

An independent assessment of the Clean Growth Strategy

Technical annex – Transport

Under the Climate Change Act, the government is required to publish a set of policies and proposals that will enable the legally-binding carbon budgets, on track to the 2050 target, to be met. The Clean Growth Strategy, published in October 2017, presents the Government's plans.

Our report, An independent assessment of the Clean Growth Strategy: From ambition to action, sets out our overall assessment of the Strategy. This technical annex sets out the analysis for the Transport sector underpinning that report, in three sections:

- i) Emissions from the Transport sector today
- ii) Ambition in the Clean Growth Strategy
- iii) Policy development required to deliver ambition in the Clean Growth Strategy

i) Emissions from the Transport sector today

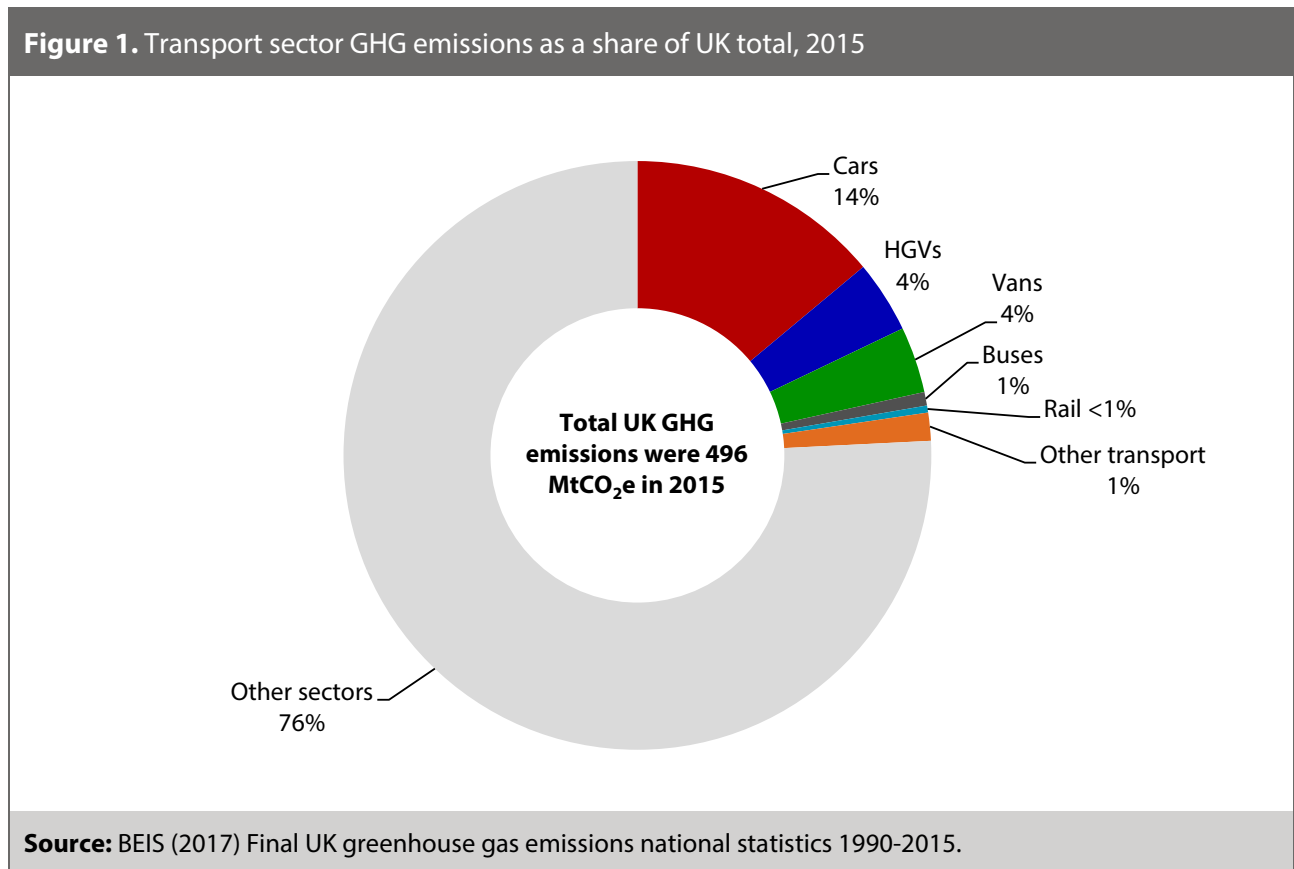
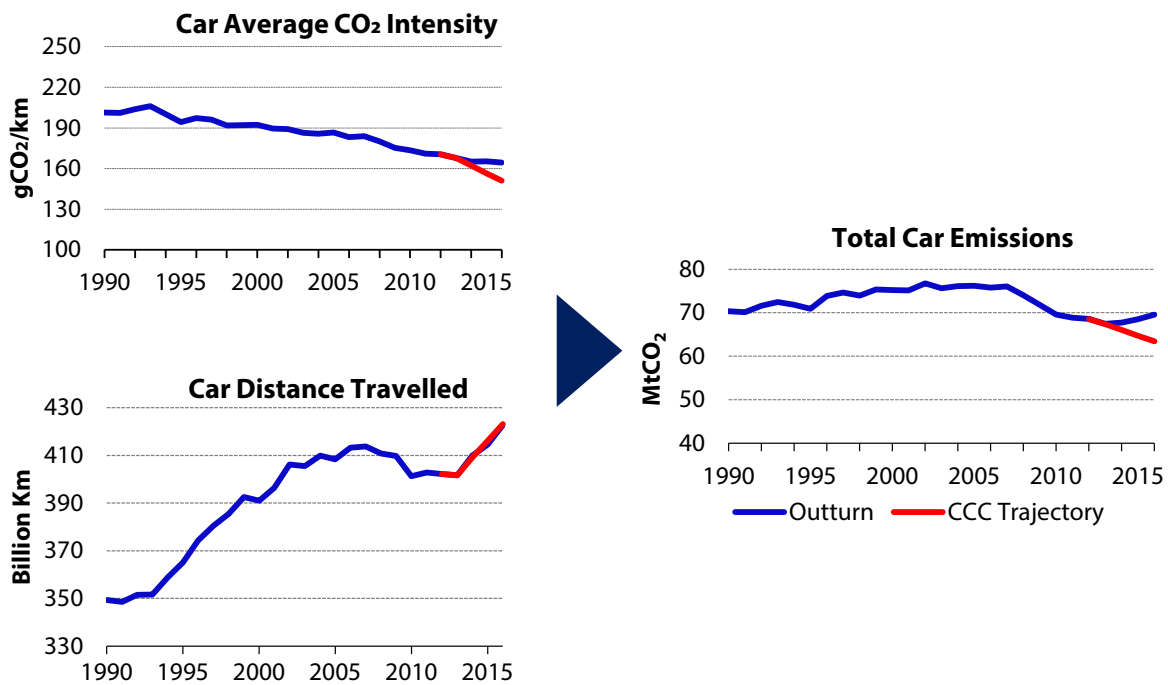


