

ULTRA LOW EMISSION VEHICLES – FURTHER INFORMATION

- ULEV models currently available are battery electric vehicle (BEV), Plug-in-Hybrid vehicles (PHEV) or extended-range electric vehicle (E-REV).
- The UK Government defines ULEVs as cars or vans with tailpipe CO₂ emissions of 75 g/km or less. There are four categories of low emission vehicles:

Category	CO ₂ emissions	Zero emission range
1	Under 50g/km	At least 70 miles
2	Under 50g/km	10 to 69 miles
3	50 to 75g/km	At least 20 miles
Van	Under 75g/km	At least 10 miles

The 'zero emission range' is the distance the vehicle can travel without producing any CO₂ emissions.

Battery electric vehicle (BEV or Pure-EV): powered only by electricity, a pure-EV has a larger battery than an E-REV or a plug-in hybrid electric vehicle and does not have an internal combustion engine. They have zero tailpipe emissions as they are fuelled by electricity. All BEV's have an on-board battery to power the electric motor which is used to turn the wheels. This battery is rechargeable and can be plugged into the mains or public charging infrastructure.

Plug-in-Hybrid Vehicles (PHEV) - include both a battery and an internal combustion engine. The battery has a much lower capacity than BEV's and as a result, electric only range is limited. The internal combustion engine is used to drive the wheels at higher speeds and when the battery has been exhausted.

Extended-range electric vehicle (E-REV): Fall between plug-in-hybrids and pure electric vehicles, E-REV's have a plug-in-battery and electric motor similar to those you would find in a battery electric vehicle, as well as an

internal combustion engine which is used to recharge the battery once it has been exhausted. The vehicle can also be recharged from a charge point. The battery in an E-REV battery is usually larger than in a plug-in hybrid electric vehicle, providing longer electrically driven range.

- The promotion of ULEVs serves the aims of:
 - i. Reducing carbon emissions
 - ii. Improving air quality and public health
 - iii. Making the city more attractive
 - iv. Supporting the economy of the region
 - v. Supporting innovation and transformation