



DEBATE PACK

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Net zero targets and decarbonising transport

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The House of Commons Library prepares a briefing in hard copy and/or online for most non-legislative debates in the Chamber and Westminster Hall other than half-hour debates. Debate Packs are produced quickly after the announcement of parliamentary business. They are intended to provide a summary or overview of the issue being debated and identify relevant briefings and useful documents, including press and parliamentary material. More detailed briefing can be prepared for Members on request to the Library.

1. 'Net zero' targets and decarbonising transport

1.1 'Net Zero' by 2050

On 12 June 2019, the Government laid the draft [Climate Change Act 2008 \(2050 Target Amendment\) Order 2019](#) to amend the *Climate Change Act 2008* by introducing a target for at least a 100% reduction of greenhouse gas emissions (compared to 1990 levels) in the UK by 2050. This is otherwise known as a net zero target because some emissions can remain if they are offset by removal from the atmosphere and/or by trading in carbon units. The [Order](#) came into force on 27 June 2019.

This legislation broadly puts into effect a May 2019 recommendation from the Committee on Climate Change (CCC) (the independent statutory body set up to monitor and advise on progress towards the UK's emission targets). However, it diverges from the recommendation that the target be achieved by domestic action only by retaining the ability to use international carbon credits. The new target was announced by then Prime Minister Theresa May in a [Downing Street Press release](#) in June 2019 and was widely welcomed by the CCC and other stakeholders including industry and environmental groups.

If met, this target would effectively mean that the UK will end its contribution to global emissions by 2050. Before this amendment, the UK had a long-term emissions reduction target of reducing greenhouse gas emissions by 80% by 2050, compared to 1990 levels, set by the [Climate Change Act 2008](#).

Since passing this legislation, the Government has announced a HM Treasury [Net Zero Review](#). This included a priority to ensure a fair balance of contributions from all those who will benefit, including considering how to reduce costs for low income households. The Review will also consider how to avoid offshoring emissions i.e. how to reduce UK emissions without causing those emissions to be created by another country. A final report is expected in Autumn 2020.

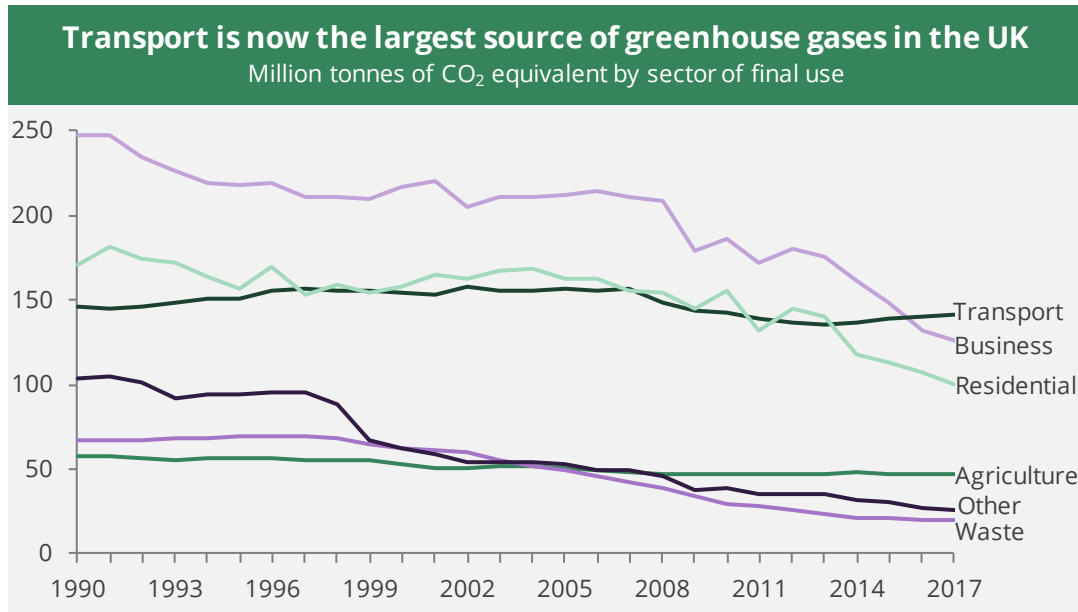
Further information on 'Net Zero'

The Commons Library brief, [Net Zero in the UK](#) provides an explanation of the introduction of the UK's net zero by 2050 legislative target. It provides the context for the emissions reduction target; a brief overview of relevant commentary and analysis of the Government's proposals; and any key announcements and commitments made since.

1.2 Emissions from the transport sector

In 2017 greenhouse gas emissions from transport in the UK were 141 million tonnes of CO₂ equivalent, or around 31% of all UK emissions.¹ This definition includes direct use of fuel and all the emissions from power generation and energy supply linked to transport.

The chart below looks at emissions since 1990 of all major sectors. Transport overtook business as the largest emitting sector in 2016.



Source: [Final UK greenhouse gas emissions national statistics: 1990-2017](#), DBEIS

Emissions from transport have fallen overall since 1990, but have increased slightly in recent years. The overall the fall has been smaller than in other sectors and hence transport's share of total emissions has increased from 18% in 1990 to 31% in 2017.

The Government's projections show transport's emissions falling gradually, at a slower rate than overall emissions, up to 2035. This would see transport's share of total emissions increase slightly.²

1.3 What does 'net zero' mean for planes, trains and automobiles?

Within the transport sector, the major sources of emissions are:

- Passenger cars (55% of the sector's emissions in 2017)
- HGVs (16%)
- Light duty vehicles (15%)
- Shipping (5%)

The Government has set out its ambitions on decarbonising the transport sector in the Road to Zero strategy, the [Aviation 2050 consultation](#), the [Maritime 2050 strategy](#) and [Clean Maritime Plan](#), and

¹ DBEIS [Final UK greenhouse gas emissions national statistics: 1990-2017](#), Feb 2019

² DBEIS [Updated energy and emissions projections: 2018](#), April 2019

through its ambition to remove all diesel-only trains from the rail network by 2040³.

Road

Road transport is a significant source of greenhouse gas emissions, at around one fifth of all emissions in 2017 (118 Million tonnes of CO₂ equivalent), while passenger cars account for over half of all transport emissions. It is therefore in line to be significantly affected by the adoption of the [net zero target by 2050](#).

The [Government's Road to Zero strategy](#) includes the ambition that by 2050 almost every car and van will be zero emission. This target has been criticised for a lack of ambition. Further, [updated advice on meeting the net zero target](#), published by the CCC in May 2019, said that the market for electric cars and vans should scale up to 100% of new sales by 2035 at the latest (and ideally by 2030).⁴ Under the older 80% reduction target by 2050, the CCC advised a 'least cost' pathway would need 60% of all new cars and vans sold should be electric by 2030.⁵

Further information on Electric Vehicles

The Library Brief, [Electric Vehicles and Infrastructure](#) provides an overview of the current policies and challenges to increasing the uptake of Electric Vehicles (EVs).

Some of the key issues to be addressed in in meeting these targets, include:

- **Expanding the network of chargepoints.** The Government is supporting this through the provision of [home, workplace and local authority chargepoint grants](#), and expects for the majority of charging to take place at home. The CCC forecasts that for the 2050 net zero target to be met there will need to be 3,500 rapid chargers ultra-rapid chargers near motorway to enable long journeys and 210,000 public chargers in towns and cities. A ten-fold increase on the 21,000 public chargers (of all speeds) available as of 2019.
- **Encouraging consumers to buy EVs.** Government grants have been provided for low emission vehicles since 2011. In 2018, the scheme was amended to focus on zero tailpipe emission vehicles (meaning hybrid vehicles are no longer eligible for grants). The [Road to Zero strategy](#) said it would deliver a "managed exit from the grant in due course" and to provide support through other measures.
- **Managing increasing demands on the electric grid.** National Grid says that while it expects electricity demand to increase, they have policies and incentives in place that should be able to address the increase in. Further, the Government is mandating

³ [PO 272818](#) [Railways: Exhaust Emissions] 9 Jul 2019

⁴ CCC, [Net Zero: The UK's contribution to stopping global warming](#), May 2019, p.34

⁵ CCC, [Reducing UK emissions 2018: Progress Report to Parliament](#), June 2018, p. 161

that all new chargepoints have smart capability in order to manage such increases in demand.

