The Chartered Institute of Logistics and Transport

Manchester Metropolitan University

100 YEARS OF GLOBAL LOGISTICS AND TRANSPORT

Environment & Sustainability Forum

Net Zero Emissions in freight transport by 2050 through Alternative Fuels and other technology

ciltuk.org.uk

Speaker Agenda

Start Time	Speaker
13:30	Geoff Clarke, AECOM
13:45	Richard Banks, Transport for Greater Manchester
14:00	Rebecca Powell, Arup
14:15	Martin Flach, Independent Consultant
14:30	Q&A
14:45	Break

Start Time	Speaker
15:00	Mark Collins, Volvo Trucks
15:15	Grahame Neagus, Renault Trucks
15:30	Steve Tainton, Wincanton
15:45	Q&A
16:00	Break-Out Session

Break-Out Rooms

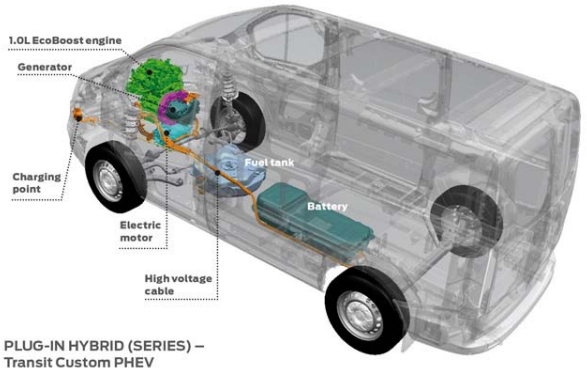
Room	Facilitator	Note-Taker
302	Morag Robertson	Kieran Knowles
304	Paul Flanagan	Michael Whittaker
305	Geoff Clarke	Ben Fullard
306	Steve Tainton	Matt Webb

International Policy on the Environment

- Global policy development with regards to climate change is led by the United Nations Framework Convention on Climate Change (UNFCCC)
- The objective of the UNFCCC is “to achieve the stabilisation of greenhouse gas concentrations in the atmosphere that would prevent dangerous anthropogenic interference with the climate system
- The Paris Agreement, signed in 2016, aims to curtail greenhouse gas emissions and to limit an increase in global temperatures to 1.5C

The Road to Zero-Carbon – UK Policy

- The UK is legally bound by the Climate Change Act 2008 to reduce emissions by at least 100% of 1990 levels by 2050
- Surface transport is the largest-emitting sector in the UK, accounting for 23% of UK emissions
- Surface transport emissions increased between 2014-16, were stable in 2017, before falling 2% in 2018
- The Committee on Climate Change advises that the phase out of petrol/diesel vehicles should occur between 2030-35, rather than the planned 2040 phase out currently



PLUG-IN HYBRID (SERIES) – Transit Custom PHEV

Fuelling the UK's future vehicles

Evolution

Technologies that will make small savings in diesel fuel consumption (up to 10%)
Fairly low cost and easy to implement within existing fleets
Examples: aerodynamic and/or lightweight trailers, trailers KERS

Transition

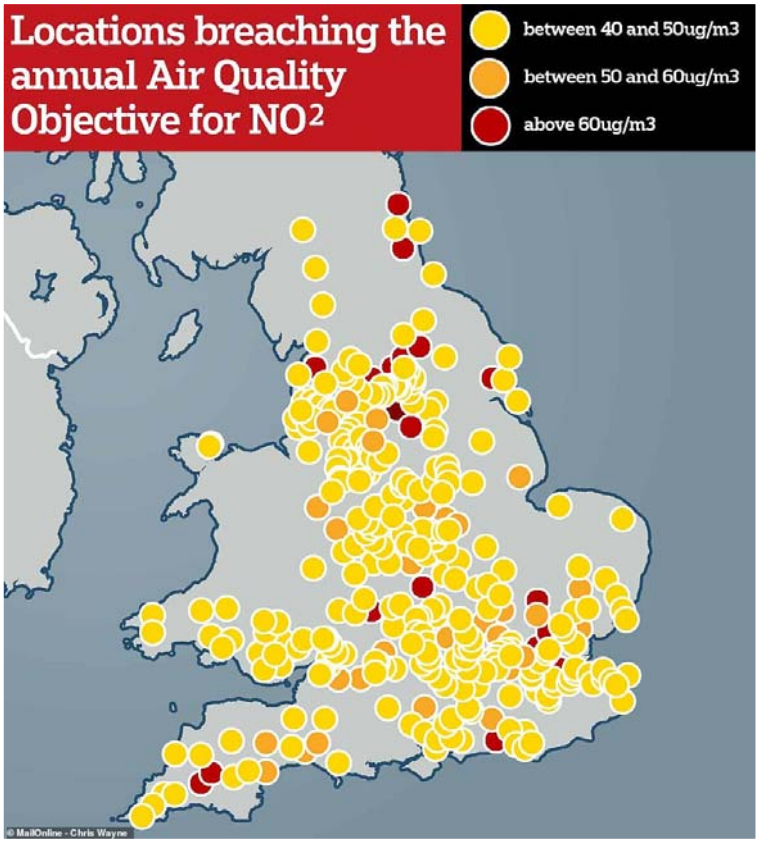
Technologies that can help make greater savings in diesel fuel consumption/tailpipe emissions (typically 10-40%)
Somewhat higher cost and more challenging to implement
Well to wheel emissions savings dependent on fuel supply, often quite modest on the current pump/grid basis
Examples: dedicated gas and dual fuel gas/diesel vehicles, ICE range-extended electric vehicles

