



The Cross-Party Group on Sustainable Transport have today (Tuesday 20th) launched an inquiry into the Government's plans for cutting emissions from public transport.

The Group is responding to widespread concerns that progress against the Government's climate targets is falling behind.

The Group is announcing a call for evidence, seeking views on how to urgently decarbonise Scotland's fleets of buses, trains and ferries.

CPG convenor Graham Simpson MSP said:

"In recent years, the Scottish Government has made some ambitious commitments to bus, rail and ferry decarbonisation, as part of its plans to cut climate emissions. The Parliament has a key role in ensuring that these targets are met. The Cross Party Group will take stock of progress and review the next actions required to ensure that emissions are cut in an efficient and timely manner."

"This work follows on from the Cross Party Group's successful inquiry into traffic reduction last year which used expert evidence to set out a set of recommendations the Government should consider when progressing policies to reduce car kilometres by 20% by 2030."

Transform Scotland spokesperson Laura Hyde-White said:

“We must end our reliance on fossil fuels in transport – Scotland’s most polluting sector. Although much attention has been given in recent years to cutting emissions from private cars, we now need to focus on action to decarbonise Scotland’s buses, trains and ferries.

Scotland has this incredible opportunity to build a modern, efficient public transport system that supports green jobs whilst meeting our climate targets. But if we don’t act now we’ll all be left behind. We want to hear people’s ideas on the urgent action we need to take now.”

The Cross Party Group will be taking evidence from Tuesday 20 June for 8 weeks until Tuesday 15 August, before publishing a report collating the findings of the inquiry.

Evidence can be submitted at [this Google Form](#).

[SUBMIT EVIDENCE](#)

Call for evidence: Decarbonising public transport

About the inquiry

The Cross-Party Group on Sustainable Transport are conducting an inquiry into, and inviting evidence on, the decarbonisation of Scotland’s public transport.

In recent years, the Scottish Government has made some exceptional commitments to public transport decarbonisation, as part of its commitment to cutting climate emissions:

- “remove the majority of diesel buses from public transport by the end of 2023”
- “reduce emissions from Scotland’s railways to zero by 2035”
- “ensure that 30% of state owned ferries are low emission by 2032”

This inquiry is seeking views on what must be done to decarbonise Scotland’s fleets of buses, trains and ferries, and deliver a vibrant, low-carbon economy.

A joint venture reply by Light Rail UK Group and Light Rail Transit Association

Light Rail UK Group, Secretariat APPLRG

Section 1: Decarbonisation strategy and priorities

1.1 What are the primary benefits of pursuing a zero-carbon public transport system (e.g. in terms of transport operations, the environment, public health, society/communities, and the economy)? Do you see any drawbacks of decarbonisation? *As far as possible, please provide an evidence base to support your views.*

I see no major problems with the principle of moving to Zero Carbon public transport systems except that we in Scotland don't or won't see what is happening elsewhere in the world. The problems that "Decarbonising of Transport" policy only pays serious attention to Tail Pipe Emissions and Greenhouse gases (GHG) and generally ignores Non Exhaust Emissions (NEE) Defra Jul 2019.

The primary benefits for steel on steel public transport can be seen elsewhere on our island including Edinburgh, Manchester, Nottingham, Sheffield to quote but a few. Trams are a seemingly expensive outlay for a city but as they are intergenerational, costing should be treated similar to bridges and motorways and not on the short period used in the "Green Book" At least that's how the current figures can often initially appear. But there is more to trams than basic installation cost They require permanent tracks and overhead wires and are a source of fixed infrastructure leading to urban stability and inward investment.

