



Department  
for Transport

# The Road to Net Zero

## Delivering the Transport Decarbonisation Plan

**BIEE Energy and Net Zero - 14 September 2021**

**Richard Bruce**

**Director Environment and Future Mobility**



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**1. Carbon context**

**2. The TDP**

**3. Key challenges**

**4. Next Steps**

**5. Questions**



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**1. Carbon context**

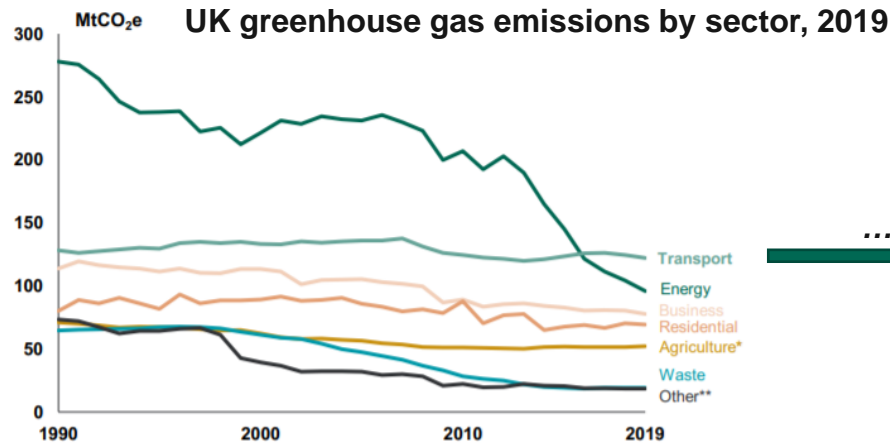
2. The TDP

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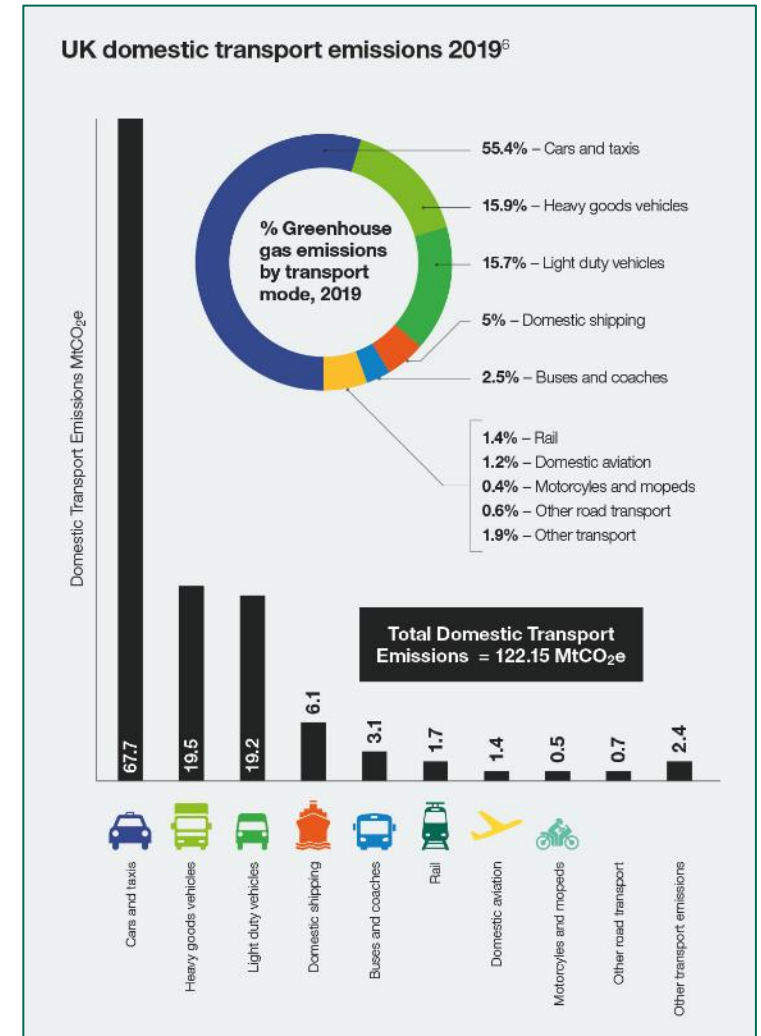
# Transport: the UK's largest CO<sub>2</sub> problem?









