

GO
TCO

The true cost of
an EV will positively
surprise you.

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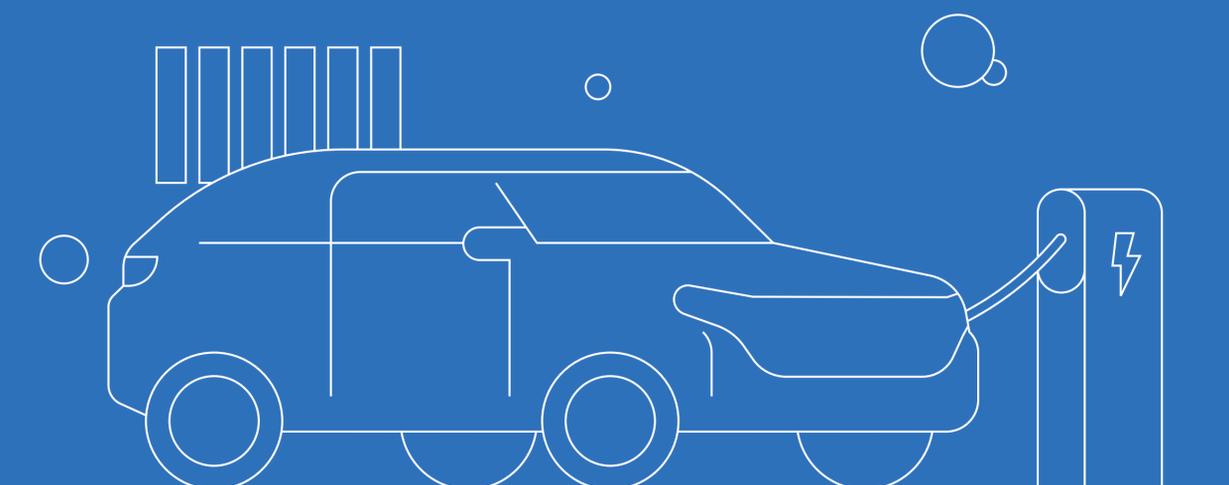
Is electric expensive? A clearer answer through Total Cost of Ownership

There have always been numerous factors to take into consideration when choosing fleet vehicles. Fuel consumption and initial spend were once primary concerns. But it would be fair to say times have changed. Corporate Social Responsibility, global warming and environmental concerns all dictate the need to reduce CO2 emissions. And electric vehicles (EVs) provide the means to do so.

There's no doubting electric vehicles are the future. EVs offer a smoother ride. They're fun to drive. They have instant torque, operate silently and you don't have gear changes anymore. And, in times of climate change and global warming, EVs are the better choice.

There are a lot of EVs out there and new EV models being released all the time. Different makes, different models, EVs that will pull caravans and boats, nine-seater behemoths and speedy little city cars. In the upper segment, there's almost no reason not to drive fully electric.

EVs still appear to be quite expensive. EVs may have price tags that are higher than those on traditional petrol- or diesel-powered vehicles. There's no denying the influence of costs on a decision. But the true cost of an EV is not on the price tag. Instead, you need to look at the TCO: the Total Cost of Ownership.



What is TCO?

The Total Cost of Ownership includes all predictable costs. For an EV, there are a number of different building blocks that make up the TCO.

TCO building blocks

- The initial investment;
- The cost of maintenance & repairs;
- Tyre costs;
- Residual value;
- Energy & fuel costs;
- Taxes, subsidies and incentives.

The initial investment

There's no denying it: for a similar vehicle the price tag on an EV is higher than on a traditional vehicle. At the same time, there's no denying that the disparity in the costs of the two vehicle types has decreased dramatically. And as EVs become increasingly popular, the prices are likely to move closer and closer to those of traditional vehicles. When assessing the initial investment, we recommend you also look at costs associated with financing and of course, your insurance costs.

