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Reforming transport taxes

The case for change

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Green Alliance
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Summary

“The transport system is not paying its fair share for the emissions it produces.”

Taxes applied to different transport modes do not reflect their different levels of greenhouse gas emissions. This means the transport system is not paying its fair share for the emissions it produces, compared to other sectors, with relatively little tax raised from aviation and shipping. Beyond its climate impacts, transport has other negative effects on society that also need to be reduced, including air pollution and congestion, and the tax system is one way to tackle them.

Taxes on transport raised £44 billion for the government in the 2019-20 fiscal year, which was the most recent year largely unaffected by the Covid pandemic.[1] Though the UK government does not levy any direct environmental taxes on transport, there is indirect taxation on environmentally damaging activities, through fuel duty and air passenger duty (APD).

Transport is changing rapidly in the race to reach net zero carbon emissions by 2050. Without tax reform, the move to electric vehicles will reduce fuel duty revenue by up to £28 billion a year, as receipts diminish.[2] This is equivalent to almost the entire 2021-22 budget for the Department for Transport.[3] By 2035, road transport will be a long way ahead of aviation and shipping on its path to net zero, with the fiscal black hole widening by the year as a result. [4]

> Tax reform would help to create a cleaner, fairer transport system."

Changing people's travel behaviour will be necessary for a successful net zero transition. Altering what is taxed is one tool that can be used to encourage the shift, and this can also replace lost tax revenue from the move away from high carbon technologies.

Tax reform would help to create a cleaner, fairer transport system while providing sustainable revenue that averts the potential fiscal black hole.

This is the first of two Green Alliance reports focused on the link between transport taxation and the government's net zero carbon goal. In this one, we set out the case for transport tax reform, why transport taxes need to be considered together, why the work needs to start now and the impact of decarbonisation on tax revenue from transport. In the next report, we will present a menu of tax options for transport in the light of the net zero transition.

The government should plan its approach now. It should:

- start an honest conversation with the public about why transport taxes need reform;
- develop initial options, for public discussion, around how the transport tax system should be updated;
- create an independent commission to evaluate options and consider how they might be implemented;
- ensure initial options for updating transport taxation fit with broader tax policy to support the net zero transition.

"It's an interesting moment for those who care about tax policy. There is inevitable reform coming and I hope that when that happens we don't fall into the trap of trying to plug holes rather than doing something a bit more fundamental."

Chris Stark, chief executive of the Climate Change Committee, 2021[5]

Introduction

> “Changes underway to meet the UK’s commitment to net zero have implications for transport taxes.”

The transport system supports a wide range of complex social and economic interactions that benefit society. But it also has negative impacts, known as externalities, that affect our everyday lives. These include greenhouse gas emissions, noise, air pollution and congestion. Tax is also a powerful tool for addressing these externalities. It can create market pressure for solutions, a stable source of revenue to be redistributed for society’s benefit and it can drive behaviour change.

