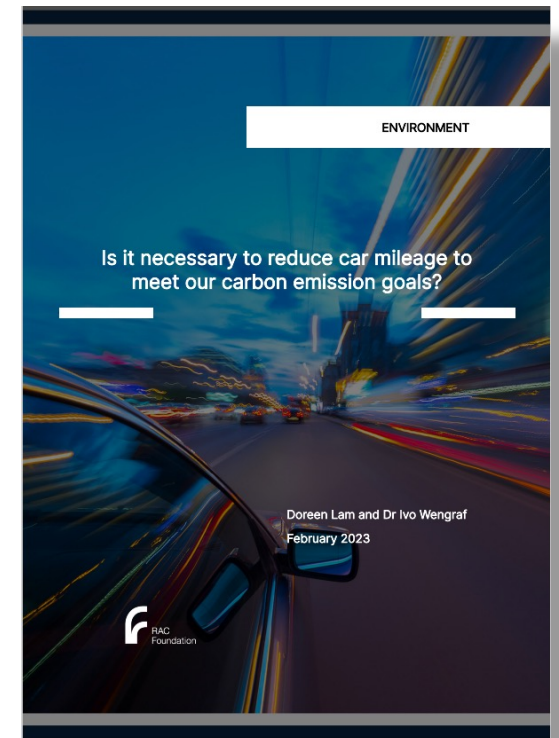


# Decarbonising Transport: Obstacles, Options and Opportunities

## Policy Pathways and Deliverability for Surface Transport

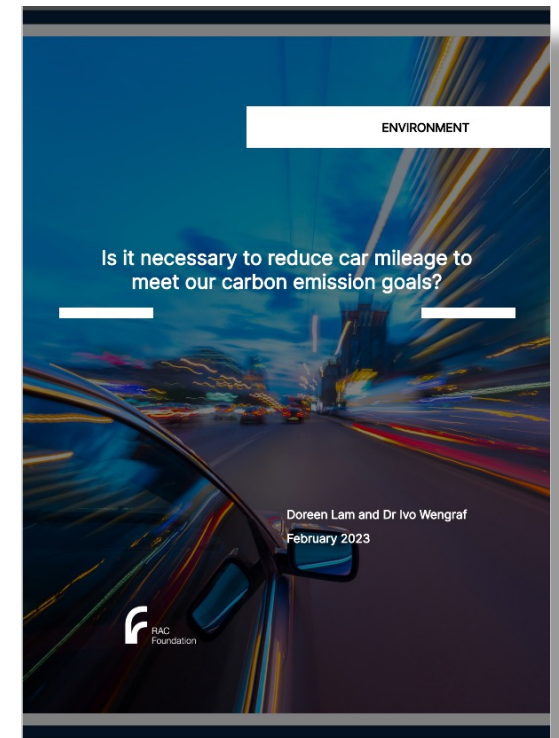
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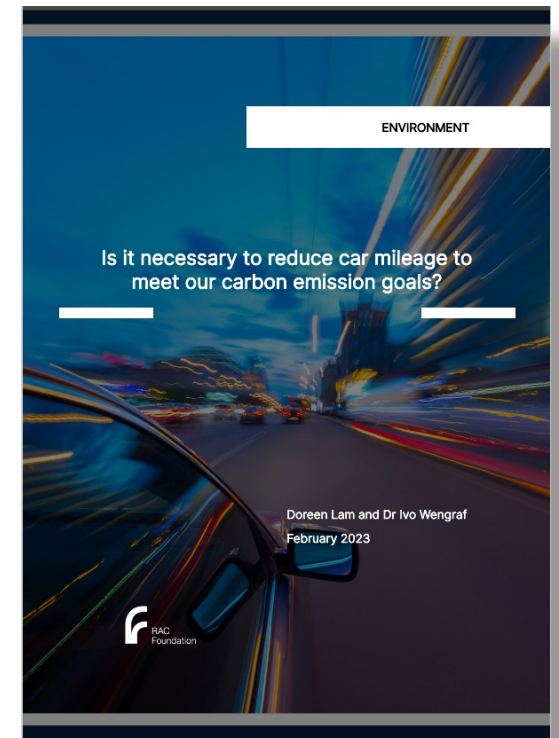
“...even with a faster uptake of electric vehicles we will still need to cut traffic by at least 20% between now and 2030 for a reduction pathway that aligns with a 1.5°C warming scenario.”

“The electric vehicle (EV) market is booming, according to the latest vehicle stats. Electric car sales increased by 40% in 2022 and EVs enjoyed another record year with more than one in ten new vehicles being electric.”

