CO_2 emissions regulatory framework for all newly sold road vehicles in the UK

Motorcycle Industry Association (MCIA) response, September 2021

Question 26 p.35:

Should the preferred regulatory approach be extended to all L-Category vehicles or should the diversity of the sector (motorbikes, mopeds, motorised tricycles, quadbikes, motorised quadricycles etc.) necessitate different approaches?

The Motorcycle Industry Association (MCIA)

1. MCIA represents 93% of the supply side of the industry; the manufacturers and importers of Powered Two Wheelers (PTWs) and other L-Category vehicles, accessory and component suppliers and companies providing associated services.

Executive summary

2. We wholly agree with the urgent need to reduce emissions across all modes of transport, including L-Category vehicles. However, we do not believe the proposed regulatory framework, as set out in the Green Paper, is the most appropriate, effective or proportionate way of doing so for the L-Category sector.

3. We therefore believe the preferred regulatory approach **should not** be extended to all L-Category vehicles.

4. **MCIA and our manufacturing and importer members are committed to not only working with Government in finding the best way forward in terms of reducing sector emissions, but also looking forward to helping co-create a preferred L-Category regulatory framework. Whether this is a focus on a ZEV mandate for the lower powered segments of the L-Category classification, as we believe segments up to 11kw will be fully electric ahead of 2035 (possibly even 2030), for example, or other CO_2 thresholds the higher powered/heavier segments of L-Category classification can work towards, we are committed to helping government realise its Net Zero and general transport decarbonisation ambitions.**

5. It follows that we are acutely aware of the fact the longer our sector falls behind other transport modes in emissions reduction efforts, our current 0.41% contribution to transport emissions will soon increase (proportionately). However, it must be noted that, such is the variability of the L-Category vehicle classification, a direct application of that which is proposed in the Green Paper, principally for M and N-Category vehicles, is not transferrable.

6. The design, manufacturing and use of L-Category vehicles is wide ranging, meaning different parts of our sector are at different stages with regards to technology development, particularly electrical capability, for example, and are therefore not on a level playing field when it comes to being able to reduce emissions by a certain point.

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7. Hence, we are keen to explore with DfT a bespoke but simple approach to our sector which recognises which segments might be able to achieve certain emissions targets and by when, but also those categories that will need additional support and/or time in being able to do so.

8. Below we set out our starting position for exclusion (based on the proposed framework as it is currently drafted) given our limited environmental impact and the fact the regulation, as proposed (and based only on what's included in the Green Paper), would in actual fact exclude the vast majority of our member manufacturers anyway, meaning significant work for very little gain, both for DfT, but also many of our SME manufacturers who lack expertise and resource.

A significantly small contributor to environmental damage

9. Central to our position is an assessment of the real-world impact on the environment from our sector in the UK. As such, any future regulation must be proportionate and address a specific problem. Regulating for the sake of regulating diverts resource away from sectors which, arguably, require it more due to their environmental impact.

10. DfT recognised explicitly within the Transport Decarbonisation Plan the limited impact our sector has on the environment, equating to approximately 0.41% of transport CO_2 emissions. MCIA therefore believes efforts to reduce CO_2 emissions should be proportionate to a sector's environmental impact. So, only 0.41% of the Government's total emissions reduction efforts should be directed at L-Category vehicles.

11. Additionally, volumes of L-Category vehicle sales and their actual emissions against current targets must also be considered. MCIA has reviewed registrations for the years 2019-20 to assess what the L-Category sector was producing when it comes to CO_2. Table 1 demonstrates this.

Table 1: Registrations of L-Category vehicles 2019-2020

Category	Registrations 2019	Registrations 2020
L1	5115	5620
L2	4	14
L3	97,321	91,796
L4	0	2
L5	655	817
Total	103,095	98,249

12. For example, there were 2.3 million cars and 369,000 Light Commercial Vehicles (LCV) registered in 2019. In the same period, the L-Category sector registered 103,000 vehicles which equates to less than 4% of total cars and vans registered[1].

[1] DfT Vehicle Licensing Statistics: Annual 2019

13. In 2020 (with Covid-19 in mind), 1,620,000 cars and 296,000 LCVs were registered, with L-Category vehicles representing just 5.1% of total UK registrations in 2020[2].

14. This clearly shows one of the reasons why the impact of L-Category CO_2 emissions is so low as a percentage of domestic UK transport CO_2 emissions.

