



A TURNING POINT FOR HYDROGEN?



The Wright StreetDeck hydrogen fuel-cell prototype on display at Euro Bus Expo in November.

single-figure batches spread across Europe and North America, or double-deckers from Wrightbus, which expects to build 50 for the three UK cities sharing the first tranche of JIVE money.

The fuel-cell StreetDeck from Wrightbus looks and sounds promising, but is as yet untried in anger in public service.

Suddenly, however, the choice is widening. After testing a prototype for a couple of years, Alexander Dennis is canvassing for

Whisper it for now, but there are hints that perhaps hydrogen fuel-cells are starting to emerge as the winning zero-emission solution for the 2020s.

A bit like those long distance Olympic runners who hang back until the final lap and then stride into the lead, the hitherto impossibly expensive hydrogen solution could be about to turn battery electrics into also-rans in the quest for superior air quality.

Hydrogen buses have been a long time coming, apparently stuck in the commercially unaffordable prototype stage while hybrid electrics, overnight charged battery electrics and their opportunity charged counterparts have crept into production.

This despite the claims of hydrogen's advocates that all they need are enough seedcorn orders to be able to put the technology into volume production at lower prices.

With two waves of Europe-wide JIVE funding promising to have that effect — so that those buses and others that follow them no longer to come with a price tag that suggests the customer might be paying for a small power station — the day of the hydrogen bus has begun looking attainable.

By the time that funding has bought its hardware, the UK alone should have respectable numbers of them in London, Birmingham, Aberdeen, Dundee and Brighton & Hove.

The appeal of the technology to operators is that it should deliver the range of a diesel

bus without the harmful emissions of a fossil-fuelled internal combustion engine, provided that the infrastructure is there to produce and store the fuel. And hydrogen can be manufactured from wind and other renewable energy sources.

For an industry that remains unimpressed by the real life range of battery electric vehicles, the life expectancy of batteries and the cost of replacing them, the loss of carrying capacity and the ground space required for effective overnight charging, the range and limited battery requirement of hydrogen fuel-cells is music to its ears.

Consider alone how many operators have either sold their early hybrids or had them converted to straight diesels and it becomes apparent that the cost of mid-life battery replacement is daunting, possibly prohibitive, when operators size up their options for capital investment.

Little wonder that the route to complying with low emission zone standards in Leeds and Glasgow is the possibly short-term one of buying new Euro6 diesels, and that the Oxford Bus Company tells us this month that hydrogen fuel-cells could be its favoured method of living with the zero-emission zone coming to its home city. As managing director Phil Southall explains, he needs vehicles that can be cascaded across the company's network over a normal lifespan.

Until now, if you wanted a hydrogen fuel-cell bus in the UK, the choice was limited. Single-deckers from Van Hool, which has plugged away bravely at producing them in Belgium for a niche market of mainly

orders for a hydrogen fuel-cell version of its best selling Enviro400 double-decker, in time for the second round of JIVE funding.

And perhaps of even more significance, two European heavy vehicle giants have also shown their hand. FPT Industrial, part of Fiat's CNH group that oversees Iveco, has released details of a research and development project to produce a hydrogen fuel-cell driveline for heavy-duty vehicles. And Scania — now part of Volkswagen's Traton group — has announced that it is developing a similarly powered refuse truck.

These are volume manufacturers of trucks, coaches and buses, both seeing potential for zero emission short- and long-haul vehicles unencumbered by batteries. And if think there may be a hydrogen future, then it is a fair bet that other giants do too.

This is one to watch. ■

Operators want vehicles that can be cascaded across their networks over a normal lifespan and that will run all day without needing to be recharged

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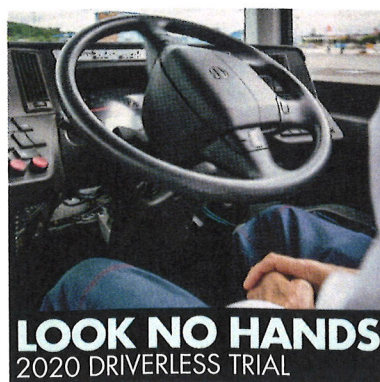
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