



Paper 3/5 Transport session

For information

1. Purpose

1.1 To provide Commissioners with background information on agenda item 4, an information gathering session considering the opportunities and challenges associated with decarbonisation of the transport sector.

2. Background

2.1 This note provides detail of the participants who have been invited to give evidence as part of this session. Further background information is also included in the Annex to help inform the session.



What	Agenda item 4: Transport information gathering session
Who	<p>Jess Pepper, Enterprise Manager, Transform Scotland</p> <p>Keith Watson, Group Customer Development Director, Alexander Dennis</p> <p>Rebecca Kite, Environmental Policy Manager, Freight Transport Association</p>
Why	<p>An opportunity to examine the opportunities and challenges associated with further decarbonisation in the transport sector.</p> <p>Participants will be well placed to answer questions on include:</p> <ul style="list-style-type: none"> • Opportunities/challenges for employment in the sector resulting from further decarbonisation. • Wider potential opportunities/challenges resulting from this transition. • Barriers to realising the opportunities and action needed to manage the challenges.
Additional background information	<ul style="list-style-type: none"> • Annex A: Centre for Energy Policy – Who ultimately pays for and gains from network upgrades for EVs? (Policy Brief) • Annex B: submission from Transform Scotland • Annex C: submission from Freight Transport Association • Annex D: submission from CalMac Ferries • Annex E: submission from Road Haulage Association • Annex F: submission from UNISON Scotland • Annex G: submission from Alexander Dennis – technologies available for lowering and eliminating emissions from buses

Annex A: Centre for Energy Policy – Who ultimately pays for and gains from network upgrades for EVs (Policy brief)

A pdf copy of this briefing has been included in the dropbox for this session. It is also available online [here](#)

Annex B: submission from Transform Scotland

Transport Sector

Transport sector is the most problematic sector in Scotland - and where emissions have barely shifted since 1990. This is a sector that represents a lot of jobs too, and could represent a lot more.

There are great opportunities for global leadership and multiple benefits to jobs, economy, health and well-being from a whole system approach to active and sustainable transport as part of a just transition.

Current focus

The Scottish Government Climate Change Plan, UK Climate Change Committee and other advice largely focus on Electric Vehicles as the solution to tackle emissions from transport.

EVs must have a role to play, but as the primary focus of our transition effort this would overlook the important contribution of active travel and public transport. The current problem in transport is that capital expenditure priorities are focused on new road building, generating more traffic, exacerbating health inequalities, congestion and inefficiencies.

73% of our emissions are from road traffic. Yet, at this moment Scottish Government projected capital spend (pipeline) is to increase in high carbon projects, according to a Scottish Parliament Information Centre analysis. <https://spicespotlight.scot/2018/10/16/capital-spend-locking-in-high-or-low-carbon-futures/> This would lock us into further high carbon infrastructure, rather than gain from all the possible wins.

Opportunities for health, equalities, jobs, economy:

The opportunities for our jobs, economy, health and to address inequalities for a smart and just transition in transport are huge. Scotland should be directing investment into active and public transport, to be safe, accessible and affordable for all. This would be a fair and inclusive vision for transport in Scotland. It would generate multiple benefits, for everyone.

Buses

13 cities globally have committed to transition to only buy zero emission buses from 2025, this translates into 60,000 buses. Scotland manufactures buses and therefore this growing market presents an opportunity for our jobs and economy.

Instead of being behind that curve with weak later commitment to transition to electric buses in Scotland, there is a strong case for leadership in Scotland. Our cities could commit to an early

transition to electric buses and a commitment from Scottish Government to decarbonise the whole Scottish fleet at the earliest opportunity.

This will require investment, but the impacts would improve air quality, reduce emissions and give people and business access to smooth, good quality services. This could improve air quality, health, well-being and quality of everyday lives right across our country. This investment presents opportunities for global leadership.

Trains

We should be aiming to decarbonise our entire railway network by 2030. Scotland's track record on rail electrification is good, and a rolling programme needs to get moving in order to ensure that we can transition rolling stock too. Without progress soon, we will be locked into rolling stock decisions which retain fossil fuels on the network. There will be a role for battery and hydrogen in this programme of decarbonisation. Transform Scotland is working with industry experts and partners on a route map to 2030, and beyond.

