



PLATINUM IN HYBRID VEHICLES

Hybrid vehicles have the potential to help European automakers meet stringent new fleet CO₂ emissions standards, avoiding heavy fines

A strict new standard for vehicle CO₂ emissions has come into force across Europe. Failure to comply with the new, lower limit, which requires fleet average CO₂ emissions of 95 grams per kilometre or less, will result in heavy fines for automakers.

As a result, automakers are incentivised to promote their more CO₂ efficient models, including hybrid vehicles. Hybrids – especially diesel hybrids – offer improved fuel efficiency (or more miles to the gallon), which means less CO₂ emissions.

On our roads since the 1990s, hybrid vehicles combine a gasoline or diesel engine with an electric motor. There are various categories of hybrid vehicle, with ‘mild’ or ‘full’ hybrids typically characterised by the amount of battery power they have.

Mild hybrid cars use their electric motors to ‘power assist’ during acceleration and cruising to improve fuel efficiency and reduce CO₂ emissions – the electric motor cannot power the car independently. In a full hybrid, both the electric motor and the conventional engine can be used to power the vehicle, either independently or in combination.

In mild and full hybrid vehicles the battery is recharged in a process known as regenerative braking, whereby the engine gearing provides braking effort when the car is slowed down,

converting this energy to charge the battery. These cars have a small, usually 48-volt, battery that is not designed to be separately charged and the driver does not control the transition between battery or engine power.

Plug-in hybrid vehicles also capture energy from regenerative braking but can also be charged separately via an external electrical power source. Here the normal diesel or gasoline engine remains the primary source of power, however it is supplemented by a larger battery that can independently enable the car to be driven in electric mode only, achieving a range of around 30 km. In a plug-in hybrid, the diesel or gasoline engine is the default powertrain once the battery power is depleted.



The Land Rover Evoque petrol and diesel mild hybrid SUV
Credit: VanderWolf Images - stock.adobe.com

What this means for platinum

Diesel could well prove to be an important component of automakers' CO₂ reduction strategies and platinum remains the primary metal in diesel autocatalysis.

Mild hybrid diesel vehicles produce far less CO₂ than equivalent gasoline or even diesel vehicles,

and growth in sales of diesel hybrid models, which are already available, will assist automakers in managing their potential exposure to fines by reducing overall fleet CO₂ emissions. Increased sales of diesel cars (mild hybrid and plug-in mild hybrid) are positive for platinum demand.

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