Current sales figures for EVs shows the scale of the challenge presented by the switch over from petrol/diesel vehicles to EVs. Out of approximately 39.4 million licensed vehicles in the UK at the end of 2018, around 0.2 million (0.5%) were ultra-low emission vehicles (ULEVs).⁶ However, sales of EVs are increasing year-on-year; 2018 saw 64,000 newly registered ULEVs, up 20% on those registered in 2017. This was 2.1% of all new vehicle registrations.

Overall emissions from cars fell by 16% between 2002 and 2013, but have increased slightly since then.⁷ Further, average vehicle emissions from the UK fleet have fallen. A 2018 car had on average CO₂ emissions 31.2% lower than in 2000.⁸ In 2018, a post by [CCC analyst on it website said](#) that most action to reduce emissions from the transport sector had been driven by EU regulations, rather than domestic policy.⁹ Since 2015, the EU has set mandatory emission reduction targets for new cars.¹⁰ Over that period, average UK fleet emissions have fallen, but in 2017 average new car CO₂ intensity rose. This was driven by consumers buying bigger vehicles, the CCC says this indicated more efforts are required to encourage consumers to buy more efficient vehicles.¹¹

Greenhouse gases from HGVs have remained broadly constant since 1990 and those from light duty vehicles have increased by 64%.¹² While electrification of smaller vehicles, such as cars and vans is already technologically feasible, other technological solutions may be needed for HGVs.

The Government's [Road to Zero Strategy](#) explains that "hydrogen vehicle technologies may be well suited to use in HGVs and by fleet operators." The potential contribution of hydrogen to zero-carbon transport was also considered as part of the CCC's November 2018 report, '[Hydrogen in a low-carbon economy](#)'. The report argues that given lower costs and recent technological improvements BEVs are "well placed to deliver the bulk of decarbonisation for cars and vans." However, hydrogen vehicles "could play an important role for heavy-duty vehicles (e.g. buses, trains and lorries) and potentially for longer-range journeys in lighter vehicles, where the need to store and carry large amounts of energy is greater."¹³

Further, in its report on how to meet the net zero target by 2050, the CCC had this to say on HGVs:

⁶ ONS, [Road transport and air emissions](#), September 2019

⁷ DBEIS, [Final UK greenhouse gas emissions national statistics: 1990-2017](#), Feb 2019

⁸ Society of Motor Manufacturers and Traders (SMMT), [Facts & Figures](#), [accessed: 29 Jan 2020]

⁹ Ewa Kmietowicz, [Road to Zero: A missed opportunity?](#), CCC, 10 July 2018

¹⁰ European Commission, [Reducing CO₂ emissions from passenger cars](#), [accessed: 5 June 2019]

¹¹ CCC, [Reducing UK emissions 2018 Progress Report to Parliament](#), June 2018, p.161,

¹² DBEIS, [Final UK greenhouse gas emissions national statistics: 1990-2017](#),

¹³ CCC, [Hydrogen in a low-carbon economy](#), Nov 2018, p. 47

To reach net-zero emissions by 2050 it will be necessary for HGVs to move away from combustion of fossil fuels and biofuels to a zero-emissions solution (e.g. hydrogen, battery vehicles). Given the current evidence on lead-times for infrastructure and the time taken to turn over vehicle stocks, the government will need to make decisions how HGVs will be decarbonised in the second half of the 2020s. This will necessitate small-scale trial deployments of hydrogen HGVs in a variety of fleets prior to this, in the UK or elsewhere. As HGVs need to travel internationally, the eventual choice is likely to need to be consistent with equivalent decisions made elsewhere in Europe.¹⁴

It is important to note that for hydrogen to be considered a low-carbon alternative the process of extracting hydrogen would have to be low carbon itself. This could either involve combining the process with Carbon Capture and Storage (CCS). Alternatively, using renewable electricity to generate hydrogen would make it very low carbon. Presently, the processes for producing hydrogen are very energy intensive, and so the fuel produced is not zero-emission at production.

Rail

Rail transport has comparatively low emissions for both passenger and freight transport. This is because large parts of the rail network are electrified. In 2017-18, rail emissions accounted for 2.94 million tonnes of CO₂ equivalent. This is equivalent to 36.6 g CO₂ equivalent per passenger km.¹⁵

Increased rail travel could therefore offer one route to cutting emissions across the transport sector to meet the 2050 net zero target. A [DfT-commissioned report by Arup](#) highlights the GHG emissions reduction potential from a modal shift of freight transport from road to rail. It estimated the potential to save over 4.6 million tonnes of CO₂ equivalent, a reduction of around 19% of total 2013 HGV emissions.¹⁶ These findings were reflected in both the DfT's [Freight Carbon Review 2017](#) and its [Rail Freight strategy 2016](#).

In the 2017 Parliament, the Commons Transport Committee launched an inquiry '[Trains fit for the future?](#)' which sought evidence on issues around decarbonisation. However, the dissolution of Parliament meant the inquiry did not conclude.

Aviation and shipping

For the UK, aviation contributed 1.2% of the transport sector's emissions in 2017; 1.7 million tonnes of CO₂ equivalent. This is because, under international rules, only domestic flights count towards a country's emissions. An estimate is made of emissions linked to international flights from the UK. This is based on the fuel used by aircraft leaving UK airports. The same is true for shipping and similar estimates are made on a similar basis. Neither international aviation or shipping emissions are explicitly included in the UK's 'net-zero'

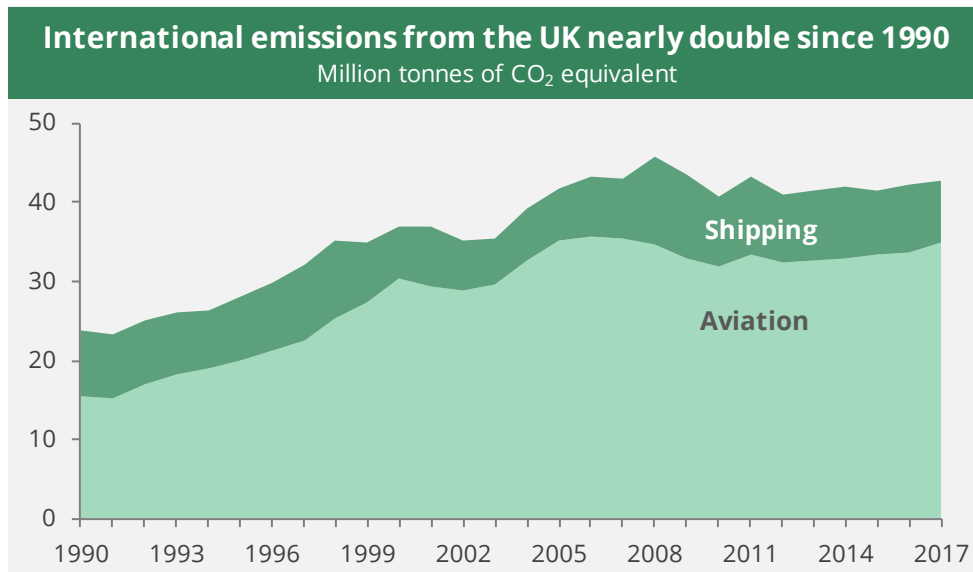
¹⁴ CCC, [Net Zero: The UK's contribution to stopping global warming](#), May 2019, p. 182

¹⁵ Office of Road and Rail (ORR), [Rail emissions 2018-19 Annual Statistical Release](#), 7 November 2019

¹⁶ Arup, [Future potential for modal shift in the UK rail freight market](#), September 2016, p. 85

legislation. In September 2019, the Chair of the CCC wrote to the Secretary of State for Transport recommending that international aviation and shipping emissions be included explicitly in the UK's net zero target.¹⁷

Estimated emissions from international aviation from the UK were 35.0 million tonnes of CO₂ equivalent in 2017. This was 20 times greater than for domestic flights. The following chart shows that these emissions increased substantially since 1990. In 2017 they were equivalent to 45% of the total emissions from cars in the UK.