The cost of maintenance & repairs

This is a win for EVs. As they have electric motors, EVs have fewer components and moving parts. This means less friction, less wear and tear and most importantly, fewer things that could go wrong. Your maintenance costs are therefore lower, as is your downtime.

Tyre costs

EVs need different types of tyres than traditional vehicles. They're more expensive and larger; they carry the increased load of the heavy batteries. Plus, EVs transfer torque to the wheels immediately instead of building it up the way you do when you accelerate in a traditional vehicle. This does result in a more enjoyable driving experience. But it's at the cost of your tyres. You'll have to replace your tyres more frequently on an EV than on a traditional car. This is a cost you need to take into account.

At the same time, please note that EV tyres are evolving and improving. However, keeping your EV driving on suitable tyres is likely to remain more expensive for the time being.

Residual value

Although they have become popular, EVs and particularly BEVs are relatively new to the market, and especially the used-car market. This means it is quite difficult to establish the residual value of EVs. However, the market is maturing quite quickly, so insight into the residual value of these vehicles will improve. Take this residual value into account to the best extent possible when determining the TCO.

Energy & fuel costs

Energy and fuel costs will depend on what type of EV you are looking at. There are two distinct types, known as PHEVs and BEVs.

→ PHEVs

PHEVs are Plug-in Hybrid Electric Vehicles. They combine an electric engine that can be charged from an external power source, with a traditional internal combustion engine that runs on petrol or diesel. This means that drivers are able to drive using the electric engine and battery, or to switch to the combustion engine. This is particularly important as the electric motor in a PHEV has a relatively limited driving range. Nowadays, you should expect a PHEV to cover a minimum distance of 40 km and as much as 90 km, running solely on electricity, without a recharge. But run on fuel and electric and you'll see incredible performance—the best performers use just 2 l of fuel to travel 100 km. Depending on the size of the fuel tank,

you're able to travel long distances without stopping to refuel or recharge.

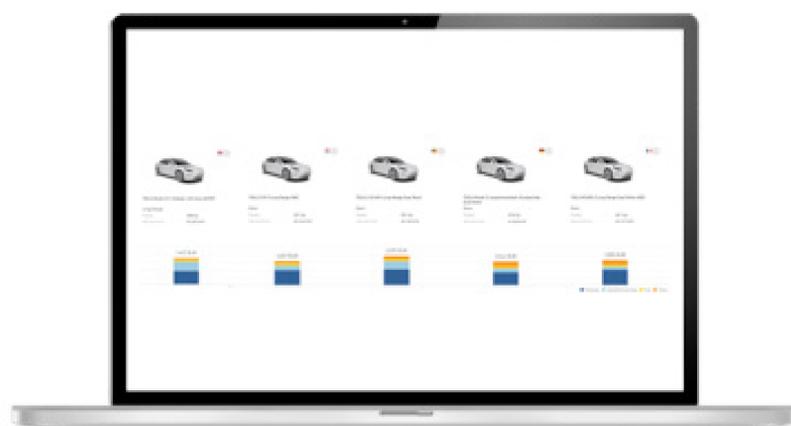
The idea is to avoid using the combustion engine as much as possible. It is important to examine driver behaviour to determine how often a PHEV will run on fuel and electric. Ideally, a PHEV will run on the electric motor approximately 80% of the time. Using the electric motor 40% of the time, the CO₂ emissions are at the same level as for a traditional car. If your employee is not likely to use the electric motor and run solely on the combustion engine, there's no real benefit to driving a PHEV.

→ BEVs

A BEV is a Battery Electric Vehicle, also known as a Pure Electric Vehicle or All Electric Vehicle. A BEV exclusively uses chemical energy stored in rechargeable battery packs. This means that, unlike a PHEV, a BEV has no secondary means of propulsion; the battery must have charge for the vehicle to drive. The driving range of BEVs has increased significantly in recent times. At present, there are BEVs that will cover distances of up to 600 km on a single charge.

