

Getting Carbon Ambition Right

**Professor Jillian Anable
Institute for Transport Studies
University of Leeds**



Key Messages

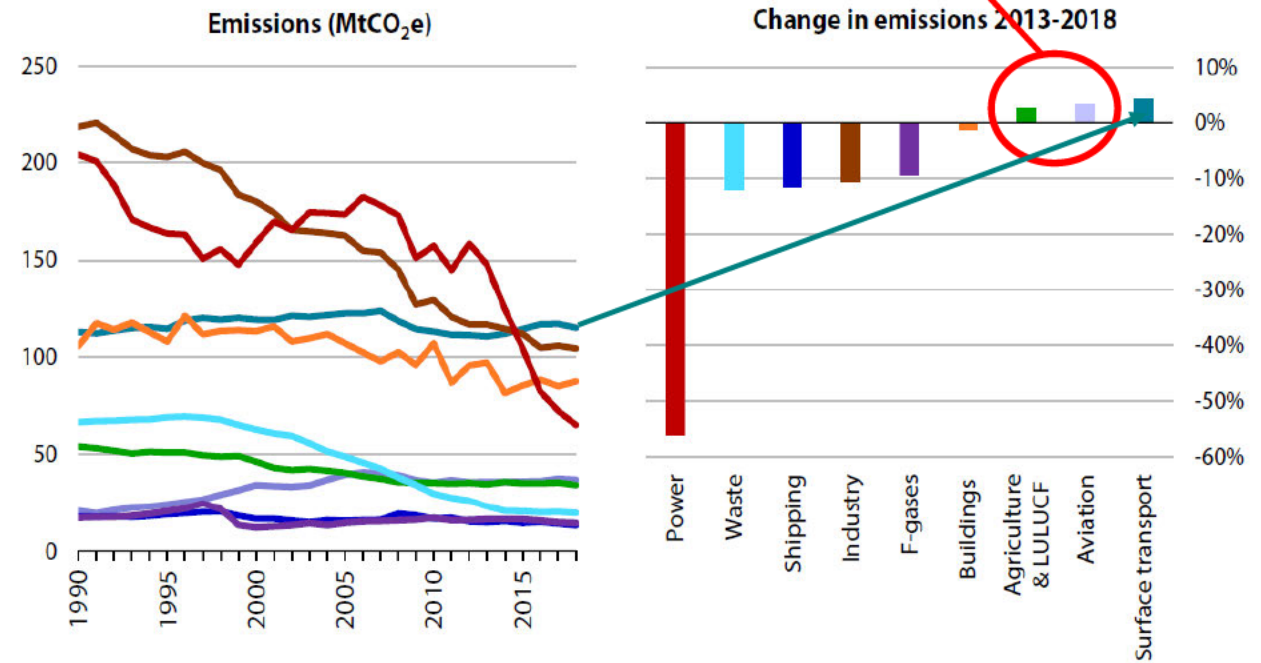
- The Paris Agreement implies even quicker emissions reductions than so far proposed by the Committee on Climate Change and DfT
- Surface transport needs to reach ZERO, not *net zero*, emissions
- If we do not achieve deep reductions by 2030, we will not succeed
- Electric vehicles and active travel will only make small contributions by 2030

Scale of the transport challenge

Some allowance made for these two sectors only to not reach zero and be compensated by carbon sinks or carbon capture

- There has been no net reduction in carbon or energy from UK transport since 1990
- Transport– 21% in 1990, 33% in 2018 as a % of all UK emissions
- Net-zero means ZERO emissions for SURFACE transport

