Low Carbon Fuels Call for Ideas

CONFEDERATION OF PASSENGER TRANSPORT

Executive Summary

- There currently is no clear pathway for coach operators to decarbonise, low carbon fuels could be a beneficial transitional solution whilst the sector waits for a viable zero emission technology to be developed
- Low carbon fuels are, on average, 20% more expensive than diesel and have a lower energy content, it is vital government introduce the correct fiscal incentives to encourage operators to use them and to reimburse the lower energy content of the fuel
- For bus and coach to commit to using this lower emission fuel, it is vital that they are given the confidence that there will be sufficient supply for their operations
- Some low carbon fuels perform differently to diesel and may require engine modifications, a guide on how to use them would help give confidence to operators and would increase the uptake
- Bus operators are predominantly focussing on transitioning to zero emission buses, however there may be a need for increased use of low carbon fuel for smaller, more rural operators as their transition to zero emission is expected to take longer.

CPT Response

Low carbon fuels can offer a beneficial transitional solution for coach operators whilst they wait for zero emission alternatives to develop

In December 2021, CPT established a Zero Emission Coach Taskforce to identify the barriers to the decarbonising coaches, supported by robust industry evidence.

The taskforce has identified the core barriers facing operators which fall into four core categories.

Vehicles: coaches deliver a wide multitude of services which cover varying distances. Battery electric vehicles currently won't deliver the range required for longer distance services. Hydrogen could deliver the required range however requirements in the RTFO rules and high cost of producing green hydrogen is making it difficult to offer hydrogen at a price that is cost effective to the operator and is preventing the uptake of vehicles.

Infrastructure: the current diesel refueling infrastructure enables coach operators to travel long distances confidently knowing they will be able to

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refuel when required. The lack of electric and hydrogen refueling options on the strategic road network creates range anxiety. Additionally, many operators will be unable to install recharging infrastructure at their depots due to short lease contracts, limited space available and high installation and connection costs.

Operational: coaches transport large amounts of people to a wide range of locations, requiring a coach full of people to stop at a location on route to recharge for 1-2 hours is unrealistic and unworkable. Electric batteries will significantly increase the amount of weight carried, resulting in a reduction in payload capacity. This will reduce the number of passengers and luggage a vehicle is able to carry, which could lead to an increase in vehicles needed or the need for coaches to be made larger, which would restrict their access to many locations with narrow roads.

Cost: the zero emission coaches solutions that are available are significantly more expensive than a standard diesel coach, making them unaffordable for most operators to purchase outright. The uncertainty around residual value and battery life makes developing affordable business cases difficult.

The largest, overarching barrier is the lack of certainty over which technology solution will be the best suited for coach operations. Until a clear direction is given to industry, the development of vehicle solutions and supporting infrastructure cannot progress and the cost of the few solutions that currently do exist will remain unaffordable to most operators.

CPT will be producing a report which will provide greater detail on the above summarised barriers in the Spring.

Operators recognise the benefits using low carbon fuels can deliver, in particular HVO which can reduce greenhouse gas emissions by 85-95% and agree it would be a beneficial transitional fuel whilst zero emission alternatives become a more viable option for a greater number of services.

The industry anticipates there will be significant improvements in zero emission technology over the coming years and the investment in these solutions will then be driven forward by the larger companies. Low carbon fuels will therefore enable smaller operators to reduce their emissions whilst zero emission technologies develop and become more affordable.

It is vital that the right incentives are in place to enable and encourage operators to transition

Low carbon fuels on average cost 20% more than diesel and have a lower energy content which means more fuel is needed to cover the same distance as diesel. There is minimal demand from clients/passengers asking

for greener fuels, and those who have made requests are not willing to pay the extra cost which makes it difficult for operators to justify the increased expense.

If the government looked to introduce fiscal incentives that would reduce the cost of low carbon fuels to lower than, or in line with, diesel this would help encourage operators to make the switch and would help reimburse for the lower energy content of the fuel. This has already been demonstrated with biomethane which receives a fuel duty discount that has been highly influential in helping long haul HGV operators switch to using biomethane in their gas trucks.

We are aware of some work being done by Zemo Partnership to develop a proposal for Government to offer a fiscal incentive to improve the business case for renewable diesel (both FAME and HVO) for use in heavy duty vehicles. The proposal is to offer a discount in fuel duty based on the greenhouse gas emission performance of renewable diesel, up to a maximum of 15ppl. This would mean that a company running on 100% HVO which would deliver a 90% saving in emissions would receive a 14ppl discount, if the operator were running on a 20% blend of HVO they would receive a 4ppl discount. This mechanism will help improve the business case for adoption of higher blends of FAME and HVO.

Certainty that supply will meet demand

We recognise that there is currently a very limited supply of low carbon fuels available, and the demand will increase over the coming years, particularly from the aviation, maritime and freight sectors.

It is important that the need for the coach and bus sector to have sufficient access to low carbon fuels is recognised. As discussed above there are multiple operational and cost barriers facing the coach sector, low carbon fuels will enable operators to significantly reduce their emissions whilst they wait for the direction and certainty needed to remove the barriers.

Operator guidance on how to transition to low carbon fuels effectively and avoid any operational errors

There are currently several bus and coach operators who are using low carbon fuels or have trialled them in their operations. Through this use, there have been some valuable lessons learnt on how these fuels perform. It is vital that operators are made aware of the differences and the potential engine modifications required so they can use them efficiently in their vehicles. Operators also need certainty that they can use low carbon fuels in their vehicles, particularly their older vehicles, without any adverse effects.
The government could work with vehicle manufacturers to give certainty and provide guidance on how each low carbon fuel performs and provides best

practise tips which would give certainty to operators and reduce the risk of damage to vehicles through inappropriate usage and ensure the full environmental benefits are achieved.

Low carbon fuels can offer a beneficial transitional solution for small bus operators and those located in rural areas whilst they wait for zero emission vehicles to become more financially viable

Bus operators are predominantly focussing on transitioning to zero emission vehicles and have already invested £2 billion in new cleaner and green buses over the last five years with many committed to only purchasing ultra-low or zero emission buses from 2025, provided there is continued support from government.

So far, £320m of government funding has been made available which is estimated to deliver 1,575 zero emission buses through the all-electric bus town, and ZEBRA schemes. Bus operators are supportive of the schemes and have been engaging with their local authorities throughout the process.

However, these funding streams will take longer to reach operators based in shire and more rural areas. Government funding will be prioritised for those routes that have the highest usage and locations that have an air quality issue – urban towns and cities. There is a risk that this will create a two-tier system, with operators located in towns and cities receiving funding to purchase zero emission buses, and those operating in rural areas receiving no funding.

Many smaller, independent bus operators are unable to afford the higher purchase prices of zero emission buses, therefore low carbon fuels could be a valuable stepping stone technology until the cost of zero emission buses becomes more affordable. This will enable operators to significantly reduce their greenhouse gas emissions whilst operating their current vehicle fleet, with the aim to transition to zero emission alternatives when they become more financially viable.

The bus and coach industry already provide a green and sustainable travel mode and are ready and willing to adopt all available measures that enable them to further reduce their emissions, providing the right incentives are in place. However, the transition to zero emission is a journey that can be reached overnight. Low carbon fuels can provide a beneficial transitional option for many operators who are either unable to afford new zero emission vehicles at the present time and/or for whom the current zero emission offer doesn't work for their routes, enabling them to significantly reduce their greenhouse gas emissions whilst they wait for zero emission alternatives to become a more viable option.