Figure 2. Car emissions, demand and intensity from 1990 - 2016



Source: BEIS (2017) *Final UK greenhouse gas emissions national statistics: 1990-2015*; DfT (2017) *Road Traffic Statistics*; SMMT (2017) *New car CO₂ report*; CCC analysis.

ii) Ambition in the Clean Growth Strategy

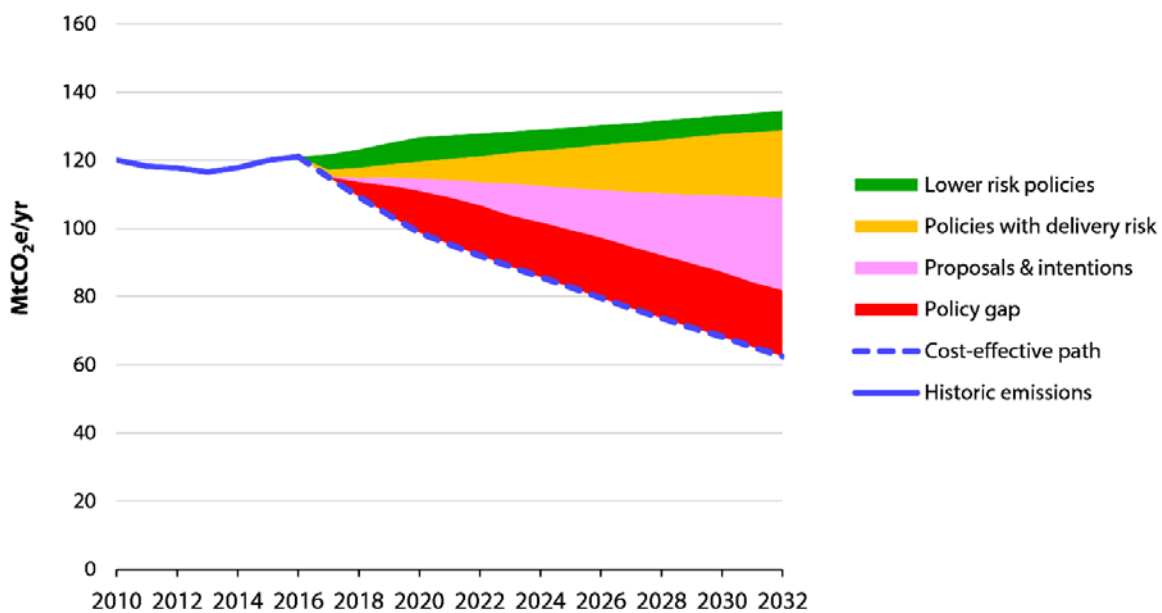
Table 1. Ambition in key low-carbon technologies and behaviours in Transport

Key technology / behaviour	CCC scenarios	Clean Growth Strategy ambition	What we have assumed for quantification
Electric vehicle uptake	60% of new cars and vans by 2030	40-70% of new cars and 0-40% of new vans by 2030	60% of new cars and 40% of new vans by 2030
New car gCO ₂ /km	Maximum fleet average of 60gCO ₂ /km for new cars and 80gCO ₂ /km for new vans on a real world basis by 2030	Maximum fleet average 95gCO ₂ /km for new cars and 147gCO ₂ /km for new vans from 2021 on a test-cycle basis (equivalent to ~140gCO ₂ /km for cars and ~220gCO ₂ /km for vans on a real-world basis)	CGS statement of 'at least as ambitious as current scheme' refers only to existing 2021 target and not the new EU proposed standards for 2025 and 2030. Including new EU standards would have little impact given assumed high levels of EV uptake

Increase in cycling and walking	Increase in public transport, cycling and walking leading to a 5% reduction in car kilometres from 2020	Cycling and walking to be the natural choice for shorter journeys by 2040	Cycling and walking make up 1% of the 5% reduction in car kms (estimated from DfT National Travel Survey data)
Shifting freight from road to rail	1% saving in HGV vehicle kilometres from 2019	Work to enable cost-effective options for shifting more freight from road to rail, including using low emission rail freight for deliveries into urban areas, with zero emission last mile deliveries	CCC scenario 1% HGV km savings achieved through freight shift to rail

Source: BEIS (2017) *Clean Growth Strategy*; CCC analysis.

Figure 3. Transport emissions and impact of the Clean Growth Strategy (2010 - 2032)



Source: BEIS (2017) *Updated Energy and Emission Projections 2016*, BEIS (2017) *2016 UK Greenhouse Gas Emissions, provisional figures*, CCC analysis.

Notes: Chart is for actual, gross, emissions and is on the basis of Government emission projections used in the Clean Growth Strategy. Emission reductions from existing policies that we judge to have significant delivery risks (e.g. insufficient funding) are coloured amber. We have assessed emission reductions from proposals and intentions that were included in the Clean Growth Strategy. These are coloured pink. The remaining gap to the cost-effective path is coloured red.

iii) Policy development required to deliver ambition in the Clean Growth Strategy

Table 2. Progress against the Committee's recommendations on Transport in the 2017 Progress Report to Parliament

