

Bus Decarbonisation Taskforce – Meeting 1

Taskforce Members		
Organisation	Name	Remark
CPT	Ralph Roberts	Co-chair (rotating)
Transport Scotland	Stuart Greig	Co-chair
ADL	Paul Davies	Present
Association of Transport Co-ordinating Officers	John Berry	Present
BOC	Mark Griffin	Present
CPT	Christine McGlasson	Present
CPT	Colin Craig	Present
CPT	Paul White	Present
First Bus	John Dowie	Present
HSBC	Robert King	Present
Lloyds Banking	Victoria Whitehead	Present
Optare Buses	Robert Drewery	Present
Scottish Enterprise	Douglas Hyslop	Attending in place of Linda Hanna
Scottish Power	Andrew Ward	Attending in place of Keith Anderson
Stagecoach	Martin Griffiths	Present
Scottish National Investment Bank	Paul Norris	Present
SSE	Colin Nicol	Present
Transport Scotland	Laura Murdoch	Present
Wrightbus	Buta Atwal	Present
Zenobe	Steven Meersman	Present

Secretariat		
Organisation	Name	Remark
LowCVP	Andrew Fraser	Present
LowCVP	Andy Eastlake	Present
LowCVP	Daniel Hayes	Present
Transport Scotland	John Maxwell	Present
Transport Scotland	Sara Grainger	Present
Transport Scotland	Claire Jones	Present
Transport Scotland	David Jamieson	Present
Transport Scotland	James Goodall	Present

I. Welcome and purpose of the taskforce and this meeting

- 1.1. The co-chairs jointly welcomed attendees, passed on the Cabinet Secretary's apologies, and outlined the broader context for buses in Scotland: Scotland has many strengths for developing and proving capabilities due to its diverse geography and technical expertise. In addition, international visibility from COP26 presents a strong opportunity to demonstrate potential routes forward for decarbonisation.
- 1.2. The composition of the group; involving bus manufacturers, operators, energy companies, supply chain representatives and financiers is well suited for identifying and exploring the pertinent issues and crafting solutions for challenges that remain.

2. Context and progress to date

- 2.1. The presentation was delivered by Sara Grainger of Transport Scotland, highlighting the impact the pandemic has had on bus operators and subsequently bus manufacturers and their supply chains.
- 2.2. The establishment of the Taskforce is a continuation of work initiated at the Green Bus Workshop in March 2020, a sub-group of the Zero-Emission Mobility Industry Advisory Group. Globally there are a range of initiatives being taken forward to decarbonise bus fleets, with combinations of public and private finance common.
- 2.3. Scottish Ministers have made commitments to decarbonise domestic flights, ferries and railways, and further commitments will be included in the Climate Change Update plan in December 2020. The Scottish Government approach is holistic, looking at decarbonisation in broader context of heat, and between transport modes. This is evident in the Hydrogen Policy Statement and Action Plan. For buses in particular, there is a drive to incorporate modal shift (more public and active travel) which is being taken forward in parallel through the £500 million Bus Partnership Fund, which was established as part of the response to the Global Climate Emergency to deliver targeted bus priority measures on local and trunk roads.
- 2.4. The Bus industry may only account for a small proportion of vehicles in Scotland but it does account for a large amount of fuel burnt (~120 million litres per annum). Solutions for decarbonisation are available although the cost profile is different as zero emission buses have higher up-front capital costs but lower running costs.

3. Agreeing the guiding vision

- 3.1. Members were invited to comment on the draft vision.
- 3.2. The Group agreed that modal shift was out of the scope of the Terms of Reference, however, some members felt that improving the operating environment of buses should be reflected in the vision statement.
- 3.3. Benefitting all potential users, rather than local residents, and references to the circular economy and embedded carbon were also suggested. Members sought clarity that the transition will require state support, however with the intention that the new technology is the norm and not dependent on state support in the long term.
- 3.4. **ACTION** – All taskforce members to share any final comments on the vision by Friday 13 November, following which the final version will be circulated.