Source: [Final UK greenhouse gas emissions national statistics: 1990-2017](#), DBEIS

In total, international shipping (816 million of tonnes of CO₂ equivalent in 2012¹⁸) and aviation (895 million tonnes of CO₂ equivalent in 2018¹⁹) are responsible for around 4-5% of annual global CO₂ emissions. Without policies or new technologies to reduce emissions, these sectors are forecast to be responsible for an even larger share of total emissions in the future.

Currently, both international and UK government initiatives targeting emissions reduction, from the aviation sector, are focused on carbon offsetting and market-based initiatives.

The first global carbon offsetting initiative, [CORSA](#) (Carbon Offsetting and Reduction Scheme for International Aviation) was agreed by ICAO (International Civil Aviation Organisation) in 2016. Participation is currently voluntary, and the scheme will begin carbon offsetting in 2021. The UK is participating, and the government is supporting CORSA. Further, following the Spring Statement 2019, the [government launched a call for evidence on carbon offsetting in transport](#) in July 2019. The government is currently considering the responses.

¹⁷ [Committee on Climate Change \(2019\)](#). Net-zero and the approach to international aviation and shipping emissions: Letter from Lord Deben to Grant Shapps.

¹⁸ IMO, [Third IMO Greenhouse Gas Study 2014](#), p1

¹⁹ Jocelyn Timperley, [Corsia: The UN's plan to 'offset' growth in aviation emissions after 2020](#), CarbonBrief, 4 Feb 2019

Intra-EU flights are also covered by the EU Emissions Trading System (ETS) but are being reassessed based on results from CORSIA. Further reductions in carbon emissions are being promoted through *increasing fuel efficiency, load factors (passengers per plane) and airspace changes*. The ICAO has set a long-term goal for aviation emissions in 2050 to be half those in 2005.

In the shipping sector, in April 2018, the International Maritime Organization [adopted an “initial strategy” on the reduction of greenhouse gas emissions](#) from ships.²⁰ This initial strategy set a target of reducing GHG emissions by at least 50% by 2050 with a strong emphasis by many countries on reducing this to 100% by 2050 wherever possible.

Promoting active travel

Replacing travel that would otherwise involve private cars with active means of travel – walking and cycling – should reduce overall transport emissions as well.

Currently, the UK has low cycling and walking rates, particularly when compared with its European neighbours. A [2013 report for European Commission](#) showed the UK ranked 11th (out of 28) for rates of daily walking and 24th for daily cycling.²¹ [Department for Transport \(DfT\) data](#) show two out of every three personal trips are within five miles, which the government considers “an achievable distance to cycle for most people, with many shorter journeys also suitable for walking.”²² This would suggest that there is considerable scope to increase the number of people choosing active means of travel.

The Government recognises the importance of promoting active travel, and in 2017 set out how it planned to support this through its [Cycling and Walking Investment Strategy \(CWIS\)](#).²³ This strategy sets out the Government’s “ambition that cycling and walking are the natural choices for shorter journeys, or as part of a longer journey.” The strategy also sets out the financial resources available 2016-17 to 2020-21 to achieve these ambitions. The strategy identifies the five main sources worth £1.2bn that “may” be spent on cycling and walking.²⁴ £316m of this is ringfenced for cycling and walking. The remaining funding is allocated to local authorities to spend on its own transport priorities, some of which *may* include walking and cycling.

Cost and simplicity are major factors that can influence individual choices for particular journeys. Finding ways that allow people to incorporate active travel into the wider transport network, as a first mile/last mile solution could play a role in helping to get more people active and hence reduce emissions. However, many towns and cities presently are simply not set up for active travel. Docked and dockless bike hire schemes may be one of the ways to promote this first/last mile active travel. Further, there are new micromobility devices (such as e-

²⁰ IMO, [UN body adopts climate change strategy for shipping](#), 13 Apr 2018

²¹ European Commission, [Attitudes of Europeans towards urban mobility](#), Dec 2013

²² DfT, [Cycling and Walking Investment Strategy](#), April 2017, para 1.16

²³ DfT, [Cycling and Walking Investment Strategy](#), April 2017, para 1.1

²⁴ DfT, [Cycling and Walking Investment Strategy](#), April 2017, para 2.5

scooters, e-bikes) that could also contribute to first/last mile travel. DfT has said it is mindful of evolving technologies and new ways of travelling around towns and cities. Accordingly, it has [committed to conduct a regulatory review](#) that will consider options for appropriate testing regimes for e-scooters (and other micromobility vehicles).

Further information active travel

The Commons Library Brief, [Active Travel: Trends, Policy and Funding](#) provides information on the policies and funding for cycling and walking.

2. Press articles

[Climate change: Citizens' assembly prepares to tackle climate change](#)

BBC News
17 January 2020

[Transport minister aiming for 'tangible' measures to be revealed at COP26](#)

Current News
15 January 2020

[Government to review Air Passenger Duty as part of Flybe rescue plan](#)

Business Green
15 January 2020

[COP25: Push for electric cars intensifies but cost question remains unanswered](#)

EurActiv.com
17 December 2019

[European shipping emissions undermining international climate targets](#)

The Guardian
9 December 2019

[Study: No EU country has calculated transport decarbonisation costs](#)

Euractiv.com
20 November 2019

[UK plans to accelerate decarbonisation of transport sector: Government vows to unveil climate roadmap next year but critics demand action not more policies and plans](#)

The Guardian
15 October 2019

3. Press notices

[Use 'pay-as-you-pollute' road-pricing to reduce car use](#)

Social Market Foundation

30 January 2020

Motorists should be charged for every mile they drive, with fees based on their car's emissions and wider air pollution conditions, a think-tank says today.

The Social Market Foundation said a new "dynamic" system of road-pricing should be part of wider Government aim to reduce overall car use.

In a new report, the cross-party think-tank said that politicians should use new technology to find ways to make previously-unpopular policies such as road-pricing more acceptable to voters. Tackling climate change and air pollution will require a "change of mindset" among politicians, the SMF said.

According to the World Health Organisation, road transport is responsible for up to 30% of particulate emissions in European cities. Meanwhile, 22% of total UK emissions of carbon dioxide is due to road transport.

In a report considering options for using new technology to address air pollution and climate change, the SMF said that systems allowing real-time monitoring of both traffic flows and air conditions could be combined in a new generation of road-pricing regimes.

London has recently introduced an "ultra-low emissions zone" where most vehicles not meeting its emissions standards pay £12.50 for entering the centre of the capital. The SMF said such "crude" methods of charging drivers according to their car's emissions will eventually be replaced by "smart" pricing systems.

"A new system of road pricing is, from an economic perspective, by far the best long-term form of motoring taxation. Road pricing is also a good way of reducing the environmental costs of car ownership and encouraging individuals to use alternative means of transportation," the SMF report says.

Data from mobile phones or "black box" monitoring units on cars are already used to track traffic flows and power navigation apps. The SMF said such data could be used to set road prices to put a higher price on travelling at busy periods or times when pollution levels are highest. While politicians have previously been reluctant to embrace road-pricing, the SMF said that the shift to electric vehicles could swing the Treasury behind such policies, since the decline in combustion-engine cars means a long-term decline in tax revenues from road fuel duty. To help get public consent and ensure fairness, the pricing system should include a "free allowance" of road usage each year, the SMF said.