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- Set it and forget it policy environment, without one-offs or sudden transformational changes
- 4 cars per year of manufacture (no make/model, all do the average for that type)
- DVLA, DVSA and Spritmonitor.de data
- Cars act based on recent patterns
- No post-Covid changes
- Northern Ireland is like GB

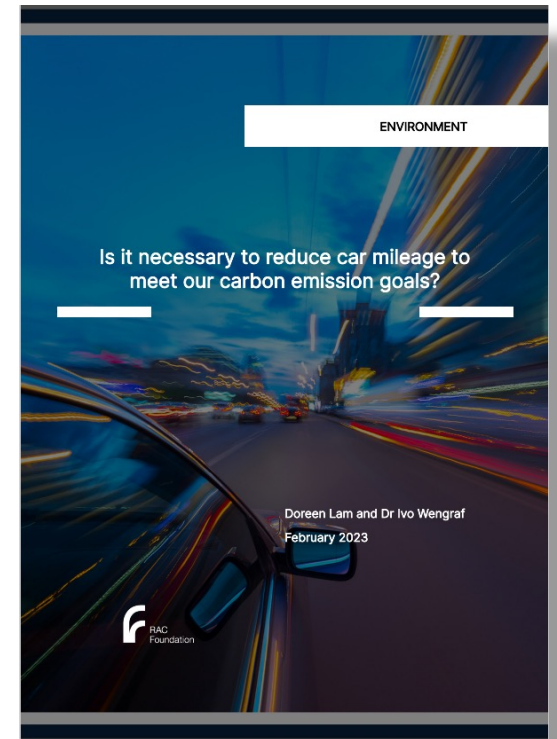
## The calculus of the CCC and the Government

- There is no “car” target
- Targets have to account for failures elsewhere
- For DfT’s purposes, cars have CO<sub>2</sub> in petrol/diesel, but are *zero CO<sub>2</sub>* in ZEVs
- No well to wheel, no life cycle analysis, no decarbonisation of the grid, no BEV efficiency

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Current state of the parc in an initial base year (in this case 2019), car counts split by age and fuel type.

The departure rate is then applied to the parc, and new car registrations (based on sales projections) are also added, to predict the composition of the following year's parc.

Repeat.



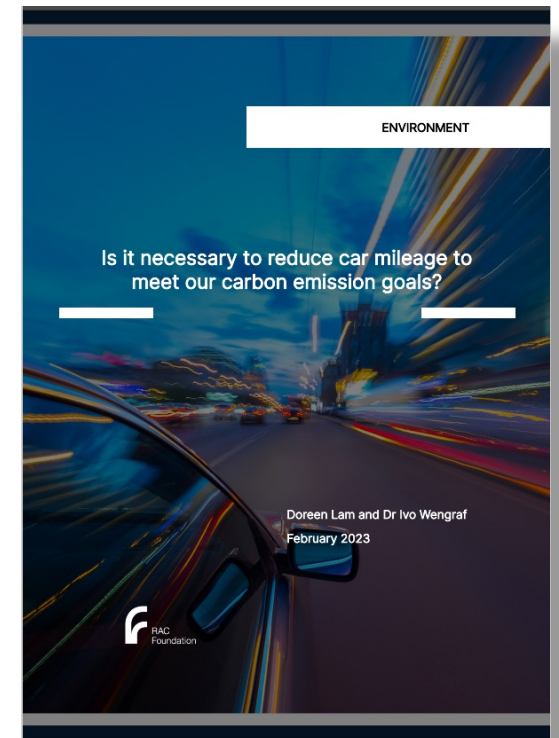
Annual car mileages and gCO<sub>2</sub>/km figures are then applied to each modelled year, according to age and fuel type.