... and breakdown by modes as ...



- In 2019, **27%** of the UK's greenhouse gas emissions were from transport.
- Since 1990 other sectors have reduced emissions dramatically with **total domestic emissions dropping by 43%**, but transport is down only 3%.
- In June 2019 the UK legislated for “net zero” GHG emissions across the economy by 2050. And 5 yearly carbon budgets, set caps on emissions.



# In March 2020, we set the challenge ...

<p>1. <b>Accelerating modal shift to public and active transport</b></p> 	<p>4. <b>UK as a hub for green transport technology and innovation</b></p> 
<p>2. <b>Decarbonising Road Transport</b></p> 	<p>5. <b>Place-based solutions to emissions reduction</b></p> 
<p>3. <b>Decarbonising how we get our goods</b></p> 	<p>6. <b>Reducing carbon in a global economy</b></p> 

## Stakeholder engagement

Over **300** written submissions and evidence on measures needed to decarbonise transport.



Over **7000** responses received through a public Online Feedback Opportunity.

**8 workshops** with **49 local government representatives.**

Supported by an online survey for local authorities.



**59 virtual policy workshops** on our six key strategic priorities

with knowledge experts, innovators, businesses, NGOs and civil society representatives.

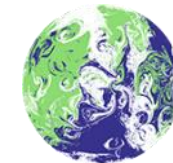


Formed the **Net Zero Transport Board (NZTB)**

which is a Ministerial-led external advisory board providing independent, objective and impartial advice on transport decarbonisation to the Department for Transport.



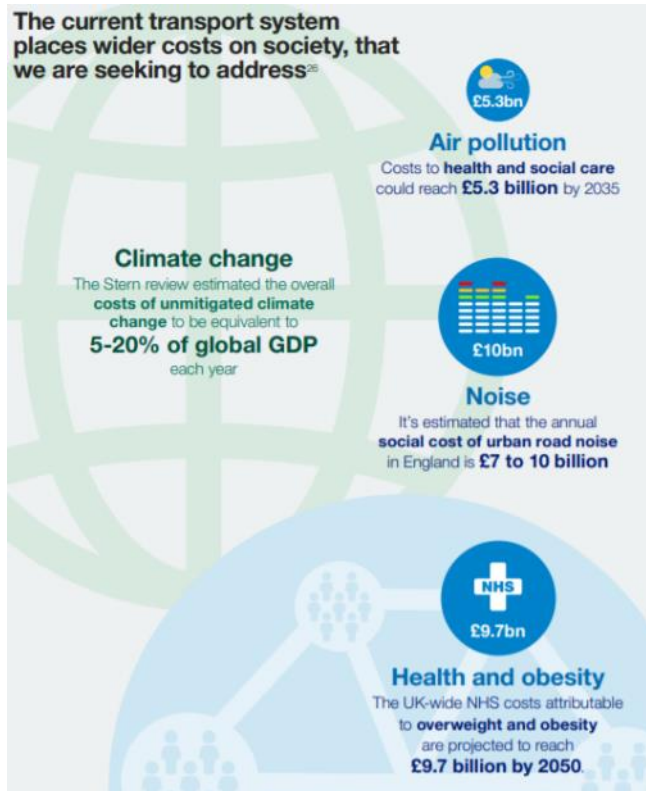
*With a deadline of November 2020 2021!*



**UN CLIMATE CHANGE CONFERENCE UK 2021**

IN PARTNERSHIP WITH ITALY

# Transport decarbonisation is about much more than simply reducing CO<sub>2</sub> emissions



## Jobs and growth

Decarbonising transport will lead to thousands of jobs being created in transport related green industries. The production of zero emission road transport vehicles has the potential to support **72,000 jobs**, worth up to **£9.7 billion GVA** in 2050.