Scott Corfe, Research Director of the Social Market Foundation, said:
“Dealing with climate change and air pollution will require a change in the mindset of all politicians. They need to move away from a focus on short term popularity and electoral cycles and make big, necessary changes even if those changes initially appear hard to sell to voters. Technology is advancing and public attitudes on environmental issues are shifting. That creates an opportunity to implement bold policies. Smart road pricing that makes drivers pay for pollution should be part of the answer the environmental challenge.”

As well as moving towards road pricing, the SMF said the Government should set a target for reducing rates of car ownership, and increasing the proportion of journeys made on foot, by bike and by public transport. Cities and large towns should aim for a quarter of journeys to be made by bicycle – a similar proportion to the Netherlands – the report said.

In other recommendations, the report said policymakers should:

- Require large companies to collect and provide information on the environmental impact of their operations. Building on mandatory carbon reporting, this information should include effects on air quality, use of plastics and primary materials. Such data should be publicly available.
- Commit to installing air pollution monitors in every postcode area of the UK.
- Ensure that air pollution data gathered from these monitors is open source and accessible through an application programming interface (API), to support the development of apps providing personalised advice on air pollution.

The SMF report was part of a research project sponsored by Vodafone. The SMF retained editorial independence. The report, “4IR and the Environment”, is published in full at www.smf.co.uk

About the SMF:

The Social Market Foundation (SMF) is a non-partisan think tank. We believe that fair markets, complemented by open public services, increase prosperity and help people to live well. The SMF retains complete editorial independence of its publications.

[Orange peel, rubbish and fatbergs: the fuels behind the future of green transport](#)

**Department for Transport
30 December 2019**

- technological advances towards net-zero to be made through 4 new UK-based advanced biofuel plants
- pioneering projects will receive government funding and could lead to greener flights and road freight
- latest move in the government’s green transport revolution, following the launch of the Transport Decarbonisation Plan which will help drive the UK towards its 2050 net zero target

Household waste, unused straw from farmland and old wood will be amongst the unusual components used by 4 world-leading UK-based plants to produce green fuels with support from government funding announced today.

Between 2018 and 2032 low carbon fuels are expected to save nearly 85 million tonnes of CO₂ – equivalent to taking nearly 18 million cars off the road. This equates to around a third of transport's projected contribution to UK carbon savings during the 2020s.

Transport Secretary Grant Shapps said:

Whether you're commuting to work or travelling on a family getaway, we want that journey to be as green and environmentally friendly as possible.

This funding will help encourage innovative technology using today's waste to power tomorrow's green transport revolution, helping us reach a cleaner and greener future.

Future of Transport Minister George Freeman, said:

We made a legally binding commitment to reaching Net Zero. Now we are delivering. The UK is reducing CO₂ emissions faster than any other G20 nation. We are doing it by investing in research and development, supporting the uptake of low emission and electrical vehicles, new inner city Clean Air Zones and the world's first comprehensive Transport Decarbonisation Plan.

This global leadership is helping create a 21st century transport network that is better for our environment, our health and our economy: with the potential to deliver high-skilled jobs in the green economy to all corners of the nation.

Two of the projects announced today are being funded under the government's £20 million Future Fuels for Flight and Freight Competition (F4C).

KEW Projects and Rika Biogas have been awarded a share of £6.5 million to build plants which aim to provide fuel for heavy goods vehicles. The project at KEW will also begin research which could pave the way for low carbon aviation fuel.

Over the next decade the UK advanced fuels industry is expected to be worth over £400 million and create 9,800 jobs.

A further 2 projects, which are being funded under the £25 million Advanced Biofuels Demonstration Competition (ABDC), are also driving towards their final stages of development. This includes Nova Pangaea Technologies, who will focus on the production of bio-ethanol from wood waste that can be blended with existing petrol used in road transport.

These latest investments build on the government's push to go further and faster to harness innovation, drive down emissions and improve air

quality – including through the ground-breaking Transport Decarbonisation Plan which will set out plans to end the UK's transport emissions by 2050 and measures to rapidly increase electric vehicle infrastructure.

[Global pledge on climate crisis: Transport charter signed at COP25 summit](#)
Scottish Government
12 December 2019

Scotland has joined a coalition of countries, cities and companies working towards net-zero transport ahead of the 2050 Paris Agreement target.

Climate Change Secretary Roseanna Cunningham signed the Transport Decarbonisation Alliance (TDA) Charter at the COP25 (Conference of the Parties) UN Climate Summit in Madrid.

Ms Cunningham attended roundtables and bilateral meetings with other nations to discuss ways to tackle the global climate emergency and the annual general assembly of the Under2 Coalition – comprising global devolved, regional and local governments, including Scotland.

She said:

“I was proud to travel to Madrid to promote Scotland's new legally binding target to become a net-zero society by 2045, and the efforts we are making to tackle the climate crisis.

“Scotland is a world leader on climate change and I was pleased to meet many leaders and stakeholders from across the world to share our progress and future ambitions– not least to completely end Scotland's contribution to climate change within a generation.

“The only way we can successfully tackle the global climate emergency is for all nations to work together to exchange ideas and agree shared actions. That is why I was pleased to represent Scotland at this critical summit and I look forward to deepening and strengthening international relations still further at this critical time for climate action.”

Background

The TDA is seeking to pave the way for an accelerated and irreversible worldwide transformation towards a net-zero emission mobility, to be achieved ahead of the 2050 targets set by the Paris Agreement. This will be done by:

- facilitating discussion on decarbonisation in the context of global, regional, national, local and corporate policy processes on transport and climate change
- demonstrating that decarbonisation is technically feasible, economically attractive, and brings broad social and environmental benefits

- advocating acceleration and engaging progressively a growing number of actors in ambitious action on climate change by sharing experiences and best practices

The Scottish Government has set out a suite of ambitious measures aimed at decarbonising the transport system, including phasing out new petrol and diesel cars in Scotland by 2032, and decarbonising public sector fleets by 2030, the rail network by 2035 and internal scheduled flights by 2040.

A formal decision on the UK's bid to host COP26 in November 2020, with Glasgow as the host city, is expected by the end of this week.

One in three major transport firms now align with Paris pledges, but sector must rev up climate ambition to match 2020 fast track

Transition Pathway Initiative 4 December 2019

- **5%** of transport companies have emission reduction plans consistent with the national pledges made in Paris in 2015; but with COP talks set to ratchet up climate targets in 2020 less than one in five (**19%**) on track to limit climate change to 2°C.
- **Autos:** Car manufacturers are getting steadily cleaner. **43%** of auto companies have improved their climate Management Quality this year, and average fleet emissions intensity is falling up to 2.5% per year.
- **Shipping:** The largest publicly-owned shipping companies are surprisingly green in terms of emissions intensity. **61%** are already aligned to a 2°C or below pathway. But these companies are likely unrepresentative of the sector as a whole.
- **Aviation:** Sector's climate governance is improving, but airlines' Carbon Performance is worse than any other sector analysed by TPI except oil and gas. Investors critical of potential dependence on offsetting to achieve carbon reductions

Direct emissions from transport currently account for nearly one quarter of total energy-related CO₂ emissions worldwide, but [new investor research on 57 of the world's largest transport companies](#) finds that **less than one fifth (19%)** have emissions reduction plans in line with a path to keep global warming to 2°C or below.

The study was carried out for the [Transition Pathway Initiative](#) (TPI) by the Grantham Research Institute on Climate Change and the Environment at the London School of Economics. It analyses the climate Management Quality and Carbon Performance of 57 of the world's largest and highest-emitting public companies involved in automobile manufacturing, air transportation and international freight shipping.