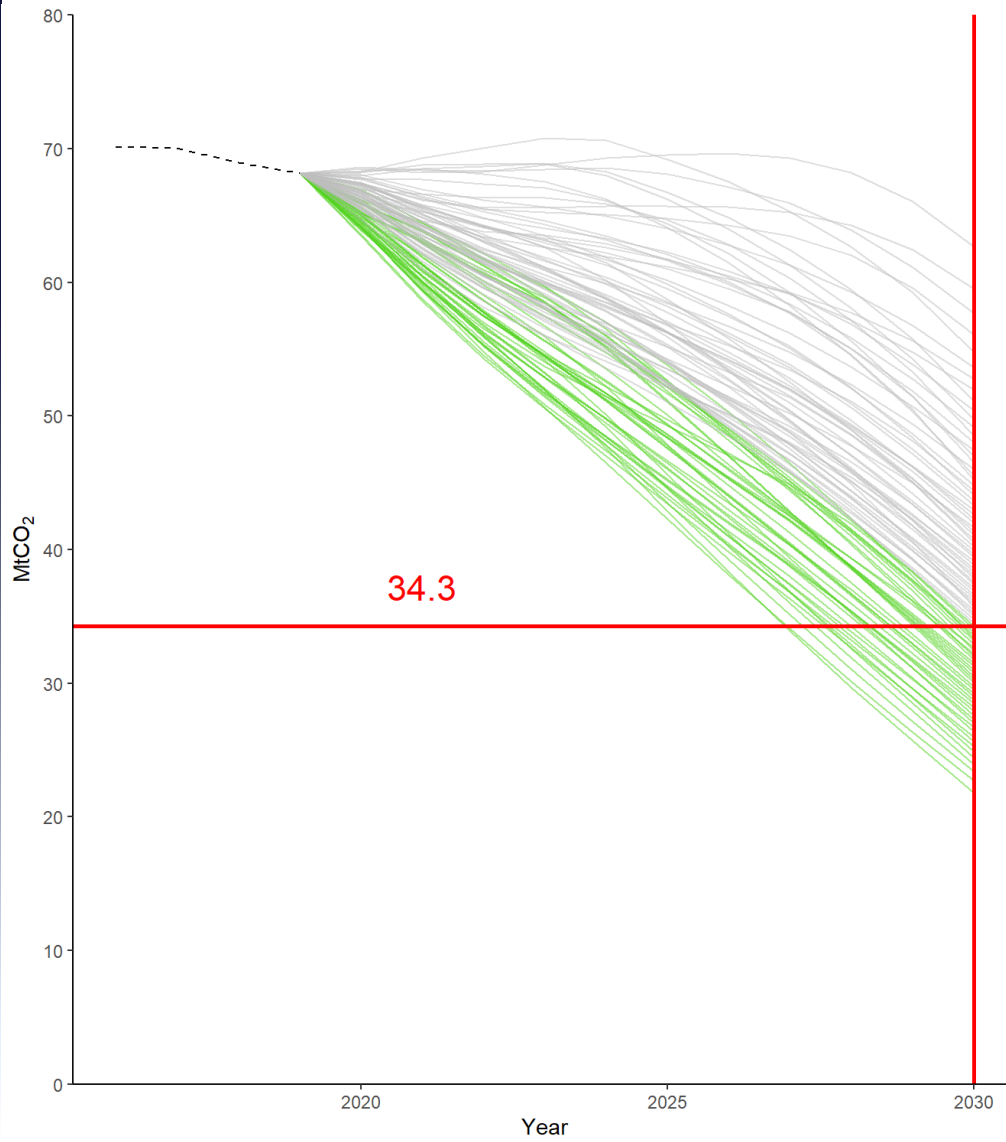
These are then summed and three headline outputs are created from the raw results: the total composition of the car parc, total car parc mileage, and CO<sub>2</sub> emissions.