Recommendation in the 2017 Progress Report	Clean Growth Strategy proposal	Assessment	Commentary
Stretching standards for new car and van CO ₂ beyond 2020, which require increased electric vehicle sales, are independently enforced and use real-world testing procedures	The Government will seek to ensure that our future approach is at least as ambitious as the current arrangements	Partially met	If the EU proposals for 2025 and 2030 targets are set as currently given, the UK will have to go beyond these to make sufficient real-world reductions in new car and van CO ₂
Policies to deliver a high uptake of electric vehicles, of around 60% of new car and van sales by 2030, including: time-limited financial support, preferential tax rates and effective roll-out of charging infrastructure	The Government has announced an end to the sale of all conventional diesel and petrol cars and vans by 2040	Partially met	Need to put in place appropriate levers to make sure this 2040 target is realised
Implementation of policy to deliver 8% of sustainable biofuels by energy by 2020 and maintain the biofuels volume after 2020	The RTFO Consultation sets levels to 2030 with a higher proportion of sustainable biofuels, but a lower amount of energy provided by biofuels than the CCC recommendation	Met	Will revisit our biofuels recommendations in our 2018 Bioenergy Review
Policies to support emissions reduction from HGVs, including new vehicle efficiency standards requiring electric options for smaller trucks, more efficient logistics, increased uptake of eco-driving measures and a shift to lower-carbon modes (e.g. rail)	Consulting on proposals to allow car licence holders to drive vans slightly above 3.5 tonnes if they are powered by low emission technology, effectively offsetting the additional weight of the powertrain. The Government will set out further measures to support the pathway to low emission freight by March 2018, as part of a long term strategy for the UK's transition to zero vehicle emissions	No progress	

National and local policies to reduce demand, to deliver car-km reductions of at least 5% below the baseline trajectory	Cycling and Walking Investment Strategy published in February 2017	No progress	Impact of Cycling and Walking investment strategy should be evaluated and reductions in car travel from schemes estimated. No action on public transport
Source: BEIS (2017) <i>Clean Growth Strategy</i> ; CCC analysis.			