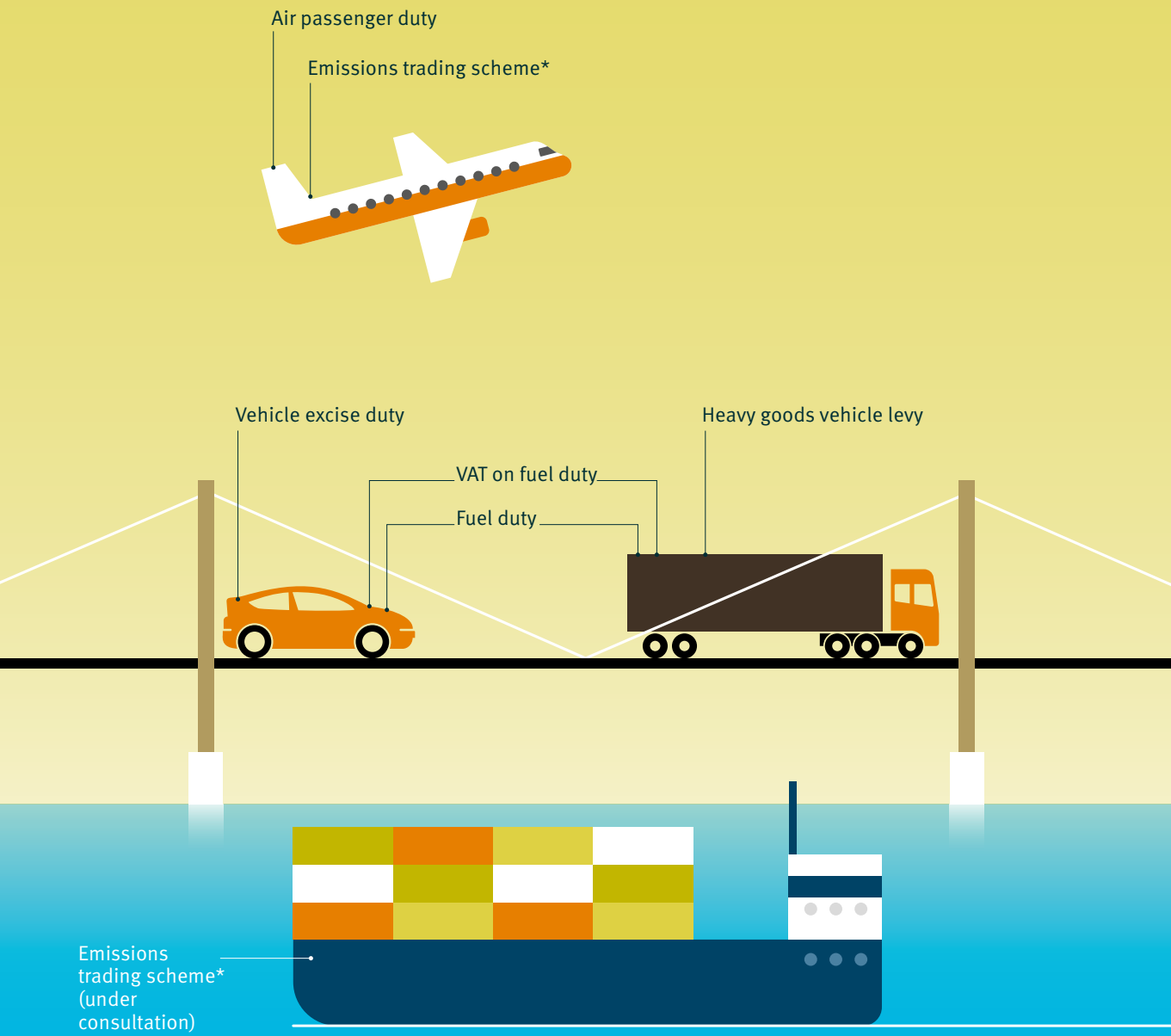
Transport is a significant source of steady tax revenue for the government, generating £44 billion in 2019-20, equating to eight per cent of central government tax revenue that year.[6] Though the UK does not levy any direct environmental taxes on transport, some taxes, such as fuel duty and air passenger duty (APD), indirectly tax environmentally damaging activities.

Rapid changes underway to meet the UK’s commitment to net zero have implications for transport taxes, particularly as road transport electrifies. The government has outlined its ambition for a net zero transport system, but has provided no view on how the tax system should adapt accordingly.[7]

The government now has an opportunity to set out a vision for transport taxes that can help to build a fair, cleaner future for the country and protect its long term tax revenue base. This should sit within broader reform of tax policy, which we have called for, to align the tax system with net zero.[8]

This report is the first of two focused on transport taxes and net zero. Here, we set out why tax reform is needed, why taxes should be considered together, why the work has to start now and what the impact of decarbonisation will be on tax revenue from each transport mode. In the second report we will present a menu of transport tax options.

Taxes applied to different transport modes



*While not strictly a tax, the UK's emissions trading scheme is functionally similar as it raises revenue for the Exchequer.

Transport taxes today

> “Revenue raised from fuel duty has fallen in real terms as the rate has been frozen for over a decade.”

Taxes on transport raised £44 billion for the Exchequer in the 2019-20 fiscal year, the most recent year largely unaffected by the Covid pandemic.[9] Of this, £40 billion came from road vehicle and fuel taxes, and £4 billion was from air passenger duty.[10]

Transport taxes have developed piecemeal over time, so they lack uniformity and consistency across modes.

