An aerial, top-down view of a large parking lot filled with numerous cars. The cars are arranged in neat rows, receding into the distance. The overall color palette is a muted, dark blue-grey. In the lower-middle section of the image, one car is highlighted in a vibrant green color, standing out from the rest of the monochromatic fleet.

Transport & Environment

Company Car Report

Company Car Report

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1. Introduction

Worldwide, more than 1 billion automobiles have been registered. Of those, approximately 35% belong to businesses. In contrast to private customers, business registrations represent investment rather than consumption, that is, companies expect a return-on-investment. This means that business customers' behaviour and motives differ significantly from those of private buyers.

For more than twenty years, Dataforce has been working toward standardizing, structuring and clarifying both official government and self-generated data to give automotive industry management a dependable basis for decision-making. Our slogan "We Count Cars" emphasizes the importance of accurate quantitative measurement of the entire population, allowing Dataforce the opportunity to deliver worldwide registration figures from which dependable, on-going analyses and prognoses are developed.

Given today's ecological challenges affecting business mobility, we believe that corporate clients, in particular, can contribute solutions. How? Due to the manageability of their numbers, even with their responsibility for a considerable number of vehicles. Here we can discern trends early and in detail, that may point the way forward for the entire market.

Therefore, we believe that the commercial channel and their clients are the key to the further development of mobility. We believe that better information improves decisions, necessary for a better future. This assertion expresses at once our present mission and outlook for the years ahead.

2. Project objectives

2.1. Objectives

The objectives stated in the commission of this report were to provide data and put together a report concerning Corporate/Commercial registrations across Europe and in key member states, with the Corporate/Commercial channel defined as including True Fleet, Rental & OEM. The aim being to understand its composition, drivers that influence the choice of cars and the policies and measures that can accelerate EV adoption.

2.2. Structure

The report was split into four key parts, these parts were defined by Transport & Environment and involved multiple questions surrounding the chosen main topics as defined below.

Part 1: Company Cars

Part 2: Public Finances, Taxation

Part 3: Powertrain Composition

Part 4: Leasing Companies & Top 10 Companies

3. Composition of report

3.1. Part 1 - Company Cars

This part will answer the following questions.

- What was the share of company cars (for professional and private use) as % of new sales EU-wide in 2015-2019?
- What are the national new sales shares of company cars in: Germany, France and the UK respectively?
- What are the national new sales shares of company cars in: the Netherlands, Belgium, and Poland respectively?
- What are the national new sales shares of company cars in: Spain and Italy respectively?

3.2. Part 2 - Public Finances, Taxation

This part will answer the following questions.

- What was the cost to public finances (tax rebates & subsidies) EU-wide and in the selected member states (MS) of the company cars in 2019?
- Please calculate the difference between the (tax) revenue brought by the company car fleet over 2019 and how much revenue it would have meant to the government in the absence of tax advantages EU-wide and in the selected MS? (Same MS states as listed in WP1 apply)
- In the selected MS, what are the incentives and tax advantages to promote ZLEV models in the company car market? Please separate into advantages on the employee's side (e.g. benefit in kind) and the employer's side (e.g. deducted VAT, amortization).
- Do the tax advantages distinguish between zero emission (BEV & FCEV) and low emission (PHEV) vehicles, and if so - what are the differences?
- Are there any measures or monitoring of how PHEV are used (in electric mode, charging, etc.)?

3.3. Part 3 – Powertrain Composition

This part will answer the following questions.

- What was the powertrain composition (diesel, petrol, battery electric (BEV), plug-in hybrid (PHEV), hybrid (HEV), natural gas, fuel cell (FCEV) or other) of the company car fleet in 2019?
- How has the share of zero and low emission (ZLEV) models (under 50g: BEV, PHEV & FCEV) evolved since 2015 EU-wide and in the selected markets? (Same MS states as listed in WP1 apply)
- What is the annual mileage of these cars by powertrain (for PHEV if available divide between electric and charge sustaining mode)?
- Please separate the technologies by segment and the share of EVs in each segment & provide their mileage?

3.4. Part 4 - Leasing Companies & 10 Large European Company Fleets

3.4.1. Sub-segment - Leasing

- Who are the 10 largest lease companies (true fleet) in Europe?
- What was the powertrain composition of their fleet in 2019? How has it evolved since 2015?
- Have any of them set targets or voluntary commitments for the share of ZLEV?
- Who are the shareholders of the 10 largest lease companies in Europe?
- What was the revenue and net income of the 10 largest lease companies in 2019?
- How do the 10 largest lease companies finance their fleet (i.e. is it via loans or direct purchase from manufacturers)? Fact sheets are to be provided
- Second-hand market: What are the policies/plans for vehicles once leasing companies are finished with them?

3.4.2. Sub-segment - Large Fleets

- What were 10 very large fleets and their most popular company car models in 2019?
- What was the powertrain composition of 10 very large fleets in 2019?
- What were their sales in absolute numbers in 2019 and how are they split among the largest companies as identified above?
- What were their 5 most popular EV models in 2019?
- What were the 10 most popular company car models in 2019?
- What were their sales in absolute numbers in 2019 and how are they split among the largest companies as identified above?
- What were the 5 most popular EV models in 2019 and what was on average the annual mileage of each of these models?

4. Report Results

5. Introduction – Company Car Report

To enable us to be able to answer the questions that will follow it is beneficial to once again define and introduce the Commercial/Corporate channel it segments and sub-segments. This is important to establish, as these segments and sub-segments can and are influenced by a varied range of factors. Some examples would include, company car legislation/tax, tourism, the car manufacturers – especially in their home markets – and even the maturity of the fleet market itself.

The four main aggregations of the Commercial/Corporate channel consist of True Fleets, Rent-a-car (RAC) or Short-term rentals (STR), Dealerships and the Manufacturers (OEMs). There are many further subsegments in the Commercial/Corporate channel such as Leasing & Long-Term Rental (LTR) or Public administration. There are also a couple of specific sub-segments from certain markets with a reasonable volume of registrations which should also be mentioned such as “Transit Temporaire” from the French market or “Motability” from the UK market.

- RAC/STR – All registrations made by rental car companies regardless of size of company or size of their car parc.
- Dealer – All registration made against dealerships i.e. Demo’s, service loan cars, one day registrations, 0km registrations/pre-registered/cyber cars etc.
- Manufacturer – All registrations made by the Manufacturer/OEM against themselves, predominately made up of employee car schemes but also utilised for other purposes.
- True Fleets – All registrations that are not identified by any of the above sub-segment criteria. This channel includes such sub-segments as Emergency services, Public administration, Leasing and Long-term rentals etc.

The Company car has come a long way from just being a perk of the executive, tool of the trade for salesman or official administrative purpose vehicle. It has now become for some an integral part of their work contract and is seen as an extremely viable way to either entice or retain staff for businesses.

Since 2007 - pre global financial crisis - taking the currently largest commercial registration markets of the EU-8, we see the share of commercial registrations has grown significantly. From 47.7% in 2007 to 56.4% by the end of 2019, this almost 9% growth has tilted the balance of those combined markets from what has historically been a Private majority to that of a Commercial one.

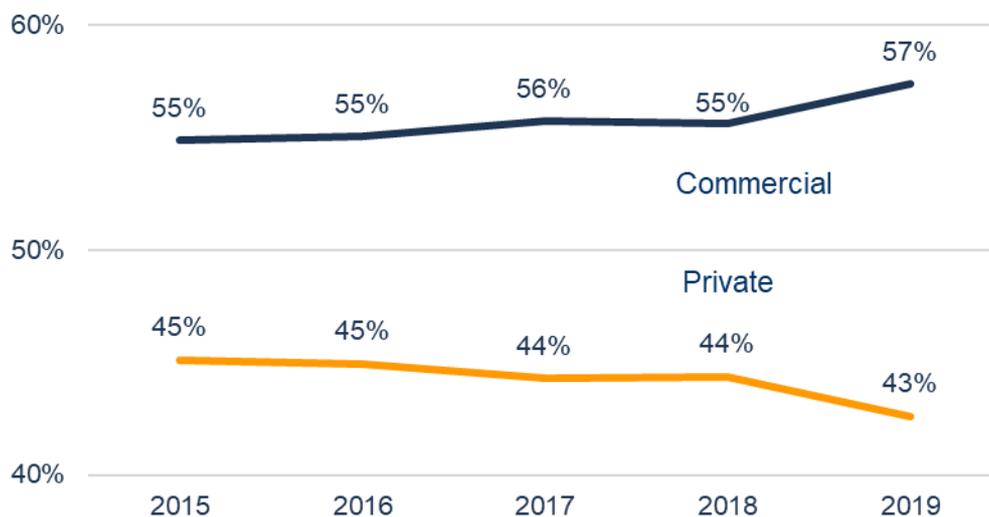
5.1. Results – Part1 – Company Cars – EU-27+UK ¹

What was the share of Company/Commercial cars (for professional and private use) as % of new sales EU-wide in 2015-2019?

From the assessment of the data surrounding the Company car registrations for the EU-27+UK¹ we can see a gradual increase in the use of these cars. However, from a country to country view we can see vast differences from one to another. Indicating there are countries which are more actively contributing to this change in the market segment balance.

We believe there are several indicators that point toward this increase, the use of company cars as an incentive to retain staff, the increasing popularity and influx of leasing and long-term rental contracts, are a couple of these. The favourable interest rates seen since the recovery from the Global Financial Crisis have also contributed to help fuel this increase.

Development Market Segments 2015-2019



¹ The EU-27+UK would include all European Member states and the United Kingdom apart from Malta & Bulgaria.

Consumers also have been enticed away from the private market by the increasing simplicity and availability of bundled solutions (i.e. Insurance, Car Maintenance, Fuel Cards, along with the vehicle) being provided by the leasing companies and category managers of large corporations. While perhaps in fewer numbers even the small and medium enterprise businesses are utilising these offerings.

Another influence has likely been consumers' awareness of the rapid increase, availability and advances in technology within the automotive industry. Company cars, Leasing or Long-term rental contracts are shorter than the average private vehicle ownership cycle are therefore able to provide these advances with a more frequent cadence. Further satisfying drivers demand for the technology that in some instances could otherwise be out of reach.

Companies themselves are also looking to provide the safest and most up to date solutions to their drivers, with the safety agenda certainly becoming more prominent on company car policy. Advancements in fuel economy for Pure Internal Combustion Engine (ICE) powertrains have also lowered companies fuel cost outlay, even more so from those with Battery Electric Vehicles (BEVs) or Plug-In Hybrid Vehicles (PHEVs) and as more of these companies are signing up to carbon neutral targets there is clearly a swing into more environmentally friendly fuel options.

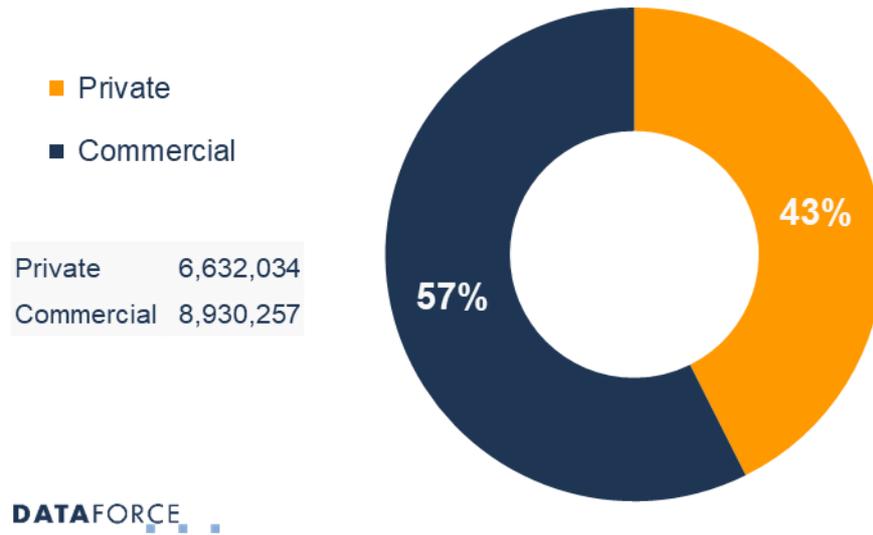
2019 brought a record year in new car Commercial registrations for the EU-27+UK² with over 8.9 million new cars registered and entering into the market. Whilst the current Covid-19 pandemic has called a swift halt to that volume being breached in 2020 it is worth noting that the share of commercial registrations remains the same at around 57% (as of Apr 2020 data).

While the Covid-19 crisis has severely affected the volume of new car registrations and the whole Automotive industry, we believe that it will be the commercial registrations that will likely be the quickest to recover. In part our assumption here is based on the short lifecycle nature of the company car market but also on the backing from various European governments and their need to help the automotive

² The EU-27+UK would include all European Member states and the United Kingdom apart from Malta & Bulgaria.

industry survive this crisis. In Germany alone Automotive retail was worth 426 billion in total sales for 2018³.

Full year 2019: split by Market Segments



³ https://www.statista.com/topics/3202/automobile-industry-in-germany/#dossierSummary_chapter1

4.1.2. Key take-outs

Europe currently registers more passenger cars in the Commercial market channel than in the Private channel

From 2015 the Commercial vs Private gap has continued to widen with the sub-segments of Leasing & Long-term Rental and Dealer registrations showing the largest gains in share

With the Commercial/Corporate sector on a more regimented cycle we predict the Corona pandemic to have a lessor effect than what is likely to be seen in the Private channel

5.2. Results – Part 1 – Company Cars – Germany, France and the UK

What are the national new sales shares of company cars in: Germany, France and the UK respectively?

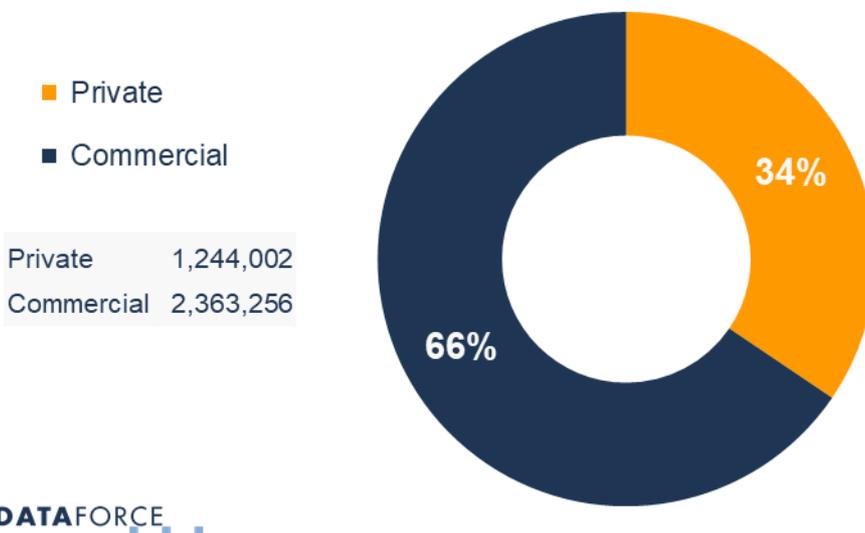
As the largest consumer of New Car registrations in the EU and the number one consumer for Commercial registrations, Germany, is certainly the lead market for Europe. They are followed by the UK market and then France, but the German dominance of the commercial registrations is significant.

Expanding by over 250,000 registrations since 2015 the difference between the top two has expanded to over 1,000,000 registrations in 2019 as a result of the diminishing figures coming from the UK since 2016. The French market's commercial registrations, like Germany's, have been on the rise since 2015 and in 2019 France registered over 1,200,000 vehicles, their highest number since our records began in 2004. This growth has now brought the French market extremely close to overtaking the UK to become the 2nd largest market behind Germany.

5.2.1. Germany

The German market has seen both up and down movement for the Private and Commercial segments, but movement has been minimal and remained on a relatively even baseline, with 2019 moving up by 2% points to 66%. With Germany being the home base of several vehicle manufacturers, it is possibly no surprise that the German commercial market percentage is higher than the EU-27+UK⁴ average and is also the market with the highest percentage share of Dealership & Manufacturer registrations within Europe.