Figure 1.5. Trends in UK sectoral GHG emissions



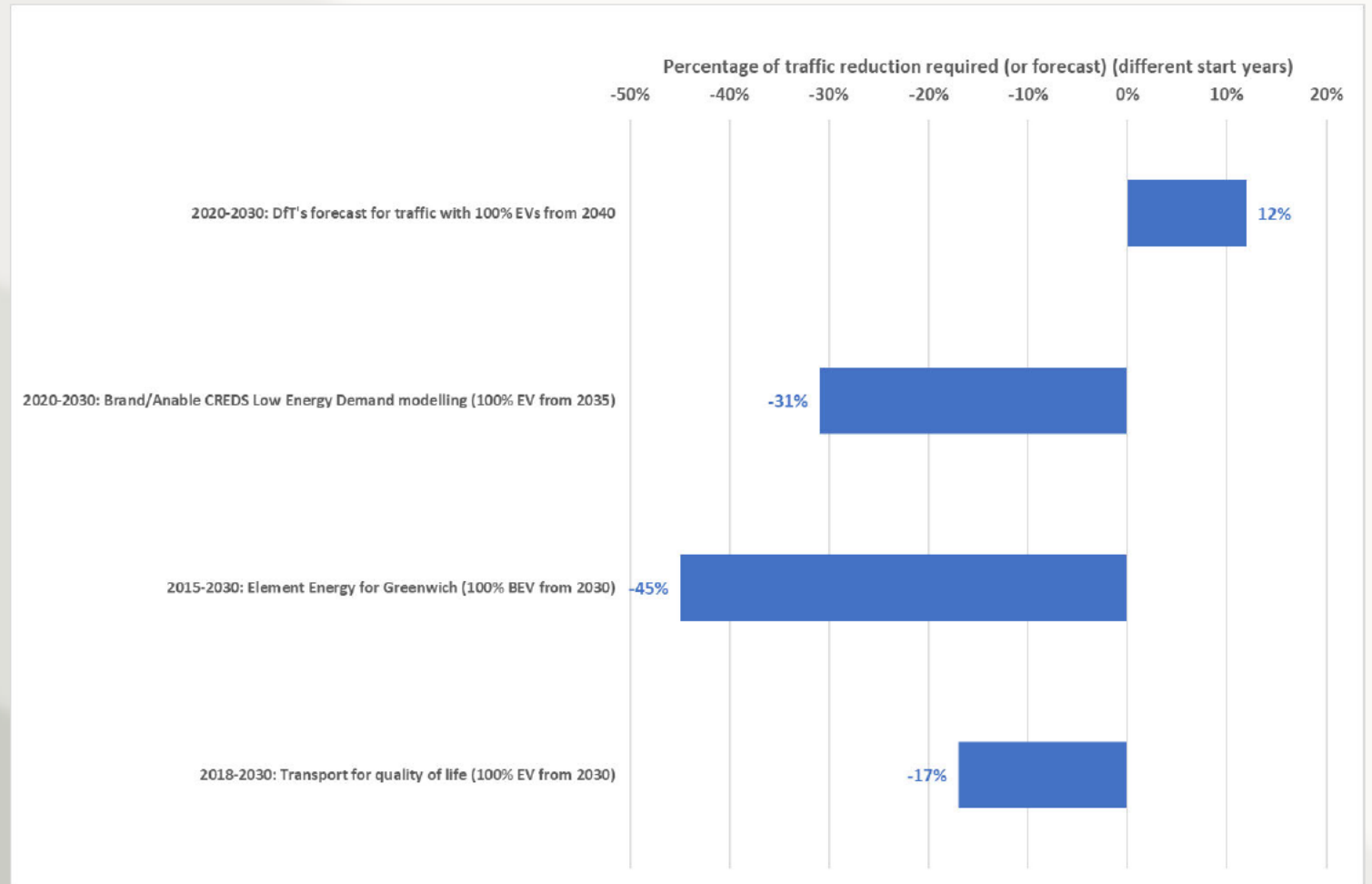
Source: BEIS (2019) 2018 UK Greenhouse Gas Emissions, Provisional Figures; BEIS (2019) 2017 UK Greenhouse Gas Emissions, Final Figures; CCC calculations.

Notes: The chart on the right-hand side shows changes in sectoral emissions between 2013 and 2018 for all sectors except for Agriculture, LULUCF, Waste and F-Gases which cover the period 2013-2017; buildings emissions in this chart are temperature-adjusted.