Trams run on steel wheels and rails with no pollution at the point of use, that can be fully recycled and have much lower rolling resistance than soft rubber tyres. The rolling resistance of a hard, almost inflexible tram wheel, on a similarly inflexible track has a coefficient of rolling resistance of approximately 0.001, approximately ten times lower than a bus tyre (0.01) and as much as twenty times lower than a correctly inflated car tyre on asphalt (0.02). A double decker bus travelling at 30mph along a smooth tarmac road would need 24.9 kW to keep it moving. The same bus running on tram wheels on metal tracks would need only 3.5 kW. More than 7 times the power. Scotland is rich in renewable energy which can be used to operate, maintain and recycle our transport network? Once installed trams are one of the lowest energy and most sustainable mass transit systems a city

can operate. Much lighter than trains, without the need for often cost prohibitive and energy-intensive underground tunnels that a metro system requires.

Trams are plugged directly into the Grid, negating the need for energy and resource intensive batteries that need their own separate and often more expensive charging infrastructure. In the coming world, we see power generation via solar, wind etc., facilitating depot power generation. Karlsruhe Tramways generate almost half their power needs from solar panels established in the municipal roof acreage.

We see no drawbacks for Decarbonising transport including NEE, compared to the alternative of unsustainably continuing as we are

1.2 Should the government follow a strictly technology-neutral approach (e.g. based on carbon-abatement potential or value-for-money), or should it pick specific public transport technologies to support (e.g. favouring one fuel over another)? Please explain your rationale here.

In view of the Climate Change Target slippage, the technology in the urban areas and corridors should not use rubber wheeled vehicles (buses and its variants) as the main mode but should be used as low traffic feeders. By installing steel on steel as the back bone of any urban mass transit system Greater Manchester studies show that the Rochdale route removed 38.8 million car-km/year from the region's roads, contributing towards Greater Manchester's goal of 50% of all journeys being made by public transport and active travel by 2040. This saved 6 700 tonnes of CO₂ in 2019-20. In our towns and cities, the mode in the urban transport corridor should be steel on steel trams, light rail and/or tramtrain. This mode has a very high modal switch from cars (>28%+), much higher than bus (<9%) but cheaper to install than classic rail, circa £10m Tkm (UKTram and Coventry VLR). This mode has no pollution at point of use and will be able to benefit secure hydrogen based electricity either on board technology or by traditional OLE. Studies that we have done show that Scotland alone would be able to support between 800 - 1200 vehicles in the five major cities alone. As tram systems are multi generational, some systems (Blackpool, most German systems etc.) 125 years + costing should be treated the same i.e. similar to motorways, bridges which have the ability to spread their capital costs over their lifetime, trams should be treated the same. According to CPT and DfT, the Zebra buses being introduced have an estimated working life of 8 - 10 years before renewal, Sheffield trams, 30 years old now are having a mid life refurbishment and upgrade and will be good for 20+ years. There are a large number of Eastern European Tatra trams built in the sixties and seventies being cascaded to places such as Romania, Slovakia etc., with a further working life expectancy of at least 25 years+ and then replaced by new cascaded trams!

1.3 What should be the immediate priorities in decarbonising public transport (short-run; within the next 1-2 years), and which interventions might be better phased for the medium-run (say 3-5 years) and the long-run (say 5-15 years)? For example, you may want to comment on issues such as: energy supply, fuel & vehicle technologies, infrastructure requirements, or economy-wide issues such as the labour force and skills.

As this mode can take anything from 3 - 10 years from conception to farebox, a series of serious feasibility studies from this evidence's perspective should be done soonest. We have done several feasibility studies for low hanging fruit routes for Glasgow (3), Dundee (2), Aberdeen (4) which using existing and in service technology at <£10m per Km. The two East - West & West East Line as outlined below would be early candidates especial in conjunction with setting up a SIMO (See 2.4) We believe that Scotland's cities have a rich legacy of lightly used former trunk roads that can and should be repurposed to take trams and restrict the excessive use of cars Professional pre feasibility studies can be view on our website free of charge at <https://aplrquk.co.uk/Glasgow-and-District> and Aberdeen in the same section.

Section 2: Decarbonisation and the economy

2.1 What economic opportunities would be afforded by pursuing decarbonisation of Scotland's public transport (e.g. manufacturing base, employment)?