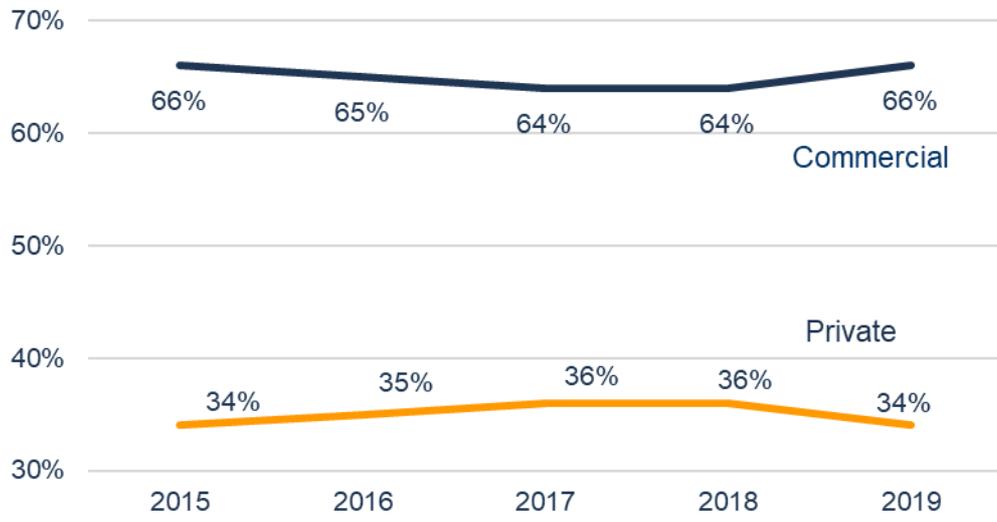
Full year 2019: split by Market Segments



The commercial channel in Germany has remained on a relatively even keel with a 1-2% expansion or contraction since 2015. While the increase in registrations since 2015 has certainly seen more registrations coming from the sub-segment of Dealership and Manufacturer, as you might expect given the home-based manufacturers present and having the market with Europe’s highest share of these registrations. However, this tactical channel has been outshone by the development from the True Fleet channel, which since 2015 figures has seen a 19% uplift.

⁴ The EU-27+UK would include all European Member states and the United Kingdom apart from Malta & Bulgaria.

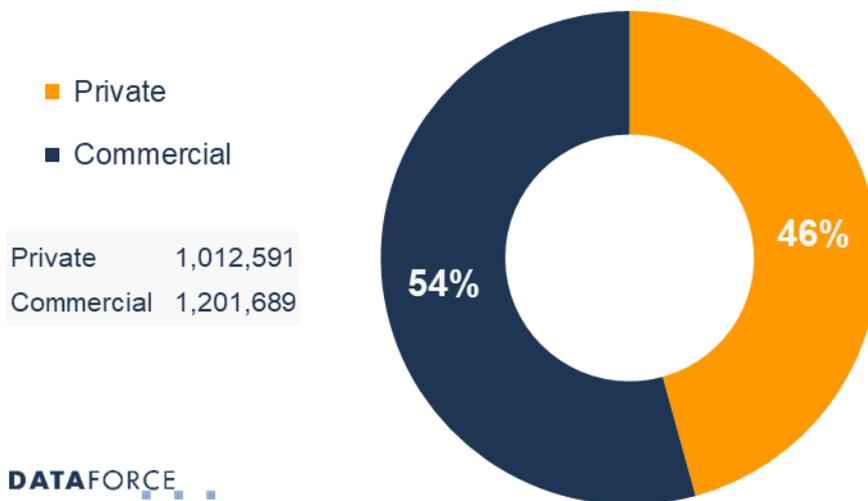
Development Market Segments 2015-2019



5.2.2. France

The share of 54% for Commercial registrations in France is around three percentage points below the average from the EU-27+UK⁵ markets for 2019. In 2019 France achieved a record year for commercial registrations narrowing the gap between them and the UK as the 2nd and 3rd largest commercial registration markets.

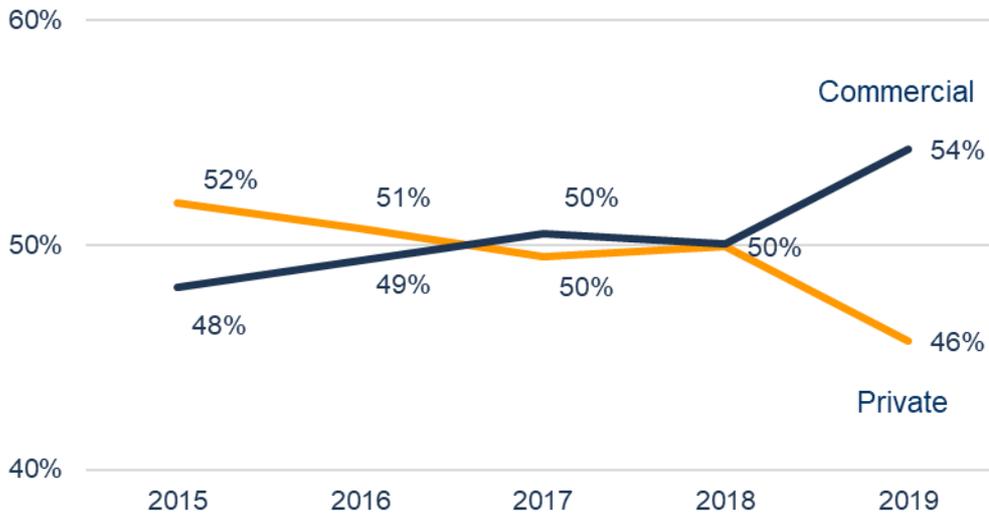
Full year 2019: split by Market Segments



Since 2015 Commercial registrations from the French market have seen a six-percentage point lift and in 2017 we see the balance shift from a historically dominant private market in favour of commercial registrations. The market growth has certainly been helped by a strong domestic automotive industry in France (PSA Group, Renault). While True Fleets share of registrations in 2019 increased by 2.53% over 2018. It is also important to note that the volume of registrations on Dealer & Manufacturer in France is currently the second highest in Europe (behind Germany) and in 2019 there was also a 1.67% increase of share for this, some would say, tactical segment.

⁵ The EU-27+UK would include all European Member states and the United Kingdom apart from Malta & Bulgaria.

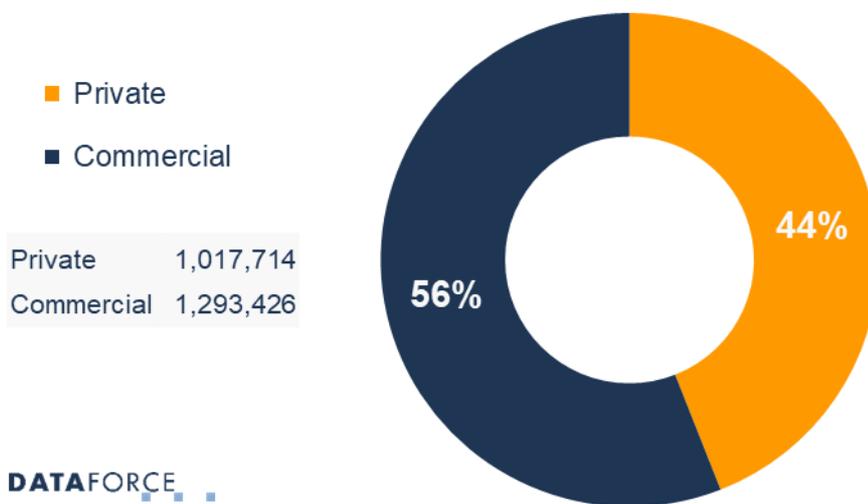
Development Market Segments 2015-2019



5.2.3. UK

The UK market had a strong Commercial share of 56% in 2019, just 1 percentage lower than the EU-27+UK⁶ average. Since 2004 the commercial registrations of the UK market have always had a dominance except in 2009 when the impact of the Global financial crisis could be seen, and commercial registration contracted by 20.9% in comparison to its 2008 total.

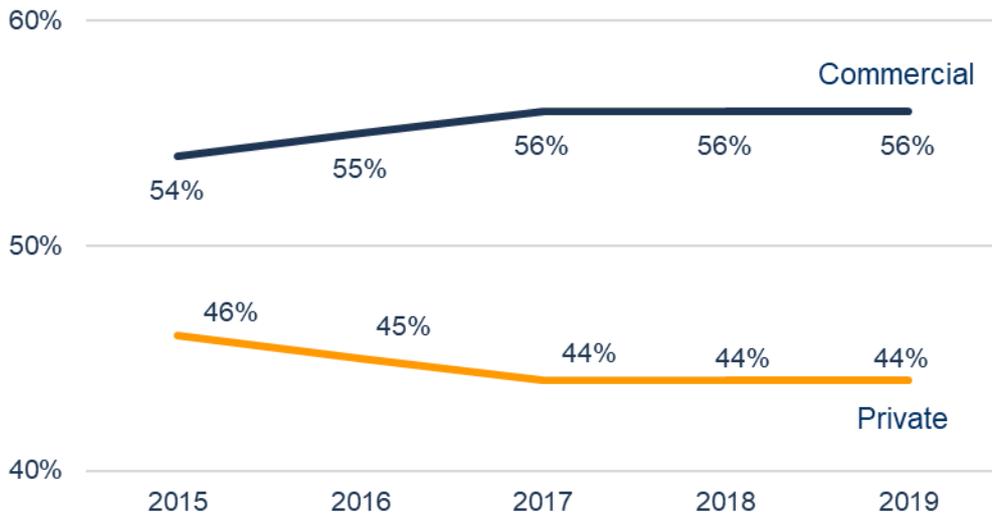
Full year 2019: split by Market Segments



Despite having its own domestic automotive industry and while still being the second largest market in Europe the UK market does not carry a similar heavy reliance on Dealer & Manufacturer registrations, as seen in Germany or France. While it remains behind Germany in terms of absolute volume, as it has done for many years, the volume decrease seen in the UK over the last three years has significantly narrowed its gap over the third and fourth placed French and Italian markets.

⁶ The EU-27+UK would include all European Member states and the United Kingdom apart from Malta & Bulgaria.

Development Market Segments 2015-2019



However, the share of Commercial registrations in the UK has continued to grow despite the overall market contracting since 2016. This decline in volume for the UK Automotive market between 2016-2019 can likely be attributed to the on-going political uncertainty and market trepidation which surrounded Brexit and the decision to leave the EU. But also, perhaps a dulling of its own domestic automotive industry with the previous power houses of Ford, Vauxhall (Opel) becoming less of a dominating influence on the commercial registrations in the UK.

5.2.4. Key take-outs from Germany, France and the UK

Germany is the dominating market in terms of Commercial (True Fleet, RAC, Dealer & Manufacturer) registration volumes within Europe

France had a very good growth year in terms of Commercial registrations for 2019

The UK market commercial registration shares have continued to grow despite a decline in the overall market registrations since 2016

These top 3 markets account for 53% of all Commercial registrations volume for the EU-30

5.3. Results – Part 1 – Company Cars – The Netherlands, Belgium and Poland

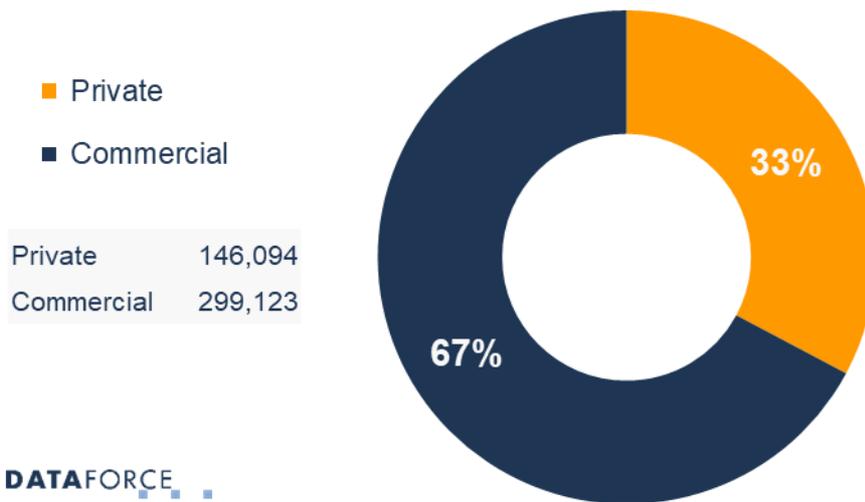
What are the national new sales shares of company cars in: the Netherlands, Belgium, and Poland respectively?

Since 2015 both Belgium and Poland have shown progressive growth in the company car market, while for the Netherlands this has been on the increase since 2016. Within this timeframe Poland has moved from 8th largest commercial registration market to 6th with a phenomenal growth. Moving from 231,000 registrations in 2015 to almost 393,000 registrations in 2019. Belgium's growth while not as large has still shown increasingly significant jumps apart from a slight plateau between 2017 and 2018 and have moved from 263,000 to 317,000 between 2015 and 2019. While any change in taxation affects all markets and their registrations it was acutely visible in the Netherlands between 2015 and 2016 as a surge of registrations were seen at the end of 2015, with 2016 purchases brought forward to take advantage of favourable rates and a subsequent dip in registrations for 2016 as a result.

5.3.1. Netherlands

The Netherlands could well be considered the origin country of modern-day car leasing, and the market at one stage had thousands of leasing companies, with practically every dealership having its own. The Netherlands in 2019 has a 67% share of commercial registrations placing it firmly above the average for Europe (57%) and in volume it ranks 8th in Europe. Most of these registrations come from the True Fleet channel and in that respect the Fleet sub-segment share is similar with Belgium or Poland (each with a 40% share). Despite no domestic automotive industry, Dealership & Manufacturer registrations still form a higher share than that seen in other markets with manufacturing or home brands like Spain, the UK or Italy.

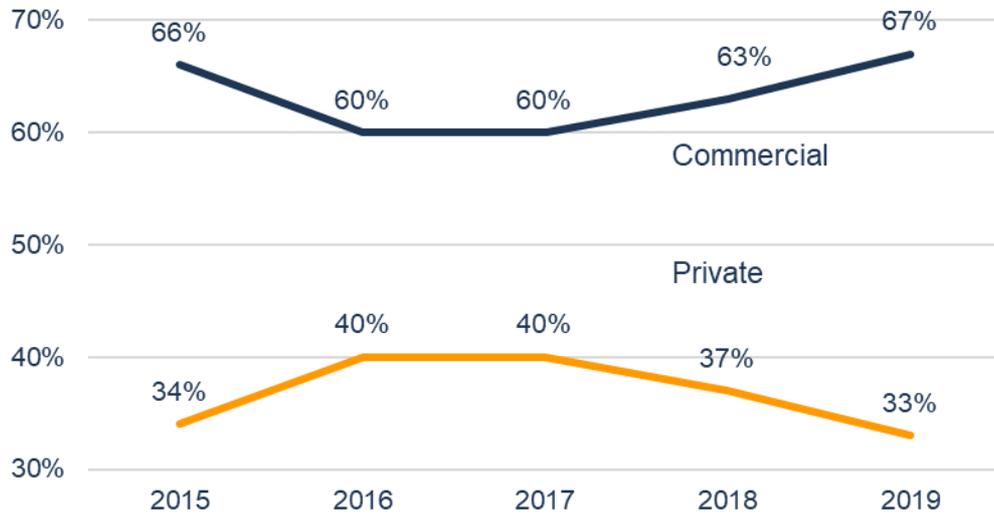
Full year 2019: split by Market Segments



As previously mentioned, the Netherlands market saw a dip in Commercial registrations during 2016 which was the result of a sharp increase seen at the end of 2015. The cause of this was an upcoming change in taxation from the start of 2016. Given these more favourable 2015 tax rates, the Leasing companies, who play a dominant role in the Netherlands Commercial channel, brought forward purchases, likely scheduled for early 2016, to take advantage of the better tax rate offered in 2015. This resulted in the highly visible surge and decline in commercial

registrations. The market has slowly increased from the low seen in 2016 to now reaching a higher share and a seemingly more even & stable commercial volume.

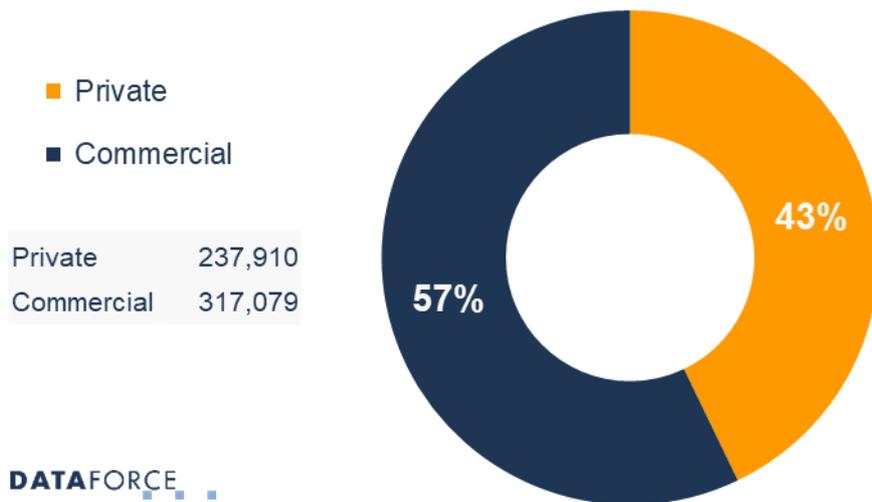
Development Market Segments 2015-2019



5.3.2. Belgium

The Belgium market had a share of 57% for Commercial customers in 2019, keeping it in line with the average across the EU-27+UK⁷ markets. Like its neighbour, the Netherlands, it has a strong Fleet market and while there are car plants - Audi produce the e-Tron in Belgium - there are no home-grown manufacturers. This naturally keeps the level of Dealership and Manufacturer registrations lower. Belgium has often traded places with the Netherlands in terms of which had the largest commercial volume annually but since 2016 the gap between the two nations has widened to leave Belgium clearly the dominant of the two markets.

