

3.2. ZEV certificate flexibility (Question 3d)

The regulation should be kept under open review to enable the Government to monitor the market and make changes if necessary. If the market is not providing the quality of vehicles needed for the transition, criteria could be added at a later stage.

4. Banking, borrowing and transfer of ZEV certificates

4.1. Banking & borrowing (Question 4a)

We are pleased that the Government's preference is to not allow any form of banking or borrowing. Existing systems that use banking & borrowing (such as the EU's Effort Sharing Regulation) show that such flexibilities can delay much needed climate action, creating steeper and costlier abatement in the later years. This is contrary to what is needed if the UK is to achieve its Sixth Carbon Budget targets that require ZEV sales to be ambitious in the early years.

We do not believe that banking & borrowing is needed in this regulation. Allowing companies to kick the can down the road will not stimulate further innovation. Companies unable to meet targets in the early years will be able to purchase certificates under the trading scheme until they are in a position to catch up. It is also clear that the overwhelming majority of OEMs recognise the future of cars and vans is electric. As set out in a T&E briefing from 2021, increasing numbers of OEMs are already planning to end sales of ICE cars and a ZEV Mandate simply regulates this. In the UK, JLR has committed to ceasing production of ICE Jaguars by 2025, and ICE Land Rovers by 2030. Nissan is expanding its electric vehicle production in Sunderland.

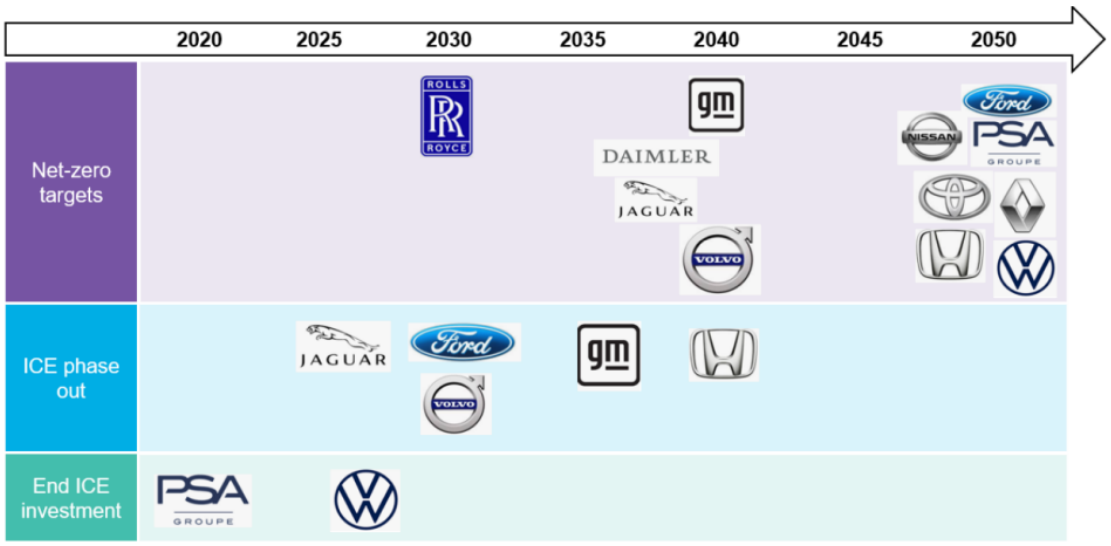


Figure 4. Overview of car manufacturer plans.

While some manufacturers may not currently have plans to sell high amounts of BEVs into the UK market, the purpose of having ambitious targets coupled with high penalties for non-compliance, would be to

attract those vehicles to the UK market. The ZEV Mandate can and should be designed in a way that manufacturers prioritise the UK market for ZEV sales. As a result, banking & borrowing is unnecessary and would significantly weaken the regulation.

The trading system is more than adequate to provide flexibility to manufacturers. The largest car manufacturers made profits of 34.1 billion euros in the first quarter of 2022 - the highest ever first quarter profit and up 19% on this time last year. Manufacturers have more than enough capital to be able to purchase certificates if they need to.

If the Government has to implement some form of flexibility into the system due to manufacturer production cycles, converting yearly targets into 3-yearly targets could be a workable solution, as long as the ambition is translated effectively into the new targets. With 3-yearly targets, banking and borrowing will be completely unnecessary.