CCC/DfT reduction pathways are not enough

- **The Paris Agreement – to keep global warming to less than 2°C**
 - In 2018, global CO₂ emissions were ~36GtCO₂ but the global carbon budget for energy is ~650GtCO₂
= 18 years of current emissions*
- When apportioned to the UK car sector – this means **we will have used up the carbon budget for cars in 7 or 8 years from now**
- Various modelling exercises show **car traffic needs to be reduced from today's levels by 2%-4% year on year between now and 2030 IF we stop selling ICEs from 2030**

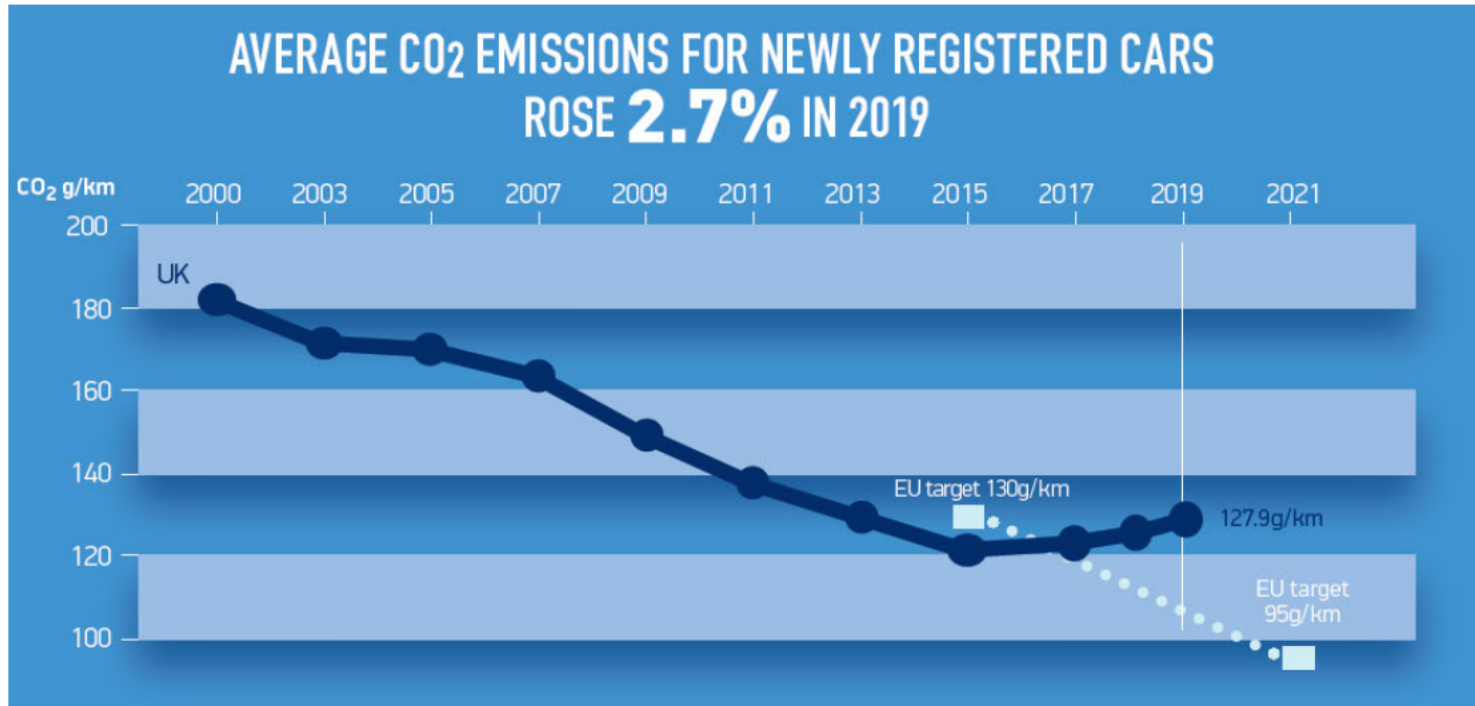
*Tougher than CCC Net Zero: does not account for irreversible feedbacks, but also not for speculative negative emissions technologies)



- DfT (2018) [Road Traffic Forecasts 2018](#) The Department for Transport.
- Brand, C., Anable, J. and Marsden, G. (2020) Low energy demand scenarios for mobility. CREDS Working Paper. Available upon request from authors.
- Hopkinson, L. and Sloman, L. (2018) [More than electric cars. Why we need to reduce traffic to reach carbon targets](#) Transport for Quality of Life and Friends of the Earth. December 2018. A range of assumptions were tested of which two are presented here, with updated figures supplied by personal correspondence with Lisa Hopkinson in September 2020.
- Element Energy (2020) [Development of the Greenwich Carbon Neutral Plan: The Evidence Base](#) Report for Royal Borough of Greenwich. November 2019.