Faith Ward, Co-chair TPI on behalf of the Environment Agency Pension Fund, part of the Brunel Pension Partnership said:

"From freight ships to Ferraris, it's encouraging that most major transport companies have set a course for a low carbon future. But they are not going fast enough. The message for the world's airline, automotive and shipping giants from both the UN climate talks and

today's TPI research is very clear: As the low carbon transition ratchets up in 2020 the transport sector risks being left behind. Among 22 large car makers, only two are on track to keep global warming to 2°C or below, so the rest must accelerate their climate action to meet the demands of climate-conscious investors."

Adam Matthews, Co-Chair of TPI and Director of Ethics & Engagement at Church of England Pensions Board added:

"Investors will be troubled by stalled climate progress in aviation, and by the sector's reliance on net emissions targets. The issue with these targets is that they obscure whether emission reductions plans will depend largely on offsetting rather than a shift to lower-carbon aviation operations. A dependence on offsetting is not a credible climate strategy given the urgency of making deep cuts in greenhouse gas emissions across all sectors of the economy."

Key findings from the report include:

Shipping

- Shipping accounts for [around 3%](#) of anthropogenic greenhouse gas emissions and the sector has been labelled a [worst offender](#) environmentally, due to its use of heavy 'bunker fuel'.
- However the TPI research calculates *emissions intensity*, i.e. emissions relative to cargo mass and distance transported – and finds that **eight out of 13 shipping companies (61%)** are *already* aligned with the more ambitious 2°C or below benchmarks for 2030.
- As shown in the image to the right this is a much higher level of alignment than the airline or automotive sectors and makes shipping the best ranking of all sectors analysed by TPI in terms of emissions intensity. Though it is important to note that the research analyses the 13 largest publicly-owned companies engaged in international marine freight transportation – which tend to operate newer, larger vessels, which have lower carbon intensities are therefore are unlikely to be representative of the sector as a whole*.

Auto manufacturers

- Car makers are showing steady climate progress. Nine of the 21 automotive companies (43%) for which TPI has trend data improved their climate Management Quality score this year. The sector performs very well on incorporating climate change into executive remuneration (59%), and on disclosing emissions from use of their products they sell (77%).
- On Carbon Performance, nine auto manufacturers (41%) are now projected to align with the Paris Pledges in 2030. This is a 12% improvement on last year's assessment. Indeed, the average fleet emissions intensity is currently falling at a rate of 2-2.5% per year based on 2016-2018 data.
- Only two car companies (Daimler & Tesla) are projected to align with a path to keep global warming to 2°C or below.
-

Airlines

- The average climate Management Quality score of airlines has improved by over 8% since Spring 2019; but the airline sector's Carbon Performance remains the second worst in the TPI database, ahead of only oil & gas in terms of alignment with Paris benchmarks by 2030.
- Almost **60%** of the 22 airlines assessed have emissions-reduction targets that align with the Paris Pledges in 2020. However, beyond 2020 most airline targets are based on net emissions, including offsetting. TPI discounts these net emissions targets due to the uncertainty in quantifying them. (A recent European Commission [study](#) of carbon offsets found that 85% of the offset projects under the UN's Clean Development Mechanism (CDM) failed in the objective of reducing emissions).
- As these net targets are discounted, only two airlines (Easyjet and Wizz Air) are aligned with any of the benchmarks by 2030. Only Wizz Air is aligned with a benchmark to keep warming to 2°C or below.

Professor Simon Dietz, Co-Director of the Grantham Research Institute on Climate Change and the Environment, and lead author of the report said:

"Airlines' offsetting plans are too opaque at present. The IEA has made it clear that airlines' own operational emissions must fall in order to achieve climate targets, so reduction strategies that rely too heavily on offsetting are not credible. Airlines that set net emission reduction targets need to provide more information on how much their gross emissions will fall and how much will depend on offsets."

Carola van Lamoen, Head Active Ownership, Robeco Asset Management said:

"Transport is a critical sector to decarbonize. TPI's assessment finds that corporate boards in the transport sector are showing an increased level of awareness. But it is also clear that more decisive action is needed to align their long-term strategy to a low-carbon future. This is particularly the case for road transportation, where technical solutions are available, but only two out of 22 car manufacturers have aligned their strategies with a 2 degrees or below scenario. This exposes investors to significant financial risk, since regulators are increasingly adopting policies supporting the shift towards cleaner transportation. This research identifies areas where constructive investor engagement can strengthen companies' commitments".

The full transport sector analysis report is available on request.

The TPI research studied the Management Quality and Carbon Performance of 22 automotive manufacturers, 22 airlines, and 13 shipping companies. All companies are publicly-listed and selected on the basis of market capitalisation. Management Quality covers companies' governance of greenhouse gas emissions and the risks and opportunities arising from the low-carbon transition. Carbon Performance assessment involves quantitative benchmarking of

companies' emissions pathways against both the ambitions of and pledges to the 2015 UN Paris Agreement. Both of these assessments are based on company disclosures, derived from publicly available third-party websites. TPI cannot take responsibility for the accuracy of these sources.

* UNCTAD calculates that the carbon intensity of the largest containerships is less than half that of the smallest containerships. Some of the largest shipping companies are under private ownership and are therefore not included in TPI's assessment. Note international marine freight transportation represents around 87% of total shipping emissions.

Management Quality data was collected between October 2018 and April 2019. Carbon Performance data was collected up until the 7th of November 2019. Any changes in company practices since these dates are beyond the scope of this report.

About TPI:

The Transition Pathway Initiative (TPI) is a global initiative led by asset owners and supported by asset managers. Aimed at investors and free to use, it assesses companies' preparedness for the transition to a low-carbon economy, supporting efforts to address climate change. It is backed by 50 asset owners with over \$15 trillion of combined assets under management or assets under advice. More information: www.transitionpathwayinitiative.org

UK to go further and faster to tackle climate change **Department for Environment, Food & Rural Affairs, Department for Business, Energy & Industrial Strategy, Department for Transport** **15 October 2019**

- Ambitious new package of energy efficiency measures for businesses which could also save them £1 billion a year in energy bills by 2030
- bold plans to accelerate the decarbonisation of transport including automotive, freight and rail and stronger governance to drive further climate action across government
- comes as government introduces the new Environment Bill

The government has today (15 October 2019) set out how it will go further and faster to tackle climate change, in [response to recommendations from the Committee on Climate Change \(CCC\)](#). This comes 4 months after the UK became the first major economy to legislate for net zero emissions by 2050.

The government's official response to the CCC's recommendation includes plans to strengthen governance to galvanise the whole of government to do more to tackle climate change and a bold and ambitious plan to accelerate the decarbonisation of transport.

Today's response to the CCC sets out details of the wide-ranging action taken so far. Other new measures include:

- proposals to dramatically improve commercial buildings in the private rented sector, with businesses set to benefit by saving up to £1 billion per year in energy bills by 2030. This includes a [consultation on plans to improve the energy performance of rented commercial buildings](#). The proposal to set minimum energy efficiency standards at EPC band B by 2030 could reduce UK emissions by the equivalent of half a million homes – roughly the size of Birmingham
- a consultation in 2020 on introducing mandatory in-use energy performance ratings for business buildings. This will be a key step in helping businesses to understand and manage the amount of energy they use
- a consultation on [proposals to make it simpler for large-scale energy storage facilities to obtain planning permission](#)
- an endorsement of the recommendations of the Energy Data Taskforce, unlocking the potential of data sharing across the energy system to support decarbonisation and reduce consumer bills

Today, the new Environment Bill will also be introduced in Parliament. The Bill outlines ambitious proposals to strengthen the UK's standards of environmental protection post-Brexit with the establishment of a new public body – the Office for Environmental Protection which will also hold government and other public bodies to account on their environmental obligations, including on climate change.

Business and Energy Secretary Andrea Leadsom said:

4 months ago the UK took the bold step of becoming the first country in the developed world to put into law our ambition to wipe out the UK's contribution to climate change by 2050, following the CCC's advice.