Good to know

[Simulate the TCO in one click via the TCO simulator on Athlon.com.](#)



Establishing the TCO means working out the costs of charging a PHEV or a BEV. And these costs will depend on where the vehicle is charged. Typically, there are three different places that they are likely to be charged. These all have a different impact on the TCO.

Public charging

Increasingly large networks of charging stations are now open to the public. Oil companies are becoming involved too, setting up charging facilities at petrol stations. They are often set up in places where it's convenient to stop, encouraging drivers to charge while they grab a morning coffee or do a bit of shopping after work. And this is convenient; the technology has advanced in leaps and bounds, so in just ten to fifteen minutes of charging, High Power Charging (HPC) technology will give an EV enough power to drive another 100 km. This also means public charging stations are an excellent resource for employees going on vacation or driving long distances to visit clients. Outside of these situations, it's best to use these public charging stations sparingly: they are not cheap. On a standard four-year, 120,000 km contract, exclusive use of public charging will cost approximately €200/month. Over the length of the contract, this adds up to approximately €9,600. For this reason, it is advisable to address the use of public charging stations in the company vehicle policy and to encourage employees to use cheaper alternatives.

Charging at work

The best alternative is often to charge at the office or place of work. The costs of the electricity are usually lower there than anywhere else. And as the EVs in your fleet are sitting there from 9 to 5, there's plenty of opportunity for them to charge.

However, there are still certain questions you need to take into consideration. You may wonder how many charging stations to install. This will depend on the number of vehicles you expect to have charging there, not just now, but in years to come. You'll also want to think about the demands it will place on the power grid and electrical capacity of your building. You may also need to think about how often your employees are likely to work at the actual office, particularly if your company encourages teleworking. Our recommendation is to speak to the experts before making decisions in relation to this.

Home charging

One way to reduce the strain on the office and to recognise your teleworking policy is to encourage employees to charge at home or in the street by their homes. The cost of the electricity is slightly higher than at the office, but not excessively so. Home charging will also require infrastructure and result in an increased electricity bill, both considerations we cover below.