Full year 2019: split by Market Segments

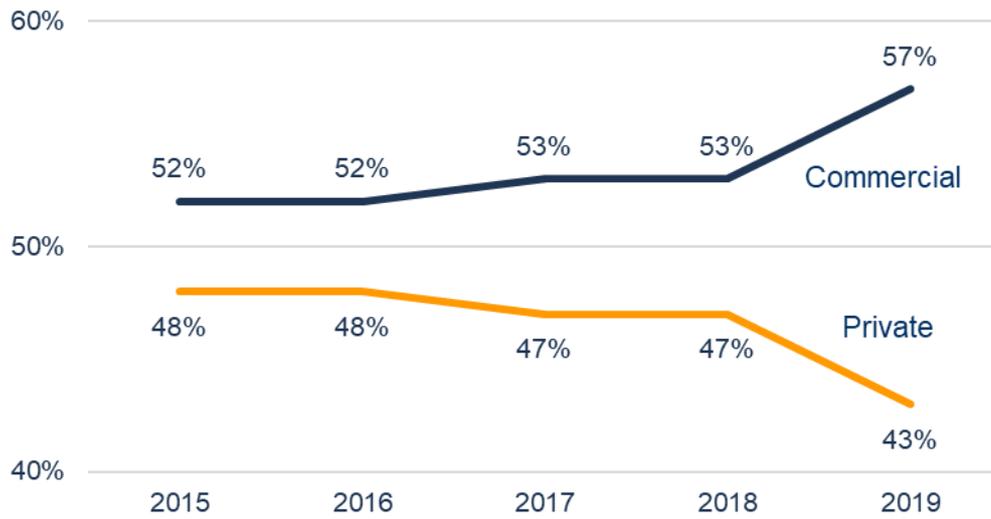


Following a stable period between 2015-2018 the distribution split of market channels has changed massively with an increase of 4 percentage points for commercial customers. Unlike the 2015 spike in the Netherlands this increase has come about as a gradual increase in the adoption of leasing cars in the commercial channel. The increases in annual registrations have been pronounced except for a slight plateau

⁷ The EU-27+UK would include all European Member states and the United Kingdom apart from Malta & Bulgaria.

seen between 2017 & 2018. The possible reasoning behind the interruption of growth being a shortage of WLTP homologated vehicles for the Belgium market in September, October and November 2018.

Development Market Segments 2015-2019

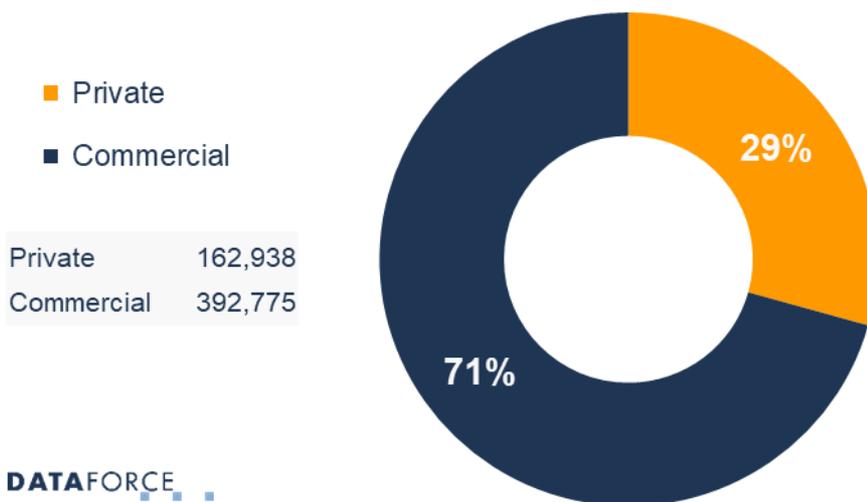


5.3.3. Poland

Poland’s market with 77% share in Commercial registrations for 2019 is way above the average for Europe (57%). There are only five European markets with a higher commercial share and all of them have significantly smaller volumes.

Ranked by volume for Commercial registrations, Poland places in 6th in Europe behind the “Big 5” (Germany, UK, France, Italy and Spain). This position has come as a result of healthy growth in the commercial channel over the last few years and has seen them overtake the more mature company car markets of Belgium and the Netherlands.

Full year 2019: split by Market Segments

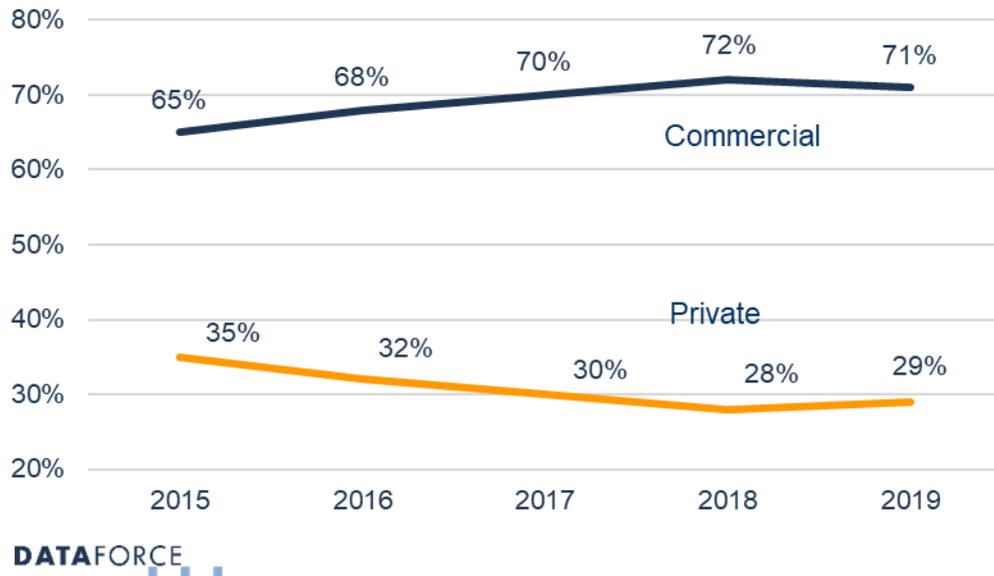


From within the EU-27+UK⁸ countries we can see that the Eastern European and Balkan countries are increasingly registering and growing their commercial registrations. So, while Poland has increased its commercial registrations by 69.7% when you compare 2015 and 2019 annual figures, there are other smaller markets with a larger growth over the same time. However, the Polish market volume does put it far above these other smaller nations and has increasingly become a strong

⁸ The EU-27+UK would include all European Member states and the United Kingdom apart from Malta & Bulgaria.

market for both the Leasing channel and RAC channel. After this consistent growth from 2015-2018 the share of commercial registrations seems to have stabilised, but on a very high level of around 70%. We also see that the Dealer & Manufacturer channel in Poland also now ranks among the Top-10 countries (by share).

Development Market Segments 2015-2019



5.3.4. Key take-outs from the Netherlands, Belgium and Poland

The Netherlands Commercial registrations have a very strong component from the leasing channel and have shown historically big fluctuations caused by taxation.

Belgium has shown a very steady increase in the Commercial registrations as more businesses opted towards leasing.

In terms of growth in Commercial Registrations Poland has increased its standing quite significantly over the last 5 years and is now the 6th largest in volume for Europe

5.4. Results – Part 1 – Company Cars – Spain and Italy

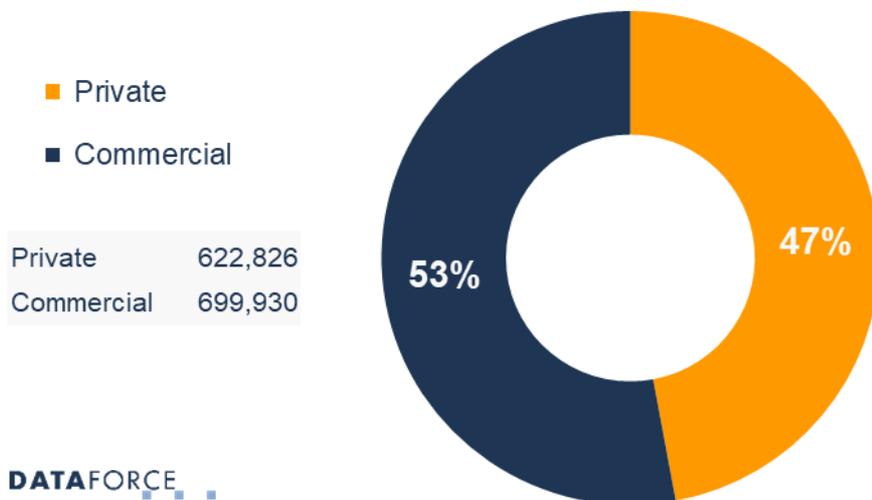
What are the national new sales shares of company cars in: Spain and Italy respectively?

The Spanish and the Italian markets have been 4th and 5th respectively in the volume ranking within Europe consistently over the recent past. From the EU-8 selected member states, these two nation's commercial registration volumes were hardest hit by the Global Financial Crisis of 2008/2009, but both have grown significantly from the low. The Spanish market has been the more constant and at one stage their True Fleet channel managed a huge run of 55 months of consecutive growth, only to end abruptly in September 2018 as a result of the WLTP introduction. The problem being certain vehicles were unable to be homologated and this affected the supply of vehicles from several OEMs.

5.4.1. Spain

The share of 53% for the Commercial channel in Spain is four percentage points below the average of the EU-27+UK⁹ markets. As one of the largest tourism industries in Europe, Spain and its territories of the Canary and Balearic isles naturally have a large portion of RAC/STR registrations in its market. However, it is worth noting that in absolute volume the RAC/STR car segment is only the second highest in Europe, behind Germany. This possibly further highlights the tactical nature of the RAC/STR registrations within the German market. The amount of Fleet cars and self-registrations on Dealerships and Car Manufacturer is below the average, even with its own home-based OEM in Seat. Despite there being an uplift in the share of Dealer and Manufacturer registrations since 2015, it remains low, when compared to Germany or France.

Full year 2019: split by Market Segments

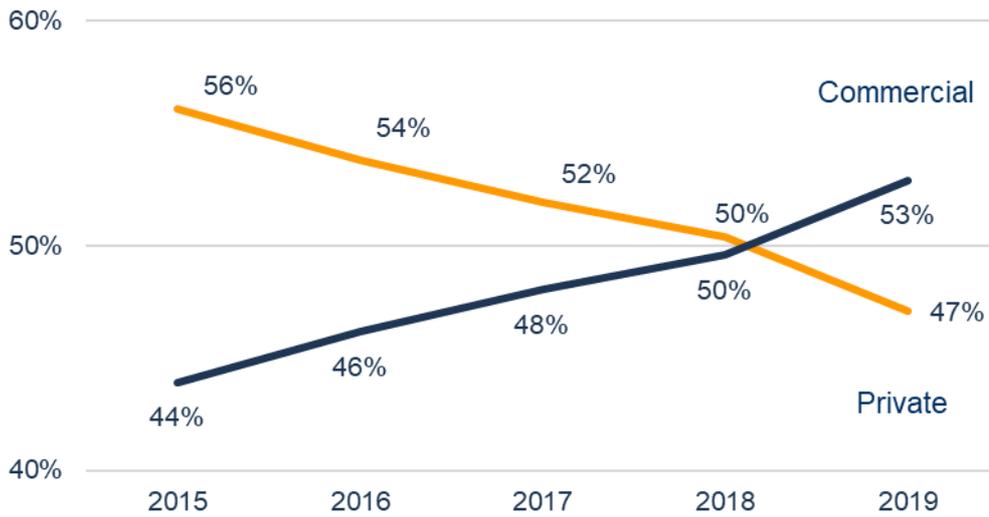


As we look at the changing share of the Spanish market since 2015 it is very clear and apparent just how the market has further embraced Commercial registrations. Again, we see strident increases of volume in both the Leasing & LTR subchannel alongside the increases in Fleet cars. From 2015 until 2018 the share of Commercial customers increased by a steady two percentage points per year but was followed in

⁹ The EU-27+UK would include all European Member states and the United Kingdom apart from Malta & Bulgaria.

2019 with an acceleration of trend and a three-percentage point gain pushing commercial registrations into the majority for the first time ever for the Spanish market.

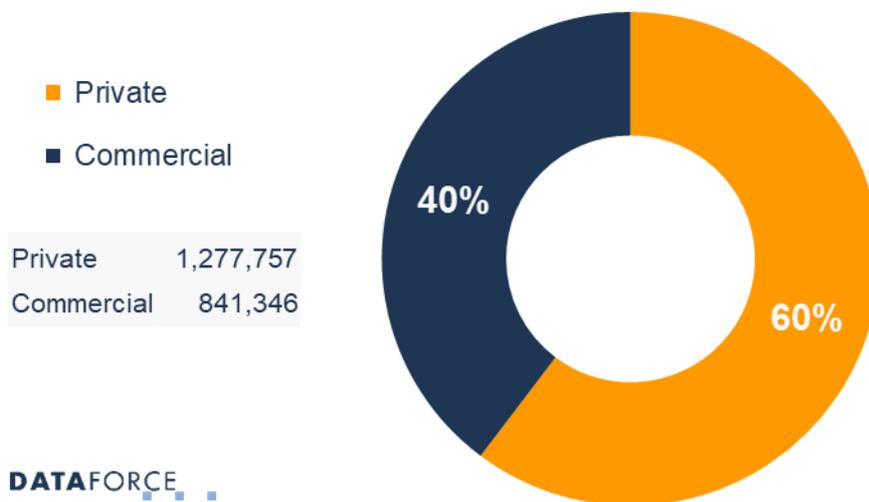
Development Market Segments 2015-2019



5.4.2. Italy

With only a 40% share of Commercial customers Italy has the lowest share of any of the other EU8 Member states. Across Europe only Finland shows a higher share for the Private market registrations. The gap between the Private and Commercial registration share has narrowed since 2015 but appears to have levelled out or stalled over the last two years.

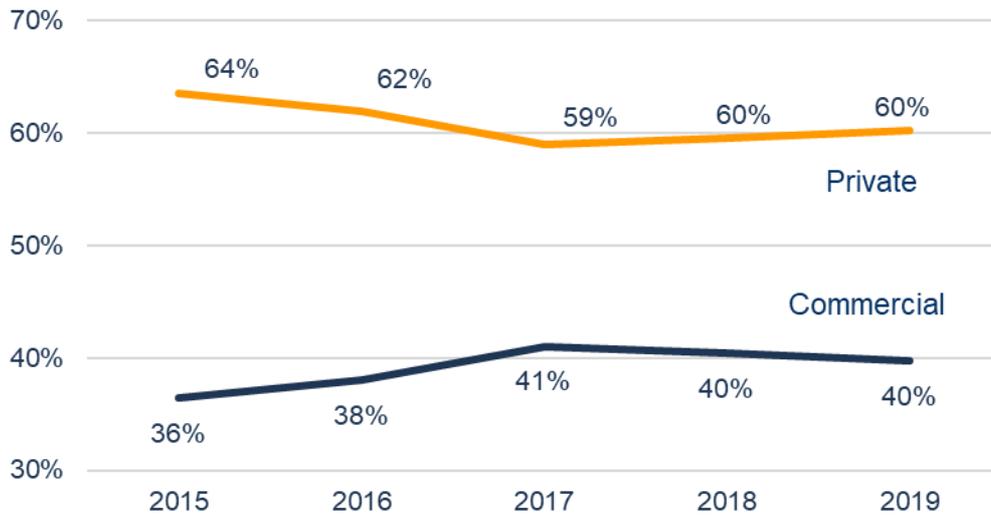
Full year 2019: split by Market Segments



The growth in the commercial registrations again, like some other member states, comes from a steady increase in Leasing & LTR subsegment. Despite this growth in Leasing & LTR and it being a subsegment of the True Fleet channel, the Italian markets True Fleet share remains significantly lower than the average in Europe.

The Italian market has also seen a significant rise in Dealer and Manufacturer registrations, comparable to the increases seen in Poland, Spain and France over the same time period. From 2015 to 2017 alone the market saw an 87.7% rise in these registrations, not only from home-based OEMs but the French and German OEMs also. It is worth noting though the channel has fallen back slightly in 2018 & 2019 returning to a more sedate 12.8% share of the market.

Development Market Segments 2015-2019



5.4.3. Key take-outs from Spain and Italy

Historically Spain has always carried a majority share in Private registrations, but as of 2019 this has changed. Commercial registrations are now leading the way and should continue to grow.