**72,000 jobs**





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# Commitments: Increasing cycling and walking



£2bn



We will invest **£2 billion** over 5 years to deliver a bold future vision for cycling and walking, making it the natural first choice for many journeys

50%



**By 2030**

We will aim to have **half** of all journeys in towns and cities cycled or walked

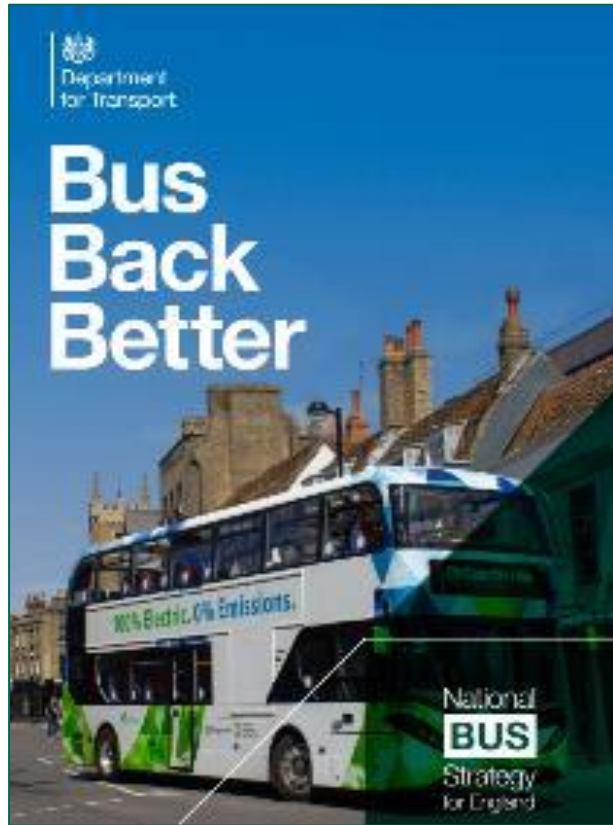


**By 2040**

We will have a world class cycling and walking network in England



# Commitments: Zero emission buses and coaches



# Commitments: Decarbonising our railways

**Department for Transport** | **Williams Rail Review**

## Great British Railways

The Williams-Shapps Plan for Rail

**Between now and 2050**  
Great British Railways will deliver a programme of further electrification, together with use of battery and hydrogen trains, to enable a zero carbon railway

**2021**  
The Williams-Shapps Plan for Rail has set out a transformation in rail, encouraging a shift to cleaner, greener journeys

**2020s–2030s**  
Policies will incentivise the take up of low carbon traction by rail freight operators. Freight Operating Companies will use more electric and low carbon traction. Investing in High Speed rail and extra capacity on our network will support modal shift to rail

**By 2040**  
Ambition for all diesel-only trains to be removed from the network by 2040

**By 2050**  
The rail network will be net zero

City Station

# Commitments: A zero emission fleet of cars, vans, motorcycles and scooters



HM Government

Transitioning to zero emission cars and vans: 2035 delivery plan



## We will remove all emissions from road transport

2030

We will end the sale of new petrol and diesel cars and vans

2035

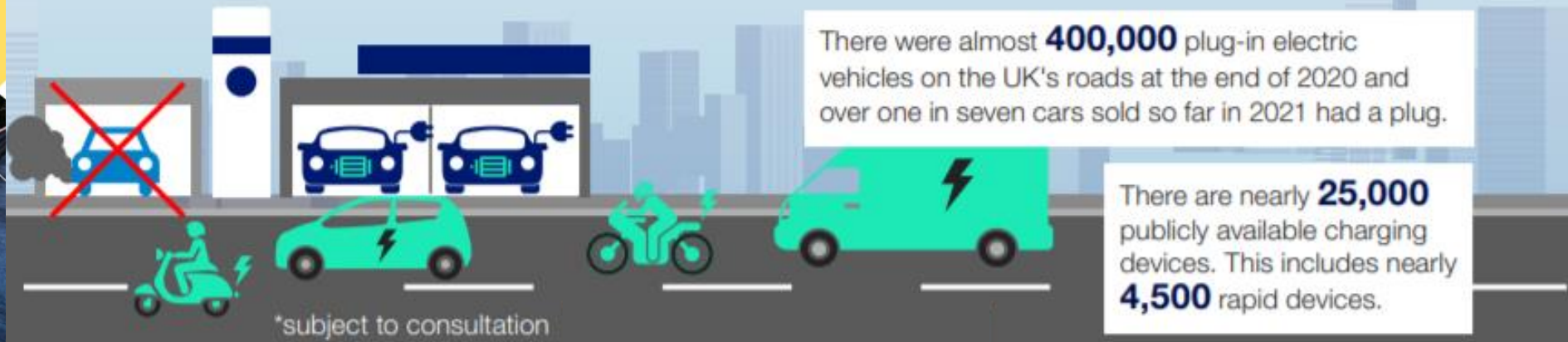
All new cars and vans must be **100%** zero emission at the tailpipe