Compared to roads, the investment required in rail is modest - but the multiple benefits are significant. Polling on the Hitachi 385s from Edinburgh to Glasgow demonstrates that passengers find the trains attractive. Where there is a good quality, reliable, comfortable, affordable alternative - research shows that people will make a choice to shift from car to public transport. Research also shows that those using public transport, rather than the car, are more active, healthy and less at risk from major diseases.

Ferries

We have already positive moves on low carbon ferries.

CalMac Ferries are operating diesel-electric hybrids, and supporting ship building on the Clyde in doing so. There is a need for investment in ferry fleet - Scottish Government should ensure that all new ferries are working towards net-zero vision.

Investing in active travel and public transport delivers two wins:

- Decarbonise public transport system to provide passengers and freight with a clean, green alternative way to travel.
- Achieve higher levels of modal shift that reduces road traffic, pollution, and the space being taken up by single occupant vehicles.

Conclusion

As a nation we should also be addressing the ways we work, where we work and considering how we move around. This means achieving integration with strategic infrastructure and investment decisions. As in waste we are encouraged to reduce, reuse, recycle - in transport we should be seeking to 'avoid, shift, improve' our means of travelling around.

As the Environment, Climate Change and Land Reform Committee in the Scottish Parliament have observed - the challenge from climate change is overwhelming and daunting. With our everyday transport choices, every one of us can make a difference - if safe, affordable, accessible

choices are available. In terms of our public health, enabling people and businesses to be a part of the solution is important to improving quality of life and well-being.

Annex C: submission from The Freight Transport Association

About FTA

The Freight Transport Association (FTA) is one of Britain's largest trade associations, and uniquely provides a voice for the entirety of the UK's logistics sector. Its role, on behalf of over 16,000 members, is to enhance the safety, efficiency and sustainability of freight movement across the supply chain, regardless of transport mode. FTA members operate over 200,000 goods vehicles - almost half the UK fleet - and some 1,000,000 liveried vans. In addition, they consign over 90 per cent of the freight moved by rail and over 70 per cent of sea and air freight

The FTA is fully onboard with the Scottish Government's environmental agendas and supports their target of zero emissions by 2050. However, it is important to recognise that these targets are demanding and for industry to achieve them, they must be realistic and workable with the technology available.

Background:

How much freight is moved within our cities? A town with 100,000 population, has an average of 4,500 tonnes of goods delivered every day by HGV. That equates to 187 tonnes picked up/dropped off every hour. It is vital to judge a vehicle by what they are doing, whilst an electric van is capable of zero emissions, it is not always the most efficient use of road space. A medium sized heavy goods vehicle can carry as much as 10 vans and the larger heavy vehicles can carry the equivalent of 25 vans. If heavier vehicles were banned in favour of vans or forced to distribute their loads onto multiple electric vans, congestion will be significantly increased, and so will emissions.

The road haulage industry has c. 51,000 companies involved. 50,800 of them have 3 trucks or less. This is not simply a case of ensuring the large operators change their behaviour and everybody else will follow suit.

Efficiencies:

The freight and logistics industry is all about efficiencies. By increasing efficiency, we reduce costs. The highest costs to any operator are the cost of fuel. Therefore, anything that reduces fuel consumption reduces cost and increases efficiency. It is important to remember that this industry exists purely to provide a service to everybody else, whether that be business, industry or an individual customer. By extension anything that makes Scottish logistics cheaper will help the Scottish economy.

The single most important measure when reducing emissions is to reduce congestion, ensuring all available road space is utilised to maximum capacity and enabling the free flow of traffic. This can be improved by reviewing one-way systems, synchronising traffic lights, and ensuring efficient use of road space between all road users

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Alternative Technologies:

We anticipate over the next five to ten years, that electric will become the primary alternative for vans and lighter commercial vehicles. Whilst electric currently isn't an option for heavier vehicles, we anticipate there could be a hybrid electric alternative developed for heavier vehicles, which would enable zero emissions in city centres, with the added range extender fuel.

Although electric may be part of the answer there are still barriers in place that mean these vehicles are not yet operationally feasible. The first issue is price, although they are getting cheaper, an electric van will currently cost double the diesel equivalent. There is also the reliability of supporting infrastructure. The operator needs to have the confidence that his fleet will be able to keep going.

