Transport: Light Vehicles – Hybrid

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 of the UK's light vehicles were powered by fossil fuels (petrol or diesel) although other lower carbon alternatives, such as plug-in hybrid electric vehicles (PHEVs), were available. PHEVs are partly fuelled by a battery which is charged in the same way as in a standard EV, however they also have a secondary power supply in the form of an internal combustion engine (ICE) fuelled by fossil fuel or bio-fuel, which can power the car (or re-charge the battery) when the battery runs out of charge. This gives the vehicle a greater range and hence higher flexibility making it a popular low-carbon light vehicle option at present. However, because the ICE consumes fossil fuel, hybrid vehicles do not have zero emissions at the tail pipe.

Given there are fewer barriers to the consumer, PHEVs could potentially be rolled out faster than EVs or H_2 vehicles. They could also act as a gateway technology as we transition to full EV. However, manufacturers are becoming more supportive of EVs over hybrids.

Key Interaction

Low-carbon electricity must be generated to maximise emissions savings from hybridised transport.

If the combined share of all light vehicles fuel types (electric, hydrogen, PHEV and biofuel) exceeds 100%, the Calculator uses the priority order on the bottom right to determine which levers are applied.

Level 1

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

Level 2

One third of cars and vans are PHEVs along with one fifth of rigid trucks.

Level 3

Two-thirds of cars and vans are PHEVs along with half of rigid trucks.

Level 4

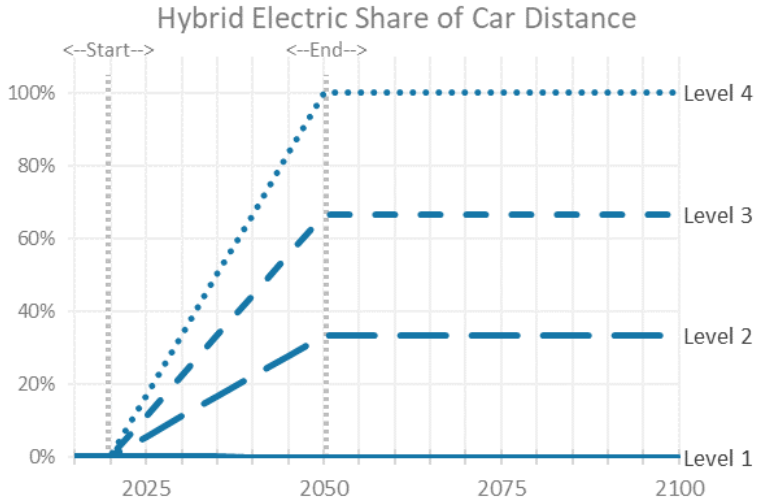
PHEVs become the preferred light vehicle option with all new vehicle sales being PHEVs from 2025 onwards. Technological developments, policy and public engagement all align to allow cost and recharging limitations to be overcome.

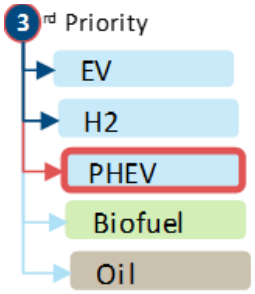
Default Timing

Start year: 2020, End year: 2050

Plug-In Hybrid share of vehicle distance

Sub-Lever	Units	2015	Level 1	Level 2	Level 3	Level 4
Car	share	0%	0%	33%	67%	100%
LGV	share	0%	0%	33%	67%	100%
HGV Rigid	share	0%	0%	20%	50%	100%





Lever Priority

Hybrid vehicles are third in the priority order for cars, vans and light trucks.

Where supply would otherwise exceed demand, measures lower in the priority order will be superseded by those above them. Conventional fossil fuelled vehicles meet any shortfall in demand.