Most are raised from cars, vans and HGVs via fuel duty (£28 billion) with a smaller proportion (£7 billion) from vehicle exercise duty (VED) and VAT on fuel duty (£5.5 billion), yet fuel duty and VAT on fuel duty are already being eroded by the shift to electric vehicles (EVs).

In recent years, revenue raised from fuel duty has fallen in real terms as the rate has been frozen for over a decade, rather than rising in line with inflation, as public transport fares have done. EVs are exempt from VED in 2022, but this will end in April 2025.[11] A heavy goods vehicle (HGV) levy was introduced to reflect that sector’s environmental impact, generating £204 million in 2019-20, but this was later suspended in response to the pandemic.[12]

Taxes related to driving are applied to petrol and diesel sales and directly to car ownership (VED). There are also charges for driving in some areas of the UK, in the form of congestion charges and clean air zones, although these fall under the jurisdiction of local authorities rather than central government.

Public transport has positive social and economic externalities so tax collected from it is correspondingly low, to avoid discouraging use.

> “There is a lack of tax revenue from aviation and shipping.”

There is a lack of tax revenue from aviation and shipping, both of which have high environmental impacts. The absence of fuel duty on aviation and shipping fuels, and VAT on plane tickets, is at odds with the polluter pays principle applied to road users.[13,14]

The UK’s emissions trading scheme (ETS) is not a tax but is functionally similar as a revenue raiser for the Exchequer. Domestic flights and flights to countries in the European Economic Area (EEA) are within its scope, but other international flights are excluded.[15] The revenue raised for the Exchequer from the ETS was £1.5 billion in 2019-20, including revenue from aviation, the power sector and energy intensive industries.[16] Domestic shipping may come within UK ETS scope in future, but the government is not proposing to include international bound shipping, which is responsible for over half of shipping emissions.[17] The European Union (EU) has proposed much broader coverage of shipping in its ETS, encompassing all intra-EU and half of emissions from voyages starting or ending inside the EU, for ships above a weight threshold.[18]

Transport is not paying its fair share

“The aviation industry is subsidised to emit greenhouse gases.”

Transport emits more greenhouse gases than any other sector in the UK. It is responsible for a third of all UK emissions annually and this remained relatively unchanged until the Covid pandemic. Road transport is the largest contributor, with cars and vans the source of half of the sector’s emissions; international aviation is responsible for a further 25 per cent.

There is no connection between the emissions of different modes of transport and the tax revenue they raise.

Aviation is largely untaxed, despite its very significant climate impacts. This is, in part, a result of international agreements prohibiting tax on kerosene (jet fuel) for some international flights, but it is also partly the government’s choice. This effectively means aviation had an annual tax break of £7 billion before the pandemic.[19] Airlines are also given a free allocation of ETS allowances. This is to avoid ‘carbon leakage’ through companies relocating out of the ETS area, though this argument holds less for aviation than other sectors covered by the ETS because it is based on flights rather than a company’s location.

Shipping also escapes meaningful taxation, despite contributing three per cent of the UK’s greenhouse gas emissions.

Direct comparisons across transport modes can be made using an ‘effective carbon price’, developed by the Energy System Catapult.[20] This measures the price per tonne of emissions they produce, based on all the relevant taxes, subsidies, standards and regulations that apply.

The effective carbon price for aviation was -£26 per tonne CO_2e in 2019, which means the aviation industry is subsidised to emit greenhouse gases. The effective carbon