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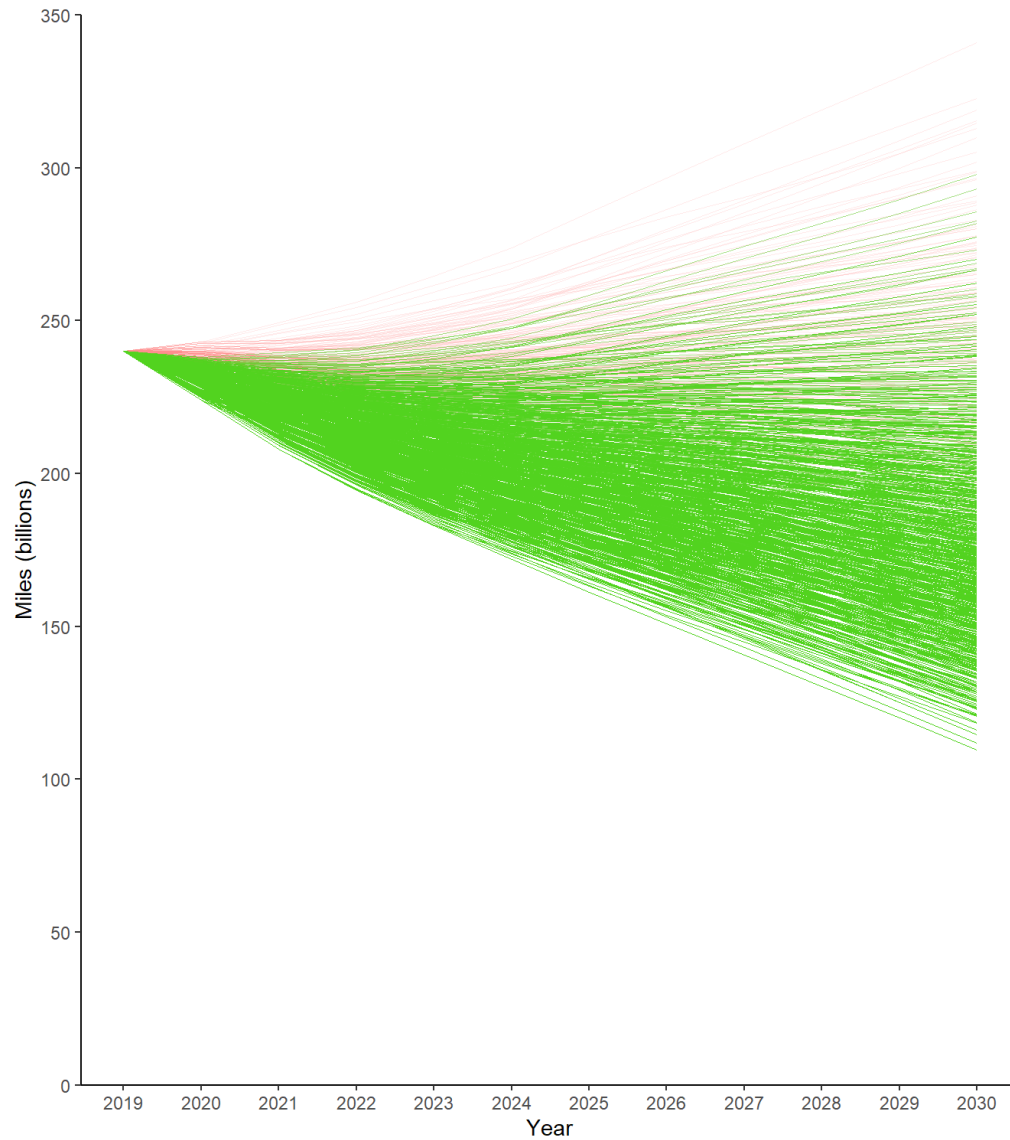
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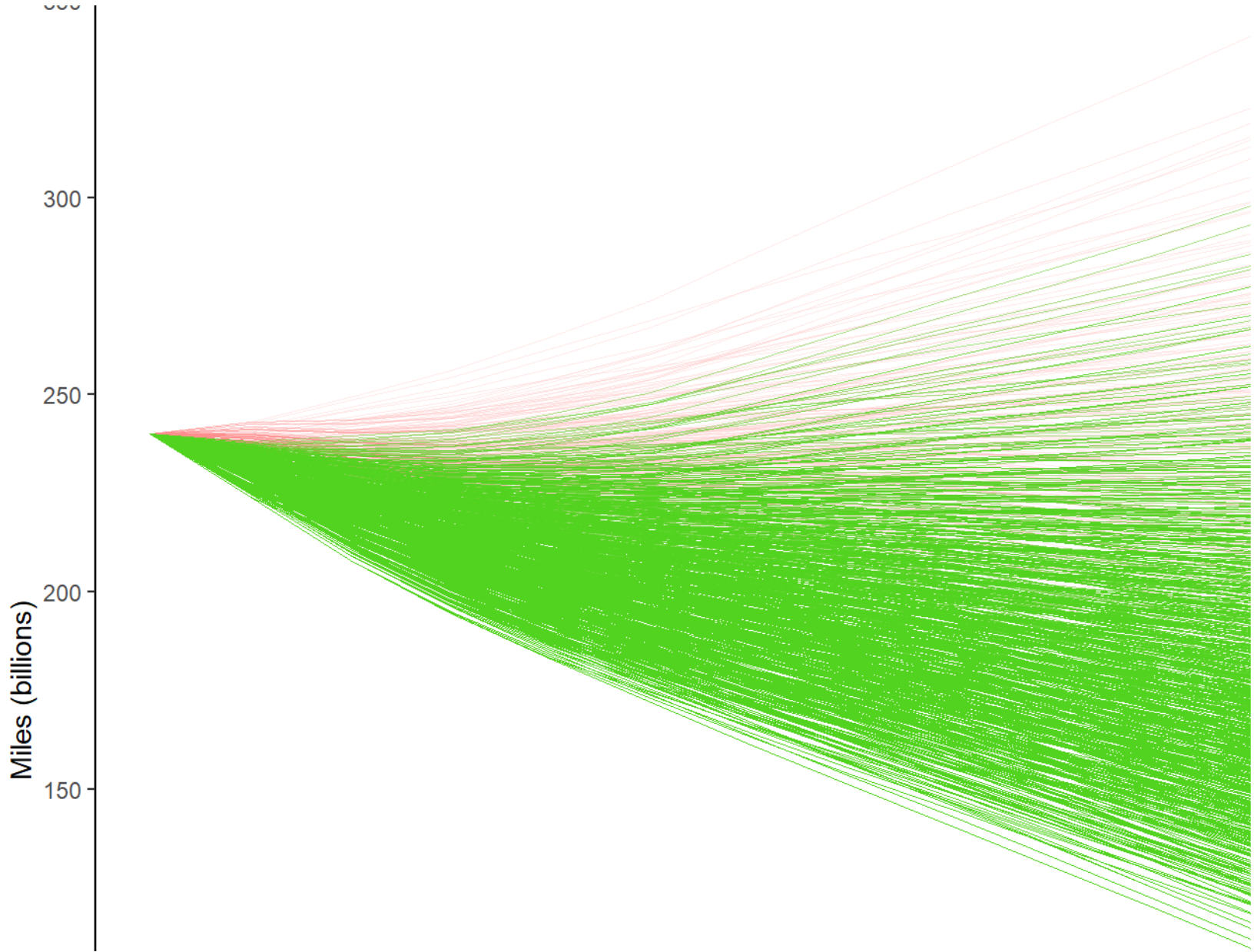
9900 model runs