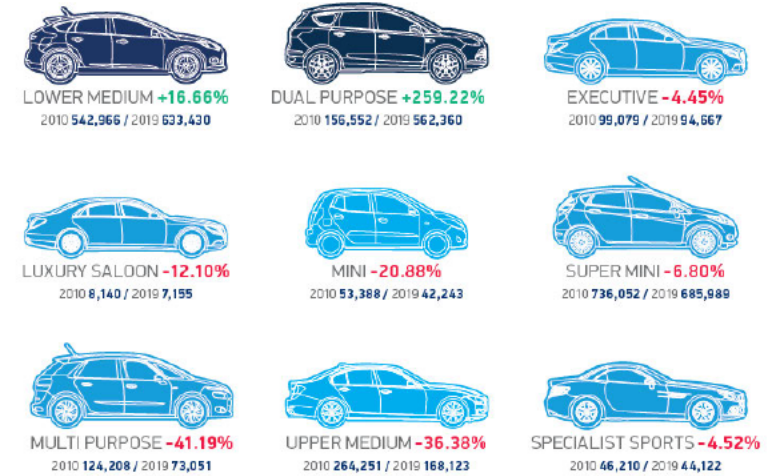


Average tailpipe emissions from new cars sold in the UK has been increasing



- This trend is NOT due to the demise of diesel – the main culprit is the swing towards larger passenger cars