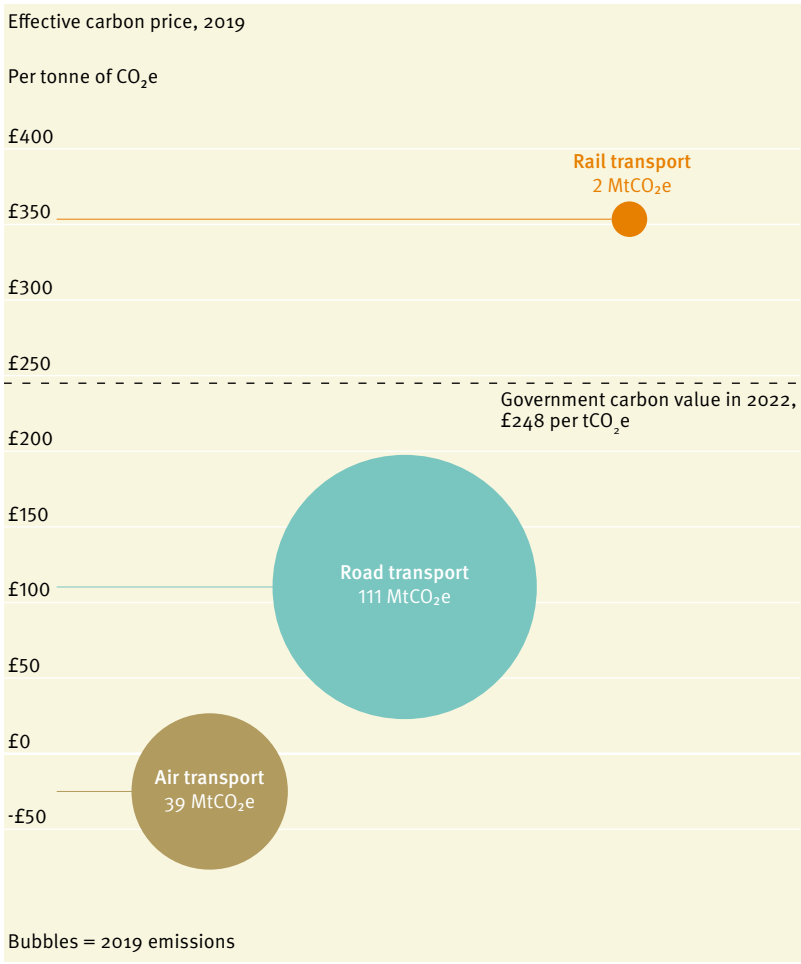
price for road transport was £109 tonne CO_2e in 2019, over £100 per tonne CO_2e higher than for aviation.

Comparing effective carbon prices with the 2022 carbon value of £248 per tonne of CO_2e, which is used by the government for appraising the benefits and costs of its policy decisions, shows the transport system is not paying its fair share for its climate impacts.[21]

This is not to say that a single carbon price for transport is, or should be, the answer, as there are broader environmental and social impacts to consider when designing the tax system.

> “There are broader environmental and social impacts to consider when designing the tax system.”

Road and air transport are not paying enough for their share of climate impact[22]



Other negative impacts

> **“A low carbon transport system could still cause pollution.”**

Greenhouse gas emissions are not the only negative externality of transport. It is responsible for other environmental and social impacts, including congestion and noise, air and plastic pollution. The move to cleaner forms of travel will reduce many of these, although it could also increase some and introduce entirely new ones. A low carbon transport system could still cause pollution.

Air pollution from transport damages human health and the environment. Burning fossil fuels produces pollutants, such as nitrogen oxide (NOx) and particulate matter (PM), as well as greenhouse gases.

Twenty eight per cent of NOx and 13 per cent of PM2.5 and PM10 air pollution comes from road transport, although this will reduce with electrification.[23,24] However, ammonia, one of the forerunners in line to replace high carbon shipping fuel, may still produce NOx when burned.[25]

Plastic pollution from road vehicles’ brakes and tyres will persist with EVs. Up to 34 per cent of microplastics released into UK surface waters come from tyres.[26] This may even increase due to the additional weight of EV batteries, making them heavier than today’s internal combustion engine vehicles, potentially increasing tyre wear.

Transport also has negative social impacts beyond pollution. Road congestion harms the economy, in fact over three quarters of driving’s costs to society arise from this.[27] It is also a nuisance for those stuck in traffic or living around it. Some urban areas have implemented road charging or congestion schemes, which can also help to reduce pollution. It has been found that successful schemes lead to higher productivity and economic growth.[28]

> “Wealthier households can switch more easily to zero carbon alternatives.”

Equity is another important aspect of transport tax’s impact, as it can increase costs for users, regardless of their ability to pay or their proportional contribution to emissions.

Wealthier people drive and fly more, generating more emissions than those on lower incomes. Seventy five per cent of commercial flights within and from the UK are taken by just 20 per cent of the population, and the frequency of flying correlates with higher incomes.[29] But applying a blanket tax on flying may not address the disproportionality around those who fly most frequently and may prevent those who rarely fly from ever being able to.

