

Low Carbon Fuels Strategy: Call for Ideas

MCIA submission, April 2022

About MCIA

1. The Motorcycle Industry Association (MCIA) represents over 90% of the supply side. This includes the manufacturers and importers of powered two wheelers (PTWs) and other [L-Category vehicles](#), accessory and component suppliers and companies providing associated services.
2. The L-Category regulatory framework is subdivided into seven groups of vehicles, each defined by power output, number of wheels, seating layout and weight.

Context: Low carbon fuels for the PTW sector

3. MCIA's ambition, based on the 'right vehicle for the right journey' concept, and in accordance with a multi-pathway approach, is to continue to offer the market a variety of powertrains, each of which will contribute to decarbonisation.
4. Whilst CO₂ emissions from ICE PTWs continue to be reduced, due to new technology, design and the introduction of e-fuels, the industry will continue to place more electric vehicles on the UK market every year.
5. PTWs can and must play a key role in the future of our urban and sub-urban transport systems as an affordable and cleaner form of personal mobility. This is especially the case for zero emission variants, something our recently published joint Government and industry [Action Plan](#) shows clearly.
6. The Plan put forward ten actions Government and industry must take together if these vehicles are to be liberated and, in turn, have their full potential realised in the quest to decarbonise our transport systems and reach net zero by 2050.
7. However, the complexity of the L-Category regulatory framework, within which PTWs sit, means that what's feasible for some vehicles, isn't feasible for others. This is particularly true when it comes to ensuring zero emissions at the tailpipe.
8. For example, towards the lower end of the L-Category framework, where around 60% of L1 vehicles are already fully electric, it's feasible that the rest could transition earlier than 2035 (the date DfT has provisionally given us for the phase out of new non-zero emission vehicles, subject to consultation).
9. However, as the electrification of the L1 sector accelerates, the increased range, power, and performance required of the PTWs that make up the L3 sector, provides more of a challenge for manufacturers. Electric is not a silver bullet to our diverse sector. Key powertrain components such as batteries, motors and controllers are often more expensive to purchase in comparison with internal combustion engine (ICE) equivalents and the technology is not yet fully developed for use in L3 PTWs. This then requires the development of bespoke units by the PTW manufacturer and the adoption of compromised design solutions to make use of components that exist in the market, which results in the

inability to meet the user's demands with regards to performance (especially electric range) and cost.

10. This can result in further cost being driven into the final product, to the extent that some manufacturers are understandably cautious about introducing zero emission PTWs to their product range until the technology (especially energy density of batteries) reaches a level which allows the electrification of more PTW sectors without compromising the user's demands and the business case becomes more viable.
11. Similarly, from a consumer perspective, the current price premium associated with L3 electric PTWs and the limited number available on the market are both limiting factors at present in their widespread adoption.
12. This is why existing fossil fuels and low carbon fuels are important for the foreseeable future to ensure certain segments of the market survive prior to technology enabling a net zero, cost effective and viable longer-term solution.

Transitional role of ICE

13. There are currently around 1.29 million PTWs in use in the UK, the vast majority of which still operate using an ICE. Although we agree with the sentiment behind ensuring zero tailpipe emissions, it is equally important the whole life cycle of a vehicle's environmental impact is considered in the phase out consultation on new non-zero emission L-Category vehicles and the drive towards net zero more broadly.
14. Being smaller, lighter, and generally less powerful than larger vehicles, PTWs typically consume less energy during both their manufacture and their use on the road. This translates into lower greenhouse gas (GHG) emissions over the lifetime of the vehicle. A recent MCIA commissioned study¹ concluded that L-Category vehicles are particularly suited to single person commuting or light delivery when comparing the life cycle GHG emissions of other PTWs with a variety of cars and vans across several different use cases.
15. For example, one scenario compared an L1 electric moped with a small battery electric passenger car, each vehicle travelling 100-150km per week on the same inner-city commute. Being battery electric, both were said to be zero emission at the tailpipe, however, the L1 moped produces substantially lower lifetime GHG emissions per km than its four-wheel counterpart, whether that be during the manufacture of the vehicle or its use on the road, underlining the inherent advantage of the PTW being a small, lightweight vehicle.
16. Another scenario compared an L3 125cc petrol motorcycle, used for local delivery or for single person commuting, with a small battery electric car and a petrol mild hybrid car performing the same local commute, in addition to a small battery electric van being used for local deliveries. The petrol motorcycle was found to exhibit a saving in lifetime GHG emissions per km over the comparator vehicles, particularly the petrol fuelled car, demonstrating the transitional role that ICE PTWs still have to play in getting us to net zero by 2050.
17. Given the phase out consultation focuses on ending new non-zero emission at the tailpipe L-Category vehicles rather than the ICE, low carbon fuels, as well as e-fuels/synthetic fuels