Revolution

Technologies that will make substantial savings in diesel fuel consumption/tailpipe and WTW emissions (typically 60-80% WTW)
High cost and difficult to implement in existing fleet
May not be practical for all duty cycles
Substantial air quality benefits
Examples: battery electric vehicles

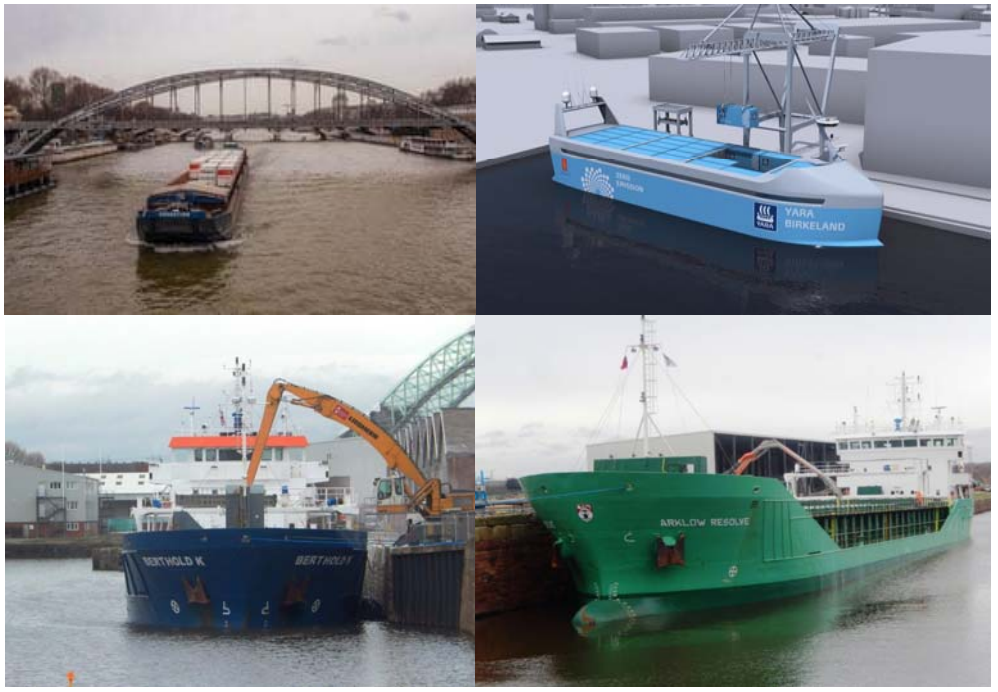
Local Policy – Clean Air Zones (CAZ)

- CAZs are set to become more widespread across the UK, with five cities having been mandated by the UK Government to establish them
- Furthermore, 28 LAs have been told to draw up plans to tackle NO2 levels and a further 33 to carry out feasibility studies on whether a CAZ is needed
- This will lead to the phasing out of the most polluting vehicles in the market, however, there has been a backlash from those affected by the implementation of the charges



Alternative Methods of Reducing Pollution – Water Freight

- One of the key priorities of Government in reducing carbon emissions is to encourage modal shift
- The development of inland waterways in the UK e.g. Manchester Ship Canal
- Introduction of the autonomous ship “Yara Birkeland” from Norway in 2020
- Companies looking to take advantage of new opportunities, such as French supermarket Franprix operating barges on the River Seine to restock its stores



Alternative Methods of Reducing Pollution – Rail Freight

- Domestic intermodal is the fastest growing type of rail freight in the UK, and is slowly replacing demand for coal that has vanished
- Increasing development of Strategic Rail Freight Interchanges (SRFIs) across the UK and Europe will allow the rail freight sector to be able to accommodate the increasing number of containers coming into the continent
- There are a number of constraints that are hindering rail freight growth in the UK – lack of rail freight paths, gauge clearance isn't suitable on major routes

Use of Consolidation Centres

- Consolidation Centres allow a number of operators to group their operations into the same area
- This removes the need for depots to be spread across an urban area, and allows vehicles operating last mile deliveries to be using 100% of their capacity
- This removes freight-related vehicles from city centres, improving air quality, reducing congestion and noise
- Last-mile deliveries can then be undertaken by electric vehicles

Last Mile Delivery Changes

- Locker boxes allow the consolidation of packages in urban areas, and can be located at major trip generators
- Parcel Porters can be used to distribute parcels in a local area, either on foot or by cargo bikes
- An on-street portering trial found that kerbside parking was reduced by 50% and vehicle driving time by 35% when this method was used
- Intelligent loading bays allow slots to be pre-booked, reducing the number of HGVs parked around the city centre

Reducing Demand for Transport

- Advertising the environmental drawbacks of next day delivery, pushing consumers to make “greener” choices
- Local sourcing of goods, particularly foodstuffs, reduces the need to transport perishable goods by air to market
- The use of robotics will nullify the need for labour outsourcing, as repetitive manufacturing work can be automated
- The widespread use of 3-D printing will allow manufacture of goods to be undertaken at home, therefore elements of the supply chain