4. Opportunities and hurdles

4.1. Opportunities

- 4.1.1. Asset financing may play a significant role in the decarbonisation of the bus industry. Institutional investors such as pension funds, banks etc. have a lot of liquidity to invest in asset classes which provide a stable revenue stream in a similar manner to RoSCos in the railway sector. The composition of the Taskforce demonstrates that a degree of maturity and attractive financial/lending opportunities could be developed.
- 4.1.2. This group has the potential to better understand who bears the burden of risk and could develop models which may improve the relative position of bus operators, who currently bear the most risk.
- 4.1.3. Planning in a comprehensive, holistic way may identify the most cost-effective and technically effective investments, although this is dependent on long-term focus and information sharing.
- 4.1.4. Government, bus manufacturers, operators, energy companies and financiers have been brought closer together by COVID with opportunities for working together providing benefits.
- 4.1.5. Scotland has ample renewable and water resources for hydrogen fuel cell production and technology, including curtailed electricity.
- 4.1.6. Capital markets are seeking investment opportunities which can provide a stable return on investment, and there is sufficient liquidity in the market to fund decarbonisation for the right pathways.

- 4.1.7. There is the potential for new income streams from new battery uses/recycling/second-use.
- 4.1.8. Operators are already making commitments on not buying internal combustion engines, with clear policy signals from governments, which provides confidence for industry to make decisions.
- 4.1.9. Buses could improve their digitalisation and information gathering capabilities on bus usage etc. with a new generation of vehicles.
- 4.1.10. Electricity grid/ hydrogen infrastructure upgrades could be made in a holistic way if total demand is understood and depots are connected ahead of zero emission vehicles being deployed.

4.2. **Hurdles**

- 4.2.1. Full life costs are not proven, experience from the transition to hybrid buses indicates that technical issues arising through the life-cycle are likely and need to be better understood.
- 4.2.2. Piecemeal or ad-hoc approach to infrastructure and fleet investments may unduly increase costs.
- 4.2.3. Can the supply chain (including the international supply chain) keep up with projected demand from success?
- 4.2.4. Battery technology and resources are currently dominated by companies based in China.
- 4.2.5. An accelerated transition may result in diesel buses being retired before natural end-of-life with consequences for balance sheets and waste.
- 4.2.6. Impact on patronage may outlast COVID, even if/after a vaccine is developed and implemented.
- 4.2.7. Low Emission Zones are coming into force which push operators to purchase Euro VI buses in order to comply with these requirements if affordable zero emission buses are not available.
- 4.2.8. Rapid decarbonisation is dependent on orders and infrastructure being deployed at scale and at pace. Affordability is dependent on high volumes to drive costs down, which in turn depends on ensuring a healthy commercial environment for bus operators.

Summary of agreement reached and next steps

- 4.3. The group agreed that the hurdles and opportunities identified in Paper 1.2 will form the basis of a work plan for the group for the next 12 months.
- 4.4. The group agreed that the pathway will take the form of a set of high-level actions required to recognise the opportunities and address the hurdles.
- 4.5. The group discussed how momentum would be maintained in between Taskforce meetings, forming standing sub-groups was considered however the group agreed that one-off workshops on specific issues would be most effective. The first workshop would be arranged for December/January and would discuss finance.
- 4.6. The group agreed to begin work to assess the higher up-front cost of zero emission buses in relation to diesel buses to identify areas where costs could be driven down and the interventions that might be required to accelerate this.
- 4.7. The group agreed to begin exploring existing and potential sustainable financial models for the decarbonisation of buses, which would draw from existing international models and models in other industries. This would be discussed at the next Taskforce meeting to be held in February 2021 which will focus on finance and financial products.
- 4.8. All members of the group agreed for their email addresses to be shared.

Reference	Action	Lead	Due Date	Status
BDT-01	Produce analysis of existing and potential financial models, drawing on international models and other industries in order to develop sustainable financial models for the bus sector.	Secretariat	February 2021	Open
BDT-02	Produce a paper on Technology which will focus on cost-breakdown analysis for battery/fuel-cell buses and supporting infrastructure to identify areas where costs could be driven down	Secretariat	February 2021	Open
BDT-03	Draft a workplan based on the opportunities and hurdles set out in paper 1.2 and discussed during this meeting.	Secretariat	January 2021	Open
BDT-04	Circulate updated vision statement following any final comments.	Secretariat	18 November	Closed