Although applying vehicle taxes to encourage more environmentally conscious behaviour is positive for reducing tailpipe emissions, wealthier households can switch more easily to zero carbon alternatives, which have high upfront costs but are taxed less and have lower running costs. This leaves poorer households, still driving the most polluting vehicles, to carry the tax burden.

These environmental, social and equity factors should all be considered when designing transport taxes for the future.

The transport system in 2035

The government has set targets to cut greenhouse gas emissions from the transport sector, based largely on the Climate Change Committee's (CCC) sixth carbon budget Balanced Net Zero Pathway that runs until 2037.[30,31] The government's plan is for the transport sector to be decarbonised by 2050, with the transition well underway by 2035.

Reforming the tax system is a large undertaking, meaning any adjustment made in the foreseeable future needs to be resilient to ongoing change for years to come as transport decarbonises.

In the following pages, we explore how each transport mode could evolve by 2035, using the CCC's path to net zero as a guide.

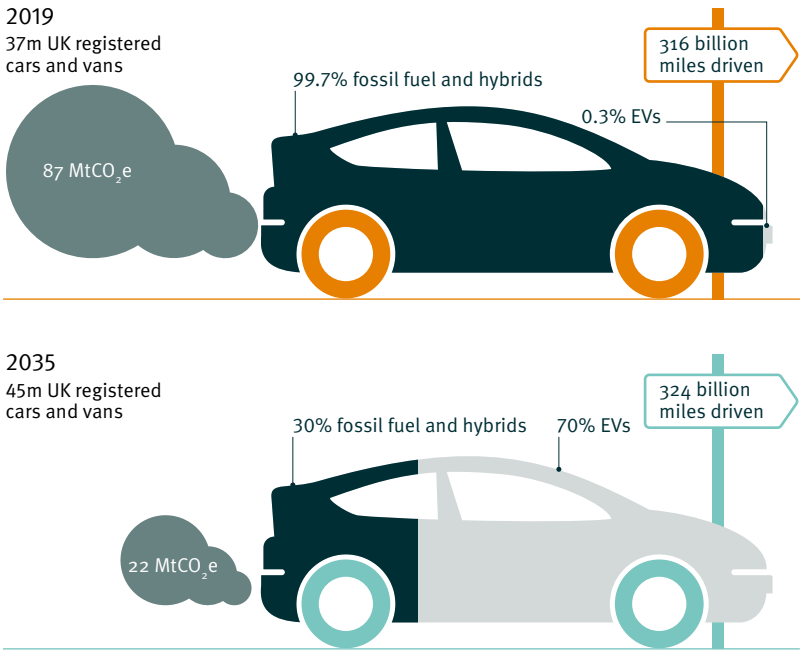
What will we be driving?

“Without efforts to drive down private car use, total miles driven in the UK are likely to increase.”

By 2035, the switch from petrol and diesel to EVs will be powering ahead. All sales of new vehicles up to 26 tonnes will be zero emission at the tailpipe and so greenhouse gas emissions from cars and vans will rapidly fall.[32] This will cause fuel duty revenue to decrease, forcing the Treasury to decide how to fill the looming hole in its budget.[33]

Without efforts to drive down private car use, eg through more investment in public transport, total miles driven in the UK are likely to increase. Associated impacts that will remain with EVs include congestion, noise and plastic pollution. The tax system could also be used to address these externalities, while providing funding for public transport

By 2035 most vehicles on the road will be electric[34]