2035

All new L-category vehicles to be fully zero emissions at the tailpipe\*

2040

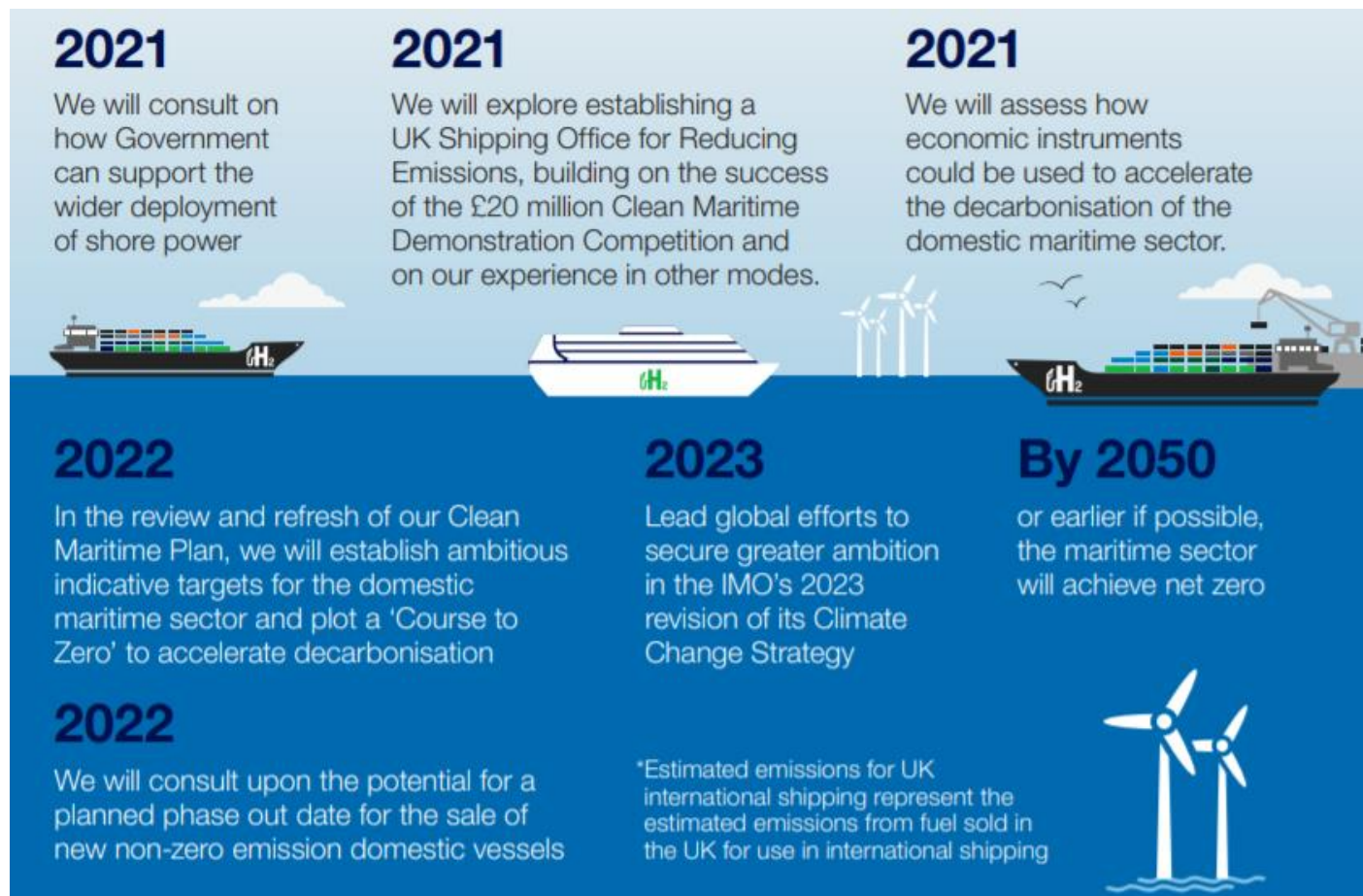
End the sale of all non-zero emission HGVs



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Transport Decarbonisation Plan

# Commitments: Accelerating maritime decarbonisation



Around **£17bn**  
**GVA supported**, by helping future proof the UK maritime sector



Around **220,000**  
**jobs supported**, by helping future proof the UK maritime sector

# Commitments: Accelerating aviation decarbonisation

The infographic is set against a light blue background with white clouds and a faint silhouette of a jet airplane flying across the top. It features four distinct sections, each with a year and a corresponding icon: a grey jet silhouette for 2021, a blue propeller plane for 2021, a green CO2 cloud with downward arrows for 2022, and a green propeller plane for 2025. The text is arranged in a clean, sans-serif font.