This builds on our long and proud track record of leadership - since 1990 we've cut our greenhouse gas emissions by 42% while growing our economy by more than two-thirds. More than half of our electricity currently comes from low carbon sources. And we will keep on going further and faster to ensure our action meets our ambition.

These new measures build on the UK's record of action. Since committing in law to end the UK's contribution to climate change entirely by 2050, the government has announced investment of around £2 billion in low carbon technologies to lead the race in developing solutions to tackle climate change from research and development in large-scale battery technology to speeding up the development of carbon capture capability.

Recognising the need to scale up efforts in the transport industry, the UK's first Transport Decarbonisation Plan has been announced today to bring together a bold and ambitious programme of coordinated action needed to end the UK's transport emissions by 2050.

Transport Secretary Grant Shapps said:

From driving our cars, to catching a train or taking a flight abroad, it is crucial that we ensure transport is as environmentally friendly as possible.

This is why, as well as agreeing to the CCC's recommendation on net zero by 2050, we have launched this ground-breaking plan to achieve net zero emissions across every single mode of transport.

We want to work with industry and communities around the country to develop this plan – to make our towns and cities better places to live, help to create new jobs, improve air quality and our health, and take urgent action on climate change.

Due to be complete next year, the first-of-a-kind plan will set out in detail what government, business and society will need to do to deliver the significant emissions reduction needed from all modes of transport. In particular it will consider how UK technology and innovation can be implemented to encourage major changes to the way people and goods move across the UK.

Earlier this month, the [government announced up to £1 billion](#) to develop and embed the next generation of cutting-edge automotive technologies. The funding will look to accelerate mass production of key technologies in the UK through major investments in the manufacturing of batteries including cells, modules and packs as well as electric motors, power electronics and hydrogen fuel cells.

The new money will include research and development into new, advanced electric vehicle technologies, helping to super-charge the uptake of zero emission vehicles in the UK, building on the £1 billion R&D commitment to the [Advanced Propulsion Centre](#) and £274 million funding for the Faraday Battery Challenge.

Further detail on how the UK will make progress towards the 2050 net zero target is expected in the National Infrastructure Strategy this autumn.

Notes to editors

1. Since legislating for net zero, the government has committed more than £2 billion to support decarbonisation in sectors across the economy from industry to transport:

- £390 million of investment in hydrogen and low carbon technology to [reduce emissions from industry](#), including steel - which accounts for 15% of industry emissions in the UK
- up to [£1 billion additional funding](#) to develop and embed the next generation of cutting-edge electric vehicle technologies
- £400 million of investment in new charging infrastructure for electric vehicles
- plans to use [new financing models](#) to roll out more new nuclear, including up to £18 million for the UK's first mini nuclear reactor to be operational in the early 2030s - creating 40,000 jobs at its peak and powering 750,000 homes

- £26 million of additional funding for carbon capture technology, including investment in the [UK's largest project to be operational by next year](#)
- £222 million [investment](#) in a visionary fusion reactor design programme
- plans to make it easier to [recycle oil and gas infrastructure for carbon capture](#), including some of the 20,000km of UK pipelines
- record low use of coal in the UK's energy system, with just 0.6% of the UK's electricity coming from coal between April and June
- our Green Finance Strategy, requiring publicly listed companies and large asset owners from 2021 to report on how climate change risk impacts on their activities by 2021
- £5 million to help the financial sector develop green financial products, including green mortgages
- a £10 million innovation fund to cut the cost of retrofitting old homes

2. The groundwork for the Transport Decarbonisation Plan will start immediately, with the department publishing a document setting out the challenge later this year. The Department for Transport has recently published strategies to reduce carbon emissions across transport, including the £1.5 billion [Road to Zero](#), [Maritime 2050](#) and the Clean Maritime Plan as well as the [Aviation 2050 green paper](#), and upcoming aviation strategy which will be published early next year. But with the move to net zero, there is a need to go further and faster to reduce emissions. The Transport Decarbonisation Plan will take a coordinated, cross-modal approach to deliver the transport sector's contribution to our decarbonisation targets.

[Networks to prepare UK transport for a low carbon future](#) Engineering and Physical Sciences Research Council 27 August 2019

Five new networks will help to tackle climate change by removing barriers to low carbon transport in the UK, ranging from commercial flights using electric airplanes to decarbonised freight transport and hydrogen-fuelled cars.

Supported with £5 million of funding, the five Decarbonising Transport Networks+ will bring together expertise from across academia and industry to lay the groundwork for the use of low carbon technologies across the road, rail, marine and air networks.

Energy and Clean Growth Minister Kwasi Kwarteng said: "A modern, advanced transport system is one that connects people to jobs while boosting economic growth and productivity. But with transport representing almost a quarter of Europe's greenhouse gases, the industry also needs to evolve to become more sustainable.

"Bringing together some of the brightest minds from all corners of the UK, these transport networks will boost the development of technologies that have the potential to clean up our transport

systems – so we can cycle, drive and even fly into a greener future.”

Transport Minister George Freeman said: “A 21st century society needs a clean, green, integrated transport network, and we are stepping up the pace to deliver this.

“These pioneering projects will drive forward new technologies across roads, rail, shipping and aviation, laying the groundwork for a truly low carbon future, to the benefit of everyone.”

The networks have each been awarded up to £1 million of funding by the Engineering and Physical Sciences Research Council (EPSRC), part of UK Research and Innovation (UKRI). They will identify challenges to the decarbonisation of transport networks across the UK and test new solutions, focusing on key technologies including future charging infrastructure for electric vehicles, alternative fuels and the shift to autonomous vehicles.

A wide range of partners across academia, industry and the public sector are involved in the networks. Partners include the Department for Business, Energy and Industrial Strategy, the Department for Transport, Hyundai-Kia, Aston Martin, Transport for London, Transport for Wales, the Welsh Government and the National Grid.

UK Research and Innovation Chief Executive, Professor Sir Mark Walport, said: “Transport is the biggest contributor to carbon dioxide emissions in the UK, and the fastest growing contributor to climate emissions globally.

“Adapting our transport systems to low carbon technologies is vital for the future health of the planet, and the networks announced today will undertake important work in preparing the UK for this transition.”

Professor Greg Marsden, who leads the DecarboN8 network, has been appointed as the Decarbonising Transport Champion and will co-ordinate between each Network+ and act as a champion of the decarbonising transport challenge to the government, policy and industry.

Professor Marsden said: “The scale of the challenge in transport is huge and varied as the different networks show. We need innovation in all of these areas so this is a welcome and critical investment.”

Summaries of the Decarbonising Transport Networks+

Network-H2: A Network for Hydrogen-Fuelled Transportation

Led by: Professor Tony Roskilly, Durham University

Academic partners: Newcastle University, University of Southampton

Partners: Advanced Propulsion Centre UK Ltd, Consortium on Turbulent Reacting Flows, Department for Transport, Department for Business, Energy and Industrial Strategy, Energy Systems

Catapult, Transport Systems Catapult, UK Hydrogen and Fuel Cell Association

The use of hydrogen could deliver significant environmental benefits for transport and the wider energy system, for instance in hydrogen-fuelled vehicles. Network-H2 brings together leading experts across aviation, rail, road and marine transportation modes to support the decarbonisation of all aspects of transport network through the utilisation of hydrogen. The network will cut across technology, socio-economics, behavioural science and policy to facilitate engagement and knowledge transfer.