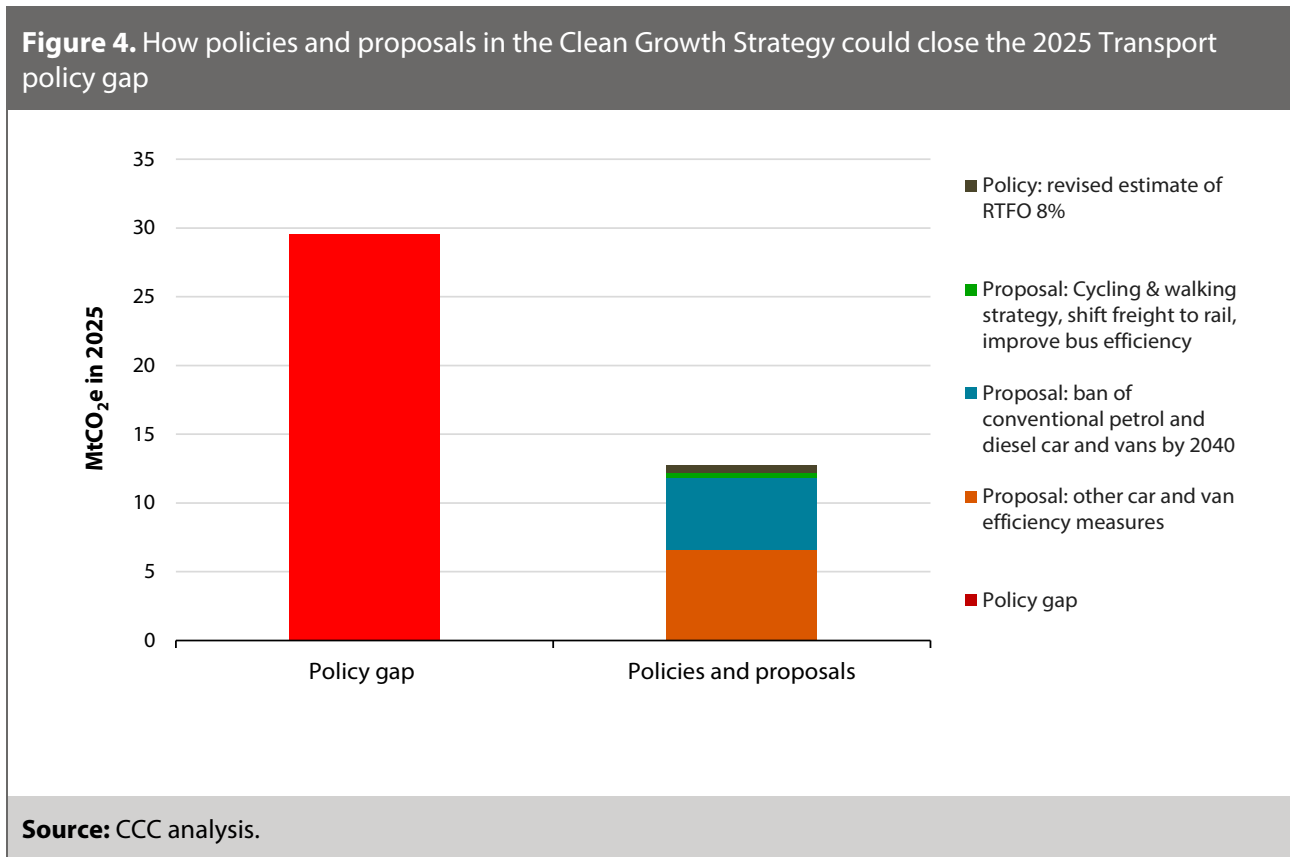
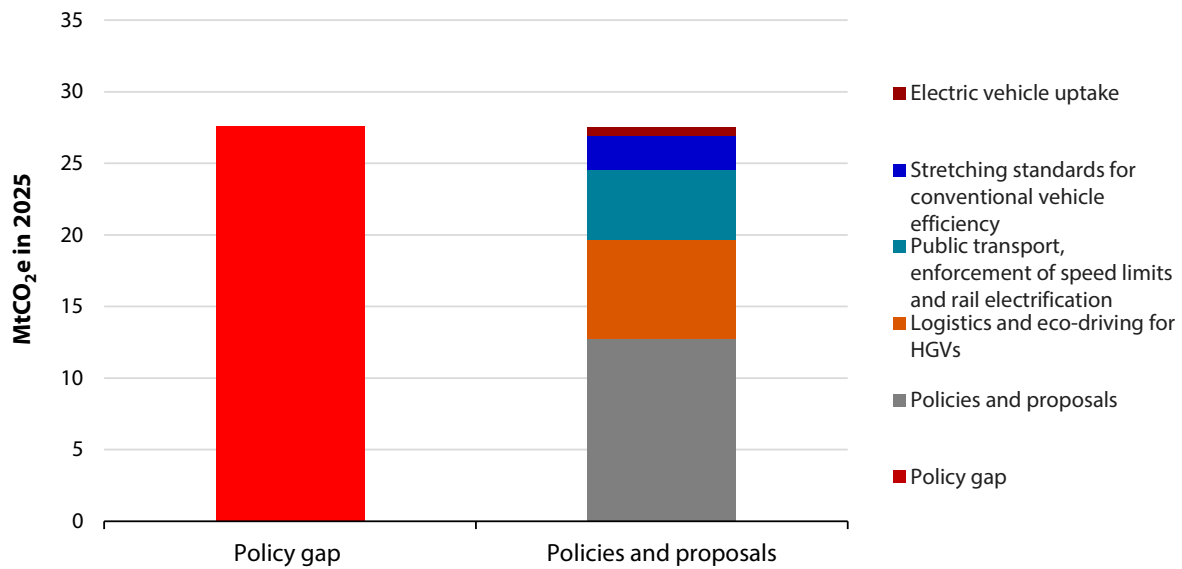