Infrastructure

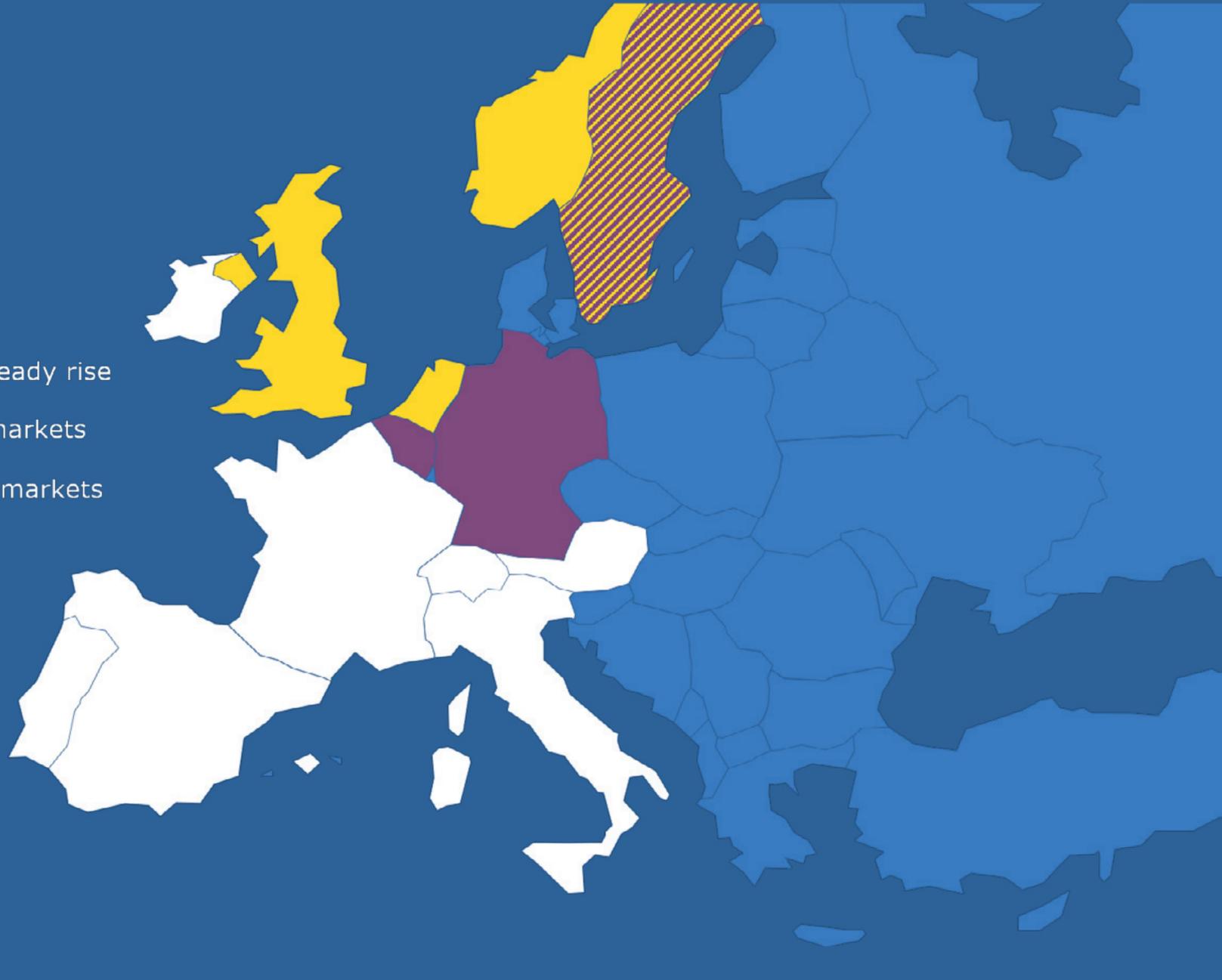
If you encourage charging at home or work, you'll have to take infrastructure costs into account. Do you install chargers just at work or at the homes of employees? At a home, it serves one employee, whereas infrastructure at work has the potential to serve several employees. Does your car policy demand a specific approach? Is it better to offer both options? How far away do your employees live from work?

Of course, as business expenses, the charging facilities are able to be claimed. When companies first invested in EVs, many of them companies tended to write off the costs of charging facilities over four years, the standard length of a lease contract. But this is not necessarily the best approach. It's not likely that you will remove the charging station after this period, nor is it likely that you'll stop using EVs and return to traditional cars. For these reasons, it may be more beneficial to write off the costs over a longer period.

Paying the electricity bill

When your employees charge at home, the charging facilities keep track of how much electricity has been used for charging. This is usually to be paid back by the company. Most companies include it in the TCO. But would you include the costs of charging at work? The majority of companies tend not to. The decision is yours.



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- PHEV/BEV on a steady rise
- BEV fast growth markets
- PHEV fast growth markets
- The map shows Europe with various regions highlighted. The United Kingdom, Ireland, and parts of Scandinavia are colored yellow, indicating BEV fast growth markets. A large area in Eastern Europe, including Poland and the Czech Republic, is colored maroon, indicating PHEV fast growth markets. France, Germany, Italy, and Spain are white, indicating PHEV/BEV on a steady rise. A hatched area in Northern Europe, likely Sweden, is also visible.

Tailor your
approach to every
specific European
market.