4.2. Trading (Question 4b)

Trading should be an intrinsic part of the regulation and will be important, particularly in the early years, to enable some carmakers to avoid fines by purchasing credits from others. Trading should take place in the same period in which the certificate is earnt.

Car brands should be the regulated entities and the government create a platform through which OEMs can transfer credits between brands or one another. The market should be limited to OEMs, and not traders.

The trading system creates a level playing field for all companies and eliminates the need to provide exemptions for smaller companies. A trading system will enable companies with a very low market share, for whom the mandate would present a significant barrier to business, with a mechanism through which to meet targets.

In 2019, T&E analysed the forecast 2025 European production of BEV cars and found that by then there should be around 170 models. Notably this includes around 10 models from Toyota that is the least prepared of the large OEMs transitioning to BEVs. Toyota will nevertheless be manufacturing about 8% BEVs in 2025 and a further 10% PHEVs. It also has the capacity to import EVs into the UK from Japan and could also purchase credits from other carmakers..

4.3. Minimum pricing & cap on certificates (Question 4c)

We see no reason to limit the number of certificates that can be bought or sold. The trading system enables all manufacturers to achieve their targets irrespective of strategy to decarbonise.

5. Operation of ZEV Mandate

5.1. Linking of legal entities of one manufacturer (Question 5a)

We have no preference or contribution to make to Question 5a.

5.2. Exemptions (Question 5b)

With the proposals to include a trading element, there is no need to include exemptions for specialist vehicles. Specialist vehicles represent a very small share of the overall market and manufacturers can purchase credits to meet targets for these vehicles.

If exemptions are to be included in the Mandate, they must be specifically laid out in the regulation. For example, "blue light vehicles" is too broad a definition as police services are far better equipped to switch to EVs than ambulance services currently are.

5.3. Derogations (Question 5c)

Niche manufacturers only supply a tiny number of typically luxury vehicles and can buy credits to meet obligations under a ZEV Mandate. In fact, some of these luxury manufacturers (e.g. Rolls Royce) have existing plans for sales of electric vehicles which will help them to meet the targets without need for a derogation anyway.

6. Regulating CO2 emissions in the new non-ZEV fleet

6.1. Linking CO2 regulation to ZEV Mandate certificate system (Question 6a)

Our preference is that the CO2 regulation is not linked to the ZEV Mandate certificate system. Allowing the two systems to work independently ensures that they are at their most effective in a) increasing the number of ZEVs sold in the UK, and b) ensuring non-ZEVs do not become less efficient.

If the two schemes are to be linked, they cannot be linked in a way that allows for companies to overperform on the CO2 regulation and offset that against underperformance on the ZEV Mandate. This would have the effect of encouraging the continued development of hybrid vehicles, contrary to the Government's intention with the overall design of the regulation.

The risk of allowing companies to switch certificates earned on overperformance on the ZEV Mandate to offset underperformance on the CO2 regulation is that it could allow some companies to sell more polluting vehicles, albeit at the same time as selling more ZEVs. Although this may not be a significant problem, particularly in the long term, we would advise that the two schemes are not linked to ensure the greatest effectiveness.

6.2. Operation of CO2 regulation (Question 6b)

We strongly agree with the Government's proposed approach to fix the CO2 regulation so that non-ZEV vehicles sold do not become less efficient. This will enable manufacturers to focus their development plans on ZEVs which will help the Government to achieve its decarbonisation targets. The ZEV Mandate regulation is the best tool to help achieve that. The proposed approach would eliminate the concern that manufacturers will be required to meet two separate targets and the additional burden and cost of compliance.

Strengthening the existing regulatory framework of CO2 emissions targets for manufacturers would have been an inferior regulatory approach to the ZEV Mandate. A CO2-based approach would result in fewer ZEVs on the road by 2030 and higher emissions. Maximising the number of ZEVs on the road is a clear priority to meet the Government's ambitious carbon reduction goals for the Sixth Carbon Budget. Strong CO2 targets would only lead to higher sales of PHEVs and HEVs and consequently lower sales of BEVs.

We do not have a particular view on how the CO2 regulation should be enforced, but we would urge the Government to stick to the principle of simplicity where possible.

7. Further comments

We will engage with the Government further on our view on the setting of fines in the coming months.