¹ Zemo Partnership, "Powered Light Vehicles Lifecycle Analysis Study", November 2021

have a huge role to play in transport decarbonisation, not least given PTWs' limited environmental impact (0.4% of total UK transport emissions).

18. While the L1 electric market continues to grow at pace, low carbon fuels could prove an effective way to reduce transport emissions and protect segments of the L-Category sector which are not yet able to adequately adapt to electric powertrains within the timeframe Government is currently suggesting.
19. This is due to things like the weight of suitably sized electric batteries and the effect these may have on handling and dynamics. As such, trade-offs between weight, range, costs and consumer expectations are still huge determining factors in market volumes for leisure-orientated electric PTWs. Therefore, electric PTWs still have a long way to go before its worth manufacturers' time in investing in their development if they aren't going to serve the customer's demands.
20. LCFs/synthetic fuels have obvious advantages in that they can be used in the running fleet. This means their decarbonisation effects would materialize at the time of availability of the fuel, not just at the time of availability of new vehicles. LCFs/synthetic fuels can also be supplied via the existing fuel station infrastructure and do not require long lasting and costly implementation of new refuelling/recharging infrastructure.
21. Our Action Plan showed our commitment to the Government's decarbonisation agenda. However, it must recognise the challenges higher powered leisure motorcycles face in switching to alternative powertrains and be open minded about alternative and low carbon fuels used to power ICE.
22. Electrifying higher powered leisure motorcycles in a way that is commercially viable could prove to be far too big of a challenge to meet consumers' needs at this stage given existing technology. The industry must be given the time and help to transition to different powertrains.
23. While electric PTWs will be the predominant solution for urban mobility in the future, PTWs with conventional ICE still have an important role to play. It is important that the UK continues to support the adaptation of the PTW industry, as per our Action Plan, by continuing to fund the research and development of low carbon/synthetic fuels.
24. PTW manufacturers have much smaller economies of scale to support the transition from internal combustion to electric powertrains. More time will be needed for these manufacturers to research and develop robust and technically reliable EV systems in order to provide consumers with high quality products that reflect the higher costs of applying this new technology, and to continue to meet their expectations and demands.
25. Moving forward, it is of paramount importance that policy makers remain genuinely technology neutral in their approach. As the Minister for Future of Transport recently said to us in a letter, there can be no one size fits all approach to L-Category.
26. Decarbonisation is far too important an agenda to be restricted to electrification only. A transitional process, which is what MCIA is calling for, will go through different stages and so being prescriptive with specific technologies means limiting choice and constraining innovation.
27. Although MCIA is fully supportive of the net zero agenda, we believe a more appropriate approach to take from Government would be to let the industry and market develop

naturally and accept the appropriate solutions. In any case, all pathways towards decarbonisation should be supported and exploited as much as possible.

28. In addition to manufacturers' efforts in bringing electric vehicles to market, Government must also play its part in helping to pave the way for market uptake of these vehicles. We welcome the new Infrastructure Strategy but remain concerned PTWs do not feature as much as they should. MCIA will continue to work alongside the DfT on the delivery of the Action Plan this year, as well as on the development of the Local Authority Transport Decarbonisation Toolkit, within which PTWs and their charging needs should feature.
29. Electrification is not the only solution and manufacturers are committed to exploring the opportunities that low carbon fuels might present and how they might be able to develop into a net zero fuel in the future.
30. Current petrol and low carbon alternatives are critical to the sustainability of our industry. Where possible, these should not be cost prohibitive and should be further developed and made available for use in our sector's products for longer (which have a significantly smaller impact on the environment), until current technological barriers for net zero L-Category products are overcome.

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