Many operators are looking to utilise cleaner vehicles in their operations, however the lack of supporting infrastructure is still one of the primary barriers to the uptake of these vehicles. Members who have invested in electric vans, have also invested in electric charge points at their depots to support the vehicles. However, there is then the issue of the potential additional cost of upgrading the electrical grid to ensure there was sufficient energy supply. Our members are unwilling and unable to pay to upgrade someone else's infrastructure.

Priority access to infrastructure for Ultra Low Emission Vehicles

To incentivise the uptake and use of alternatively fuelled Ultra Low Emission Vehicles, what is currently bus-only infrastructure and signalling could be opened up to, cleaner heavy goods vehicles. By offering the use of bus lanes outside of commuting peak hours for example, would further reduce the stop-start driving caused by congestion and could encourage more operators to use cleaner delivery vehicles within city centres.

Tax incentives

The purchase price of electric vehicles ranges between six to ten times more expensive than a standard diesel-engine van. Whilst costs are improving, there is still work to be done in order for these vehicles to be more commercially viable. Businesses will need financial support in order to invest and will need to be incentivised to make the change, rather than penalised.

Support Mode Shift – rail and water

Transporting goods by rail and water significantly reduces HGV road miles. Every freight train able to carry the same amount as up to 60 HGVs, and on average a gallon of fuel will move a tonne of goods 246 miles on the railway compared to 88 miles by road. Rail delivers substantial savings in fossil fuel, CO2 emissions and is also beneficial to local air quality and road congestion. Massive efficiency can also be achieved through use of waterways where possible. However, it is important to note that the vast majority of urban freight is carried by road due to its 'to the door' nature.

FTA would be supportive of any developments to make rail a more cost-effective option to enable more freight to shift from road to rail. However, these must be realistic. Rail freight is more efficient

over long distances, but in urban areas, which tend to be congested, rail freight has to compete for access with passenger trains

Annex D: submission from CalMac Ferries

- What are likely the main employment impacts (good and bad) of the transition to a low carbon future in the transport sector?

The development of technology to decarbonise the industry is likely to employ a significant number of people within Scotland's Academic Institutions.

If ship building continues within Scotland there will be a number of jobs created to bring novel technology into commercial vessels. This is especially the case if Scottish Government decides to replace the CalMac fleet within Scotland.

There is a risk, if there is no investment into green shipping R&D in Scotland, that any remaining ship building will disappear due to a lack of skills and prohibitively high costs.

As low carbon travel becomes fully implemented and the norm, it is likely that we will see a decline in employment within this area unless carbon targets continue to change.

Advanced vessels and other modes of transport may require less staff to safely operate them, this could possibly lead to a reduction in front line jobs.

- Are there any wider opportunities and challenges from this transition?

A resilient fully integrated transport network is necessary to fully decarbonise transport. This will require not only investment in fixed and mobile infrastructure but also investment in public transport services across the whole of Scotland. This is likely to be challenging in rural locations such as the Highlands and Islands.

Scotland could become a world leader in Green Transport technology. It is already recognised globally as one of the leaders in shipping research and has close links with other high performing countries such as Norway.

CalMac's aging fleet is likely to be expensive to upgrade and will require significant investment by CMAL to introduce a IMO 2050 compliant fleet.

- In your opinion, what are the main barriers to realising any opportunities from this transition? What action should be taken to mitigate against any adverse consequences?

A lack of joined up thinking between Scottish Government, the different departments of Transport Scotland (different transport modes), asset owners and asset operators. All organisations need to be working towards a common long term goal rather than short term fixes. Any future strategy for Scotland's transport must consider and support the need for cross-organisation working.

A lack of funding to R & D will likely mean that green technology development is taken out of Scotland and will mean that Scotland will not be at the forefront of the green revolution.

Annex E: submission from Road Haulage Association

- What are likely the main employment impacts (good and bad) of the transition to a low carbon future in the transport sector?

For road haulage, we are already seeing micro businesses selling up or surrendering their licenses because of the existing levels of compliance required. They don't have back office personnel who can deal with it, as in many cases the business owner is the person driving the truck. We have an aging population of drivers (average age between 53 and 56 depending on who you speak to) and very few new entrants every year. Perhaps the changes will attract new blood, or perhaps new legislation may drive those currently operating, out of the industry. There will certainly be new maintenance requirements as trucks evolve which again could bring new opportunities should funding mechanisms for study be improved on what they are currently.