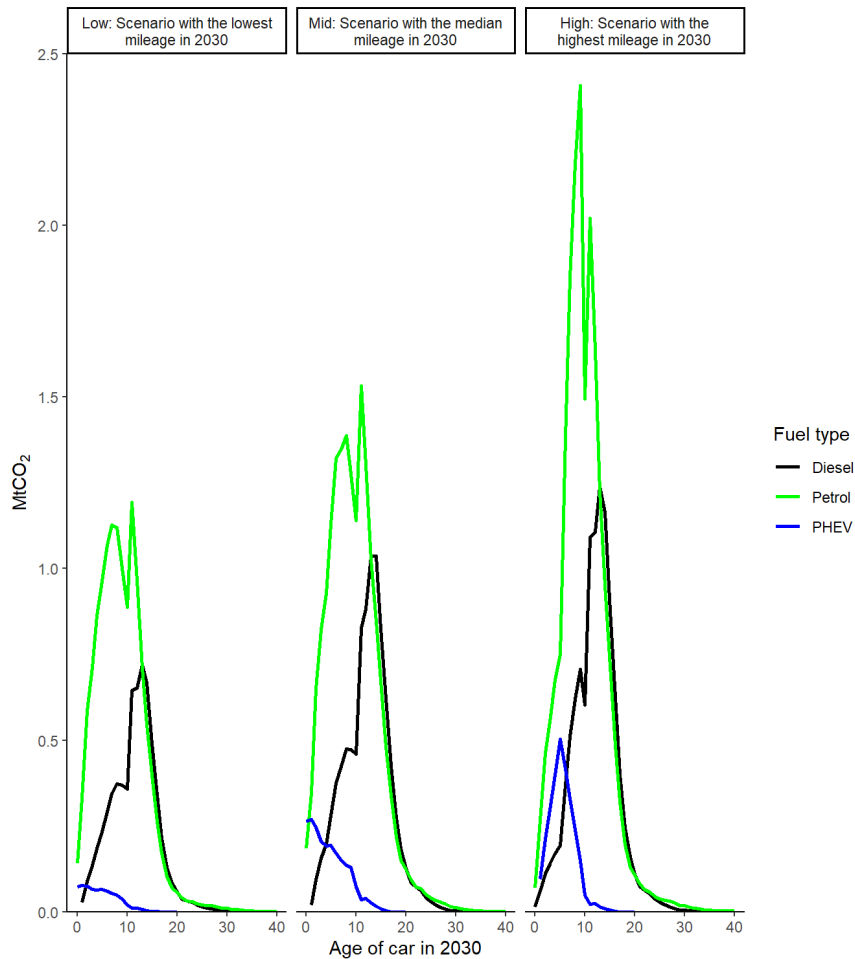
*Not probabilistic*



Total mileage can go up  
successfully

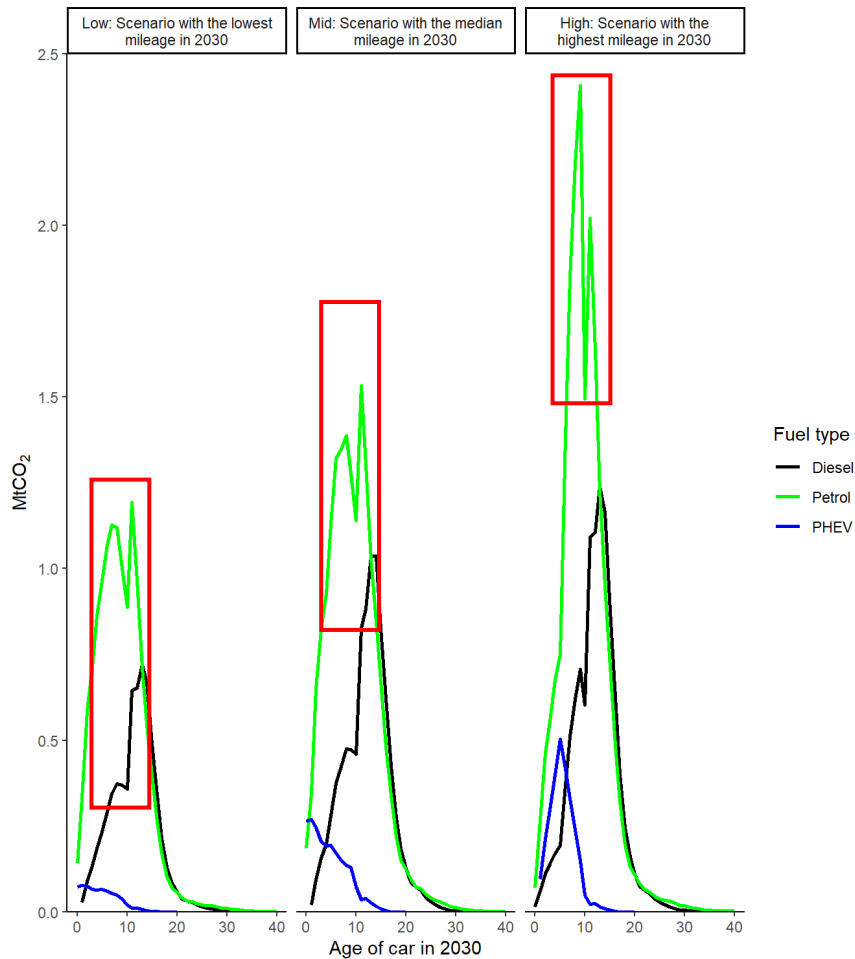
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In each, the big contributor is petrol ICEs around 3-13 years.