**2021**  
We will support R&D to develop transformative green aviation technology

**2021**  
We will consult on our Jet Zero strategy including, getting domestic aviation in the UK to net zero by 2040

**2021**  
We have run a Sustainable Aviation Fuel (SAF) industry competition and set out our plans for a UK SAF blending mandate to accelerate the production and use of sustainable aviation fuels in the UK

**2022**  
We will work internationally and aim to agree an ambitious long-term global emissions reduction goal in the International Civil Aviation Organization

**2025**  
We will mandate the supply or use of sustainable aviation fuels

A vertical collage of four images: the top image shows a jet flying over a coastline; the second image shows a propeller plane from a front-on perspective; the third image shows a propeller plane flying over a city at sunset; the bottom image shows a small green aircraft on a runway.

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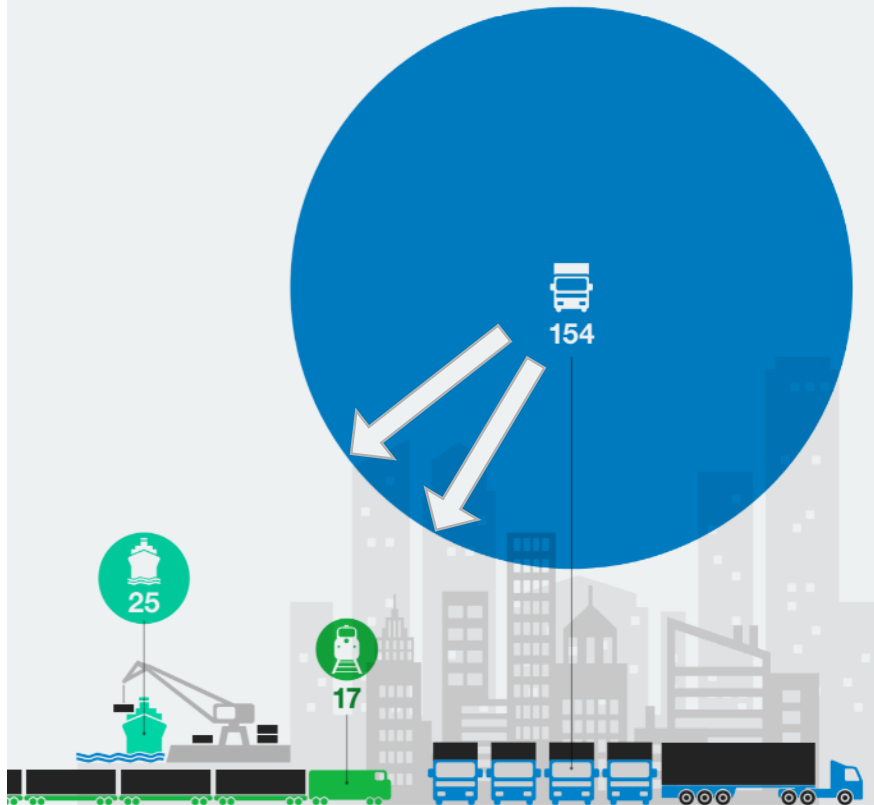
## Jet Zero Consultation

A consultation on our strategy for net zero aviation

# Commitments: Zero emission freight and logistics sector, including the last mile

## Domestic freight transport, by mode: 2019

Goods moved (billion tonne kilometres)



## Phase out dates for new non-zero emission Light Goods Vehicles (LGVs) and Heavy Goods Vehicles (HGVs):



**LGVs (under 3.5t)**  
all new vehicles required to have significant zero emissions capability

and 100% zero emissions at the tailpipe from 2035

zero

2035



**HGVs (above 3.5t and up to and including 26t)** End the sale of new non-zero emission HGVs in this category by 2035, or earlier if a faster transition seems feasible\*

**HGVs (above 26t)**  
End the sale of all new non-zero emission HGVs by 2040, or earlier if a faster transition seems feasible\*