Italy's market is weighted heavily towards Private registrations though the gap has narrowed in recent years. From a retail perspective the Leasing & LTR subsegment has been at the forefront of this increase.

5.5. Conclusion – Part 1 – Company Cars

It is clear to see that based on the data from 2015-2019 the commercial market share is in the ascension for both the combined total of EU-27+UK¹⁰ countries and from most of the selected EU-8 Member states. Over the last 5 years both France and Spain have moved from Private majority to a Commercial one and while Italy's share has contracted slightly, and Germany's share has remained the same as in 2015 both these nations have grown their Commercial registrations considerably.

In terms of volume it is only the UK market which shows a contraction and many of the EU-8 member states have broken previous records for Commercial/Corporate new car registrations. With True Fleets and its subsegment Leasing & LTR having matured further and helped this growth quite significantly. However, we have also seen an increase in Dealership & Manufacturer registrations which given their sometimes tactical nature is not always a good sign of a healthy market or OEM strategy.

Now in 2020 there is the Covid-19/Corona pandemic which has curtailed the registrations of all nations quite significantly. However, the automotive industry, if anything, is very resilient to swings in circumstance. If the GFCs (Global Financial Crisis) impact could be regarded as a bump in the road, Covid-19/Corona is more like a tree across it, however there are certainly some comparisons. While it is likely nations will all be affected to a different degree, just like during GFC, we believe that the markets will recover and that Commercial/Corporate registrations will play a significant role. We are optimistic that Commercial/Corporate registrations will bounce back quicker, given the maturity, volume, shorter lifecycle and share they have at present. And it is this that we see helping to drive the recovery, just like after the GFC, before going on to again expectantly grow in both share and volume.

¹⁰ The EU-27+UK would include all European Member states and the United Kingdom apart from Malta & Bulgaria.

6. Results – Part 2 – Public Finances, Taxation

What was the cost to public finances (tax rebates & subsidies) EU-wide and in the selected member states (MS) of the company cars in 2018? Please calculate the difference between the (tax) revenue brought by the company car fleet over 2019 and how much revenue it would have meant to the government in the absence of tax advantages EU-wide and in the selected MS?

6.1.1. EU-8 – Vehicle Taxes - General Explanation

Scope

- 2019 calendar year
- Passenger cars (M1)
- True fleet
 - Including: Company cars, operational lease vehicles
 - Excluding: Short term rental, Dealer & manufacturer registrations
- Taxes focused on the vehicles themselves. Not included: fuel cost, service costs, charging equipment cost, accessories cost,

All benefits are calculated weighted vs. vehicle segment when applicable

- E.g. If a taxation is CO2 based, we compare the benefit of a Tesla 3 (EV) vs. the average of that segment that the car falls in (PC Medium).

Circular taxes are calculated over the estimate fleet parc that exists

- In case no Parc data were available, a 4-year fleet history of registrations has been used.
- 4-year period aligns with data in countries where fleet parc size is known (Germany, UK, Netherlands, Belgium)

Distinguished tax type

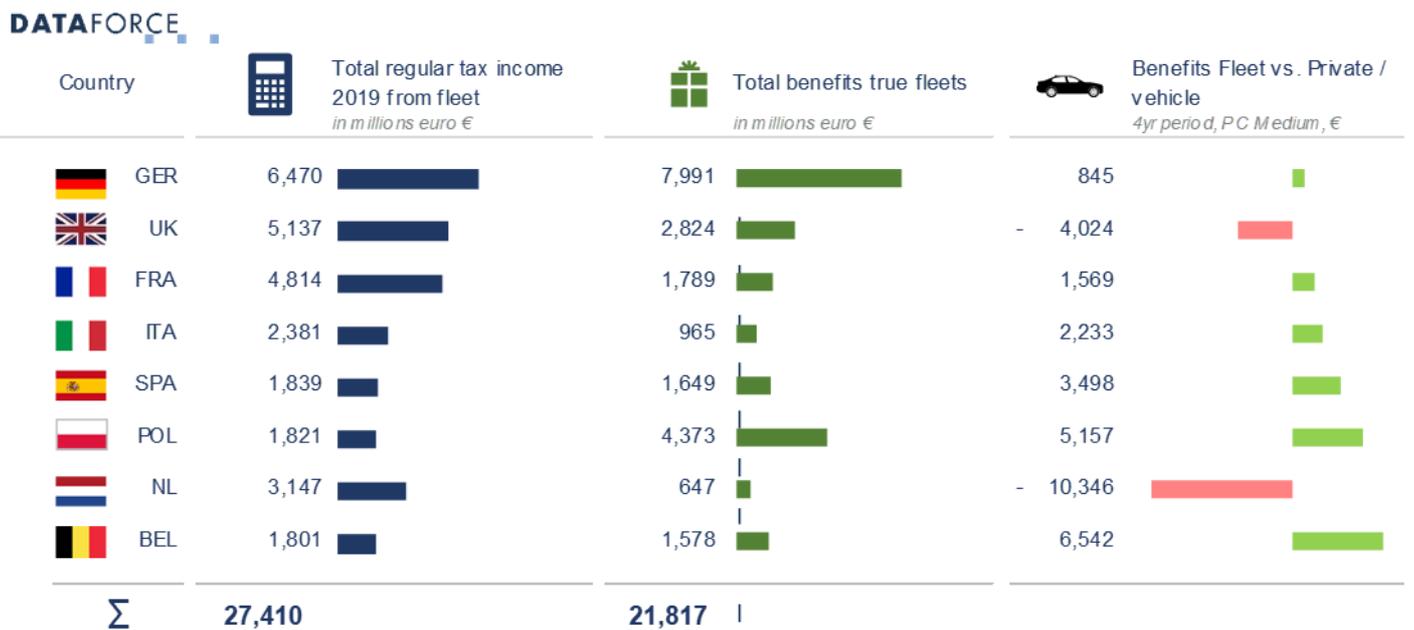
- Purchase tax: tax that must be paid on the purchase of a vehicle, on the net vehicle price
- Car grant: in case of incentives for low emission vehicles, this falls under the category purchase tax. In this case, it will be purchase tax benefit.
- VAT: tax that must be paid at the purchase of a vehicle as a % of the net price. Might be (partially) retrievable for fleet vehicles, depending on country rule

- Road tax: (or ownership tax): tax that must be paid if the vehicle is on the road. Depending on the country is paid yearly / quarterly / monthly
- BIK (Benefit in Kind): The amount that must be added yearly to the income (driver) or revenue (company), and on which tax must be paid. Normally paid on the retail price of the vehicle. Only to be paid when the car is also used privately
- Depreciation: Tax deduction based on the use of equipment of the company. Often decreased or not valid when car is also driven privately.

6.1.2. Executive Summary – Vehicle Taxes – Fleet

The EU-8 Selected member states represent approximately 87% of the European True Fleet market, this share does not include the registrations of the rental companies, RAC segment, or the Dealerships and Manufacturer segments. The tax income would include purchase tax, annual taxation, VAT, Benefit-in-kind taxation of Fleet drivers and vehicle depreciation. This calculated net tax income from the True Fleet market for these countries is 5,593 million € (27,410 – 21,817). On average True Fleet represents around 26.4% of these countries registrations and it is certainly interesting to see that the market with the highest taxation pressure, the Netherlands, is also the market with the highest share of True Fleet registrations (48.5% of the total market).

Consolidated Tax income on Passenger cars of true fleets – 8 largest fleet markets



Tax includes: Purchase tax, annual taxation, road tax, VAT, benefit in kind taxation fleet drivers, vehicle depreciation

The chart above shows the total income of taxation coming from the fleet vehicles. This includes the BIK or Benefit in Kid taxation that is paid by the driver. The table on the right shows the taxation benefit / disadvantage on a fleet vehicle vs. a privately-owned. This is an example case, where we have taken a medium sized vehicle with ICE engine as reference.

VAT returns and depreciation write-offs are equally driving the benefits of fleet owners, while the levied taxation of private use (BIK or Benefit-in-kind) recovers around 35% of those benefits. Not all fleet vehicles are used for private purposes and therefore do not contribute to the BIK. For several of the countries the amount of fleet vehicles not liable for BIK is unknown and for these we have used 50% as our benchmark in the calculations.

In most countries the VAT return and depreciation write-off/benefits are limited or nulled when a vehicle is also driven for private purposes and the cost of maintenance, services and fuel have not been considered in our calculations.

Notably based on our calculations, both the Netherlands and the UK are the only countries where fleet vehicles generate more tax than a private vehicle.

EU-27+UK¹¹ – Europe

As the selected EU-8 Member states represent the majority portion of all the True Fleet registrations in Europe (87% approx.) we have utilised the calculated figures of these countries and based our estimation for the rest of the European marketplace on the remaining percentage.

Consolidated estimation of Tax income of Passenger cars from True Fleet – EU 27 + UK

Country	 Total regular tax income 2019 from fleet <i>in millions euro €</i>	 Total net fleet benefits - Benefit-in-kind <i>in millions euro €</i>	 Fleet benefit vs. Private <i>4yr period, PC Medium, €</i>
 EU-27+UK	30,974 	24,653 	6,185 
Σ	30,974	24,653	

The EU-27+UK would include all European Member states and the United Kingdom apart from Malta & Bulgaria

¹¹ The EU-27+UK would include all European Member states and the United Kingdom apart from Malta & Bulgaria.

Estimated Total based on EU-8 Final Figures

While not all the other countries of the EU will have the same taxation, benefits, incentives, levies or maluses, these eight markets would be a very good representation of the total fleet market and on which we have based the estimated Europe wide totals.

In the subsequent pages you will discover the individual EU-8 vehicle taxes and calculations. Please refer to the general explanation from 10.3.1 for definitions or a description of the calculations used.

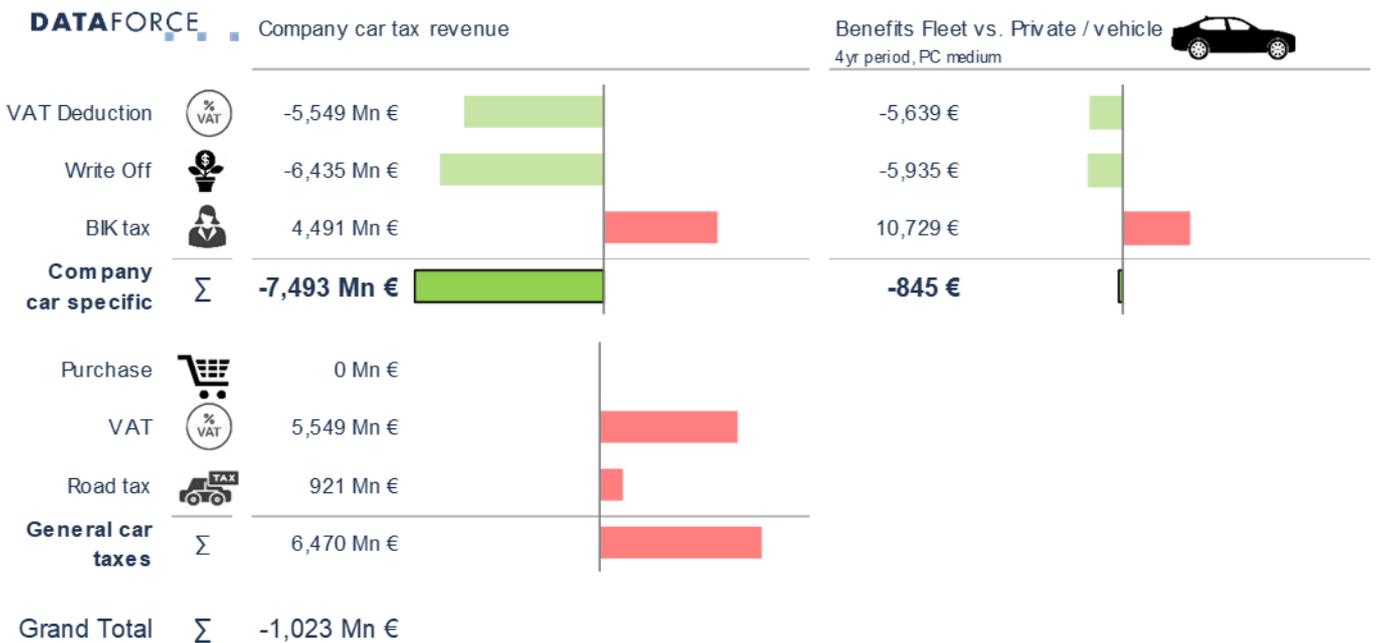
6.1.3. Germany - Vehicle Taxes – Fleet

Please calculate the difference between the (tax) revenue brought by the company car fleet over 2019 and how much revenue it would have meant to the government in the absence of tax advantages in Germany?

Key Comments

- In Germany, the net tax income from fleet vehicle is -1.0 € billion. In case incentives would be absent, the revenue would have been +11.0 € billion.
- VAT is 19% of MSRP and fully recoverable for companies
- Company cars can be written off linearly over a 6-year period.
- BIK is 12% of car’s MSRP + 0.36% per km over commuting distance and is subject to value added tax

Tax income for Passenger cars in True Fleet – Germany



There is no purchase tax on vehicles in Germany and the the road tax depends on CO2 emissions and engine size. There is currently no road tax levied on vehicles up to 95grams CO2/ km but for vehicle over this each gram over the 95 g, 2€/ g CO2/ km is to be paid. Additionally, 9.50€ per 100 ccm3 for diesel, 2.00€ per 100 ccm3 for petrol, respectively is also levied against the vehicle.

19% VAT is applied on the sale of new vehicles and this can be deducted by companies (with at least 10% corporate usage of the car, which we deem as standard practice).

The Benefit-in-kind (BIK) is 12% for per year +0.36% for every kilometre commuting distance. As an alternative to this lump sum method, the private use value can also be ascertained by accounting for individual costs (driver's logbook method). The first variant is mainly used due to convenience. Research has shown that in Germany around 25% of the fleet vehicles are used privately as well and are therefore subject to BIK.

For Company cars linear write off over 6 years are possible with tax rates consisting of 15% basic tax, 5,5% solidarity surcharge and 14% - 17% municipal surcharge, depending on municipalities. The combined rate is between 30 - 33% approximately.

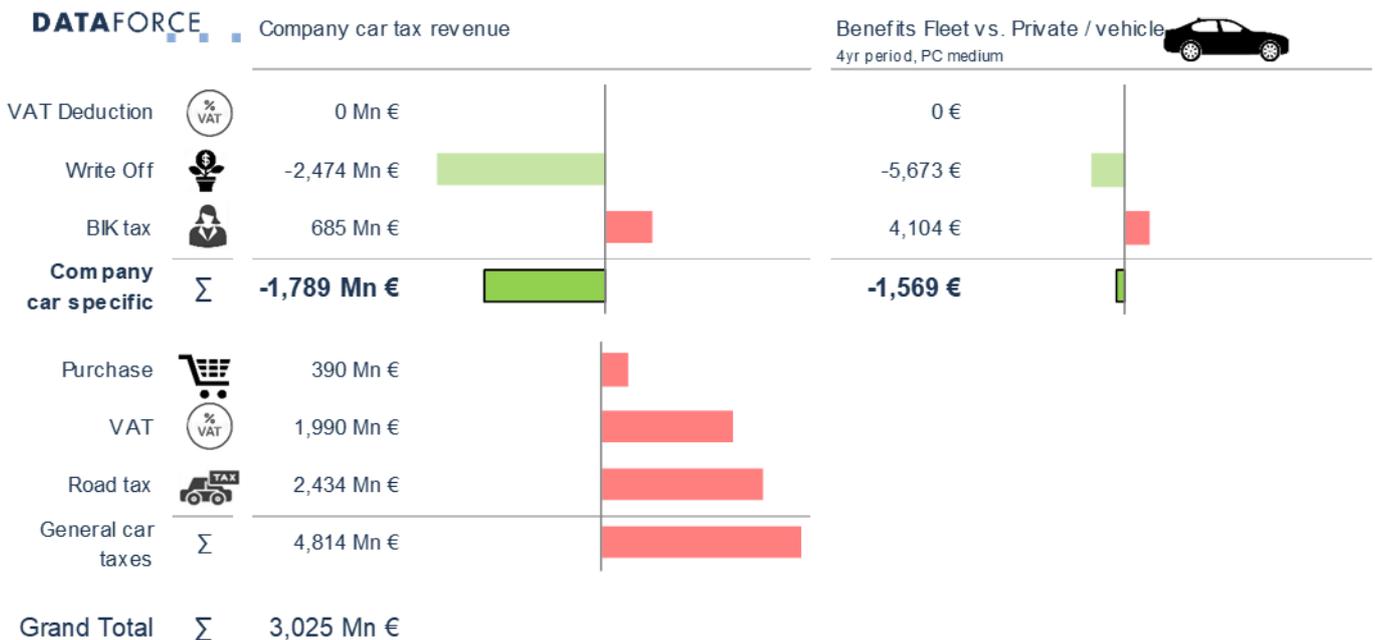
6.1.4. France – Vehicle Taxes – Fleet

Please calculate the difference between the (tax) revenue brought by the company car fleet over 2019 and how much revenue it would have meant to the government in the absence of tax advantages in France?