Old cars are inconsequential.

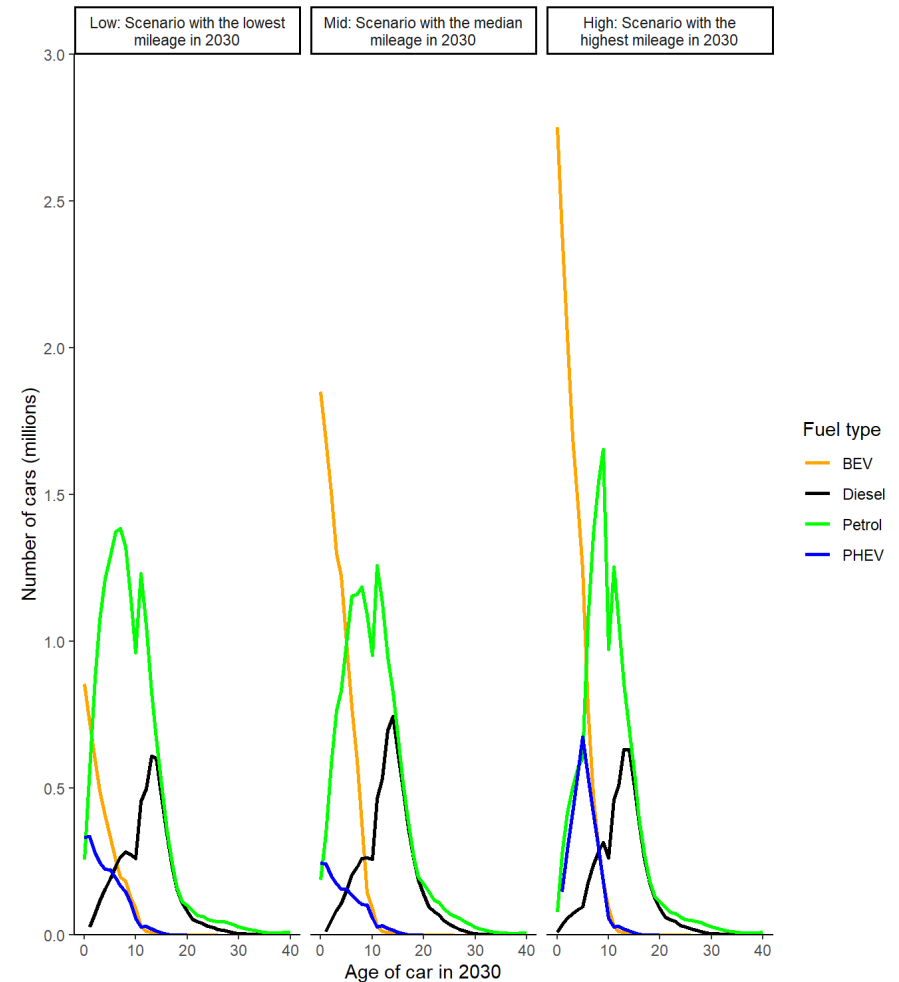


In each, the big contributor is petrol ICEs around 3-13 years.

Old cars are inconsequential.

And looking at counts, what matters is the interplay between new BEV sales, uses and ICE departure.

Without mileage decline, those three *have* to work in concert.





Are those who argue that a net reduction in car-driven miles is a necessary requirement for achieving our climate goals correct?

