

The last chance saloon: we need to cut car mileage by at least 20%

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Climate targets won't be met unless we reduce car traffic significantly over the next ten years.

As COP26 has highlighted, the next ten years are critical for averting the worst impacts of climate change. To align with the goals of the Paris Agreement, the UK is committed to reducing greenhouse gas emissions by 68% by 2030 (compared to 1990)¹. Some are calling for even faster and deeper cuts on the basis of urgency and global equity².

Transport is the single biggest contributor to the UK's emissions and is the only sector that has not yet achieved reductions from the 1990 baseline. This means that the transport sector has just one decade to reduce its emissions by at least two-thirds. There are no longer any sectors of the economy that can deliver bigger emissions reductions so that the transport sector can deliver less: the "low hanging fruit" has now all been picked.

Cars, which are the main source of transport carbon dioxide (CO₂) emissions, will have to achieve even greater emissions reductions by 2030 to compensate for the road freight, maritime and aviation sectors where technological solutions are some way off.

The Government has announced it will end the sale of new fully petrol and diesel cars and vans by 2030, but the impact of this on CO₂ emissions will not be fully felt until the next decade. This is because:

- New cars are a small proportion of cars on the road. The average age of a car at scrappage is 14 years (with some considerably older), so it will take many years to replace all the fossil fuel vehicles³. In 2021, fully battery electric cars were less than 1% (345,000) of all cars on the road⁴. A new petrol car bought in 2029 could still be on the road well into the 2040s.
- The sale of plug-in hybrid cars and vans (which have a battery but also run on petrol and diesel) will continue until 2035, and there is evidence that these are not that much better than fossil fuel vehicles for emissions⁵.

Even with a newly announced Zero Emission Vehicle (ZEV) mandate⁶, the government expects only 55-60% of new cars to be battery electric by 2030⁷. This means that most cars on the road will still be fossil fuelled in 2030. Moreover, those cars will be relatively high polluting given that the ZEV will do nothing to ensure that the tailpipe emissions from new petrol and diesel cars will reduce steeply between now and then. Therefore, even if sales of battery electric and plug-in hybrid cars

increase steadily from today, electrification would only reduce car tailpipe CO₂ emissions by – at best – about 25-30% by 2030⁸.

To drive transport carbon emissions down further during this decade, it will therefore also be necessary to implement other policies, including reducing car mileage, banning the largest, heaviest fossil-fuelled cars, and reducing vehicle speeds on trunk roads and motorways.

The UK Government has not published any analysis to show what reduction in car mileage it considers is necessary (and achievable, which may not be the same thing). But there is growing evidence from other sources:

- UK – analysis by the Centre for Research into Energy Demand Solutions (CREDS), a consortium of universities, estimates that **a 30-50% reduction in total car mileage is needed by 2030**, relative to 2020⁹.
- UK – analysis by Green Alliance estimates that **a 20-30% reduction in total car mileage is needed by 2030**, relative to 2019¹⁰.
- Scotland – analysis by Element Energy for the Scottish Government supports a target of a **20% reduction in total car mileage by 2030**, relative to 2019¹¹.
- Wales – the Welsh Government has committed to **reduce the number of car miles travelled per person by 10% by 2030**, relative to 2019¹²
- Bristol – analysis found that meeting the City's net zero target by 2030 will need nearly all vehicles to be electrified and car mileage to be cut almost in half¹³.

All local authorities have carbon budgets developed by the Tyndall Centre for Climate Change¹⁴, and over 80% have declared climate emergencies¹⁵. However, very few have estimated what traffic reduction is necessary to meet their own carbon budgets¹⁶, and what is achievable. Judging by the analysis at a national level, **reductions of at least 20%** are appropriate for a pathway to net zero by 2050; larger reductions (perhaps 50-60%) are necessary for a pathway to net zero by 2030.

There is currently no requirement on the UK Government, sub-national transport bodies or local authorities to reduce traffic, and no requirement for local authorities to meet carbon budgets.

We believe that **UK Government should set a binding traffic reduction target for England**, similar to those set by the Scottish and Welsh Governments. There should be a **traffic reduction mandate at all levels, including local authorities, sub-national transport bodies and National Highways**.