Further information

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Appendix

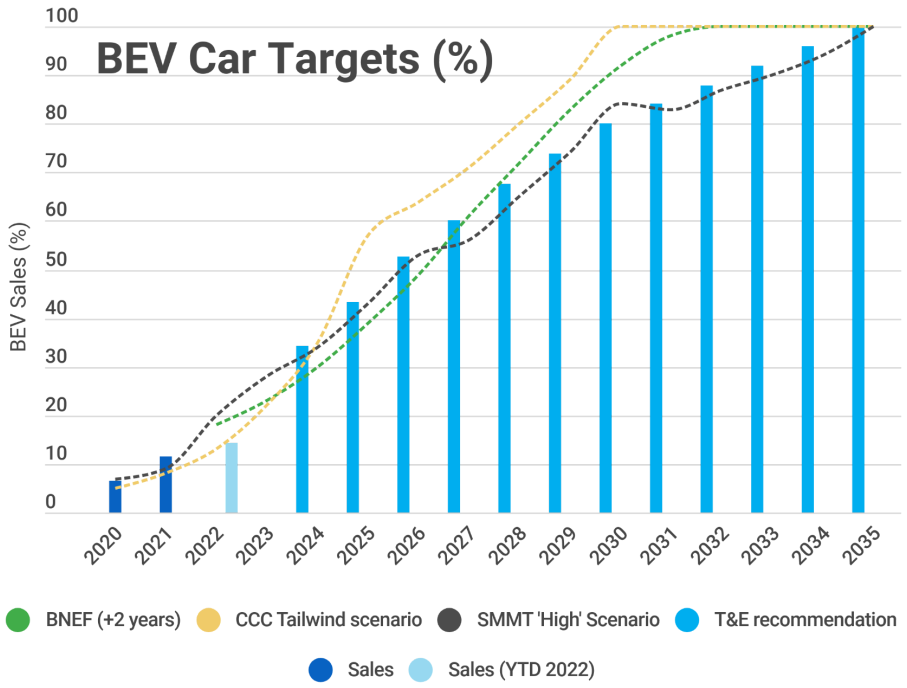
How T&E arrived at our recommendations for targets

The ZEV Mandate is intended to bolster a faster transition to zero emission surface transport, not to act as a backstop regulation. Therefore, any targets should be at least as high as the market would achieve unregulated. Over the last few years, ZEV car sales have grown faster than many expected, and there is a risk that Mandate targets become outdated, which T&E believes outweighs the risks of overambition. In our recommendations we have tried to strike a balance between maintaining the momentum we're seeing in the market and outpacing what can be realistically achieved.

In their Sixth Carbon Budget, the CCC's most optimistic projection (the 'Tailwinds' scenario) assumed a 2030 phase out of ICE sales and a percentage based target on EV sales. Given those market conditions, they estimated that BEV sales could reach the levels shown in Figure A.1 below. Currently, sales are outpacing the CCC's pathways. This is a good sign that further ambitious targets can and should be used to drive the market forward and grab the benefits of the BEV revolution for the UK as soon as possible.

In 2020, BNEF studied the falling costs of EVs and projected the impact of rapidly decreasing costs and achieving price parity well before the end of this decade on ZEV uptake. Within their projections for Western European markets, there was an expectation that some markets would move faster than others. Based on current sales rates, the UK seems to currently be around 2 years ahead of the curve.

Furthermore, the SMMT has projected ZEV sales under a range of market conditions. Assuming adequate infrastructure, sufficient cost incentives and price parity being achieved by around mid-decade, they assumed BEVs could represent the following share of sales (Figure A.1) in an unconstrained market that recovers quickly to around 2.3 million annual sales. Although there are presently constraints on the market involving a shortage of chips and potential scarcity of the metals required to make EVs, presently this does not seem to be depressing demand, and T&E does not expect it to materialise as an issue. It should be noted that supply chain issues are affecting the ICE market, too, and that BEV sales seem less affected by shortages.



Year	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
T&E recommendation	34%	43%	53%	60%	68%	74%	80%	84%	88%	92%	96%	100%
Current proposal	22%	28%	33%	38%	52%	66%	80%	84%	88%	92%	96%	100%

Figure A.1: Comparison of projections based on assumptions similar to present market conditions.

From comparing the above projections and current sales, we think a series of targets broadly based on the SMMT's 'High' scenario are both realistic and achievable, though it may be that these are too conservative and ambition needs to be updated at a later date.

For vans, we have based our recommendations on the 'accelerated' adoption pathway modelled by BNEF, which is consistent with a 2035 phase out date. This forecast was adapted to account for low supply and for issues with charging for fleets, and is once more based on TCO and price parity considerations.