Key Comments

- In France, the net tax income from fleet vehicle is +3.0 € billion. In case incentives would be absent, the revenue would have been +5.5 € billion.
- No VAT deduction on fleet vehicles in France
- Write off linked to CO2 value of vehicles. The lower the CO2 the higher the higher the amount that can be written off.
- In general, very high dependence of taxes on CO2 emissions through bonus/malus system in France

Tax income for Passenger cars in True Fleet – France



In France there is a purchase tax (Malus) starting from €35 for a car emitting 117 grams of CO₂/km, to a maximum of €10,500 for vehicles over 190 grams CO₂, however EVs receive a €6,000 bonus. Taxes on French company cars depend on CO₂ emissions and range from 0€ per g CO₂/ km (< 20 g CO₂/ km) to 29€ per g

CO₂/ km (≥ 250 g CO₂/ km) and in the case of additional private usage of the vehicle, the applicable amount can be reduced by 15,000€.

Fleet vehicles do normally not apply for VAT deduction and if so, only in very specific instances, these have been left out of scope for the calculations

For BIK there are very detailed ways to calculate the levy or there is the simplified 9% rate. The latter has been taken for our calculation purposes. It is assumed that 50% of the fleet vehicles are used privately.

The amount that companies can depreciate their vehicles depends on the CO₂ emissions of the car and this ranges from 9,000€ (> 140 g CO₂/ km) to 30,000€ (< 20 g CO₂/ km) over a four-year period.

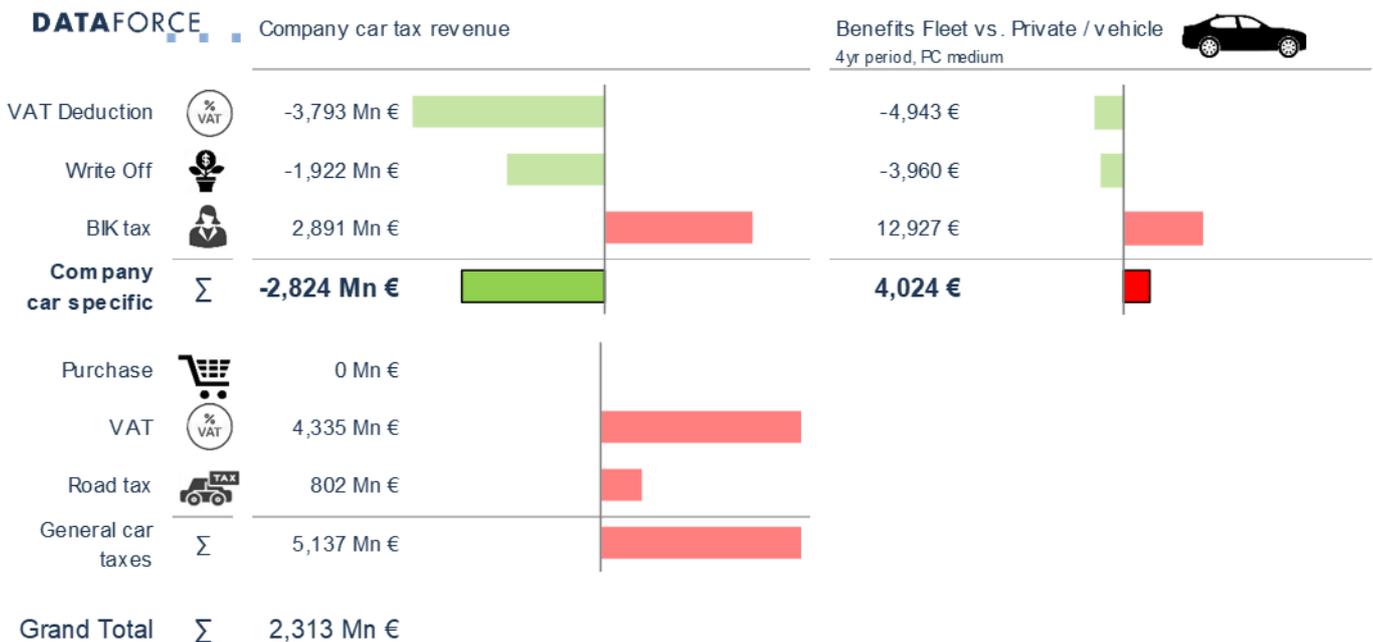
6.1.5. UK – Vehicle Taxes – Fleet

Please calculate the difference between the (tax) revenue brought by the company car fleet over 2019 and how much revenue it would have meant to the government in the absence of tax advantages in the UK?

Key Comments

- In UK, the net tax income from fleet vehicle is +2.3 € billion. In case incentives would be absent, the revenue would have been +8.0 € billion.
- In UK the incoming tax / vehicle from company car tax drivers surpasses the deductions that apply, in case the vehicle is also used privately
- VAT deduction is limited in case the car is also used privately
- The taxation year in UK is not calendar year based, and runs from April till March

Tax income for Passenger cars in True Fleet – UK



There is no purchase tax in the UK, only a standard registration fee while the road tax depends on the CO2 band a vehicle falls into and the type of fuel. Additionally, a €516 tax is levied, if the on the road price of the vehicle is higher than €44,400. In

general, the range of yearly tax is between €0 for EV, 200€ for a mid-size car to €1000 for a large vehicle.

The VAT rate in the UK is 20% and can be retrieved completely when the car is used 100% for business purposes, otherwise only 50% can be retrieved. Our calculations were done with effective 88% recovery (100% for 75% of the cars and 50% recovery for 25% of the parc).

The taxation rate for the BIK depends on the CO2 emissions of the vehicle and it ranges from 16% (BEVs) to 37% (> 164 g CO2/ km). For older diesel cars, which are not certified for RDE2 the taxation rate is 4% higher. On top of this the employer is charged 13.8% as a further contribution. Around 25% of the fleet vehicles are also used privately in the UK.

The regular depreciation rate (or capital allowance) for fleet vehicles is 18%. EVs can accelerate the write to 100% in the first year, which has purely a potential accounting benefit.

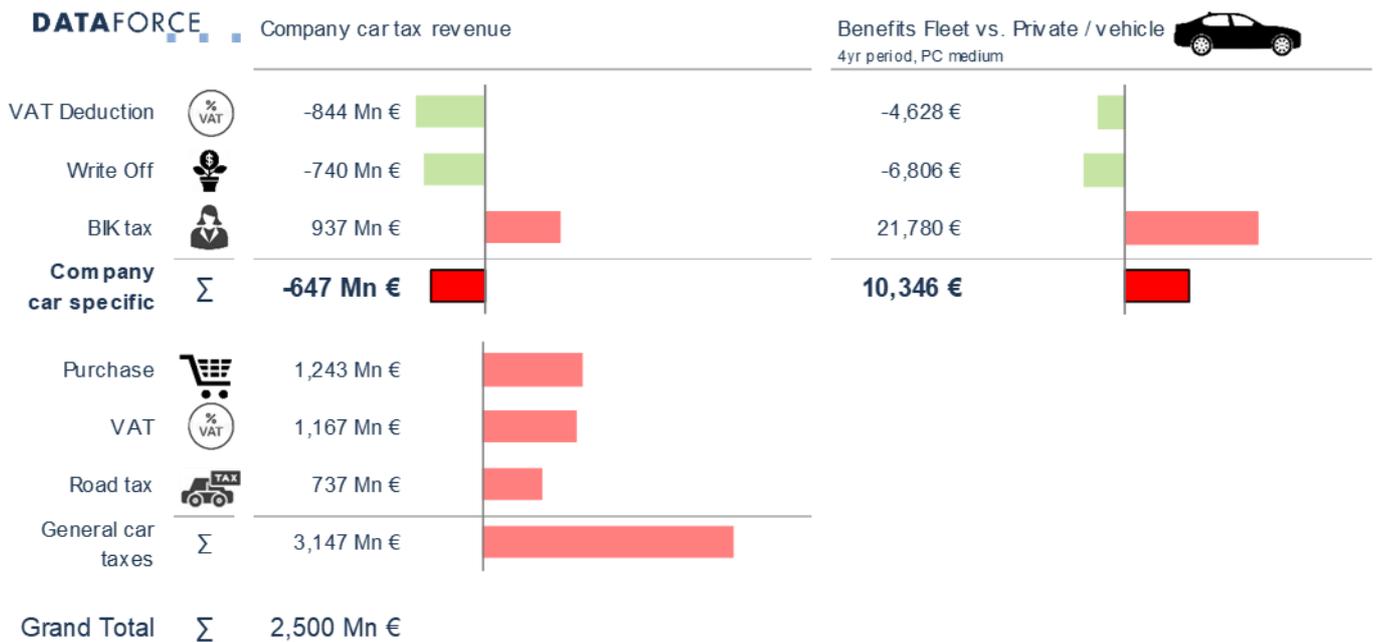
6.1.6. Netherlands – Vehicle Taxes – Fleet

Please calculate the difference between the (tax) revenue brought by the company car fleet over 2019 and how much revenue it would have meant to the government in the absence of tax advantages in the Netherlands?

Key Comments

- In NL, the net tax income from fleet vehicle is +2.5 € billion. In case incentives would be absent, the revenue would have been +4.1 € billion.
- Fleet vehicles bring in more tax extra through the benefit in kind tax than is gathered through benefits.
- Purchase CO2 tax collects as much tax at VAT, putting 20% on top of the MSRP of a vehicle.

Tax income for Passenger cars in True Fleet – Netherlands



In the Netherlands a registration tax is levied on all new cars that are being registered for the first time. For each gram of CO2 per kilometre, a certain amount of tax is charged working so the more fuel-inefficient vehicles pay more tax per gram CO2/ km. The payable amount ranges from 2€ per g CO2/ km (1-71 g CO2) to 429€ per g CO2/ km (≥ 157 g CO2).

The road tax is based on the weight of a vehicle, the fuel type and the province the vehicle is being registered in and in the Netherlands the current VAT rate is 21% which for fleet cars is deductible. In the case of the vehicle being used privately as well, every year 2.7% of the MSRP must be paid back by the company.

The actual investment in the vehicle can be written off at a maximum 20%/ year with the expected residual value after usage also needing to be considered.

Benefit-in-kind (BIK) or "Bijtelling" as it is known in the Netherlands is 22% for all vehicles, apart from electrical vehicles where it is just 4%.

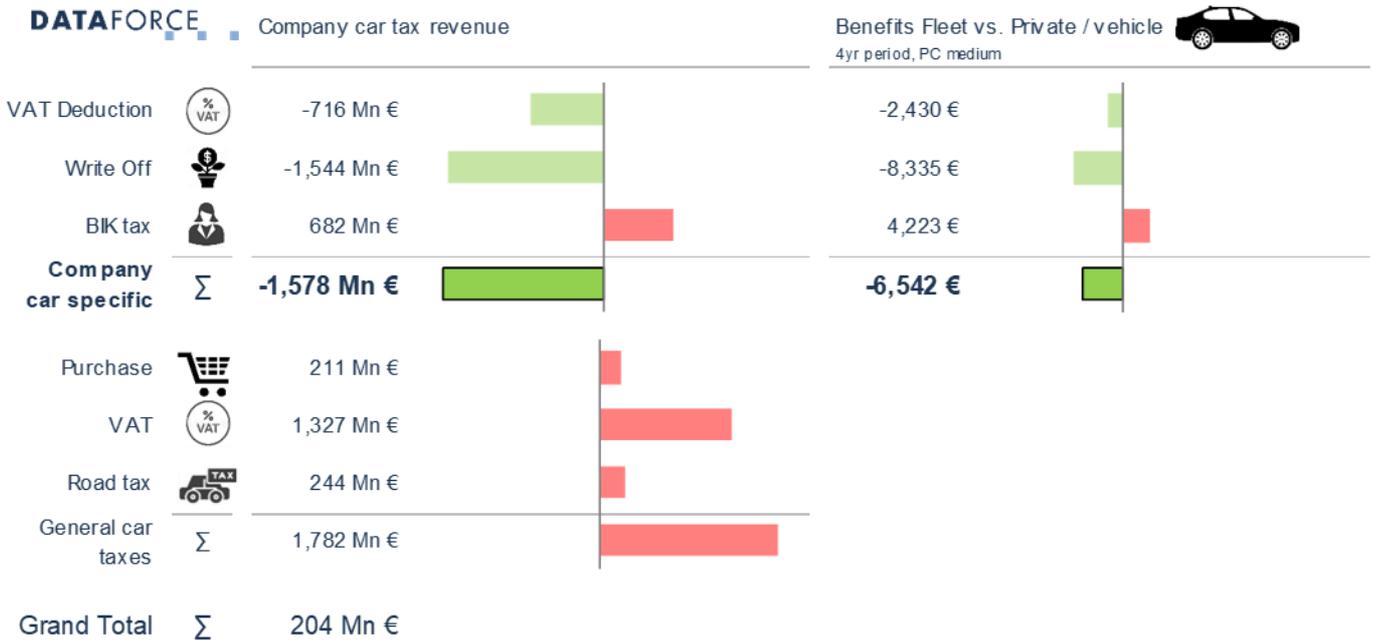
6.1.7. Belgium – Vehicle Taxes – Fleet

Please calculate the difference between the (tax) revenue brought by the company car fleet over 2019 and how much revenue it would have meant to the government in the absence of tax advantages in Belgium?

Key Comments

- In Belgium, the net tax income from fleet vehicle is +0.2 € billion. In case incentives would be absent, the revenue would have been +2.5 € billion.
- In Belgium, the north parts (Flanders) and south (Brussels + Walloon) have partly different tax regimes, although the amounts / vehicles are pretty much similar.
- The VAT can only be returned by 50% for fleet vehicles.
- The deductibility of vehicles in Belgium is the highest of the researched countries and it is linked the CO2 values of the vehicles.

Tax income for Passenger cars in True Fleet – Belgium



In Belgium the purchase tax depends on fuel type and engine size and ranges from 61.50€ to 4,957€. The road tax is also based on engine size but includes CO2 emissions e.g. a car with ≤ 750 CC, that is being registered in Flemish Region costs 81.97€/ year. A car with 4.651 CC in the same region costs 2,441.08€.

50% of Belgium's 21% VAT can be returned for fleet cars while the other 50% may be treated as a general expense and can be fully retrieved by the company. The Benefit-in-kind calculation for Belgium is based on price, CO₂, fuel type and the age of the vehicle.

Deductibility of car related expenses are also factored on CO₂ emissions and range from 60% of MSRP (> 181 g CO₂ for petrol, > 171 g CO₂ for diesel resp.) to 120% (0 g CO₂/ km) with Fuel costs also able to be deducted by 75%.

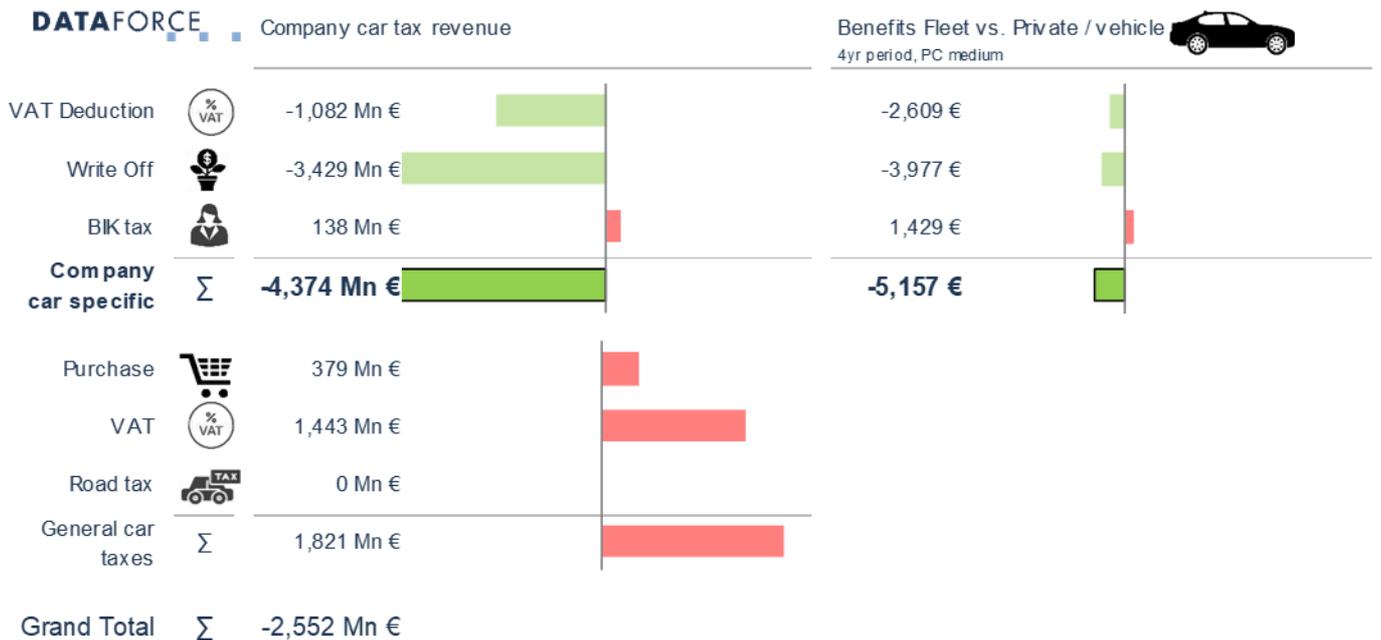
6.1.8. Poland – Vehicle Taxes – Fleet

Please calculate the difference between the (tax) revenue brought by the company car fleet over 2019 and how much revenue it would have meant to the government in the absence of tax advantages in Poland?