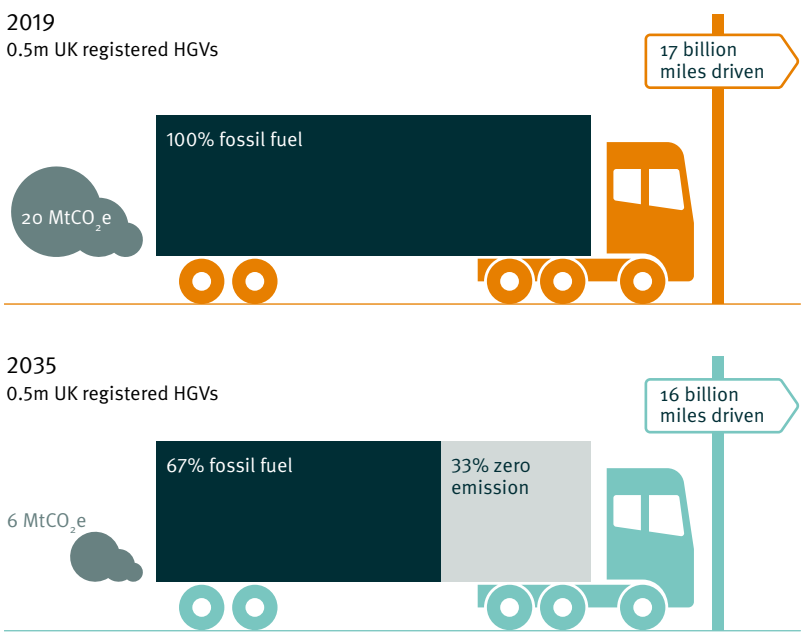


Will HGVs accelerate to zero carbon?

The switch to clean fuelled HGVs will be well underway by 2035, though at a slower pace than cars and vans. Sales of new petrol and diesel HGVs over 26 tonnes will continue for five more years, to 2040, but almost all new sales of HGVs will already be zero emission.[35,36] Greenhouse gas emissions from HGVs will have fallen 70 per cent due to improved logistics, vehicle efficiency measures and an increasing percentage of clean vehicles on the road.

The HGV levy will place the largest tax burden on the most polluting haulage vehicles, to drive the decarbonisation of the sector. As this is achieved, tax revenue will be eroded.

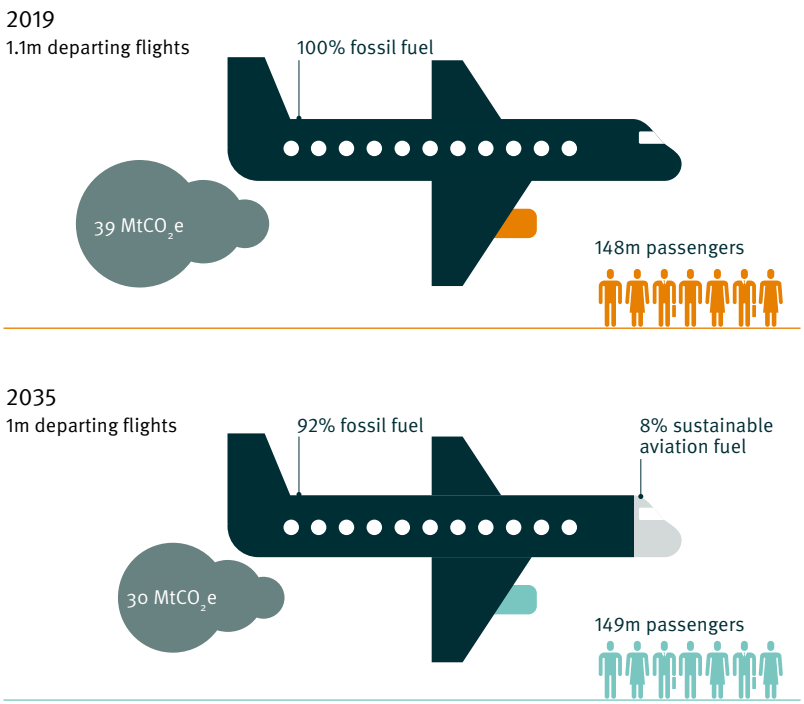
By 2035 a third of HGVs will be zero emission[37]



What will fuel aviation?

As the development of zero emissions technology for aviation is uncertain, the CCC's balanced pathway to net zero emissions allows no increase in air passengers by 2035 and a 25 per cent increase by 2050. But the government's Jet Zero Strategy allows a 74 per cent increase in passenger numbers by 2050.[38] It is relying on technology, rather than managing demand, aiming to have the first commercial zero emission aircraft in service by 2035. In the interim, it has set a target for using ten per cent sustainable aviation fuel (SAF) in flights by 2030 to start decarbonising flying.[39] It is not certain that aviation can achieve net zero by 2050 without demand management. Tax is one way to manage this, alongside technology development and as a safety net in case of delay.

Aviation will still mostly be powered by fossil fuels in 2035[40]



How will ships be powered?

“The UK’s maritime activities will emit more greenhouse gases than HGVs.”