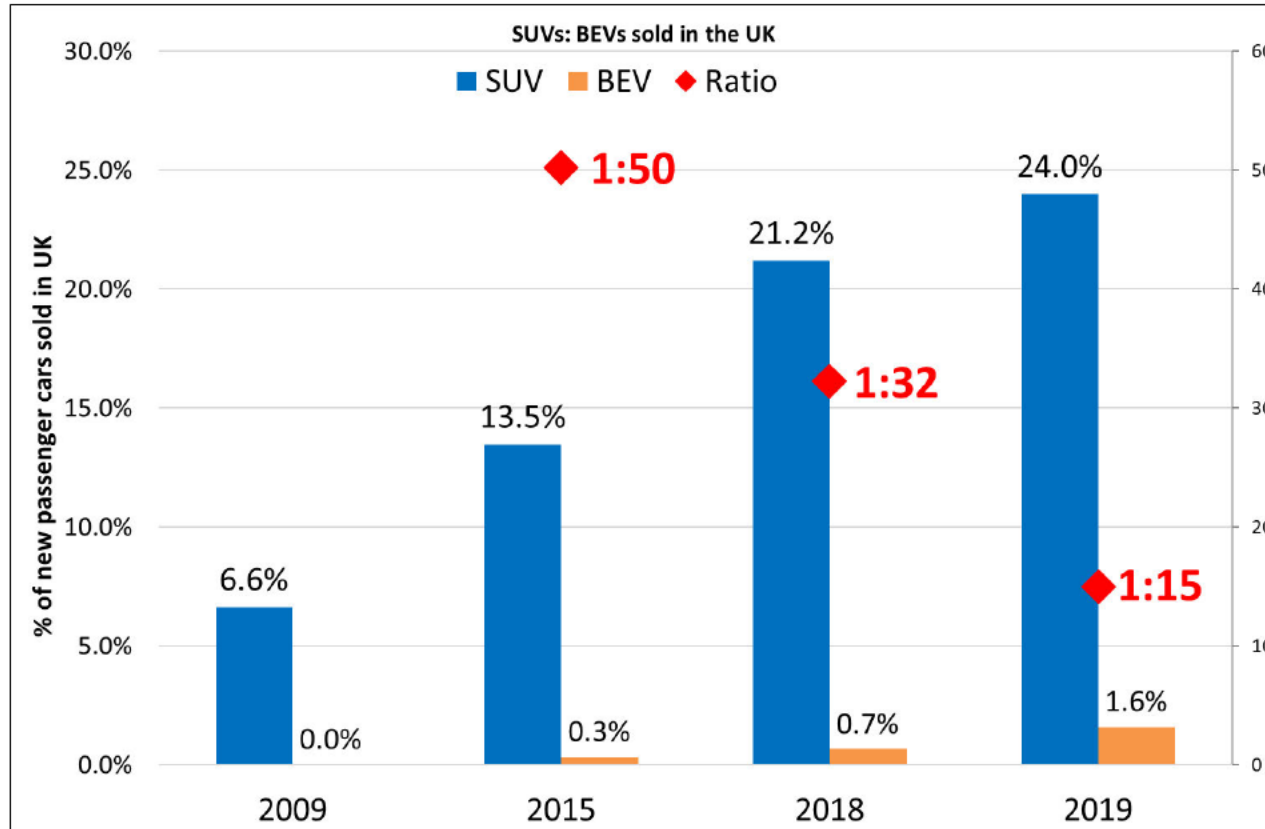
Shift in market segment – 2019 vs 2010



SMMT 'Motor Industry Facts' 2020



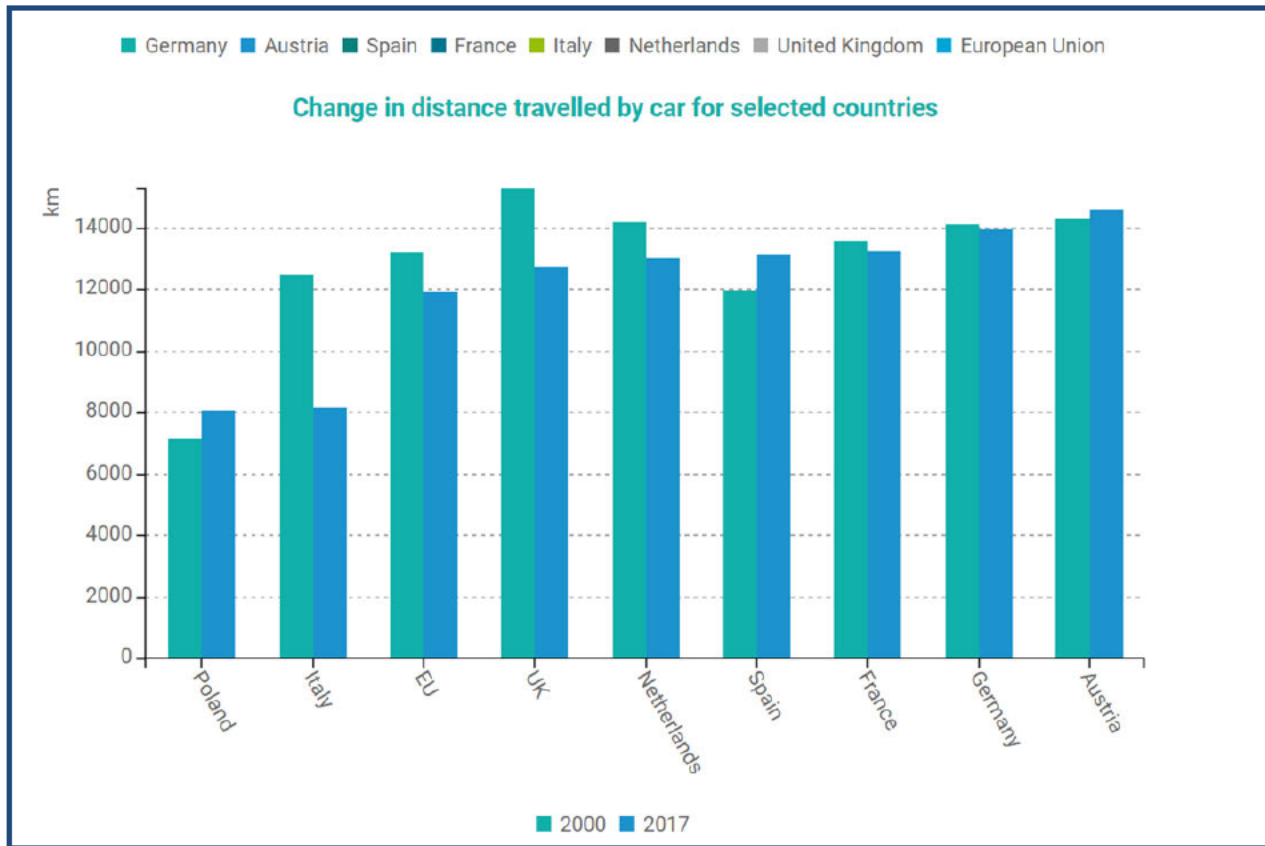
Increasing sales of large cars are more than offsetting sales of BEVs