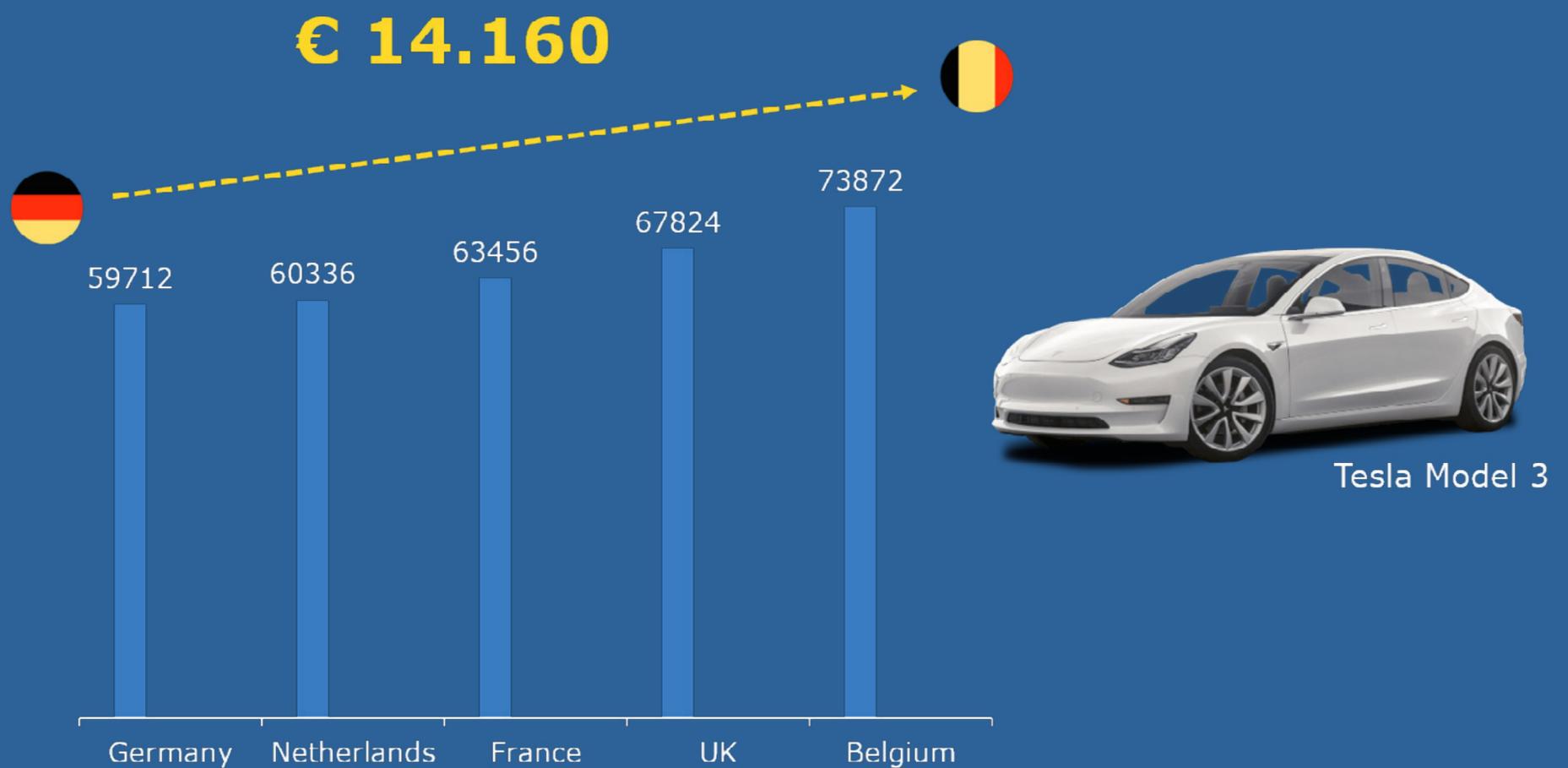
Taxes, subsidies and incentives

Taxes, subsidies and other incentives are vitally important. They vary from region to region, but typically have a sizeable impact on TCO. And not just for your EVs. Many countries have introduced taxes on CO2 emissions. You'll need to take them into account in establishing the TCO of a traditional vehicle, just as you take subsidies, rebates and incentives into account in calculating the TCO of an EV.