Key Comments

- In Poland, the net tax income from fleet vehicle is -2.5 € billion. In case incentives would be absent, the revenue would have been +2.0 € billion.
- The Polish fleet market has been very strong over the last years, which is no surprise as the relative benefits are reasonably high.
- The BIK tax is the lowest of the research European markets.
- Poland is 1 of the few markets where the purchase tax is not based on CO2, but on engine size.

Tax income for Passenger cars in True Fleet – Poland



For Poland the purchase tax is based on the engine size with the tax being 18.6% for ICE engines > 2,000 CC and 3.1% for < 2,000 CC, while it is a very attractive 0% for BEV's and Plug-ins. Poland as of 2019 has no road tax or any other related circular tax on passenger vehicles.

The VAT in Poland is 23% and this can be fully recovered when the car is strictly used for company purposes only. For cars that are used for both company and private purposes only 50% can be recovered. However, in case of private usage of the company car, a certain amount must be added to the driver's taxable income. This is levied at 1,056€ for engines above 1,600 CC and 660€ for engines below. Our calculations assume that 50% of the fleet vehicles are used also privately as there was no quantitative data available on the private usage.

Passenger cars can benefit of a write-off to a maximum of 33.000€ (This amount is higher for BEV's). In case of mixed usage, a maximum of 75% of the paid price may be written off.

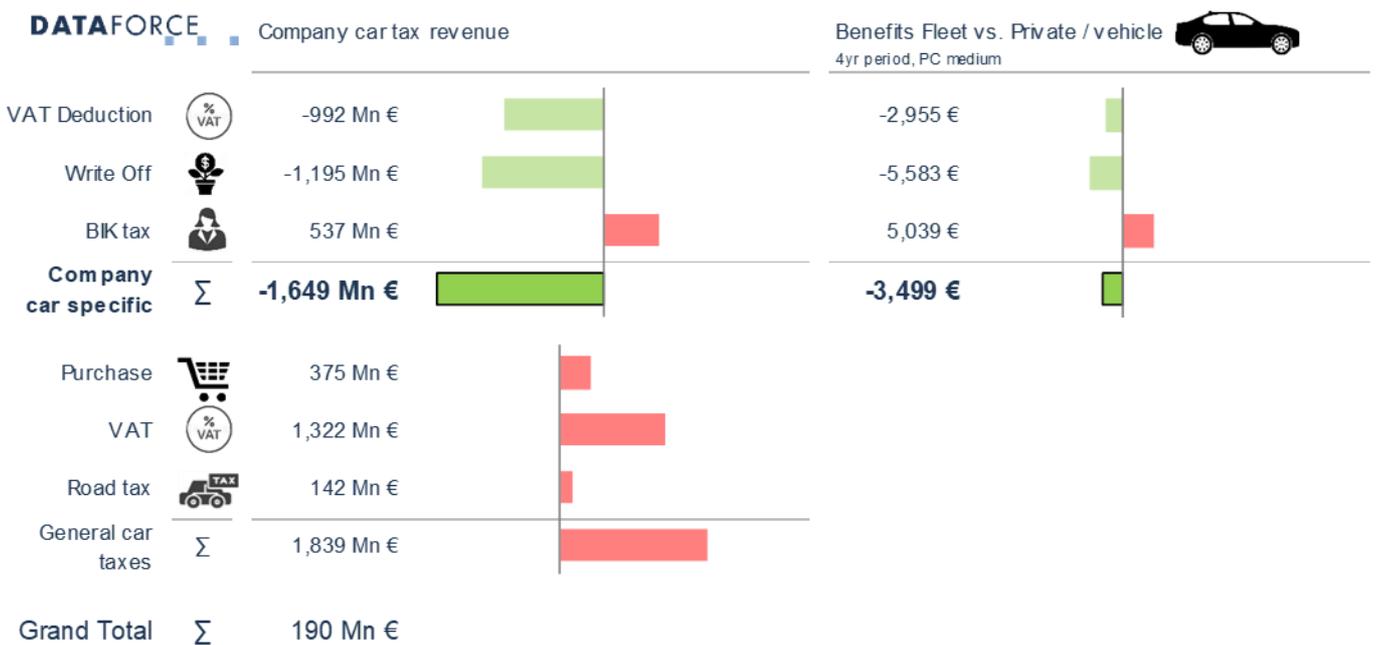
6.1.9. Spain – Vehicle Taxes – Fleet

Please calculate the difference between the (tax) revenue brought by the company car fleet over 2019 and how much revenue it would have meant to the government in the absence of tax advantages in Spain?

Key Comments

- In Spain, the net tax income from fleet vehicle is +0.2 € billion. In case incentives would be absent, the revenue would have been +2.4 € billion.
- VAT of 21% is fully retrievable when the vehicle is used just for business purposes, otherwise only 50% of the VAT can be returned.
- Annual depreciation rate between 7.1% and 16%
- Benefit-in-kind (BIK) is 20% of MSRP but can be reduced by the amount of business usage.

Tax income for Passenger cars in True Fleet – Spain



For Spain the purchase tax depends on the region of registration and the CO2 emissions of the car and is only payable when CO2 value of a car is higher than 120 g/ km, Taxes vary but range from 4.75% to 12% of the netto price.

The road tax is based on the fiscal horsepower (cc x engine stroke x diameter) of the car and the region it is being registered in. The taxes range from 12.62€ (< 8 HP, outside Madrid) to 224€ per year (\geq 20 HP in Madrid). For our calculations on the road taxes we have taken the median value of the Madrid region as our base figures.

Spanish VAT on new vehicles is 21% and can be fully returned when the car is bought exclusively for business use. In the case of both business and private usage, like Poland, 50% VAT can be retrieved. The Benefit-in-kind (BIK) is 20% of the MSRP for 100% private use. This can be reduced depending on the amount of business usage, with around 50% being a widely applicable figure. Fleet vehicles in Spain are also able to be depreciated annually at a rate between 7.1% and 16%.

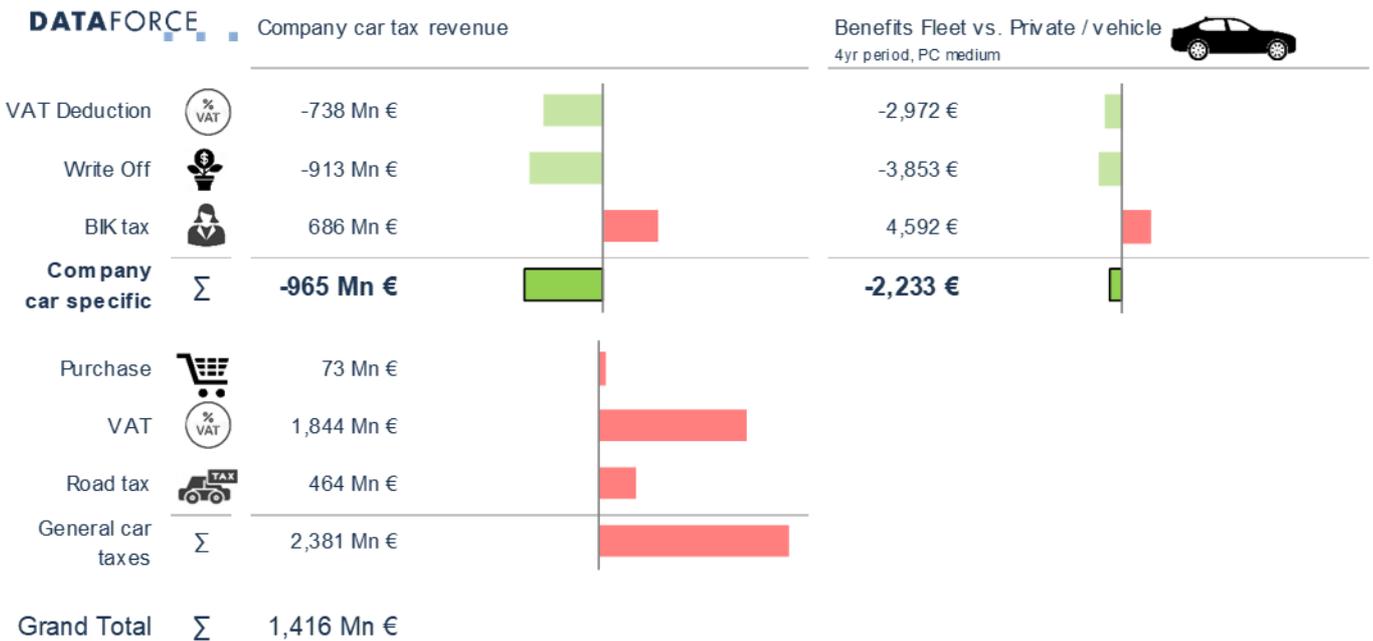
6.1.10. Italy – Vehicle Taxes – Fleet

Please calculate the difference between the (tax) revenue brought by the company car fleet over 2019 and how much revenue it would have meant to the government in the absence of tax advantages in Italy?

Key Comments

- In Italy, the net tax income from fleet vehicle is +1.4 € billion. In case incentives would be absent, the revenue would have been +3.1 € billion.
- In general, fleet vehicles receive more tax cuts, than are recuperated with Benefit in Kind taxation.
- The VAT return of fleet vehicles depend on whether those are used privately or not.
- BIK amount is set yearly per model/ fuel type by the Italian Automobile Club (ACI).

Tax income for Passenger cars in True Fleet – Italy



The registration tax in Italy is 150.81€ for vehicles with ≤ 53 kW with a further 3.51€ for each kW exceeding that 53 kW. The annual road tax is also based on kW of the car and is paid for one year ahead with the current rates for the market being 2.58€/kW for < 100 kW and 3.87€/kW for each kW exceeding 100 kW.

Italian VAT is currently 22% and for True Fleet vehicles, there is a fixed rate of 40% (or 8.8%) that can be returned. The Benefit-in-kind (BIK) is equal to the "average cost of use" of the car, this is being determined by ACI (Italian Automobile Club) and it includes the projected car depreciation, fuel, oil, tyres etc. It ranges from €1,700/year for a small car, to €5,000/year for a large vehicle.

The amount of depreciation depends on whether the vehicle is also used privately or not. 100% depreciation is possible when the car is used strictly for business purposes only and 70% when it is used both for business and private purposes. Only a 20% depreciation to a maximum claim €18,075.99 is possible if the car is strictly a benefit and not used for business purposes.

7. Results – Part 2 – Incentives and Tax Advantages ZLEV

In the selected MS, what are the incentives and tax advantages to promote ZLEV models in the company car market? Please separate into advantages on the employee's side (e.g. benefit in kind) and the employer's side (e.g. deducted VAT, amortization). Do the tax advantages distinguish between zero emission (BEV & FCEV) and low emission (PHEV) vehicles, and if so - what are the differences?

7.1.1. EU-8 – Incentives and Tax Advantages ZLEV - General Explanation

Scope

- 2019 calendar year
- Passenger cars (M1)
- True fleet
 - Including: Company cars, operational lease vehicles
 - Excluding: Short term rental, Dealer & manufacturer registrations
- Taxes focused on the vehicles themselves. Not included: fuel cost, service costs, charging equipment cost, accessories cost,

All benefits are calculated weighted vs. vehicle segment when applicable

- E.g. If a taxation is CO2 based, we compare the benefit of a Tesla 3 (EV) vs. the average of that segment that the car falls in (PC Medium).

Circular taxes are calculated over the estimate fleet parc that exists.

- In case no Parc data were available, a 4-year fleet history of registrations has been used.
- 4-year period aligns with data in countries where fleet parc size is known (Germany, UK, Netherlands, Belgium)

Distinguished tax type

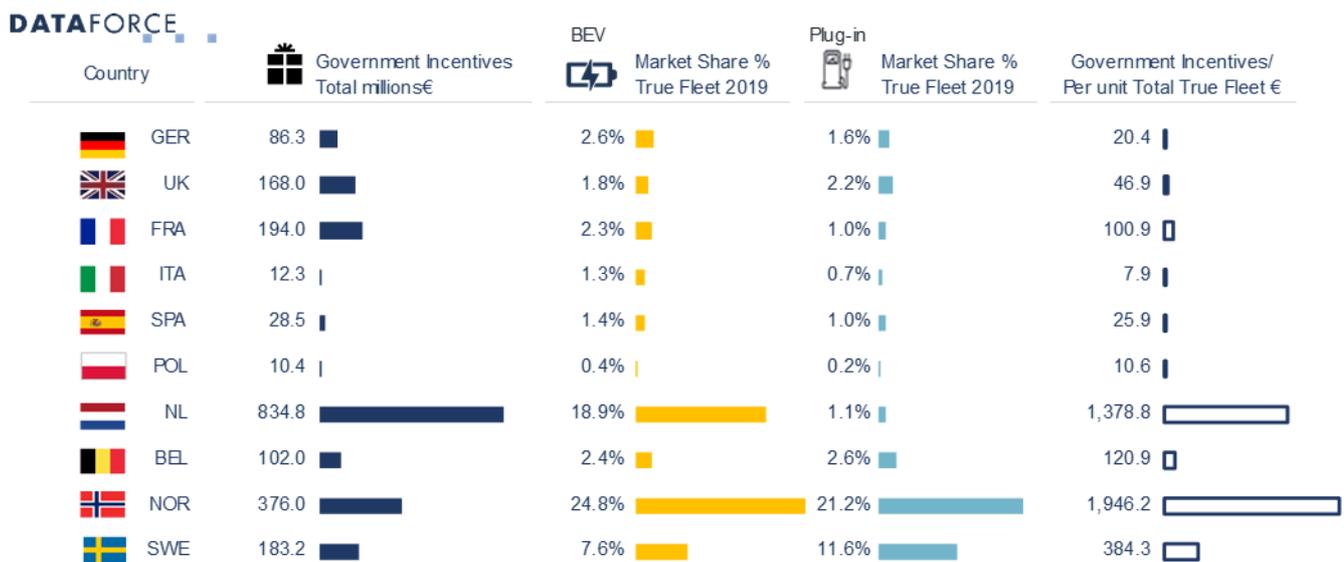
- Purchase tax: tax that must be paid on the purchase of a vehicle, on the net vehicle price
- Car grant: in case of incentives for low emission vehicles, this falls under the category purchase tax. In this case, it will be purchase tax benefit.
- VAT: tax that must be paid at the purchase of a vehicle as a % of the net price. Might be (partially) retrievable for fleet vehicles, depending on country rule

- Road tax: (or ownership tax): tax that must be paid if the vehicle is on the road. Depending on the country is paid yearly / quarterly / monthly
- BIK (Benefit in Kind): The amount that must be added yearly to the income (driver) or revenue (company), and on which tax must be paid. Normally paid on the retail price of the vehicle. Only to be paid when the car is also used privately
- Depreciation: Tax deduction based on the use of equipment of the company. Often decreased or not valid when car is also driven privately

7.1.2. Executive Summary - Incentive & Tax Advantages ZLEV

For the True fleet market, the performance of EVs and Plug-in vehicles is strongly linked to the spending/vehicles and both Norway and the Netherlands levy high taxations on the polluting ICE vehicles to help off-set the incentive cost for ZLEVs. Changes to real driving emissions seen since the WLTP regulation implementation has seen an increase in the CO2 and this has thus mechanically enlarged the benefits of the EVs. The markets without local OEMs have been quicker in implementing incentives/legislation supporting EV powertrains. The European OEMs themselves have been relatively late to launch EVs, having strong lobbying power within their home markets they have previously maintained a very strong remain “AS IS” policy until they themselves launched EV models.

Consolidated Government incentives for Electrical Vehicles and Plug-ins – Largest EU markets



Tax incentives on: Purchase tax, annual taxation, road tax, VAT, benefit in kind taxation fleet drivers, vehicle depreciation

Countries with relatively slower economies like France, Spain and Italy have not focussed as much on clean transport, though this is likely to change. Most of the larger countries have strong regional influences but this has proven to cause some difficulties between regions on EV incentives and charging infrastructure alignment which has hampered implementation. There has also been the misalignment of EV

systems i.e. Unified Charging and payment solutions which again seem to dampen the uptake of EVs.