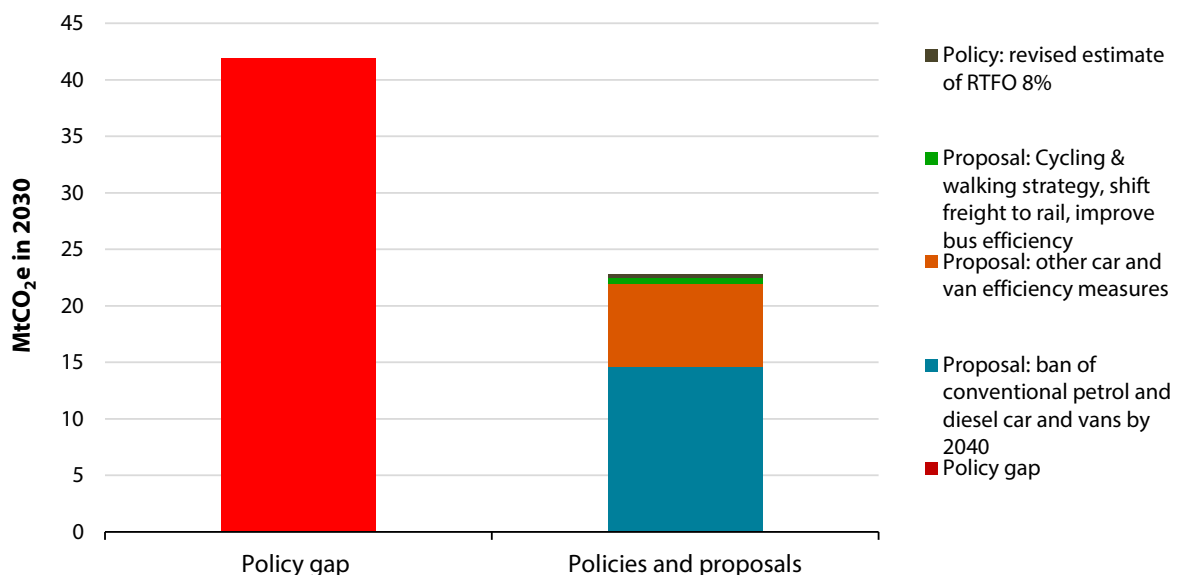
Figure 6. Additional actions required to close the 2025 policy gap in Transport



Source: CCC analysis.

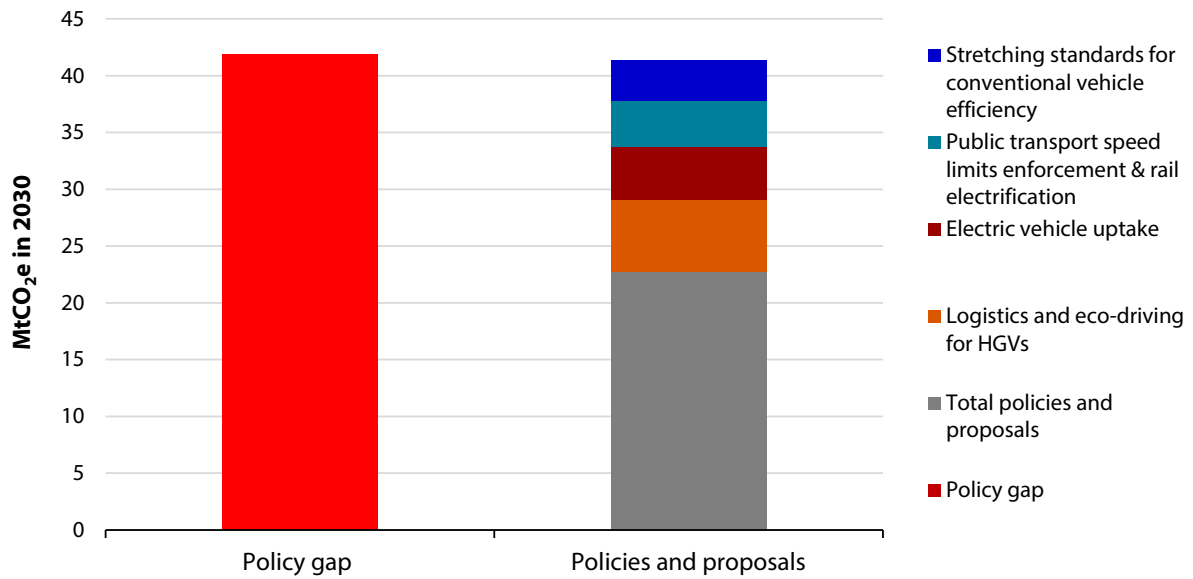
Notes: To remain consistent with the rest of the Response's analysis, the Transport policy gap presented above has been calculated in relation to the EEP baseline, rather than the National Transport Model baseline; representing the gap to the cost-effective path, rather than to carbon budgets.

Figure 5. How policies and proposals in the Clean Growth Strategy could close the 2030 Transport policy gap



Source: CCC analysis.