Using the Hydrogen technology outlined in the previous section and on our website <https://aplrquk.co.uk/video/hydrogen>, we have an outline package for these vehicles to be "flat packed" and shipped to Glasgow for assembly etc., Around 150 - 250 jobs would be created, plus between 800 -1200 operating jobs in the home towns and cities

2.2 Should the **Scottish Government** intervene to assist in the development of Scotland's industrial base in zero-carbon transport technologies, and if so, how? What barriers does it face in providing this support?

Yes most definitely, the *Hydrogen Action Plan (HAP) is accompanied by £100 million funding to boost excellence in research, innovation development and demonstration of secure, renewable hydrogen production. This will be provided through the Emerging Energy Technologies Fund (EETF) – a £180m package of funding over five years that will provide capital support to accelerate low carbon infrastructure projects that will be essential to deliver net zero – as committed in 3.2.9 The purpose of this hydrogen funding programme is to support the development of a hydrogen economy in Scotland, facilitate a just transition and to help overcome challenges to scaling up hydrogen production and deliver lasting benefits for business and communities in the Hydrogen Policy Statement. It is plain to us that the HAP has not considered the "Decarbonisation of Transport" which using Hydrogen Tram technology will give a significant "Home Market" of between 800 - 1200 vehicles to the main Scottish cities alone never mind the large conurbations elsewhere in the United Kingdom *<https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2021/11/draft-hydrogen-action-plan/documents/partial-business-regulatory-impact-assessment/partial-business-regulatory-impact-assessment/govscot%3Adocument/partial-business-regulatory-impact-assessment.pdf#:~:text=The%20Hydrogen%20Action%20Plan%20is%20now%20the%20next,key%20component%20of%20a%20just%20green%20economic%20recovery>. Light Rail UK as a not for profit organisation have only recently managed to get trams back onto Transport Scotland's national mode offerings. We have offered a PFI option to Glasgow City Council but whilst we had acknowledgment of our correspondence, we are still waiting to hear

2.3 Should the **UK Government** intervene to assist in the development of Scotland's industrial base in zero-carbon transport technologies, and if so, how? What barriers does it face in providing this support?

We have approached the UK Government on a similar basis to Glasgow with very little success, Westminster until recently was led by 'bus only enthusiast and despite the success of Manchester and West Midlands, is plowing billions into a Zebra bus policy and has softened the law on Particulates to 40 units until 2035 unlike Scotland and Wales who are working to 10- units with a view to achieving WHO levels of 5 units A major barrier is the institutional failure to recognise that existing but under used infrastructure can be repurposed especially former trunk roads, generally dual carriageways or three lane roads with bypasses and parallels motorways e.g. A92, A944, A74, A82, A57. A48 but name a few UK wide, connecting smaller towns within conurbations As the working life of a modern tramway system can be 125 years + as has happened world wide, Europe in particular, a major direct benefit of future proofing our urban mobility, connectivity, regeneration, commercially safe guarding our work force in the shrinking resources world that our children and beyond will face.

2.4 How can policy-makers ensure that local supply chains benefit from the transition to zero-carbon public transport?

Business opportunities increase with improved access for customers and employees. Trams enhance the urban environment and generate civic pride. Trams will be an attractive option for motorists, with car users likely to be attracted to tram travel. Research shows 20% of peak hour and 50% of weekend tram passengers in the UK previously travelled by car. Trams will encourage people to travel to the city centre. Dublin saw a rise of between 20% – 35% in pedestrian footfall figures on Grafton Street, the city's main shopping thoroughfare, with some retailers reporting a 25% increase in trade. Residential and commercial properties may see prices increase beside tram routes. In some cities with trams, house prices have risen by up to 15% and rental prices by up to 7%. which with a suitable levy can be used to fund expansion of the system Trams will be accessible to everyone, with benefits of low level boardings at every stop and other easy to use features of particular help to the disabled and less mobile. Trams will be safe to use as, in addition to a driver, in cities such as Edinburgh and Sheffield, every tram will have a passenger attendant on board to check tickets, answer passenger queries and ensure no anti-social behaviour occurs. improvement in public transport access to employment, further education and healthcare. The analysis showed that public transport door-to-door access has improved for the following proportions of the Greater Manchester population: 18.2% for employment (30.5% of the 10% most deprived communities), 18.8% for further education (27.7%), 19.8% for healthcare (29.5%) The setting up of a Scottish Innovative Manufacturing Organisation (SIMO) in the Central Belt as a not-for-profit company limited by guarantee to be the driving force behind a new state-of-the-art research and development facility similar to BCIMO based in Dudley in the West Midlands. This £32m (over six years) multi-purpose centre, situated at the heart of the Black Country, offers a host of unique facilities including a Rail Development and Test Site, Engineering Laboratories, Serviced Offices and an Events Suite, tapping into the manufacturing skills and expertise locally and joint funded by the UK Government and the relevant local authorities.

