Transport: Light Vehicles - Hydrogen

This lever controls the sub-levers listed in the table, and ambition levels are for the end year shown on the right-hand side.

Light Vehicles refers to cars, vans and light lorries (rigid HGVs). In 2015, almost all the UK's light vehicles were powered by fossil fuels (petrol or diesel) although other lower carbon options, such as hydrogen powered vehicles, were technically feasible. Light vehicles fueled by hydrogen are likely to be powered by fuel cells rather than internal combustion engines.

Hydrogen (H2) powered vehicles, in common with electric vehicles (EVs), have zero emissions at the tailpipe.

However, the challenges for widespread H2 vehicle adoption are the high upfront costs of vehicles and producing enough low-carbon hydrogen of sufficient purity for the fuel cells. A lack of hydrogen refueling infrastructure, including storage (on and off the vehicle), also poses a challenge.

The base year selected is 2015. Four ambition levels are assumed as below.

Key interactions

The carbon intensity of H2 production would need to be significantly reduced for example through carbon capture, in a scenario in which H2 vehicles play a large part in reducing Kenya`s CO2 emissions.

Level 1

Efforts to increase uptake of hydrogen vehicles are abandoned and the share remains at current levels.

Level 2

1% of cars and vans are hydrogen fuelled along with 1% of small lorries.

Level 3

20% of cars and vans are hydrogen fuelled along with 1% of small lorries

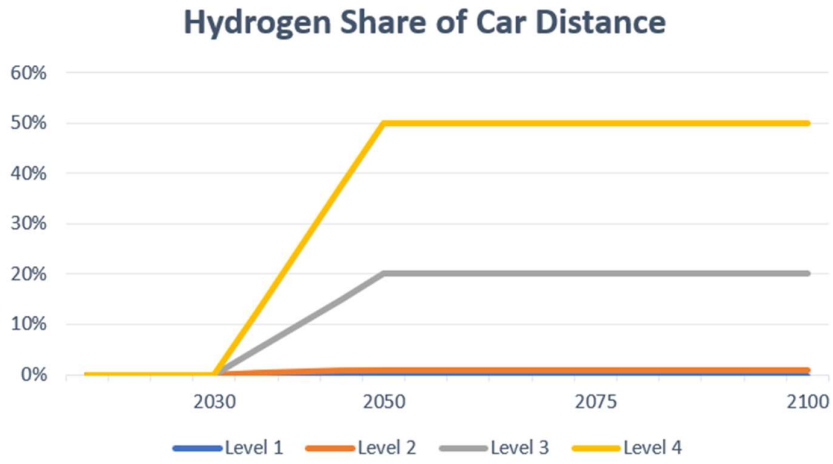
Level 4

Choice for light vehicles. Technological developments, policy and public engagement all align to allow limitations around the carbon intensity of H2 generation, and refuelling network and costs, to be overcome thus allowing a higher adoption of hydrogen fuelled.

Default Timing

Start year: 2020, End year: 2050

Sub-Lever	Units	2015	Level 1	Level 2	Level 3	Level 4
Car	share	0.0000026	0.0	0.01	0.2	0.5
LGV	share	0.0	0.0	0.01	0.2	0.5
HGV Rigid	share	0.0	0.0	0.01	0.1	0.5



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