15. Although there are differences in volumes of CO_2 emissions between L-Category vehicles, as a sector, based on registration of vehicles and their declared CO_2 data (where indicated), when compared to the current EU emissions regulatory targets, they are lower:

- L-Category sector 2019: 78.1g CO_2/km
    - 17.8% below the 95g CO_2/km
    - 8.8% below the 85g CO_2/km
- L-Category sector 2020: 79.7g CO_2/km
    - 16.6% below the 95g CO_2/km
    - 6.6% below the 85g CO_2/km

16. However, these values are based on declared CO_2 values as identified on the vehicle Certificates of Conformity (CoC) and not all data fields were complete for all registered vehicles. Therefore, the data covers their potential for generating CO_2 for every kilometre travelled. Again, the actual volume of CO_2 will be this value against the distances travelled which is known to be lower than cars and LGVs.

Limited value-add for DfT - cost-benefit analysis

17. The current regulation allows for manufacturers registering more than 300,000 cars or 22,000 vans per annum to apply for a derogation from the top level 95g/147g CO_2/km targets, instead receiving an adapted CO_2 target.

18. A similar situation could be applied to L-Category vehicles to assess volume of vehicles produced as a factor against potential emissions regulation and to see where L-Category manufacturers sit when it came to derogations under the current regulation. Table 2 demonstrates this.

NB: we appreciate this is based on EU regulatory targets, and legislation moved over into UK law, and understand new UK-specific targets are yet to be defined. As such, the figures below, including on page 5, have been based on what's currently in UK law as well as information in the Green Paper and serve only to provide an idea of how L-Category vehicles might be affected by the proposed regulation as things currently stand.

Table 2: Potential emissions derogations for L-Category

Manufacturer Category	**Registrations per calendar year**	CO_2 **target - Motorcycles**
Out of scope	<1,000 motorcycles	N/A
Small volume	1,000-9,999 motorcycles	Negotiate bespoke CO_2 target with enforcement authority

[2] DfT Vehicle Licensing Statistics: Annual 2020

Niche volume	10,000-300,000 motorcycles	From 2020, a fixed 45% CO_2 reduction against their 2007 baseline
Major volume	>300,000 motorcycles	Target as set out above against a ?g CO_2/km fleet-wide target (value unknow as it does not yet exist)

19. For example, if the total emissions from manufacturers within L-Category are assessed against the potential derogation based on production volume, it would be possible to assess the scope of any emissions regulation that would be applied to L-Category (as regulation currently stands). As part of this volume production assessment, it would be possible to review the potential impact against a baseline of 95g CO_2/km (2020-21 target) and 85g CO_2/km (2024 target).

20. However, if we also include the average emissions values per kilometre of the L-Category manufacturers and consider their average emission values when compared to the current regulatory target values, this reduces the potential scope of regulation (as it currently stands) even further.

21. We believe this to be the right approach to take because it isn't just a fact that the manufacturer vehicle volumes are low within the sector, but the average CO_2 emissions volumes are also low. Therefore, considering both factors is crucial for any 'real-world' assessment of potential environmental sector impact and liability under the current regulation (and future regulatory considerations).

22. Following our assessment of the scope of any emissions regulation and the extent to which it would be applied to L-Category vehicles, we found that:

2019 figures (volume production and average emissions)

23. Based on registrations against manufacturers of L-Category vehicles in 2019, potential liabilities under current regulation are (assumption that **≤95g** CO_2**/km** will be a deciding factor):

    - 2019 registrations with 94 manufacturers
        - 0 major volume manufacturers (0%)
        - 0 niche volume manufacturers (0%)
        - 5 small volume manufacturers (5.4%)
        - 89 out of scope manufacturers (94.6%)

24. Based on registrations against manufacturers of L-Category vehicles in 2019, potential liabilities under a new regulation are (assumption that **≤85g** CO_2**/km** will be a deciding factor):

    - 2019 registrations with 94 manufacturers
        - 0 major volume manufacturers (0%)
        - 1 niche volume manufacturer (1.1%)
        - 9 small volume manufacturers (9.6%)
        - 84 out of scope manufacturers (89.4%)

2020 figures (volume production and average emissions)

25. Based on registrations against manufacturers of L-Category vehicles in 2020, potential liabilities under current regulation are (assumption that **≤95g CO_2/km** will be a deciding factor):

    - 2020 registrations with 93 manufacturers
        - 0 major volume manufacturers (0%)
        - 0 niche volume manufacturers (0%)
        - 5 small volume manufacturers (5.4%)
        - 88 out of scope manufacturers (94.6%)

26. Based on registrations against manufacturers of L-Category vehicles in 2020, potential liabilities under current regulation are (assumption that **≤85g CO_2/km** will be a deciding factor):

    - 2020 registrations with 93 manufacturers
        - 0 major volume manufacturers (0%)
        - 0 niche volume manufacturers (0%)
        - 9 small volume manufacturers (9.7%)
        - 84 out of scope manufacturers (90.3%)

27. As is clear, when the average emissions are considered (on top of the volume of vehicles manufactured) more of the L-Category sector falls into an 'out of scope' position under the current regulation. Appendix 1 clarifies what the manufacturer category placement would mean for the L-Category sector.