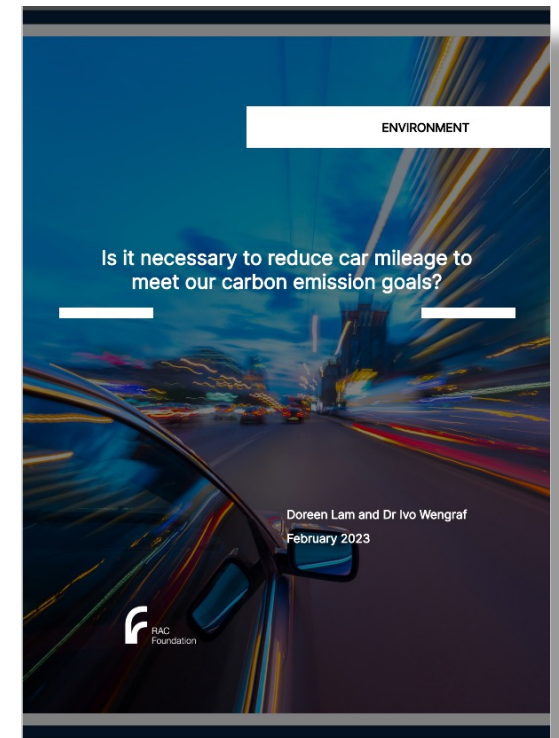
No.

But the task is a whole lot harder if individual car mileage stays put or rises.

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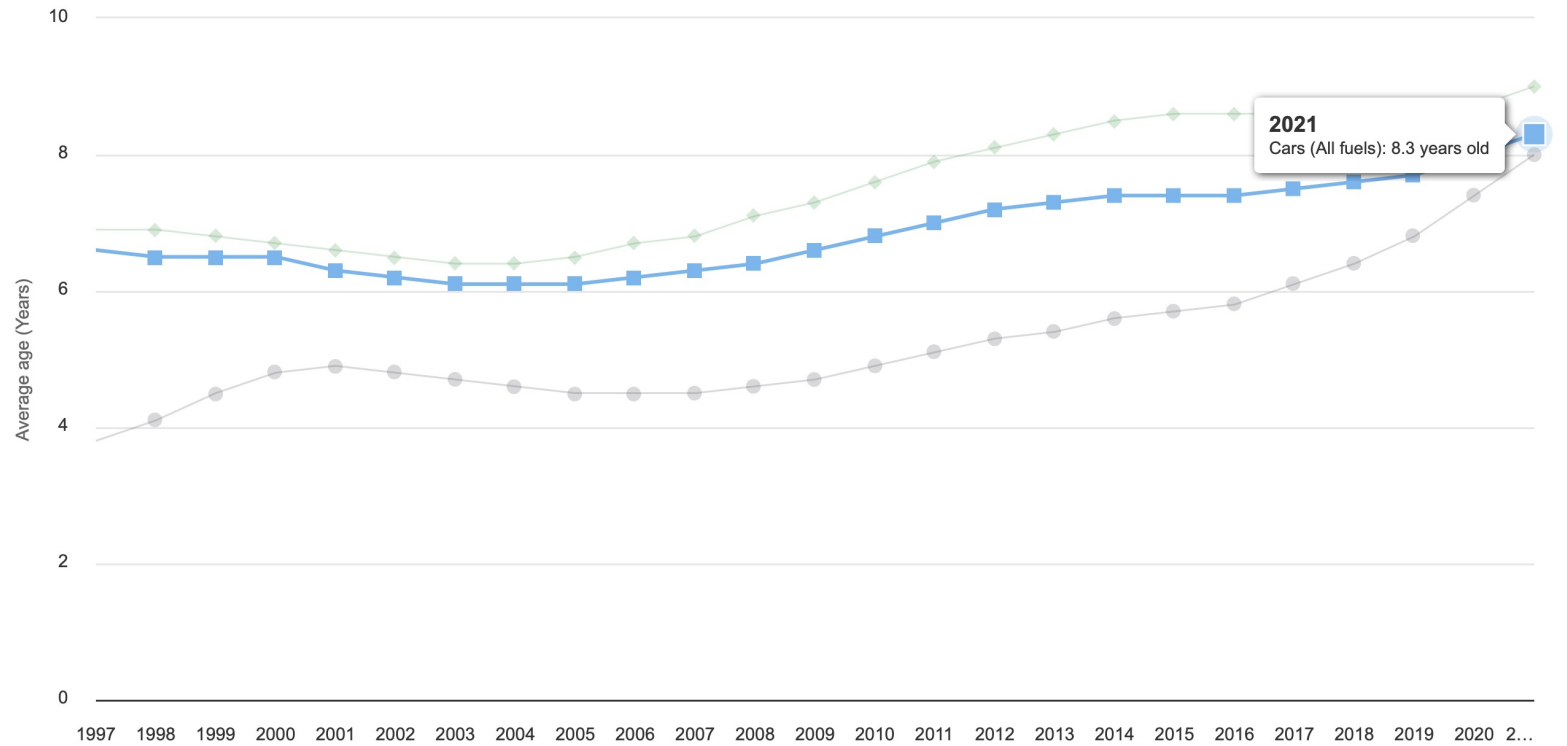
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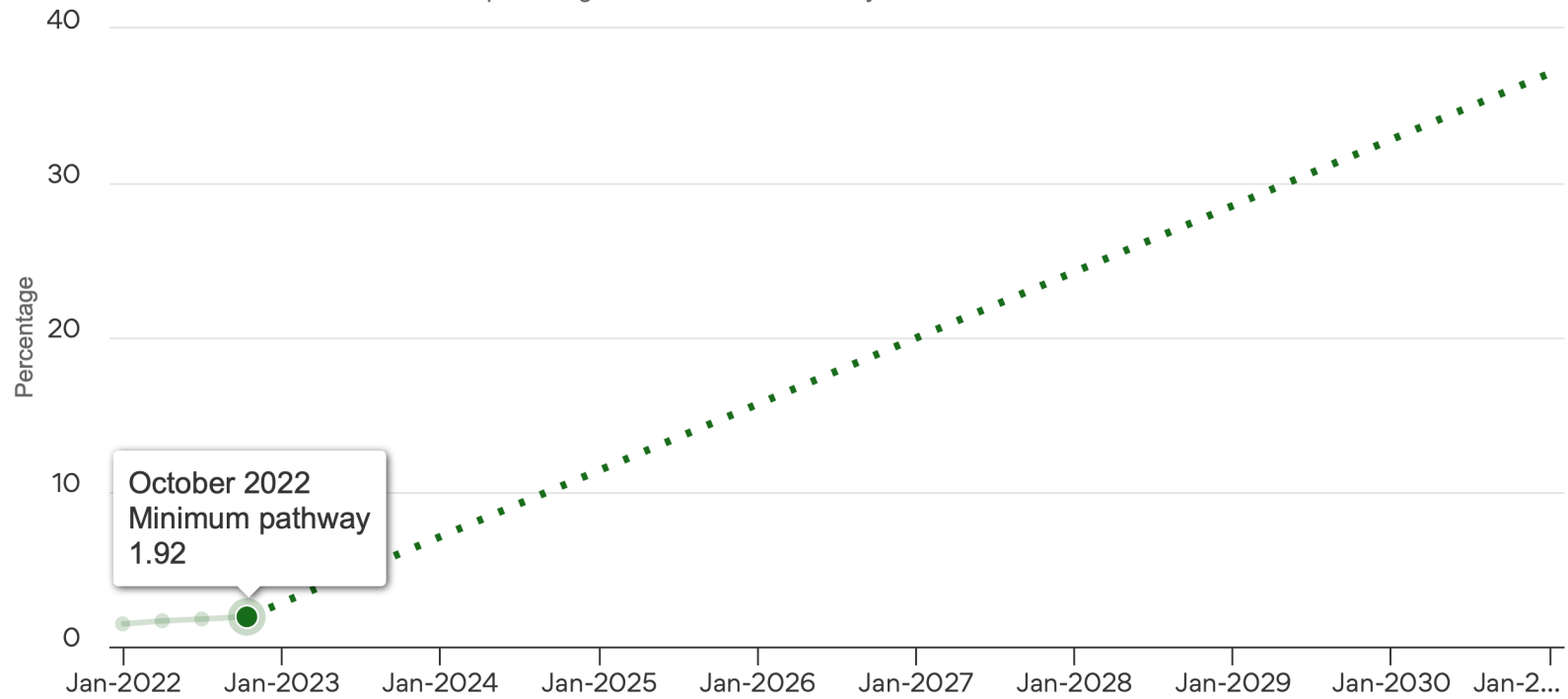
## Average age of cars on the road