→ Local subsidies

Like taxes, subsidies, rebates and incentives vary widely at local levels. This creates a push or pull effect in different EU markets. For example, Germany and the Netherlands offer excellent incentives that have a sizeable fiscal impact. Exactly how big is it?

Let's look at the costs for a Tesla Model 3, on a standard contract (48 months with 120,000 km), including all services and national incentives, with 70% home charging, 20% office charging and 10% charging elsewhere. The total TCO differs between Germany, the cheapest country, and Belgium, the most expensive, by a 14,160 euro.



Contract details:

48 months / 120.000kms (incl. all services & national incentives)
70% home charging 20% office and 10% public

→ Driver incentives

This isn't the end of the story. The amount drivers are required to contribute to the costs of a vehicle vary from country to country, and will vary over time. You'll need to take these incentives or costs into account for one simple reason: your drivers will be.

In Germany, the TCO paid by the company for a PHEV is 501 euro higher than for a BEV. Reason for a company to change. But the difference to the taxes the employee has to pay, 13 euro, is negligible. On this basis, and with all the related uncertainty, the employee is more likely to go with what they know: the PHEV. This preference is demonstrated by the figures for the German market where the number of PHEVs is growing fast.

However, in the Netherlands, there is a substantial difference in the tax contributions that an employee needs to pay: a BEV is 260 euro cheaper. Unsurprisingly, there is a preference for the BEV in the Dutch market.



Mercedes-Benz GLE PHEV



Mercedes-Benz EQC BEV

TCO Company	€ 2103
Taxes Employee	€ 176



TCO Company	€ 1602
Taxes Employee	€ 163

Small price difference for the employee, so cost is a low incentive to go BEV

Contract details: 48 months / 120.000kms (incl. all services & national incentives) 70% home charging 20% office and 10% public



BMW X5 PHEV



Audi E-Tron BEV

TCO Company	€ 1850
Taxes Employee	€ 760



TCO Company	€ 1659
Taxes Employee	€ 500

Employee and company profit from going BEV

Contract details: 48 months / 120.000kms (incl. all services & national incentives) 70% home charging 20% office and 10% public

Driver demands

You need to meet the demands of the drivers. And not just the growing expectation that they will have an EV as a company car. The specifics of these demands will depend on the type of EV the driver chooses.

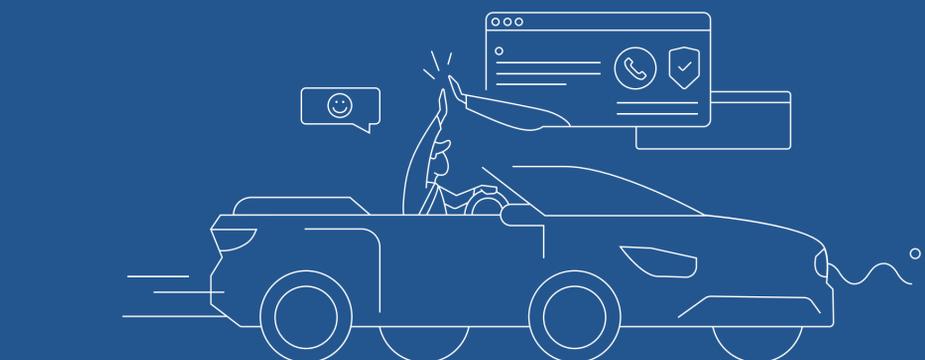
The most important considerations when offering PHEVs:

- **Home charging** possibilities.
- **Office charging** possibilities.
- **Adapted use of the vehicle**—the different mindset in which drivers need to actively pursue the use of electrical driving opportunities by ensuring the vehicle is charged. If your driver is unlikely to do this, a PHEV may not be the most appropriate vehicle for them.
- **A tailored approach**—a one-size-fits-all philosophy will not be adequate.

BEVs are easier from the perspective of CO2 emissions drivers and fuel choice: BEVs only run on battery charge.