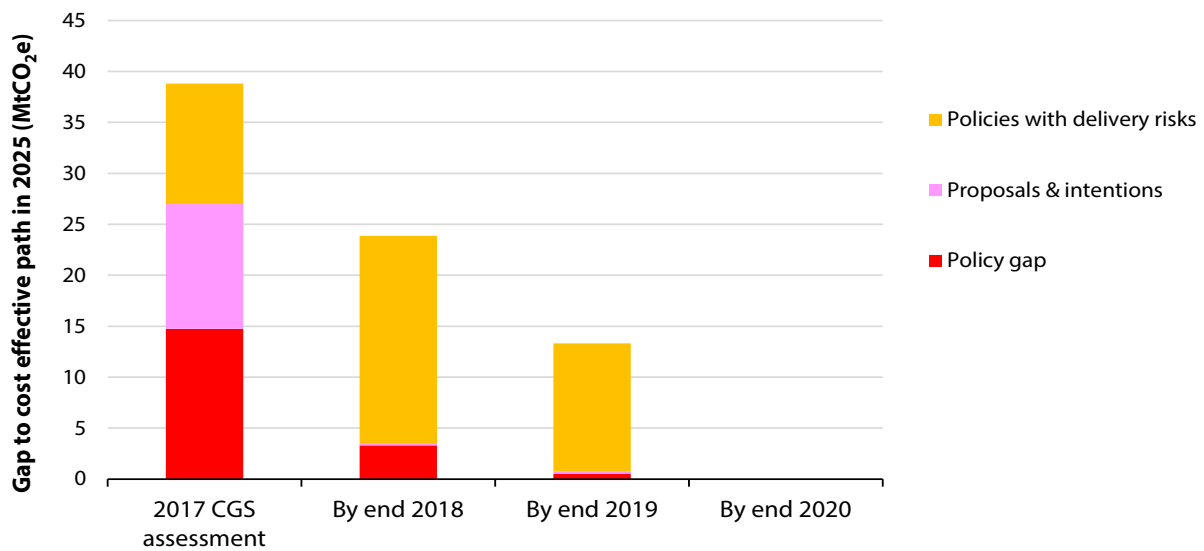
Figure 7. Additional actions required to close the 2030 policy gap in Transport



Source: CCC analysis.

Notes: To remain consistent with the rest of the Response's analysis, the Transport policy gap presented above has been calculated in relation to the EEP baseline, rather than the National Transport Model baseline; representing the gap to the cost-effective path, rather than to carbon budgets.

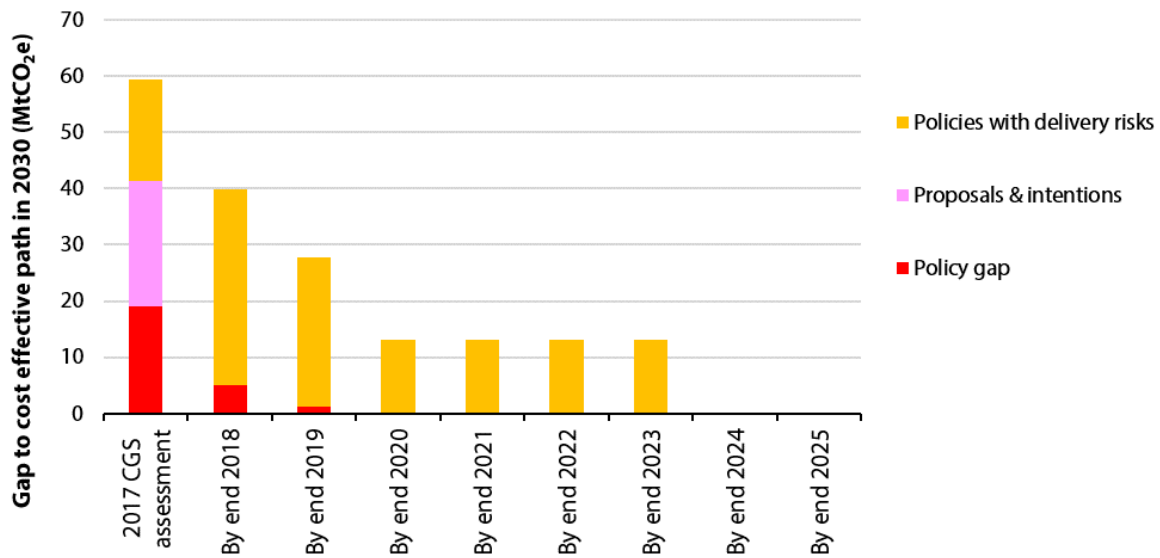
Figure 8. Fourth carbon budget: The Transport policy gap in 2025 and how Government policies should develop over time to close this gap



Source: BEIS (2017) *Updated Energy and Emission Projections 2016*, CCC analysis.