There is also the anomaly that remains, while EVs are susceptible to what can be a substantial loss of driving range in cold circumstances, Norway still has the highest penetration of the powertrain despite it being the coldest country from the list.

Government incentives for Electrical Vehicles and Plug-ins – Largest EU markets

DATAFORCE

Country	 Purchase tax millions€	 Road tax millions€	 Benefit-in-kind millions€	 Depreciation write-off millions€
 GER	57.9	6.9	41.2	0.0
 UK	58.6	25.6	83.9	0.0
 FRA	83.0	75.9	0.0	35.2
 ITA	8.0	4.3	0.0	0.0
 SPA	14.7	0.5	13.2	0.0
 POL	3.7	0.0	0.0	6.7
 NL	486.1	72.9	154.8	123.3
 BEL	13.9	15.0	30.6	42.5
 NOR	356.2	5.8	13.9	0.0
 SWE	78.4	26.4	78.3	0.0

Purchase tax incentives are the main driver for the EV and Plug-in benefits and there are two types that can be distinguished: Straight purchase and Lower CO² tax

Straight purchase

- These are the incentives on top of the retail price. Germany, UK, France, Italy and Spain are all examples of this. Sometimes these are conditional to, or increased by, the trade-in of old vehicles. Though the eligible vehicles need to be of such an age that fleets hardly ever qualify, given the relatively new vehicles they carry in the car parc. As a company car registration, the advantage here would reside on the employer's side. However, a Private registration would also qualify for the incentive and in some countries may even garner more incentive should an older trade-in vehicle be included. employer.

Lower CO² tax

- This can be additional to the straight purchase incentives and basically means that the purchase tax is directly linked to the CO₂ value of the vehicles. All the above countries have this in place in 2019, except Germany. As BEV's, and more specifically Plug-ins, are large vehicles, their relative advantages against other segment alternatives, which have in general high CO₂ values. As a company car registration, the advantage here would reside on the employer's side, though once again would be an eligible incentive for a Private registration also.

Further Benefits/Taxes

- Road/circular tax is often reduced as well. From a CO₂ perspective this makes sense, but the discussion should also take in account the higher weight of BEV's and whether this also has a negative impact on roads themselves. As a company car registration, the advantage here would reside on the employer's side but is an eligible incentive for a Private registration.
- Benefit in Kind taxation incentives have come more into scope the last years, so in order to push user-choosers towards clean transport. In the Netherlands the benefit is so high, that the Tesla Model 3 became the best sold model in 2019. As a company car registration, the advantage here would reside on the employee's side who would pay a minimal tax for the benefit of the vehicle usage.
- Lesser chosen are depreciation benefits, which could be a point of interest, because it focusses on keeping the cars on the road for a longer (vs. purchase tax). As a company car registration, the advantage here would reside on the employer's side and be strictly a benefit available to a company.

7.1.3. Germany – Incentive & Tax Advantages – ZLEV

In Germany, what are the incentives and tax advantages to promote ZLEV models in the company car market? Do the tax advantages distinguish between zero emission (BEV & FCEV) and low emission (PHEV) vehicles, and if so - what are the differences?

Government incentives for Electrical Vehicles and Plug-ins – Germany

Fleet Market Share %		2.6%		1.6%	
	Government Incentives	Average incentive / car			
Purchase	58 Mn €	2,000 €	1,500 €		
Road tax	7 Mn €	137 €	0 €		
Company car	22 Mn €	1,503 €	820 €		
Investment	-	-	-		
Σ	86 Mn €	3,640 € BEV	2,320 € PHEV		

For Germany a typical Plug-in vehicle is in a higher bracket than a BEV, this means the PHEVs give a higher tax benefit from the Benefit in Kind tax and while Road tax incentives exist, at present they are still relatively small. The German government provides a purchase grant which both Private and Companies are eligible for. This government incentive of EUR 2,000 for BEVs and 1,500 for PHEVs is provided if the dealership or manufacturer grants an equal discount and the car list price is below EUR 60,000. In the case of leasing, it is up to the leasing company to which extent they pass any of the grant onto their customers.

Taxation comparisons – BEV / Plug-in vs. comparable ICE vehicle - Germany

Calculation Examples*	PC Medium BEV		PC Medium Diesel		SUV Medium PHEV		SUV Medium Diesel	
	Purchase	-2,000 €	0 €	0 €	0 €	-1,500 €	0 €	0 €
Road tax	0 €	212 €	212 €	280 €	48 €	280 €	280 €	
Company car	1,255 €	2,509 €	2,509 €	3,512 €	1,756 €	3,512 €	3,512 €	
Investment	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Tax / Grant Σ	-745 €	2,721 €	2,721 €	3,792 €	304 €	3,792 €	3,792 €	

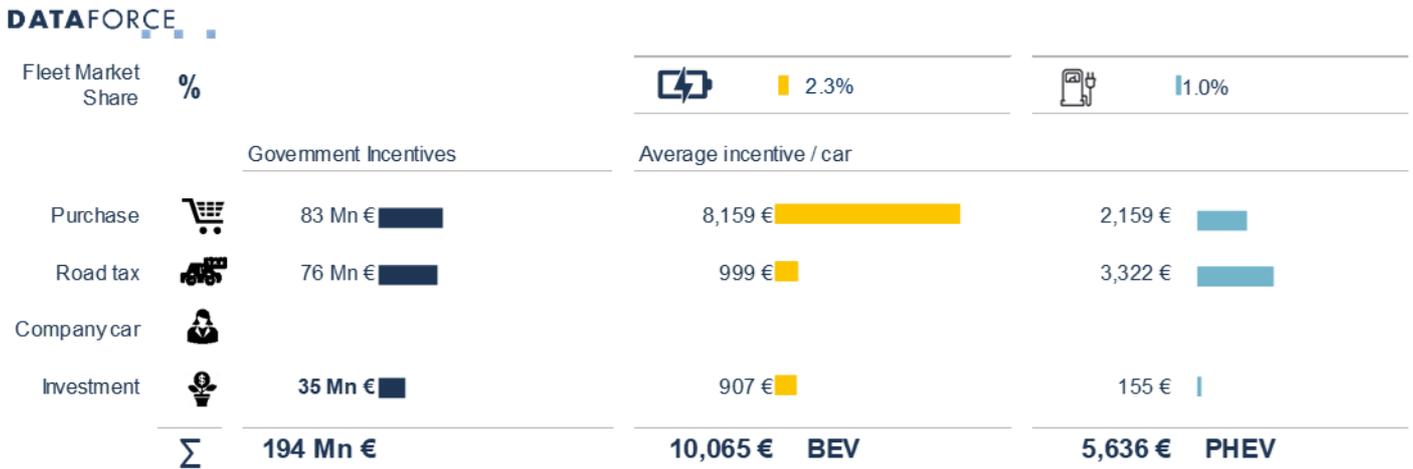
*Tax benefits deal ONLY with 2019. Circular taxes (Road tax, BIK) may have higher lifecycle benefit, depending on government tax rules.

BEVs are exempt from road tax, but for Germany this is not a big extra incentive, as it results only in an advantage of €137 /year. BEVs and PHEVs with less than 50 grams CO2 receive a 50% discount on the BIK amount (which was raised to 75% in 2020). This has led to all German manufacturers offering Plug-ins as much as they can in order to benefit. For fleets, this benefit led to a more notable effect than the purchase grant.

7.1.4. France – Incentive & Tax Advantages – ZLEV

In France, what are the incentives and tax advantages to promote ZLEV models in the company car market? Do the tax advantages distinguish between zero emission (BEV & FCEV) and low emission (PHEV) vehicles, and if so - what are the differences?

Government incentives for Electrical Vehicles and Plug-ins – France



In France purchase incentives give the key benefits, specifically for EV's. The advantage for Plug-ins is driven by higher CO2 tax on mid-size SUV, from which the Plug-ins are exempt due to lower CO2. France operates a Bonus/ Malus System with EUR 6.000 bonus for vehicles with < 20 g CO2/ km, capped at 27% of the car net price and additionally there is no registration tax for EVs and Plug-ins.

The yearly ownership tax in France (TVS) is linked to the CO2 value of the vehicle, for which BEVs are currently exempt and Plug-in owners only having to pay a minimal amount. As Plug-ins are often large vehicles and the CO2 levels for large vehicles are quite high, the impact is quite significant. There were no benefits related to Benefit-in-kind (BIK) tax for the French market in 2019, however for 2020 this has now been put in place.

Taxation comparisons – BEV / Plug-in vs. comparable ICE vehicle - France

DATAFORCE

Calculation Ex amples	PC Medium BEV 	PC Medium Diesel 	SUV Medium PHEV 	SUV Medium Diesel 
Purchase 	-6,000 € 	481 € 	0 € 	3,292 € 
Road tax 	0 € 	494 € 	48 € 	950 € 
Company car 	2,998 € 	2,998 € 	4,491 € 	4,491 € 
Investment 	-2,355 € 	-1,437 € 	-1,594 € 	-1,437 € 
Tax/Grant Σ	-5,357 € 	2,537 € 	2,945 € 	7,296 € 

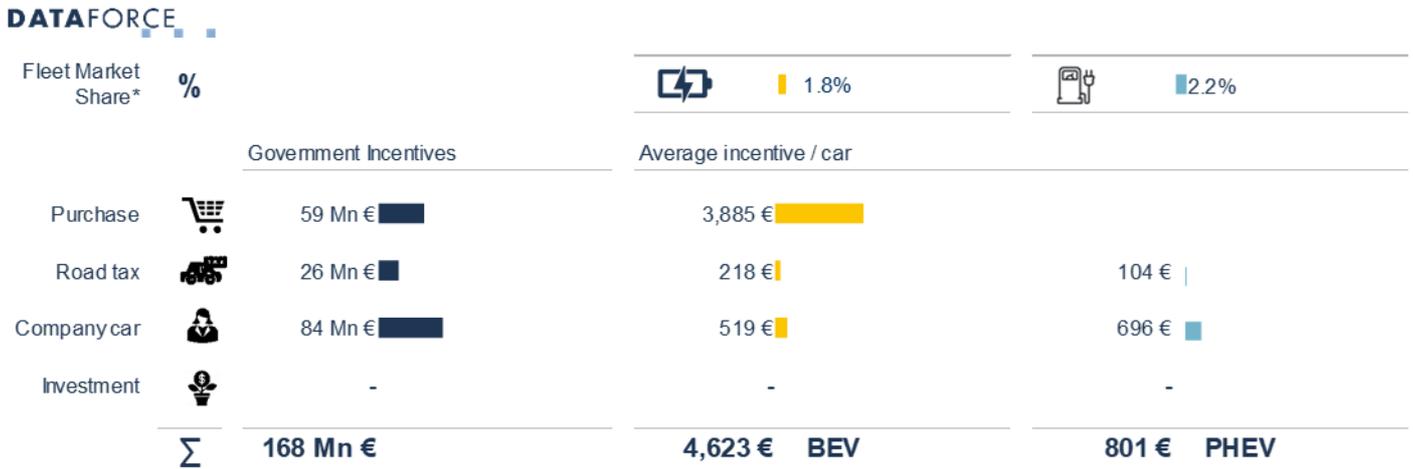
**Tax benefits deal ONLY with 2019. Circular taxes (Road tax, BIK) may have higher lifecycle benefit, depending on government tax rules.*

In France EVs and Plug-ins have a beneficial writing off policy, to where one can deduct up to €30,000 for vehicles with a CO2 value lower than 20 g/km over the car's lifecycle, below 59 g/km this is EUR 20.300. Normal amounts are either EUR 18,300 or EUR 9,900.

7.1.5. UK – Incentive & Tax Advantages – ZLEV

In the UK, what are the incentives and tax advantages to promote ZLEV models in the company car market? Do the tax advantages distinguish between zero emission (BEV & FCEV) and low emission (PHEV) vehicles, and if so - what are the differences?

Government incentives for Electrical Vehicles and Plug-ins – UK



For the UK market BEV receive overall more incentives than Plug-in vehicles, which is mainly because of the higher benefits on the purchase tax. The UK Plug-in grant (35% of MSRP, up to EUR 3,920) for vehicles with CO2 emissions < 50g CO2 and an > 112 km electric range, which basically means only BEVs qualify. An additional registration fee, that depends on CO2 emissions, is exempt for BEVs and PHEVs which meant in 2019 that only 16.700 vehicles were able to utilise this.

Road tax also depends on CO2 and here again BEVs exempt, however, any car that has a list price of over EUR 44,800, must pay a further EUR 376 which BEVs are not exempt from. The latter rule here does not apply to the vehicles first year on the road. In 2019 over 28,000 BEVs and 96,000 PHEVs benefited from this incentive. The sum also includes the benefit of regular hybrids.

The UKs BIK rate was 13% in Q1 2019 and 16% for the rest of the year on EVs and Plug-ins below 50 g/km CO2 with all other vehicles BIK% increasing based on the CO2 level of that vehicle up till a maximum of 37%.

Taxation comparisons – BEV / Plug-in vs. comparable ICE vehicle - UK

DATAFORCE

Calculation Examples*	PC Medium BEV 	PC Medium Diesel 	SUV Medium PHEV 	SUV Medium Diesel 
Purchase 	-3,920 €	168 €	48 €	235 €
Road tax 	358 €	521 €	151 €	162 €
Company car 	3,226 €	4,838 €	2,294 €	4,588 €
Investment 	0 €	0 €	0 €	0 €
Tax/Grant Σ	-336 €	5,527 €	2,493 €	4,985 €

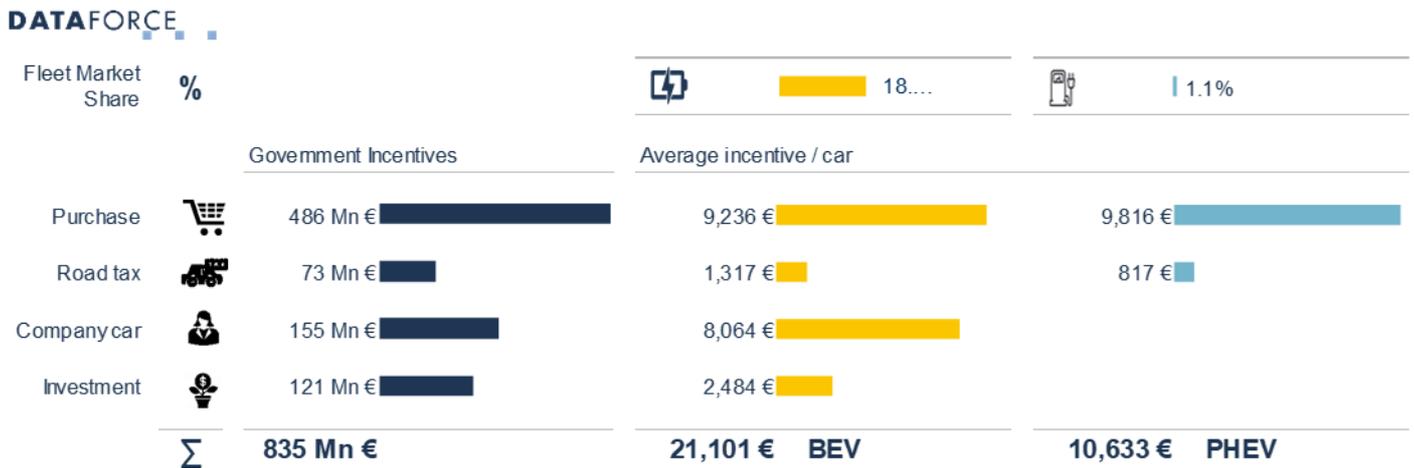
*Tax benefits deal ONLY with 2019. Circular taxes (Road tax, BIK) may have higher lifecycle benefit, depending on government tax rules.

For BEVs registered in the UK there is the possibility to write of the complete vehicle in the first year, however given current low interest rates this is deemed to have limited direct financial benefits.

7.1.6. Netherlands – Incentive & Tax Advantages – ZLEV

In the Netherlands, what are the incentives and tax advantages to promote ZLEV models in the company car market? Do the tax advantages distinguish between zero emission (BEV & FCEV) and low emission (PHEV) vehicles, and if so - what are the differences?

Government incentives for Electrical Vehicles and Plug-ins – Netherlands



The Dutch purchase benefits are substantial due to the very high tax on CO₂, on top of which BEV's receive a favourable tax rate, which leads to very serious benefits for the fleet driver. All cars except BEVs pay a registration tax for each gram of CO₂ they emit plus of a base tax of EUR 360. Tax per gram increase with higher CO₂ values, e.g. 2 €/g between 1 and 71 g/km, 429 €/g for emissions exceeding 157 g/km. For PHEVs different rates have applied since 2017 which has resulted in a reduction to their tax advantage.