Decarbonising the UK's Freight Transport

Led by: Dr Tristan Smith, UCL

Academic partners: Newcastle University, University of Strathclyde, University of Oxford, University of Edinburgh, University of Westminster, University of Cambridge, University of Plymouth, The University of Manchester, Heriot-Watt University, University of Southampton

Partners: Argent Energy (UK) Ltd, BMT Group Ltd (UK), British Ports Association, Cargill Inc, Chalmers University of Technology, Chartered Institute of Logistics and Transport, Copenhagen Business School, Department for Transport, Environmental Defense Fund Europe, Fraunhofer Institute, Freight Transport Association Ltd, Future Proof Shipping, Global Maritime Forum, IMarEST, International Windship Association, Lloyd's Register EMEA, Maritime Strategies International, Norsepower Oy Ltd, Norwegian School of Economics, Optrak Distribution Ltd, Shell, Smart Green Shipping Alliance, Stockholm Environment Institute, Sustainable Shipping Initiative, UK Chamber of Shipping, University of Antwerp, University of the South Pacific, WEGEMT

The network aims to unleash significant investment for freight decarbonisation, which will benefit the environment as heavy goods vehicles, ships and other freight increasingly move to use clean technologies. The network will look to prepare the wider industry for decarbonisation, commissioning projects that will look at aspects ranging from the use of data to enable investment, to the pathways for moving freight transport's energy and propulsion technology away from dependence on fossil fuel.

Decarbonising Transport through Electrification (DTE), a Whole System Approach

Led by: Professor Liana Cipcigan, Cardiff University

Academic partners: Cranfield University, University of Bristol, University of Birmingham, University of Southampton

Partners: Aston Martin, Safran Power UK Ltd, Ricardo Group, National Grid, SP Energy Networks, EA Technology, Transport for London, Transport for Wales, Turbo Power Systems, ABB, FTI Consulting, NR Electric UK Ltd, WSP Group plc UK, Scorpion Power System Ltd., JingGe Electromagnetics Ltd., QUERCUS

Investment Partners, Welsh Government, COST, Institute of Electrical and Electronics Engineering

The network will bring together expertise from across industry, academia and the public sector to transform current practices and research in the decarbonisation of transport, looking at the electricity networks, electric vehicle charging infrastructure, electric and hybrid aircraft and the electrification of the rail network, exploring drivers for change and technology innovation.

NewJet Network+

Led by: Dr Simon Blakey, University of Birmingham

Academic partners: Manchester Metropolitan University, University of Sheffield, Aston University, Cardiff University, Heriot-Watt University

Partners: BP International Ltd, Department for Transport, Renovare Fuels Ltd

Aviation and aerospace is a vital sector in the UK, contributing more than £22bn a year to the economy. Low carbon technologies are crucial to the future of the industry and benefiting the environment for short haul flights. Medium to long haul flights account for 97 per cent of the UK's aviation emissions and require a low carbon liquid fuel to decarbonise. The network will explore the barriers that face the adoption of low carbon, synthetic fuel and the benefits that its adoption enables for commercial aviation beyond a reduction in CO₂, including a modified conventional fuel production beyond the existing fuel specification.

DecarboN8 – An Integrated Network to Decarbonise Transport

Led by: Professor Greg Marsden, University of Leeds

Academic partners: University of Durham, University of Sheffield, The University of Manchester, Lancaster University, Newcastle University, University of York, University of Liverpool

Industry partners: Accents, Arup Group Ltd, Centrica PLC, Department for Transport, Durham County Council, Electricity North West, First Group, Fore Consulting Ltd, Hyundai-Kia Motors, Lancaster City Council, Leeds City Council, Liverpool City Region LEP, Nexus Ltd, Northern Gas Networks, Sheffield City Council, Siemens, Sustrans, The Committee on Climate Change, Transport for Greater Manchester, Transport for the North, Transport Systems Catapult, Urban Transport Group, Zero Carbon Futures

A new network of researchers, working closely with industry and government, will look to design solutions that can help to decarbonise the transport industry. Looking to answer questions on how different types of places can be rapidly switched to low carbon transport systems and how this transformation can be managed, it will facilitate new collaborations and test solutions.

4. PQs

[Carbon Emissions](#)

30 January 2020 | 8444

Asked by Tanmanjeet Singh Dhesi

To ask the Secretary of State for Business, Energy and Industrial Strategy, what assessment she has made of the adequacy of progress on decarbonising energy for (a) heat and (b) transport.

Answering member: Kwasi Kwarteng | DBEIS

We have committed to publishing a heat policy roadmap in 2020. This will set out our plans to deliver the low carbon heat needed to meet our climate targets, and a programme of work to enable key strategic decisions in the first half of the 2020s on how we achieve mass transition to low carbon heating.

In the meantime, we continue to support low-carbon heating through the Renewable Heat Incentive and the Heat Networks Investment Programme, and we are developing policies to deliver low carbon heating in the 2020s and meet our climate targets. A Future Homes Standard, introduced by 2025, will require new build homes to be future proofed with low carbon heating and world leading levels of energy efficiency. We are also committed to phasing out the installation of fossil fuel heating systems in off gas grid properties and accelerating the decarbonisation of our gas supplies by increasing the proportion of green gas in the grid. We will be consulting on these commitments in due course.

We are preparing an ambitious, cross-modal Transport Decarbonisation Plan to step up our efforts and deliver the carbon emission reductions needed for the sector to play its part in reaching net zero by 2050. On roads, delivering on our Manifesto commitment, we will soon consult on the earliest date we can phase out the sale of new conventional petrol and diesel cars.

[Railways: Carbon Emissions](#)

29 Jan 2020 | 7619

Asked by Lillian Greenwood

To ask the Secretary of State for Transport, what the planned publication date is for Network Rail's Traction Decarbonisation Network Strategy.

Answering member: George Freeman | Department: Department for Transport

Network Rail's Traction Decarbonisation Network Strategy (TDNS) will be complete later this year. TDNS will inform our Transport Decarbonisation Plan, to be published this year, which will set out a credible and ambitious plan for the UK to ensure transport delivers its contribution to net zero greenhouse gas emissions.

No date has been agreed for publication of TDNS.

[Rail Industry Decarbonisation Taskforce](#)

27 Jan 2020 | 6662

Asked by: Lilian Greenwood

To ask the Secretary of State for Transport, when he plans to respond to the report of the Rail Industry Decarbonisation Task Force, entitled Final report to the Minister for Rail, published on 20 July 2019.

Answering member: George Freeman | Department for Transport

The Government is ensuring that the railways play their part in delivering our ambitions to achieve net zero greenhouse gas emissions by 2050, and to reduce the air pollution created by transport. The work of the Rail Industry Decarbonisation Taskforce has informed the Government and rail industry's approach to decarbonisation over the last year.

I accept the recommendations in the taskforce's final report. In line with those recommendations, Network Rail is developing a Traction Decarbonisation Network Strategy, with the Department and industry partners. The Strategy will inform Government decisions in 2020 about the scale and pace of further rail decarbonisation.

[Department for Transport: Climate Change](#)

24 Jan 2020 | 4446

Asked by: Darren Jones

To ask the Secretary of State for Transport, what assessment he has made of the effect of climate change on the work of his Department; and what steps he is taking in response to that effect.

Answering member: George Freeman | Department for Transport

The Department for Transport (DfT) works closely with its operators on risk assessment and mitigation measures for transport infrastructure. DfT contributed to the Government's National Adaptation Programme 2018 and Climate Change Risk Assessment 2017. These two documents set out Government's adaptation measures and predicated climate change impacts nationally. DfT is continuing to work with transport operators and delivery partners to increase climate resilience in the planning and design of transport infrastructure and will keep incorporating adaptation into its strategies.

Government is committed to delivering a net zero emission transport system, which will deliver wider benefits for the UK and its citizens, as soon as possible. These benefits include improved air quality and public health, new opportunities for economic growth and high-quality jobs in clean growth, as well as a sustainable and more efficient transport system. The forthcoming Transport Decarbonisation Plan will set out our bold and ambitious policies for transport to ensure the transport sector plays its part in ending the UK's contribution to climate change by 2050.