\*Subject to consultation

# Commitments: Place-based, low carbon fuels, green hydrogen, data, R&D, future of transport



*“This plan is a milestone in the shift to a more sustainable UK transport system... is world-leading and will significantly reduce Britain’s climate impact and improve the air we breathe.”*

**Greg Archer, UK Director of the European-wide green transport campaign group Transport & Environment**



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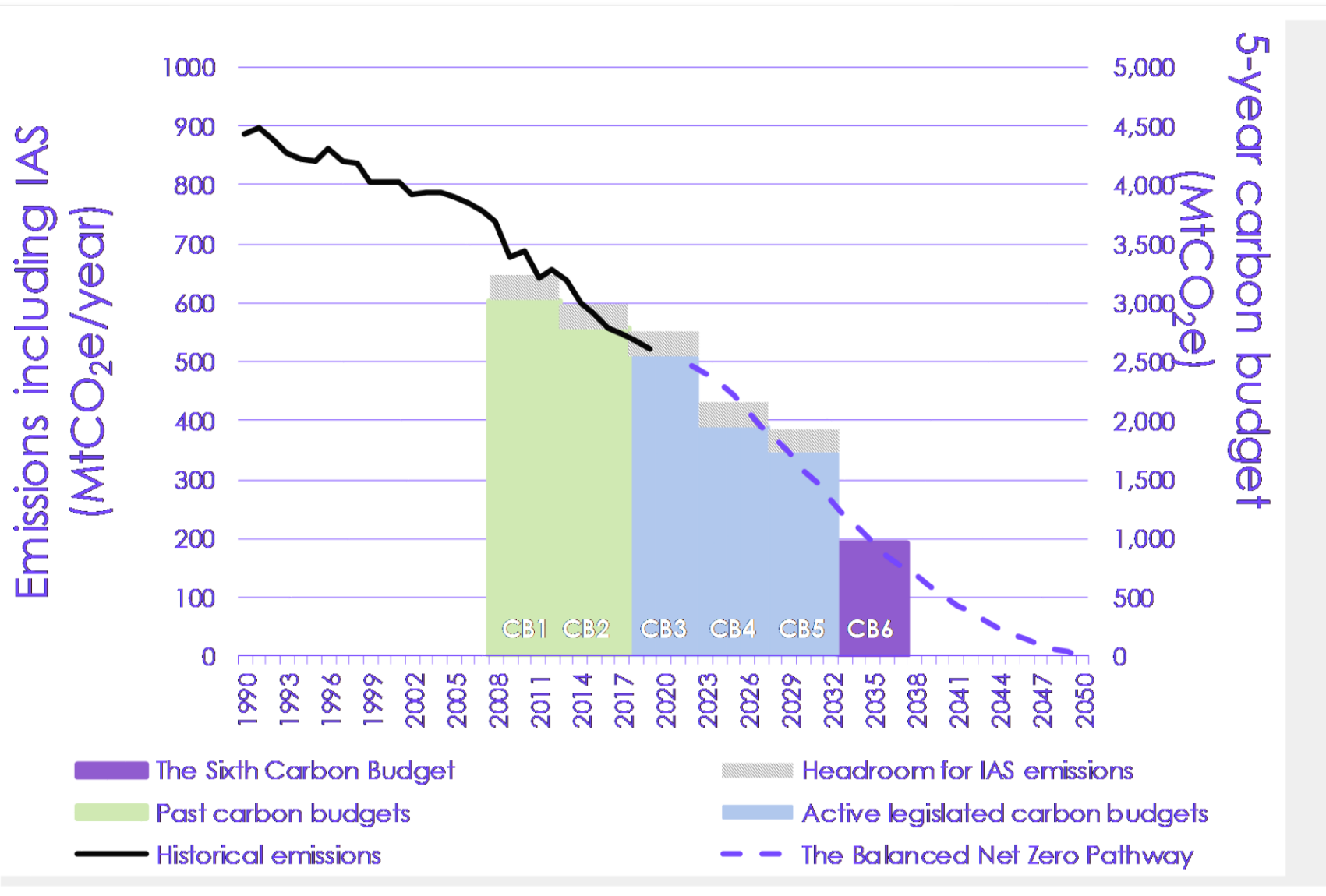
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# Carbon budgets



- The 6th Carbon Budget (CB6), set earlier this year, in effect brought forward the previous legal target of an 80% reduction by 2050 by 15 years.
- On top of this the CCC recommended a more stringent 2030 Nationally Determined Contribution.
- Prior to CB6 only emissions from domestic transport included, from CB6 emissions from international aviation and maritime movements originating in the UK will be included.