Technical difficulties and the need for increased R&D

28. There are also significant technical hurdles manufacturers would have to overcome in being included in this regulatory framework. L-Category vehicles face difficulties when it comes to CO_2 emissions controls, as well as economic difficulties due to the relatively low number of manufactured vehicles (the UK market is noticeably smaller than other major markets). Therefore, misguided application of stricter CO_2 emissions (including reduction targets), particularly for the higher-powered L-Category segments where electrical technology doesn't exist like it does for L-1 Category vehicles, for example, could result in the loss of L-Category vehicles as manufacturers don't have the resource or finance to cover design changes.

29. Added to this is the fact the intended ICE phase out means any technologies that are developed will be (potentially) for very limited life products and systems. The need to work on ICE technology and exhaust gas treatment (in both resources and finance) could result in lower than ideal resource and finance being available for electrification of the fleet (or other potential power plant technologies).

    Other specific technical difficulties include:

30. **Little warning** - the car/van industry has been living with this since at least 2009 and are aware of it (regardless of their failings, or otherwise to achieve the 95g CO_2/km EU limits originally set for 2020). This will not be the case for the L-Category sector which, if incorporated into the revised regulations, would have little pre-warning (and would have to react in a very short space of time for a much-reduced period (phase out of non-zero emissions ICE). That said, we have been encouraged to hear that any future proposed

regulation would be consulted on by us at length, alongside DfT, and so would hope ample time would be afforded to our sector in making the appropriate adjustments.

31. **World Harmonised Motorcycle Test Cycle (WMTC)** - The emissions framework utilises the New European Driving Cycle (NEDC) and Worldwide Harmonized Light Vehicle Test Procedures (WLTP) for the car/van emissions target calculations. L-Category vehicles use WMTC (used as an alternative to NEDC emissions testing and as an equal to WLTP – depending on which stage of the test is being referred to). For this reason, it is not possible to establish a comparative test evaluation, nor would it be practical to introduce UK-specific testing requirements.

32. **Euro 5** – Further to consideration of the above, it should be noted L-Category vehicles are currently at Euro 5 emissions status which differs from M and N-Category vehicles which are currently at Euro 6 status. Historically, L-Category vehicles by definition of their lower market volumes, smaller capacity (engine size) and lower mileage use case, have been subject to a different regulatory framework and therefore require a bespoke approach.

33. **M and N-Category vehicles are physically larger** - This greater volume allows for easier fitting of exhaust gas post-treatment systems and any fluids that they may need to operate correctly and reduce tailpipe emissions. This is not the case for L-Category vehicles as they are extremely restrictive by design which has a major impact on emissions controls technologies as they currently stand.

34. **Economies of scale** – Where engine designs might need to be changed to incorporate engineering features that assist L-Category vehicles in meeting any emissions reductions, the low numbers of ICE units which will end up being manufactured will make the ICEs themselves very expensive and, therefore, risk making the cost of the L-Category vehicle disproportionately high. Where ICE technology or design might end up in the 1,000's/millions of car/van applications, the same for L-Category vehicles may only be in the 1000s/100,000s, far fewer units to spread development, test and manufacturing costs over.

35. **Splitting R&D resource** - As with M and N-Category manufacturers, L-Category manufacturers only have a finite ability when it comes to R&D capability and resources. Burdening these resources with regulatory requirements over and above that necessary for the current workload of technical improvement, or development for the potential loss of non-zero CO_2 emission ICE, especially for very limited gain or improvement, could be counter-productive to longer-term emissions success.

36. Therefore, further burdening on L-Category manufacturers' R&D capability for the sake of potential short-term gains on a technology which is (in a relatively short timeframe) likely to become defunct (when efforts and resources may be better utilised for future technologies with a greater shelf-life), could be considered a short-sighted approach to the longer-term solution of CO_2 emissions.

Importers and distributors

37. The route to market (distribution model) for L-Category vehicles is significantly different to M and N-Category vehicles. L-Category vehicles have several importers/distributors that purchase vehicles from numerous overseas manufacturers (generally in the far east) and then import to the UK. Whilst this may be an effective business model for the type of vehicle in question, when it comes to requirements to re-engineer or redesign (especially for something as intrusive as emissions controls), then this is likely to cause far-reaching and damaging consequences.

38. Considering the size of the UK market (see table 1) and the potential size of markets that the suppliers of imported vehicles also supply, regulatory divergence/excessive emissions controls over and above those currently required in the UK could result in many suppliers ceasing to export to UK importers. Without the need to further identify what this response by overseas vehicle manufacturers would mean, it is likely that the vehicles open to import greatly reduce, or even in a worse case, fall to zero.