The most important considerations when offering BEVs:

- **Pay attention to your car policy.** Adopt clear rules, especially in regards to charging, and more particularly, fast charging.
- Encourage and even offer **incentives** for office charging to keep costs lower.
- Provide as many people as possible with **home charging** facilities to add to the sense of freedom.
- **Avoid or limit high-cost public charging** wherever possible.



TCO made easy

Are you ready to meet these drivers demands? Because they will have a noticeable impact on the success of implementing electric vehicles into your policy. Take them into account when you calculate your TCO. You may be wondering how to do this? Athlon has a **free TCO Simulator**. All the relevant factors are kept up to date to offer you quick, simple and efficient TCO figures for different EVs in different markets. **Our experts gladly support you.**

With so many governments offering subsidies or incentives, with the popularity of EVs and the needs of the environment, there will never be a better time to make the switch. It will benefit you: you will be recognized for environmental concerns, it will make you a more attractive employer and it can also save you money.

What if you're unable to find exactly what you are looking for in an EV? Don't give up. The market is changing rapidly. Ask a fleet leasing company what is going to be available in the next year or so. Based on this information, you might consider temporarily extending contracts for traditional cars. Keep in mind that with so many EVs in production, the market will also soon be competitive enough to drive prices down even further. A short extension to an existing contract may have other benefits. Again, your fleet leasing company should be able to advise you.

Free TCO Simulator

Athlon has developed a TCO Simulator that takes every factor into account. Vehicle make and model, expected mileage, depreciation, fleet size, maintenance, insurance costs plus fuel and/or energy consumption, among others. The TCO Simulator even takes local legislation and regulations into account. Currently available for Belgium, France, Germany, the Netherlands and the UK on www.athlon.com.

Keep in mind that you won't make a full switch to EVs overnight. Plan your strategy. Measure your result. Make your calculations And do it frequently.

The long game

The EV sector is continuously changing. The driving range for electric vehicles is becoming longer and longer with every new car that's introduced. Governments are introducing new incentives. Charging has become considerably faster in a very short period of time. Infrastructure is more readily available, driver expectations and even public expectations are not what they used to be. Keep a close eye on the situation. And adopt your strategy accordingly.

At this point, while there is definite improvement, not all the traditional TCO components are in favour of EVs. Experts expect a point of cost parity with traditional cars will be reached in 2023. This means that without government subsidies or fiscal support, the price of an EV will be comparable to that of a traditional combustion engine vehicle. You'll see a powerful change.

We'll make sure you're ready for it. Athlon will get you there.

In a nutshell



Start
now



Tailored
approach



Do it
together



Measure
your results



Not a one shot
project

The move to an electric fleet is not to be taken lightly. You need an approach that is tailored to your employees, your location and your company, including the goals and long-term vision of your company. You do not need to attempt to do this on your own. Work closely with internal stakeholders and business partners, as well as OEMs and lease providers.

A reliable lease provider like Athlon will know the ins and outs of policy as well as the pros and cons of specific vehicles, and have the must-know information about different markets up to date and at their fingertips. Use their brain power to your advantage.

Athlon can help you in many ways. Even by creating awareness in your company. We will provide you with ideas and even materials to help you keep employees informed and to drum up excitement and positive interest. Making advance efforts in these areas will result in a much easier transition to electric mobility.

We have extensive experience and expertise in mobility solutions and electric vehicle leasing in particular. We can help you achieve your goals.

Let's stay in touch...

...and turn challenges into opportunities
and complexities into simplicities.

With our experience in international fleet management and mobility services, local presence and our partner network you are in good hands. Let us know where you want to go.

Our Athlon experts closely monitor all trends to best advise you. We're just a phone call, click or mail away.

We look forward to getting you there.

Athlon customer

Contact your Account Manager for guidance tailored to your needs.

New to Athlon

Contact our Global Coordination Center via e-mail on gcc@athlon.com.



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