Notes: This chart reflects the Committee's detailed assessment of how the remaining gap to the cost-effective path can be closed and how current policies, proposals and intentions are firmed up so that delivery risks are largely eliminated. This is based on an assessment of the current status of policies, proposals and intentions, and the potential to strengthen policy by 2020. The chart focuses on annual emissions in 2025, the middle year of the fourth carbon budget period, and the gap to meeting the cost-effective path. This assessment is based on the government emission projections used in the Clean Growth Strategy. New projections were published in January 2018. These reduced the level of projected future emissions in 2025, and therefore imply a smaller policy gap to be closed. To remain consistent with the rest of the Response's analysis, the Transport policy gap presented above has been calculated in relation to the EEP baseline, rather than the National Transport Model baseline; representing the gap to the cost-effective path, rather than to carbon budgets.

Figure 9. Fifth carbon budget: The Transport policy gap in 2030 and how Government policies should develop over time to close this gap



Source: BEIS (2017) *Updated Energy and Emission Projections 2016*, CCC analysis.

Notes: This chart reflects the Committee's detailed assessment of how the remaining gap to the cost-effective path can be closed and how current policies, proposals and intentions are firmed up so that delivery risks are largely eliminated. This is based on an assessment of the current status of policies, proposals and intentions, and the potential to strengthen policy by 2025. The chart focuses on annual emissions in 2030, the middle year of the fifth carbon budget period, and the gap to meeting the cost-effective path. This assessment is based on the government emission projections used in the Clean Growth Strategy. New projections were published in January 2018. These reduced the level of projected future emissions in 2030, and therefore imply a smaller policy gap to be closed. To remain consistent with the rest of the Response's analysis, the Transport policy gap presented above has been calculated in relation to the EEP baseline, rather than the National Transport Model baseline; representing the gap to the cost-effective path, rather than to carbon budgets.

Table 3. Timetable for closing the Transport policy gap

Policy	2018 H1	2018 H2	2019 H1	2019 H2	2020	2021	2022	2023	2024	2025	2026-32
Car and van EU 2020/2021 CO ₂ target			UK to set out regulatory approach to 2021 target in context of EU Exit								
Car and van CO ₂ targets 2025 and 2030			Announce more stretching targets than current EU proposals for 2025 and 2030 equivalent to 60 gCO ₂ /km for new cars and 80 gCO ₂ /km for new vans on a real-world basis by 2030								
ULEV car, van and small HGV policies	Announce extension of Plug-in Grants until private costs of ownership same for EVs and ICE vehicles. Ensure provision of home charge points and 28,000 public chargers by 2030 and align fiscal incentives (i.e. VED) to emissions targets				Review ULEV policies and extend further if required.				Review ULEV policies and extend if required.		
HGV targets			UK to set out approach to EU HGV regulation proposals/legislation in context of EU exit. Potential requirement to go beyond EU levels.								
Cycling and walking	Evaluate savings from current use of funds contained within CWIS and set out long-term plan for achieving the Strategy's aims				Implement plan for the Cycling and Walking Investment Strategy						
Public Transport	Set out policies to incentivise the use of public transport										
Freight logistics and eco-driving improvements	Set out policies from recommendations in the Freight Carbon Review and consider further improvements										
Shift freight to rail	Develop strategy to achieve cost-effective shifting from freight to rail		Implement strategy to achieve cost-effective shifting from freight to rail								
ULEV buses	Set out plans to provide further funding for low emission buses				Implement ULEV bus policies				Review ULEV bus policies and extend if required		
Enforcement of current speed limits	Set out policies to enforce speed limits on major roads										
Rail electrification			Announce and implement updated plans for rail electrification to achieve full cost-effective potential over Network Rail Control Period 6 (2019 – 2024)								

Legend: Green – Government commitment and timing in Clean Growth Strategy; Blue – Government commitment in Clean Growth Strategy with CCC timing and/or detail added; Orange – CCC recommendation.