39. It is important to note that many of the imported L-Category vehicles are in the L1-Category which, when reviewing the average CO_2 emissions for L1-Category registrations for 2019-2020, produced:

    - 2019 – 51.8g CO_2/km
    - 2020 – 49.5g CO_2/km

40. These are already notably lower than the current emissions regulatory requirements.

Motorcycle Industry Association (MCIA), September 2021

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Appendix 1: L-Category manufacturer category placement

Niche volume manufacturer (>10,000 and ≤ 300,000 vehicles per year)

Manufacturers that fall under the 'niche' category would technically be liable for CO_2 limits at 45% of their baseline as of 2007. However, this will not really be possible to establish due to CO_2 values for L-Category not being published or tracked in 2007 (the requirements for CO_2 values to be recorded on CoCs was not in existence before the move to Euro 5 at the beginning of 2021). Therefore, further clarification would be required on exactly where in time L-Category would be establishing its CO_2 baseline from.

It is noted that within REGULATION (EU) 2019/631 (*setting* CO_2 *emission performance standards for new passenger cars and for new light commercial vehicles, and repealing Regulations (EC) No 443/2009 and (EU) No 510/2011*) which is the basis for the regulation retained in UK law:

Article 10 states:

"Where information on a manufacturer's average specific emissions of CO_2 *does not exist for the year 2007, the Commission shall determine an equivalent reduction target based upon the best available* CO_2 *emissions reduction technologies deployed in passenger cars of comparable mass and taking into account the characteristics of the market for the type of car manufactured."*

On the basis that the L-Category data would be required to assess emissions reductions technologies as per L-Category vehicles, this could still mean assessment of technologies, that due to their size, are not as effective as M and N-Category emissions technologies. This work would also have to be carried out alongside drafting of modified regulations for L-Category vehicles.

Small volume manufacturer (>1,000 and ≤ 9,999 vehicles per year)

Manufacturers under the 'small' category would be able to negotiate a bespoke CO_2 target with the relevant enforcement authority. However, based on the market, technical and financial difficulties in emissions controls for L-Category vehicles in the UK, it is considered that this negotiation should be (at this time) no CO_2 target. Any CO_2 target could be devastating considering the limited numbers of registrations of some of the manufacturers that fall into this manufacturer category.

Out of Scope Manufacturer (<1,000 vehicles per year)

Most manufacturers and importers are producing below the 1,000 vehicles required to meet the current emissions regulatory framework planned for L-Category, which results in them technically being exempt from CO_2 targets. Even where there may be cases where importers (if they are the manufacturer covering all registrations, no matter the number of overseas manufacturers involved) are registering numbers of vehicles that may exceed the 10,000 vehicles for the niche volume, would still be a very small minority and those totals would be very unlikely to be >300,000 vehicles.

There are no 'major volume' manufacturers of L-Category vehicles (in accordance with the current/intended emissions regulatory framework criteria) in the UK.

It has already been highlighted that there are plans to remove some of the derogation tiers (small and niche) or reduce the numbers of vehicles qualifying manufacturers for the current tiers in the revised regulation. When considering this approach for L-Category this seems

unfair on at least a couple of fronts. Firstly, M and N-Category, when the regulation was introduced, were given certain routes to derogation based on smaller (and therefore, likely less able) manufacturers having difficulties in meeting the laid down targets.

This allowed appropriate use of CO_2 reduction philosophies where the main issues were the greater number of manufactured 'polluting' vehicles. This also reduced the risk of manufacturers either leaving the market (loss of vehicle choice and diversity and competition), or not being able to function as a business full stop and ceasing trading. Secondly, the issues with emissions controls when it comes to L-Category vehicles is well known. For example, very little chance of hybridisation, a very small packaging envelope for systems (pre-engine, on/in engine, and post-engine) and the inherent issues with combustion and small, higher revving ICE.

However, it appears there may be appetite to not follow with this principle for L-Category, where sudden incorporation into a regulation would occur (where there is already known weaknesses) with seemingly little-to-no concern on the effects that this might have on lower-volume producing manufacturers. It is difficult to fathom why it was felt that this was appropriate for M and N-Category but is now not considered appropriate for L-Category (or is even being considered as inappropriate) other than 'appearing to do the right thing' regarding efforts to lower CO_2 towards the non-zero tailpipe emissions ICE phase-out date.

In fact, when looking at all the issues with the L-Category sector and emissions, it could equally be argued that there is scope for 'increasing' the number of vehicles within the manufacturer categories to consider the problems of vehicle design and packaging – not decreasing them or removing the derogation options. Or, adding more manufacturer categories which add further granularity to assessing and controlling CO_2 emissions due to the number of sub-categories of vehicles within the L-Category sector – essentially L-Sub-category manufacturer categories, instead of small and niche, etc. Alternatively, a hybridised L-Category sub-category against manufactured volume and manufacturers' category system.