# Technology maturity

	Technology readiness 				
	Extensive R&D required	Tech options identified	Demonstration at scale to test options	Market support for early deployment	Deployment is commercial
<b>Cars</b>	Sector now moving wholesale to electrification. Scale deployment will reduce costs. Infrastructure and price barriers need addressing for mass market				
<b>Vans</b>	As for cars but lagging due to initially weaker regulation and payload challenges. Batteries likely to dominate, price a challenge.				
<b>HGVs</b>			Heavier battery HGVs now coming to market but could be role for hydrogen or route electrification. Needs testing at scale.		
<b>Buses</b>		Battery buses now proven globally, potential role for hydrogen on longer routes			
<b>Rail</b>	Electrification the proven path to decarbonisation. Potential, albeit limited, role for batteries and hydrogen where economics preclude				
<b>Maritime - Domestic</b>		Scope for electrification of some coastal, ferry and eg wind farm service vessels			
<b>Maritime - International</b>		Theoretical zero emission alternatives identified, less space + weight constraints than road vehicles. Needs global regulatory push.			
<b>Aviation - Domestic</b>		Potential for zero emission short haul flights within xx years but sustainable liquid fuels likely to provide the bulk of carbon savings initially			
<b>Aviation - International</b>		No identified zero emission technology for long haul flights yet. Sustainable liquid fuels likely to provide the bulk of carbon savings initially			



# Behaviour change





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# Key publications / consultations