- Are there any wider opportunities and challenges from this transition?

There is an opportunity to build a better integrated transport network. I keep hearing about modal shift, but modal shift is not the answer. Every mode of transport requires trucks at some point so talk of removing road miles is not always the best solution. If we had an integrated system where road, rail, sea and air were fully operational then the best option could be found and some journeys would naturally migrate to other modes, but the main problem is congestion, and the number of cars on the road. With a fully integrated network commuters would have better choices for making their journeys and leave the cars at home more.

- In your opinion, what are the main barriers to realizing any opportunities from this transition? What action should be taken to mitigate against any adverse consequences?

The main problem is that technology in our industry is behind the curve. Electric powered trucks (of any decent size) are not even on the horizon and alternative fueled trucks, although on the market, are still in their infancy. They also cost a lot more in initial outlay.

The growth in LEZ's are also pushing haulier's to Euro VI diesel engine trucks which is contrary to the Govts carbon aspirations. On one hand they want zero carbon, on the other they are forcing haulier's to buy diesel. This push for Euro VI has also created a distortion in the market. The trade in value of Euro V engine trucks have gone through the floor and the price of Euro VI has risen because of surges in demand. Unlike other modes, there are no CVRAS accredited retrofit options so if a haulier wants to move up to the new cleaner technology then the barriers to entry are bigger than they have ever been. On top of this they are being threatened with a post Brexit tariff that will take a new Euro VI truck from circa £85k to £103k. Just as an addendum to this piece, it takes 28 transit vans to carry the same payload as a 44 tonne truck. If that truck (in a heavily regulated industry) is a Euro VI (categorized as ultra-low emission) and the 28 unregulated vans (because there is no regulation in the van sector) are running on whatever engines they like, then what does that do for the environment let alone congestion.



Annex F: submission from UNISON Scotland

Introduction

UNISON is Scotland's largest trade union with members across the public, private and voluntary sectors. We are the largest trade union in the gas and electricity sectors. Many of our members work directly in jobs relevant to the many areas involved in tackling climate change, including: building control, economic development/regeneration, education/training, energy, environmental health, planning and emergency planning, procurement, sustainable development, water, SEPA, and a range of other work. The public sector organisations employing most of our members must comply with the statutory public bodies climate duties, aimed at ensuring the public sector leads by example on emissions reduction, sustainability and adaptation. Our members also have a direct interest (with the general population) and a citizenship interest in the global climate emergency and how Scotland implements a just transition to meeting the forthcoming new interim and net zero legislative targets - targets based on the 2018 UN IPCC 1.5C report and the subsequent 2019 Committee on Climate Change advice. UNISON members campaigned with trade unionists internationally for the Just Transition concept to be included in the Paris Agreement and for a Just Transition Commission in Scotland. With the Just Transition Partnership and Stop Climate Chaos Scotland, we call for an independent, statutory Just Transition Commission advising the Scottish Government for the duration of the targets in Scotland's climate legislation. We welcomed the establishment by the Scottish Government of the Just Transition Commission, due to report within two years. We are pleased to submit this short introductory briefing prior to the Commission's June meeting, and will submit additional information/briefings (incl on the power sector) as/when appropriate, in discussion with the Secretariat.

General overview - buildings, transport and the public sector.

Economic and industrial and ownership strategies

Economic and industrial and ownership strategies are key overall in the transition to a zero carbon economy, as well as in these three sectors. UNISON has strongly opposed the ideologically driven austerity policies of the UK Government, arguing that this was totally the wrong economic approach to deal with the aftermath of the financial crash. We have, with others, including the STUC, long called for a proper economic and industrial strategy, with sustainable jobs at the heart, and for climate change to be treated as an urgent health and safety issue for the planet. We welcome the current renewed interest in green industrial strategies here, at UK level, and internationally. Scotland must deliver on this, with a joined up approach that takes on board the arguments made by so many, including the Just Transition Partnership, about the importance of the Scottish National Investment Bank (SNIB) and Scottish Publicly Owned Energy Company (POEC) in delivering a just transition¹. Some specific areas for UK and Scottish government investment must include Carbon Capture and Storage and hydrogen projects² to keep options in these areas, including conversion of the gas network to hydrogen, open in the future. Planning for the Just Transition must address issues of energy and transport ownership. In energy, we need a nationally co-ordinated plan to tackle gross underinvestment. The current spread of ownership does not allow this to happen. We believe energy and transport are best in the public sector, with