Data based on Department for Transport Vehicle Licensing Statistics: Table VEH0253

- In 2019, SUVs accounted for 24% of new passenger car sales in the UK
- Just four years before it was 13%
- Ratio of SUVs:BEVs may be falling, but total cumulative sales of SUVs over past 4 years totals 2.3 million compared to 85k BEVs. That is a lot of 'locked in' fossil fuels for at least the next decade

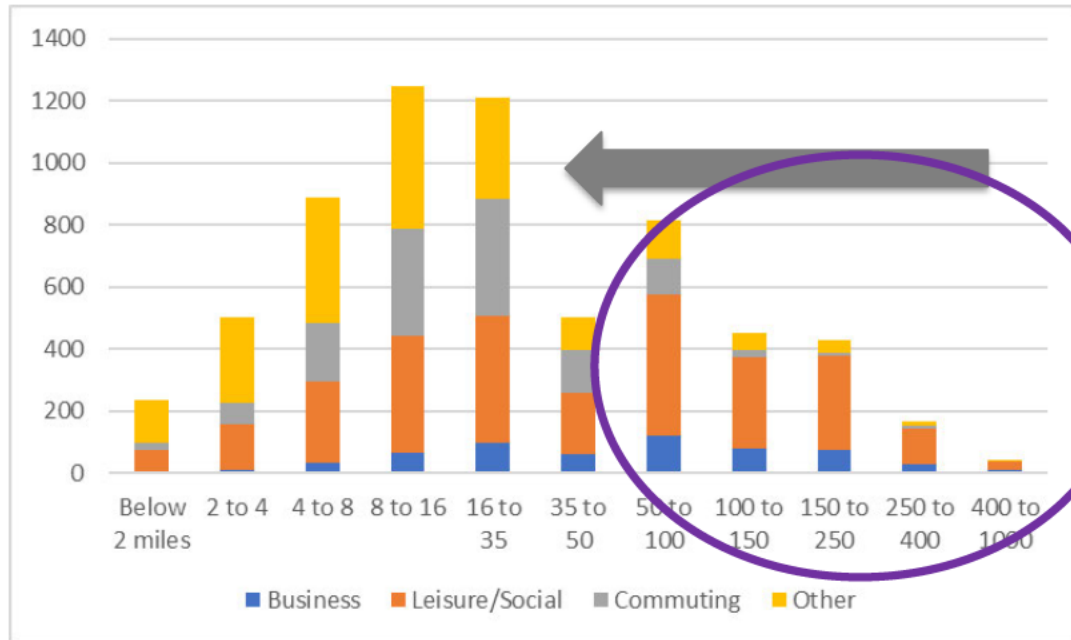
A healthy mode share does not guarantee smaller carbon footprint if car use is not curtailed



Lots of cycling and public transport use \neq low car use.
Despite 29% of trips undertaken by bicycle in the Netherlands, average distance per capita by car in the is as high as the UK.

Mode shift should be discussed in conjunction with destination shifting

~ 3% trips do ~30% of total mileage (2017, England)



Analysis of National Travel Survey 2017