2.5 Given current financial circumstances, do you have views on how the decarbonisation of the Scottish transport system can and should be financed?

There needs to be a rethink of the "Green Book" requirements to be able to capture the multiple "soft benefits" accrued directly and indirectly such as reduced health costs inc RTA costs, regeneration benefits, house value increase capture, Glasgow and North East to benefit from tax breaks as 'investment zones' The two regions will each be supported by up to £80 million in targeted

investment Glasgow and the North East are to benefit from tax breaks and other incentives as Scotland's first two "investment zones". Reallocation of the Road Expansion Fund, PFI Option, Air Quality Polluter Tax, Tourist Funding (Aberdeen Harbour). Congestion/pollution charging/work place parking, Hydrogen Economy Draft Action Plan Transport Scotland & Rail, Climate Change, + Community Infrastructure Levy, Tax Incremental Financing, Grant from UK Government via Transport Development Fund Developer Contributions (Section 75) Regional Growth Fund CA, LEPs Funding for Sustainable Transport (UK Govt) Workplace Parking Levy, Green Investment Bank, Pollution Charge, PM Town fund A range of Private Investors and Pension Funds are available Indirect funding included in new development such as the Granton Waterfront Development Project

Section 3: Overcoming barriers to decarbonisation

3.1 What are the key barriers to public transport operators in moving to a decarbonised fleet (buses, trains, ferries)? How can these barriers be mitigated?

Privatisation, high costs, wrong capital costs spreadover, political lethargy at all levels in talking warm words recognising but not tackling the very real time consequences of Climate Change and the switch over from fossil fuel technology including the politically incorrect fostering of the idea of unattainable individual mobility on the scale that we have enjoyed up until now. The short working life of ZEBRA buses (8-10 years CPT) generally by Government funding, leave very little "Transport Legacy" at a high cost and should be regarded as an interim solution going forward growing routes for upgrading to steel on steel public transport ie urban trams or TramTrain such as practiced in Germany and Hungary etc., We need to re educate our people that to drive everywhere is no longer a "Human Right" as expressed by many especially in our towns and cities. A growing number of our younger people are eschewing the ownership of a private car infact many are not even applying for driving licences. There will always be a need for rural area cars and outer edges P+R with good sustainable public transport will go a long way to achieve mileage reduction and improve air quality

3.2 What are the key barriers faced by industry suppliers in putting in place the infrastructure required for the operation of low- or zero-carbon buses, trains and ferries? How can these barriers be mitigated?

Lack of political leadership at statesmen's level, failure to tackle the realities of Climate Change and local air quality, no continuity of projects, loss of skills,

3.3 What action needs to be taken to ensure the availability of adequate electricity supply for the decarbonisation of public transport?

Scotland's renewable and sustainable green energy policies recent announced (HAP etc.,) will in the fullness of time ensure the availability of adequate electricity supply for the decarbonisation of public transport

Section 4: Supporting materials

Please provide hyperlinks to relevant evidence in the text submission boxes where possible before considering submitting separate documents.

Please email supporting documents to comms@transform.scot where necessary with the subject line 'CPG call for evidence materials [YOUR FULL NAME]'. Please ensure that you submit from the same email given in the form.