¹ <https://unison-scotland.org/library/Paving-the-Way-for-a-Just-Transition-Briefing-for-MSPs-June-2018.pdf>

² <https://www.unison.org.uk/news/press-release/2018/11/government-must-give-bold-hydrogen-scheme-go-ahead-says-unison/>

the power to drive change forward under democratic control. We argued for this in recent submissions to consultations on the POEC³ and on the Transport Bill⁴.

Buildings, transport and public sector

It is impossible in a short briefing to address such wide areas in detail. We only touch on each, below, looking at: a) opportunities and challenges for jobs resulting from the low carbon transition b) wider related opportunities and challenges for the public/consumer.

Buildings

a) There is a recognised key opportunity for job creation in major domestic and non-domestic buildings energy efficiency programmes, including retrofit for public sector buildings where suitable. This requires urgent investment at scale, but with considerable economic benefits to communities, with local economic impact. Municipal energy schemes must also play a role, with the benefit of income generation. (See public sector.) b) Lessons must be learned from the problems of some previous schemes. Quality schemes within the public sector will deliver the best results for consumers, for addressing fuel poverty, and for skills development and job creation, with increased tax revenue etc.

Transport

a) Quality jobs could be provided through investing in much improved integrated, sustainable public transport, as well as in the switch to electric vehicles and the use of hydrogen powered buses (used in Aberdeen already) etc. We support rail nationalisation and re-regulation of the buses, more municipal bus companies, such as Lothian Transport, and a massive expansion in active travel infrastructure. Innovative pilot projects could include a trial of free public transport. This is being piloted in five German cities. Scotland should look at a trial, linking with industrial strategy on support for electric/hydrogen buses. b) It is vital to address inequalities through improved public transport, ensuring accessibility, safety and affordability of alternatives to cars, particularly for rural areas, shift workers, families, etc. This needs redesigned city centres and travel to work pilot projects. These could help boost local economies, as well as improving air quality, health and wellbeing. Unions argue for negotiated green workplace⁵ agreements covering travel to work plans.

Public sector

a) The public sector must lead by example across policy, including its key role in procurement and supporting local supply chains, relevant to trade union criticisms of broken jobs promises on EDF's offshore wind project NnG. The new Scottish publicly owned energy company should have a key role in the just transition, involved in generation and transmission, not just supply. SNIB also, as above. We need a major expansion of municipal and community energy schemes^{6 7}. Even if small job numbers, they could be a considerable local economic boost in remote/rural areas and numbers from a range of schemes will add up, also with income generation benefits for public bodies. We need a climate change resilience public services strategy and infrastructure funding programme.

³ <https://unison-scotland.org/library/UNISON-EJFWCtee-POEC-Sept18.pdf>

⁴ <https://unison-scotland.org/library/UNISON-Transport-Bill-Submission-Sept18.pdf>

⁵ <https://www.tuc.org.uk/sites/default/files/extras/gogreenatwork.pdf>

⁶ <https://www.unison-scotland.org/library/EFJWCteeDraftBudget19-20.pdf>

⁷ <http://www.apse.org.uk/apse/assets/File/Municipal%20Energy%20Web%20version%20final.pdf>



b) Public sector action can ensure communities are not left behind. It must be accelerated in recognition of the climate emergency⁸ with adaptation/emergency planning crucial. Investment in green workplace action⁹ is needed. Divestment/reinvestment protects pensions and invests for the public good¹⁰.

⁸ <https://www.apse.org.uk/apse/index.cfm/members-area/briefings/2019/19-23-climate-emergency-council-declarations/>

⁹ https://www.tuc.org.uk/sites/default/files/The_Union_Effect_Greening_The_Workplace_Covers_2014_All.pdf

¹⁰ <https://foe.scot/resource/divest-reinvest-councils-report/> <https://www.unison.org.uk/content/uploads/2018/01/Divest-from-carbon-campaign.pdf>