**Consultation on when to phase out the sale of new, non-zero emission heavy goods vehicles**

Consultation closed 3 September



**Green Paper on a New Road Vehicle CO<sub>2</sub> Emissions Regulatory Framework for the United Kingdom**

*“Regulatory certainty will drive investment..”*

Consultation closes 22 September

CP 499

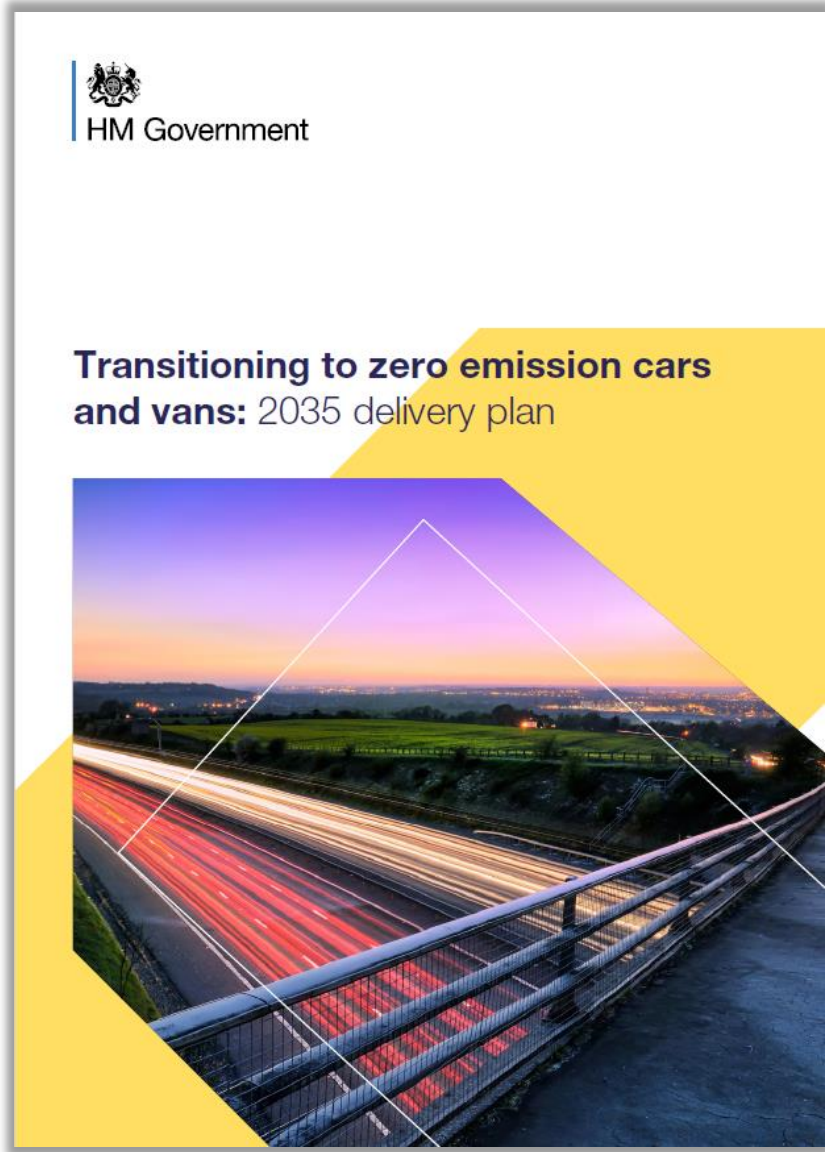
July 2021



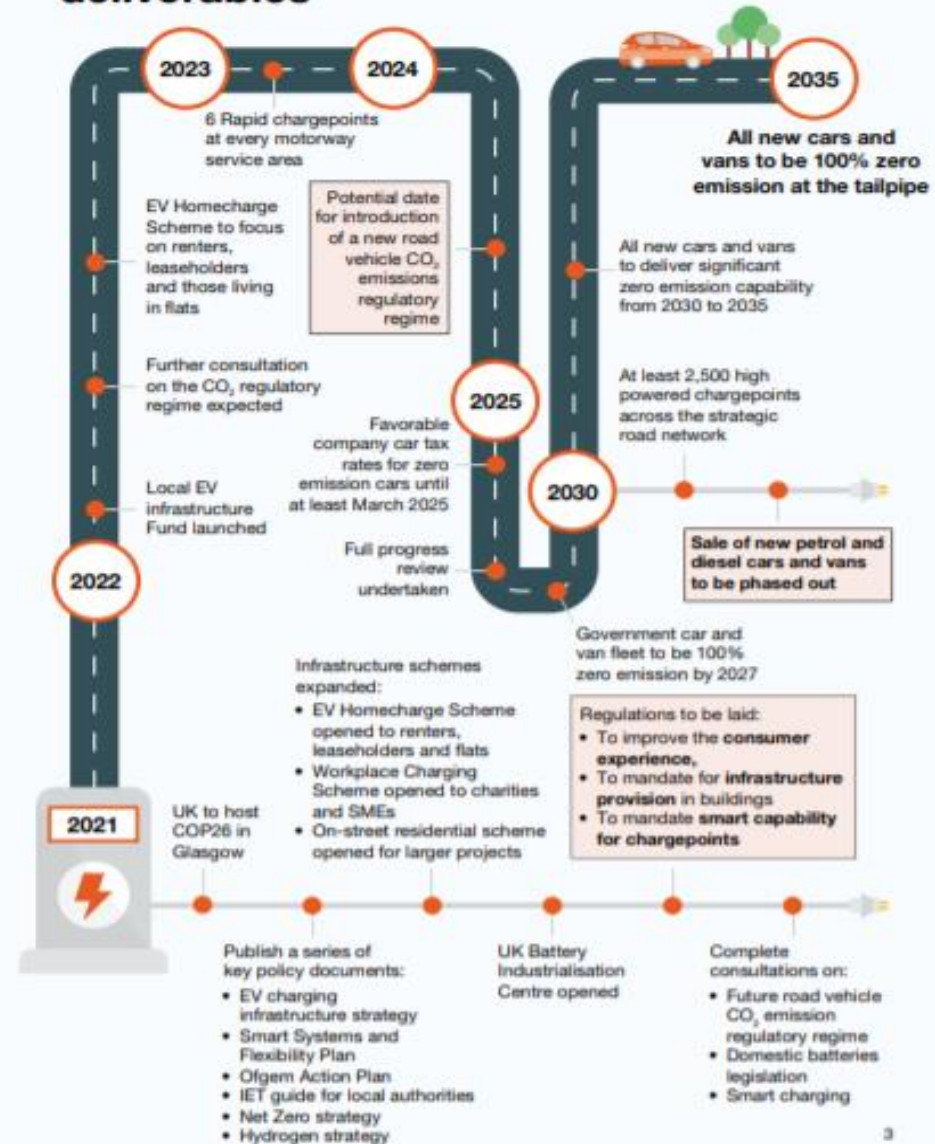
**EV changepoint infrastructure strategy**

Consultation tbc – Autumn 2021

# Key publications / consultations



## Road to 2035: Timeline of key deliverables





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# Thank you!

# Questions...?