The cuts in car mileage that are necessary may sound ambitious. But measures to cut car use will go with the grain of some recent trends, including reducing car use amongst younger people over the last 25 years¹⁷. With a traffic reduction target, the focus of capital investment should switch to improving sustainable transport infrastructure, for both longer and local journeys, with new railway stations, trams and cycle and pedestrian routes (not more road capacity). City streets could be made largely car-free. **Free local buses and lower train fares might be offered in places that opt for a pay-per-mile Eco Levy on driving**¹⁸.

Even without climate change, it has been known for decades that there are many benefits from cutting traffic. It's good for health, safety and air quality; enables more efficient and equitable use of resources; improves social and economic vitality; and makes for better neighbourhoods. The need to cut CO₂ strengthens the case for realising those benefits.

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- ¹ Department for Business, Energy & Industrial Strategy (2020) [UK sets ambitious new climate target ahead of UN Summit](#). Press Release, 03/12/20
- ² Anderson K, Broderick J and Stoddard I (2020) [A factor of two: how the mitigation plans of 'climate progressive' nations fall far short of Paris-compliant pathways](#), Climate Policy, Volume 20, 2020 - Issue 10. <https://doi.org/10.1080/14693062.2020.1728209>
- ³ SMMT (2021) [Average Vehicle Age](#). 2021 Automotive Sustainability Report.
- ⁴ Figures for end of October 2021. Lilly C (2021) [Electric Car Motor Statistics](#). Next Green Car. 05/11/21.
- ⁵ Transport and Environment (2020) [UK briefing: The plug-in hybrid con](#). Briefing, September 2020.
- ⁶ Announced in the Government's [Net Zero Strategy](#), this will mean a certain proportion of a car manufacturer's sales must be for EVs.
- ⁷ HM Government (undated) [Transitioning to zero emission cars and vans: 2035 delivery plan](#)
- ⁸ Authors' calculations, adapted from 'carbon gap' analysis undertaken by Transport for Quality of Life for Welsh Government. Note this is lower than the Climate Change Committee's assumption that 34% of cars on the road will be BEVs by 2030, which is based on extremely optimistic levels of uptake.
- ⁹ The scenarios were mainly based on a 6CB pathway (~5 GtCO₂), hitting net-zero GHG in 2050, with an extra scenario with a cumulative CO₂ budget (2020-2050) of around 3.85 GtCO₂ (also with a 2050 net-zero GHG target) to demonstrate how you could ratchet up ambition with lower energy demand. CREDS (2021) [The role of energy demand reduction in achieving net zero](#). October 2021 and additional data from Personal Communication with Dr Christian Brand.
- ¹⁰ Bennett H and Brandmayr C (2021) [Not going the extra mile: driving less to tackle climate change](#). Report for Green Alliance. 08/12/21.
- ¹¹ Element Energy (2021) [Decarbonising the Scottish Transport Sector](#). Report for the Scottish Government.
- ¹² Welsh Government (2021) [Net Zero Wales Carbon Budget 2](#)
- ¹³ Roberts S et al (2019) [Bristol Net Zero by 2030 The Evidence Base](#). Report by CSE, Ricardo and Eunomia for Bristol City Council. December 2019.
- ¹⁴ Tyndall Centre for Climate Change Research (undated). [The Tyndall Carbon Budget Tool](#). Note that these budgets are more ambitious than the UK's climate change budgets, particularly before 2032 as the latter have not been revised to take account of the net zero target. Unlike the Climate Change Committee budgets, the Tyndall budgets do not allow for high levels of speculative and expensive large scale negative emissions technologies.
- ¹⁵ Climate Emergency UK (2021). [Tracking the UK's Journey Towards Net Zero](#). 15/11/21.
- ¹⁶ Marsden G. and Anable J. (2021) [Behind the Targets? The Case for Coherence in a Multi-Scalar Approach to Carbon Action Plans in the Transport Sector](#). Sustainability. 2021, 13, 7122. doi.org/10.3390/su13137122
- ¹⁷ There has been a fall in driving licence holding among young people since 1992 which means that young people own and use cars less and the growth in car use with age has been at a lower rate. Sloman L et al (undated) [Why are younger people travelling less by car? What follows?](#) Transport for Quality of Life Radical Transport Policy Two-Pager #4
- ¹⁸ Sloman S and Hopkinson L (2019) [A Radical Transport Response to the Climate Emergency](#). Briefing for Friends of the Earth and Greenpeace. November 2019.