

### What if electric or plug-in hybrid is not an option?

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**Everybody is talking about going electric, either fully (battery-electric) or partially (plug-in hybrid). Still, electrified powertrains do not fit everyone's profile and neither do they always make sense from a cost perspective.**

So what are the other options you should consider, taking into account that fuel represents a major cost in the TCO (Total Cost of Ownership) calculation and that CO<sub>2</sub> is a factor that can no longer be denied? The answer is rather complex, but mainly depends on the country, the vehicle category and the mileage you're looking at. Let's take a look at CNG vs LPG and diesel vs petrol.

#### **Compressed natural gas (CNG) vs LPG**

Compressed natural gas has a lot going for it. Compared to diesel it can cut fuel bills by up to 40% and it creates less nitrogen oxide (NO<sub>x</sub>) and particulate matter (PM), but it does not offer CO<sub>2</sub> advantages. LPG (liquefied petroleum gas) also offers economic advantages but mainly comes with practical drawbacks. In the case of a CNG vehicle, the fuel tanks are integrated in the car by the manufacturer and hardly take up any cargo space. Also, a CNG vehicle can enter underground car parks, whereas LPG vehicles are often refused.

There are a few things to consider, though. Like LPG, CNG is a fossil fuel. It is estimated that during extraction, transport and storage, about 0.30% of the gas escapes into the atmosphere, contributing to global warming. There is also a non-fossil and carbon-neutral variant, i.e. biogas produced by the natural breakdown of organic material in waste from agriculture, sewage or food, but its quantity in the total gas mix is negligible today.

Whether CNG makes sense from a practical point of view depends on the country. Italy, Sweden, Belgium and Czech Republic have a relatively high number of CNG filling stations, but elsewhere in Europe you may struggle to find one. Finally, the number of available vehicle models with CNG is quite limited, even though VW Group has been expanding its offer, from the Seat Mii all the way to the Audi A5 Sportback. As to LPG, the OEM offer is mainly limited to low-budget models, such as Dacia.

### **Petrol vs diesel**

Choosing the right powertrain for your fleet used to be easy: in 99% of cases the answer was diesel. A lot has changed since 2015, though. Large cities threatening with diesel bans, a general distrust from the consumer side and a political debate fuelled by emotion rather than rationality has made many buyers switch from diesel to petrol.

Because fuel represents a big portion of the TCO, switching to petrol is not always a good decision. Petrol cars also emit more CO<sub>2</sub> and they are not necessarily cleaner than their diesel counterparts.

It is important to make a distinction between pre-Euro 6d-temp diesels (built until 2018) and the ones that do comply with Euro 6d-temp or even Euro 6d. The difference is that the latter category has been road-tested to ensure their NO<sub>x</sub> and PM emissions are within legal limits in real-world conditions. That was indeed the issue with older diesels: they only complied with the standards in lab conditions, but exceeded the norm tens, even hundreds of times on the road.

Independent road tests by the German ADAC and Air Alliance now prove that NO<sub>x</sub> levels of the latest Euro 6d-temp and Euro 6d diesels are reassuringly low, tackling the argument that diesels pollute more than petrol cars. As such, they still deserve a place in fleets – albeit in fewer numbers than before – especially with actual CO<sub>2</sub> emissions in mind.

In the C-segment (Ford Focus, Peugeot 308, VW Golf), long-distance drivers are still better off with a 'd', 'TDI' or 'HDI'. In the D segment or above (from the Alfa Romeo Giulia all the way to the Volvo XC90), diesel powertrains even make economic and ecological sense for medium-heavy users because they cope better with weight and drag than petrol.

Rationally speaking, diesel still deserves a place in fleets, but you should not forget that in the next years, some large cities will introduce diesel bans. If the employees need to enter the city with their vehicle, opting for a diesel today may compromise business continuity.

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