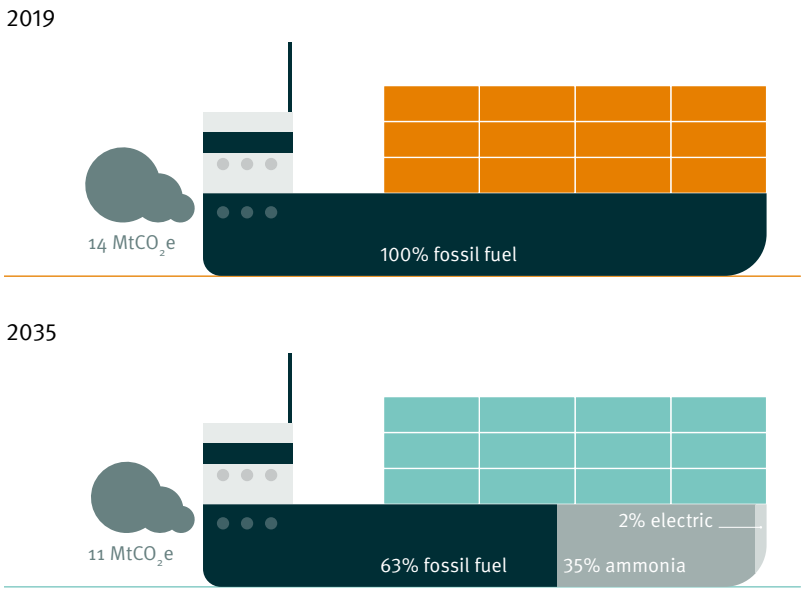
The future of shipping is also uncertain. Similar to aviation, more sustainable fuels are likely to support decarbonisation of the sector but they, in turn, could have other environmental impacts.

A third of the fuel used for shipping could be ammonia in 2035, leading emissions to fall by a quarter. But the UK’s maritime activities will emit more greenhouse gases than HGVs.

Ammonia as a shipping fuel, made from low carbon hydrogen, has drawbacks, potentially releasing NOx when burned and risking significant environmental harm if leaked.[41]

By 2035, domestic shipping may be within the scope of the UK ETS.[42]

Alternative fuels will play a big part in falling shipping emissions by 2035[43]



The looming gap in tax revenue

> “Once all road vehicles are EVs, £28 billion a year in tax revenue could be lost if nothing changes.”

In a net zero world, we will drive EVs, fly in zero emission aircraft and travel across the sea in zero carbon powered ships. As we have shown, by 2035 we will be some of the way to realising this vision.

These changes are already underway and will have significant impacts on the public finances. A vehicle fleet consisting solely of EVs may feel far away now but, by 2035, 70 per cent of cars and vans will be fully electric. Once all road vehicles are EVs, £28 billion a year in tax revenue could be lost if nothing changes, which is equivalent to almost the entire 2021-22 budget for the Department for Transport.[44]

The tax system takes time to change, both to consult on and effectively communicate plans to the public. The administration of tax collection also needs time to adjust.

If the inevitable discussion does not start imminently on reforming transport taxes and no action is taken to replace lost revenue, there will be severe consequences for society as the public purse shrinks.

Planning for change

A greener tax system is widely supported by the public. Our research in 2021 found six out of ten (59 per cent) people supported using the tax system to make environmentally damaging behaviours more expensive, with only one in ten (12 per cent) opposing the idea.[45] The same survey also found support for a driver charging scheme, if coupled with investment that improves the convenience of public transport as an alternative to driving. The public can see change is coming and is ready to have a conversation about it.

Transport will alter rapidly in the coming years, leaving in its wake taxation unfit for purpose and a hole in the government's finances. Taxes must be redesigned to avert this. It is also an opportunity to bring greater consistency to taxing transport emissions and its broader environmental and social impacts.

This report sets out the problem. Our second report will provide some solutions with a menu of options for designing transport taxes to maintain tax revenue, while using them to signal and shape a more sustainable future.

To plan the approach now to align the tax system with the decarbonisation of transport, the government should:

- start an honest conversation with the public about the need to reform transport taxes;
- develop initial options, for public discussion, around how the transport tax system should be updated;
- create an independent commission to evaluate options and consider how they might be implemented;
- ensure initial options for updating transport taxation fit with broader tax policy to support the net zero transition.

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