GB (pre 2014), UK (2014 to date)



## Green Fleet Index

The percentage of UK car miles driven by Zero Emission Vehicles



Important caveats:

What about the Lines!

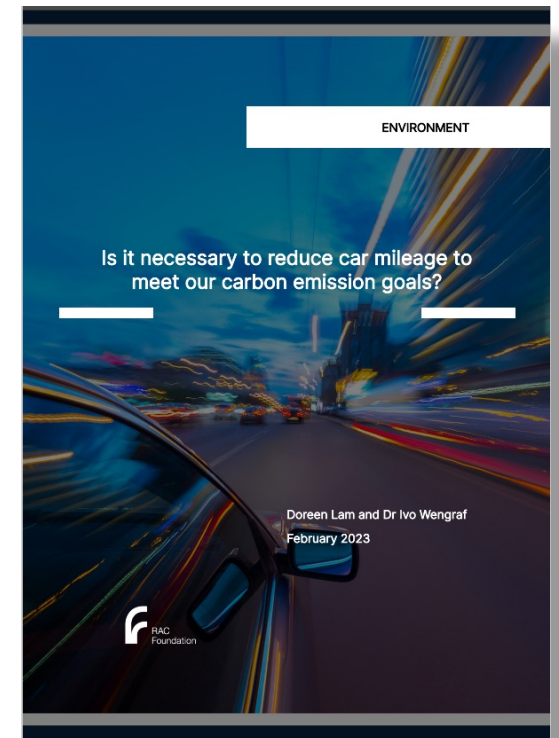
Well, then we need PHEVs!

So, you're saying we need to cut mileage by 37%?

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<https://www.pinterest.co.uk/pin/4744965107362154>