Alongside this work, the Government announced the Transport Decarbonisation Plan on 15 October last year to bring together a bold and ambitious programme of coordinated action needed to end the UK's transport emissions by 2050. We are aiming to publish a call for engagement document in due course.

[Climate Change](#)

21 Jan 2020 | 670 cc155-6

Asked by: Alex Chalk

Decarbonising transport will be crucial if we are to meet our net-zero targets, but the cost of electric vehicles remains high. What more can be done to ensure that that cost comes down and is within reach for the majority of people in our country?

Answering member: Kwasi Kwarteng | Department: Business, Energy and Industrial Strategy

Plenty has been done, and I commend my hon. Friend and welcome him back to his seat after a hard-fought campaign. He will know that through the Treasury and the £400 million fund, we are extending the provision of charging facilities for electric vehicles—that issue is the single reason that prevents people from buying EVs. Manufacturers are clear about our intentions and our 2040 target for the full roll-out of EVs. We are looking to bring that target forward, and the cost curve is coming down.

[Motor Vehicles: Fuel Cells](#)

15 Jan 2020 | 980

Asked by: Damian Hinds

To ask the Secretary of State for Transport, what support his Department is providing to the development of hydrogen-powered transport.

Answering member: George Freeman | Department: Department for Transport

Government is committed to exploring the development of hydrogen as a strategic decarbonised energy carrier, which has potential to support the UK's efforts to decarbonise transport and meet the 2050 net zero target. The UK is well placed to be a leader in hydrogen and fuel cell powered transportation due to our high-quality engineering and manufacturing capability in relevant supply chains. We are supporting innovation in the hydrogen supply chain from production to end use and investigating potential synergies between transport and other sectors.

In road transport, hydrogen is eligible for support under the Renewable Transport Fuel Obligation following changes made to the scheme in April 2018. The Office for Low Emission Vehicles and the Advanced Propulsion Centre are funding a wide range of development projects in hydrogen vehicles across technology readiness levels. We are also

supporting the technology through the £23m Hydrogen for Transport programme and £2m FCEV fleet support scheme. In addition, the Clean Maritime Plan recognised hydrogen as one of a number of the key fuels on a pathway to zero-emission shipping

[Transport: Alternative Fuels](#)

01 Nov 2019 | 4303

Asked by: Damian Hinds

To ask the Secretary of State for Transport, what comparative assessment he has made of the rates of take-up of non-petrol/diesel road vehicles between the UK and other countries for (a) domestic, (b) goods and (c) passenger transport.

Answering member: George Freeman | Department: Department for Transport

In 2018 the UK was the second largest market for ultra-low emission cars in the EU and the fourth largest market for battery electric cars in the EU. The UK is also global leader in the development and manufacture of electric vehicles; in 2018 a fifth of battery electric cars sold in Europe were made in the UK. So far in 2019, sales of battery electric vehicles have topped 25,000, up by over 120 per cent over the same period in 2018. Our Road to Zero Strategy sets out a clear pathway to zero emissions, to give clarity and certainty to both industry and motorists. At the end of 2018 the UK's electric bus fleet stood at 387 vehicles, third among the leading EU ultra low emission vehicle markets and the UK also had the third largest electric van fleet. The London Black Cab fleet is now over 10 per cent ultra low emission and is among the most rapidly decarbonising globally.

The Strategy sets out support for cars, vans, HGVs, taxis and buses, including funding for both vehicles and the necessary supporting recharging and refueling infrastructure. Most recently, the first £70 million from the £400m Changepoint Infrastructure Investment Fund was invested in September 2019 and will support the installation over 3,000 rapid chargepoints across the UK – more than doubling the number of rapid chargepoints currently available.

[Transport: Exhaust Emissions](#)

22 Oct 2019 | 1602

Asked by: Paul Farrelly

To ask the Secretary of State for Transport, whether the Government's Transport Decarbonisation Plan will apply to international (a) aviation and (b) shipping; and what steps he is taking to ensure that those sectors achieve net zero emissions by 2050.

Answering member: George Freeman | Department for Transport

The Transport Decarbonisation Plan will consider the transport sector as a whole and the increased contribution that all modes need to make to achieve an economy-wide net zero target by 2050. Given the global nature of the aviation and shipping sectors sector, and their climate change impacts, effective and coordinated international action remains

essential. Unilateral action by a single state leads to the risk that these highly mobile carbon emissions are simply moved overseas, therefore failing to reduce global greenhouse gas emissions. The UK will continue its leadership role at the IMO pushing for the most ambitious measures to reduce GHG emissions from ships and negotiate for ICAO to agree a long-term emissions reduction goal by its 41st Assembly in 2022. Government will keep our approach to the inclusion of international shipping and aviation emissions in our legislation under review, taking account of progress in the IMO and ICAO.

Road Transport: Decarbonisation

18 Jul 2019| 663 cc944-6

Asked by: Louise Haigh

What steps he is taking to decarbonise road transport.

Answering member: Michael Ellis| Department: Transport

It is the Government's mission for all new cars and vans to be effectively zero emission by 2040. The Road to Zero strategy sets out the action that the Government are taking to support this mission, as well as the steps that they are taking to drive down emissions from conventional vehicles during the transition.

5. Further reading

[Electric vehicles and infrastructure](#), House of Commons Library Briefing, 31 January 2020

[4IR and the Environment: How the Fourth Industrial Revolution can curb air pollution and decarbonise the economy](#), Social Market Foundation, 30 January 2020

[Energising our Electric Vehicle Transition](#), Electric Vehicle Energy Taskforce, 14 January 2020

[Accelerating road transport decarbonisation: a complementary approach using sustainable and low carbon fuels](#), Institution of Mechanical Engineers, January 2020

[Net zero in the UK](#), House of Commons Library Briefing, 16 December 2019

[European shipping's climate record](#), Transport and Environment, 9 December 2019

[What if hydrogen could help decarbonise transport?](#), European Parliamentary Research Service, November 2019

[Smarter transport: a digital revolution for electric vehicles and mobility services](#), Green Alliance, November 2019

[Technologies for meeting the UK's emissions reduction targets: Government and Ofgem Responses to the House of Commons Science and Technology Committee's Twentieth Report of Session 2017-19](#), 1 November 2019 [transport section]

[UK to go further and faster to tackle climate change](#), DEFRA/DBEIS/DfT 15 October 2019

[Committee on Climate Change's 2019 progress reports: government responses](#), DEFRA/DBEIS, 15 October 2019

[Decarbonising Aviation. Plane easy?](#) Energy and Climate Intelligence Unit, 24 September 2019

[Final Report for the Minister](#), Rail Industry Decarbonisation Taskforce, July 2019

[Net zero: the UK's contribution to stopping global warming](#), Committee on Climate Change, May 2019

[Transport and Climate Change: global status report 2018](#), European Climate Adaptation Platform, May 2019

[Global EV Outlook 2019](#), International Energy Agency, May 2019

[Decarbonisation of transport: options and challenges](#), European Academies Science Advisory Council, March 2019

[Shifting emissions into reverse gear: priorities for decarbonising transport](#), Aldersgate Group, March 2019

[Getting the Department for Transport on the right track](#), Friends of the Earth/Transport for Quality of Life, 2019

[Clean Air Strategy 2019](#), DEFRA, 2019 [transport chapter]

[2030 Transport decarbonisation options](#), Ecofys, January 2019

[Reducing emissions from road transport: Road to Zero Strategy](#), DfT, July 2018

[Decarbonisation of EU Transport](#), European Parliament, 2017

Websites

[Aviation Environment Federation](#)

[Committee on Climate Change](#)- transport publications

[DecarboN8 Network](#)

[Friends of the Earth](#)

[International Energy Agency](#) - transport policies database

[Sustainable Shipping Initiative](#)

[Transition Pathway Initiative](#)

[Transport & Environment](#)

[Transport Decarbonisation Alliance](#)

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