Road tax for the Netherlands depends on vehicle weight, fuel type, CO₂ and province though the calculations for this are not publicly available. Average weights and CO₂ levels have been taken for our calculations here. BEVs are exempt of the tax while PHEVs get a 50% discount of the tax levied. The Benefit-in-kind or "Bijtelling" in the Netherlands for BEVs is 4% of MSRP, up to 50,000€ MSRP, then 22% for everything above. All other vehicles pay 22% as their taxable amount.

Taxation comparisons – BEV / Plug-in vs. comparable ICE vehicle - Netherlands

DATAFORCE

Calculation Examples	PC Medium BEV 	PC Medium Diesel 	SUV Medium PHEV 	SUV Medium Diesel 
Purchase 	0 €	17,128 €	5,784 €	37,446 €
Road tax 	0 €	2,000 €	500 €	2,000 €
Company car 	990 €	5,445 €	4,901 €	4,901 €
Investment 	-2,700 €	0 €	-155 €	0 €
Tax /Grant Σ	-1,710 €	24,573 €	11,030 €	44,347 €

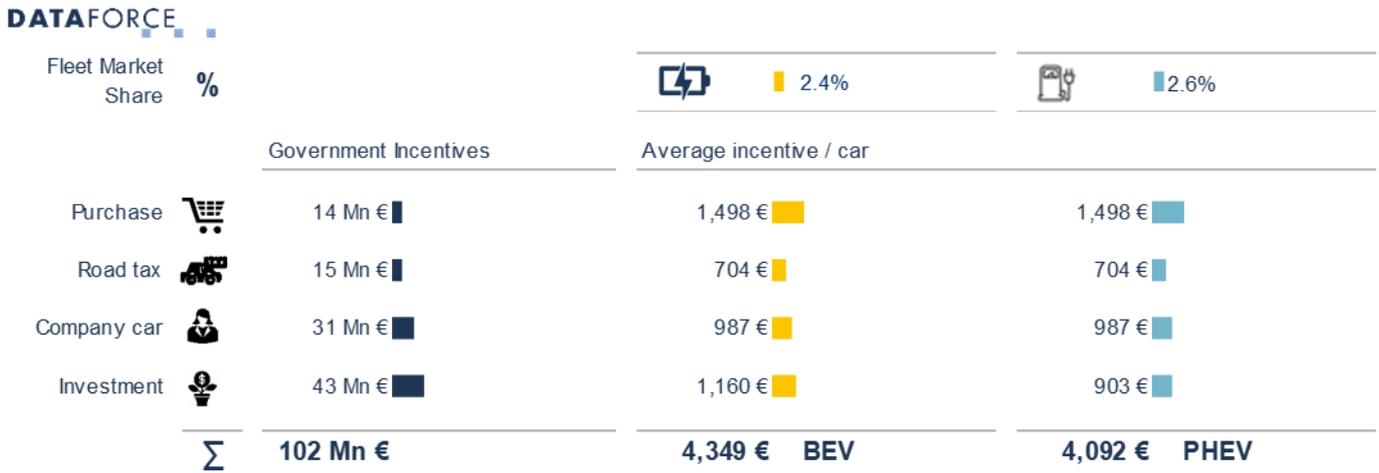
**Tax benefits deal ONLY with 2019. Circular taxes (Road tax, BIK) may have higher lifecycle benefit, depending on government tax rules.*

There is an investment reduction for environmentally friendly goods in the Netherlands, called MIA, which in the first year of registration means up to 27% of MSRP to a maximum of 40.000€ can be written down.

7.1.7. Belgium – Incentive & Tax Advantages – ZLEV

In Belgium, what are the incentives and tax advantages to promote ZLEV models in the company car market? Do the tax advantages distinguish between zero emission (BEV & FCEV) and low emission (PHEV) vehicles, and if so - what are the differences?

Government incentives for Electrical Vehicles and Plug-ins – Belgium



Although all tax forms are subsidized in Belgium, the actual benefit for electrified transport is relatively modest, due to the generally mild taxation on passenger cars. There is no purchase tax on vehicles with < 50 g CO2/ km and for 2019 more than 9,300 vehicles benefited from this.

Road tax depending on engine size and region with BEVs and PHEVs which are <50g CO2/ km exempt. This exemption applied only to the Flemish part of Belgium, in 2019 though this represents 21,300 vehicles. In Belgium the Benefit-in-kind (BIK) is calculated on price, CO2, fuel type and age of the vehicle. The minimum level of BIK to be added to the income is EUR 1,340 per year and here BEVs and PHEVs benefit from their lower CO2 emissions, as do a lot of smaller vehicles. As BEVs and Plug-ins are predominantly large cars, the actual segment-weighted benefit is significant. Our benefits here are weighted with pro-rata data for 2019, as a lot of vehicles were registered later in the year. This is in total almost 31,000 vehicles

Taxation comparisons – BEV / Plug-in vs. comparable ICE vehicle - Belgium

DATAFORCE

Calculation Examples	PC Medium BEV 	PC Medium Diesel 	SUV Medium PHEV 	SUV Medium Diesel 
Purchase 	0 €	1,261 €	0 €	2,321 €
Road tax 	0 €	475 €	0 €	699 €
Company car 	930 €	1,056 €	903 €	1,706 €
Investment 	-3,550 €	-2,366 €	-3,698 €	-2,773 €
Tax /Grant Σ	-2,620 €	426 €	-2,795 €	1,953 €

**Tax benefits deal ONLY with 2019. Circular taxes (Road tax, BIK) may have higher lifecycle benefit, depending on government tax rules.*

The depreciation rate for the Belgian market depends on CO2, with 120% deductibility for BEVs and 100% for PHEV's with a CO2 below 60g/km. Normal rates of depreciation for all other vehicles are between 60% and 90%.

7.1.8. Poland – Incentive & Tax Advantages – ZLEV

In Poland, what are the incentives and tax advantages to promote ZLEV models in the company car market? Do the tax advantages distinguish between zero emission (BEV & FCEV) and low emission (PHEV) vehicles, and if so - what are the differences?

Government incentives for Electrical Vehicles and Plug-ins – Poland

DATAFORCE		Fleet Market Share %	
		 0,4%	 0,2%
		Average incentive / car	
	Government Incentives	Average incentive / car	
Purchase 	4 Mn €	2.056 € 	2.056 € 
Road tax 	-	-	-
Company car 	-	-	-
Investment 	7 Mn €	819 € 	
	Σ 10 Mn €	2.875 € BEV	2.056 € PHEV

Although several tax forms are subsidized in Poland, the actual benefit for electrified transport is relatively modest, due to the general mild taxation on passenger cars, much like Belgium. BEVs and PHEVs do not pay purchase tax for the Polish market and 1,794 fleet vehicles benefited from this exemption in 2019. For ICEs the tax rate is linked to engine size and levied at 18.6% of MSRP in case of an engine size over 2.0 litres and 3.1% of MSRP in the case of vehicles below 2.0 litres. Due to the steep increase, most cars stay below the 2.0 threshold and as a result the benefit is more often just the 3.1% rather than 18.6% of MSRP.

Taxation comparisons – BEV / Plug-in vs. comparable ICE vehicle - Poland

DATAFORCE		Calculation Examples			
		PC Medium BEV 	PC Medium Diesel 	SUV Medium PHEV 	SUV Medium Diesel 
Purchase 		0 €	818 €	0 €	818 €
Road tax 		n.a.	n.a.	n.a.	n.a.
Company car 		211 €	338 €	338 €	338 €
Investment 		-2,485 €	-1,657 €	-1,657 €	-1,657 €
Tax/Grant Σ		-2,274 €	-501 €	-1,319 €	-501 €

*Tax benefits deal ONLY with 2019. Circular taxes (Road tax, BIK) may have higher lifecycle benefit, depending on government tax rules.

For the Polish market no road tax was levied on passenger cars in 2019 and there were no incentives on the BIK tax for BEV's or Plug-ins. Companies can however write off additional EUR 16,500 for BEVs on top of the EUR 33,000 allowed for all cars though this does not apply to Plug-ins at present.

7.1.9. Spain – Incentive & Tax Advantages – ZLEV

In Spain, what are the incentives and tax advantages to promote ZLEV models in the company car market? Do the tax advantages distinguish between zero emission (BEV & FCEV) and low emission (PHEV) vehicles, and if so - what are the differences?

Government incentives for Electrical Vehicles and Plug-ins – Spain

DATAFORCE

Fleet Market Share %		 1.4%		 1.0%	
		Government Incentives		Average incentive / car	
Purchase		15 Mn €		914 €	2,621 €
Road tax		0.5 Mn €		97 €	
Company car		13 Mn €		283 €	265 €
Investment		-		-	-
	Σ	28 Mn €		1,294 € BEV	2,886 € PHEV

In Spain the benefits on purchase tax come mainly from the relative benefit of Plug-in technology in heavy SUV's, which brings down the CO2 level into the tax-free zone. BEVs and PHEVs, as well as all cars with a CO2 value below 120g/km, are exempt from purchase tax in the Spanish market but there is a purchase tax for all others. ICE vehicles with a CO2 value between 120 and 160 g/km pay 4.75% of the MSRP, between 160 and 200 g/km it is 9.75% and beyond 200 g/km it is 14.75%. In practice PHEVs usually have a benefit of 4,75% while EVs have a lower difference, as the comparable cars are often below 120 grams, and do also not pay the tax.

Taxation comparisons – BEV / Plug-in vs. comparable ICE vehicle - Spain

DATAFORCE

Calculation Examples	PC Medium BEV 	PC Medium Diesel 	SUV Medium PHEV 	SUV Medium Diesel 
Purchase	0 €	0 €	0 €	2,504 €
Road tax	28 €	112 €	112 €	112 €
Company car	715 €	638 €	840 €	638 €
Investment	n.a.	n.a.	n.a.	n.a.
Tax /Grant	Σ 743 €	750 €	952 €	3,254 €

**Tax benefits deal ONLY with 2019. Circular taxes (Road tax, BIK) may have higher lifecycle benefit, depending on government tax rules.*

In most large regions of Spain (e.g. Madrid, Barcelona), which cover around 80% of the car parc, BEVs benefit from a 75% discount on the road tax. Though as the median road tax is €129/year, this is not a spectacular discount. When it come to the Benefit-in-kind tax BEVs and Plug-ins with a net price below EUR 40,000 receive a 30% discount on the taxation. Hybrids, alongside LPG and CNG vehicles also get a discount, though for them this is 20% if their net price is below 35,000.

7.1.10. Italy – Incentive & Tax Advantages – ZLEV

In Italy, what are the incentives and tax advantages to promote ZLEV models in the company car market? Do the tax advantages distinguish between zero emission (BEV & FCEV) and low emission (PHEV) vehicles, and if so - what are the differences?

Government incentives for Electrical Vehicles and Plug-ins – Italy

DATAFORCE

Fleet Market Share %		 1,3%	 0,7%
	Government Incentives	Average incentive / car	
Purchase 	8 Mn €	5.000 € 	2.000 € 
Road tax 	4 Mn €	482 € 	
Company car 	-	-	-
Investment 	-	-	-
Σ	12 Mn €	5.482 € BEV	2.000 € PHEV

For the Italian market the total benefit on BEVs is much higher than on Plug-ins, due mostly to the difference in purchase tax. For BEVs in Italy there is EUR 4,000 bonus (without scrappage) or a EUR 6,000 bonus (with scrappage Euro 1-4) while for PHEVs there is a EUR 1,500 bonus (without scrappage) or EUR 2,500 bonus (with scrappage Euro 1-4). For the purposes of our calculations we have taken the respective bonus averages for BEVs or PHEVs.

Taxation comparisons – BEV / Plug-in vs. comparable ICE vehicle - Italy

DATAFORCE

Calculation Ex amples	PC Medium BEV 	PC Medium Diesel 	SUV Medium PHEV 	SUV Medium Diesel 
Purchase 	-5,000 € 		-2,000 € 	
Road tax 		359 € 	395 € 	395 € 
Company car 	n.a.	n.a.	n.a.	n.a.
Investment 	n.a.	n.a.	n.a.	n.a.
Tax/Grant Σ	-5,000 € 	359 € 	-1,605 € 	395 € 

*Tax benefits deal ONLY with 2019. Circular taxes (Road tax, BIK) may have higher lifecycle benefit, depending on government tax rules.

Annual road tax in Italy is based on the kW power output of the vehicle; 2.58€ per kW for < 100 kW and 3.87€ per kW for each kW exceeding 100 with BEVs exempt from this tax for a 5-year period providing a further boost for which PHEVs are not eligible. After this period, the BEVs will continue to receive a boost with a 75% reduction vs. an equivalent petrol vehicle. Benefit -in-kind (BIK) taxation will become CO2-related in July 2020 but there is no differentiation in place for 2019. Companies can at present only deduct a small fraction of car purchase costs, though this might offer some scope to introduce benefits for electric cars in the future.

7.1.11. Norway – Incentive & Tax Advantages – ZLEV

In Norway, what are the incentives and tax advantages to promote ZLEV models in the company car market? Do the tax advantages distinguish between zero emission (BEV & FCEV) and low emission (PHEV) vehicles, and if so - what are the differences?

Government incentives for Electrical Vehicles and Plug-ins – Norway

DATAFORCE

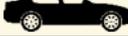
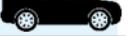


The Norwegian benefits for both EV's and Plug-ins are huge with additional incentives on the purchase tax making BEV's even more interesting, though compared to the purchase tax, there are relatively little Benefit-in-kind benefits for the fleet drivers.

In Norway BEVs are excluded from the 25% VAT rate (VAT is not deductible for fleets) and are also exempt from registration tax. PHEVs also fair well as they pay less than their ICE counterparts due to lower CO2 and NOx emissions. Given these significant advantages it goes a long way in explaining the high penetration percentage of electrified transport in the Norwegian marketplace.

Taxation comparisons – BEV / Plug-in vs. comparable ICE vehicle - Norway

DATAFORCE

Calculation Examples	PC Medium BEV 	PC Medium Diesel 	SUV Medium PHEV 	SUV Medium Diesel 
Purchase 	-6,845 € 	14,077 € 	2,289 € 	18,552 € 
Road tax 	0 €	319 € 	273 € 	319 € 
Company car 	1,787 € 	2,623 € 	2,292 € 	2,292 € 
Investment 	n.a.	n.a.	n.a.	n.a.
Tax /Grant Σ	-5,058 € 	17,019 € 	4,854 € 	21,163 € 

**Tax benefits deal ONLY with 2019. Circular taxes (Road tax, BIK) may have higher lifecycle benefit, depending on government tax rules.*

BEVs are exempt from the so called "traffic insurance tax" and for electrical Vehicles there is a discount of 35% on the Benefit-in-kind taxation and once the vehicle is older than 3 years this discount becomes 55%.

7.1.12. Sweden – Incentive & Tax Advantages – ZLEV

In Sweden, what are the incentives and tax advantages to promote ZLEV models in the company car market? Do the tax advantages distinguish between zero emission (BEV & FCEV) and low emission (PHEV) vehicles, and if so - what are the differences?

Government incentives for Electrical Vehicles and Plug-ins – Sweden

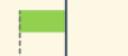
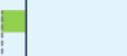
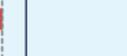
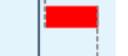


For the Swedish market there is an additional “climate” bonus on 0-gram vehicles which provides extra benefit for the BEVs vs. Plug-ins but Benefit-in-kind taxations are very similar for both BEV and Plug-ins.

The government in Sweden pays a "climate bonus" to all car buyers opting for a car with up to 60 g/km of CO2 with bonuses starting at EUR 5,520 for the zero emission cars and reducing by EUR 77 for every gram up to the 60g/km. The lowest amount for the “climate bonus” is EUR 922 for cars with that 60 g/km. Road tax is CO2-based with different rates for diesel (including diesel-hybrids) and bivalent. For non-diesel cars, base tax is EUR 33 per year and increases for cars with more than 95 g/km, e.g. EUR 963 for 200 g/km. Road tax on diesel increases from the first gram with EUR 174 for 95 g/km and EUR 1,097 for 200 g/km.

Taxation comparisons – BEV / Plug-in vs. comparable ICE vehicle - Sweden

DATAFORCE

Calculation Examples	PC Medium BEV 	PC Medium Diesel 	SUV Medium PHEV 	SUV Medium Diesel 
Purchase 	-5,520 € 	0 € 	-2,455 € 	0 € 
Road tax 	33 € 	466 € 	33 € 	611 € 
Company car 	2,988 € 	4,322 € 	3,647 € 	5,176 € 
Investment 	n.a.	n.a.	n.a.	n.a.
Tax /Grant Σ	-2,499 € 	4,788 € 	1,225 € 	5,786 € 

*Tax benefits deal ONLY with 2019. Circular taxes (Road tax, BIK) may have higher lifecycle benefit, depending on government tax rules.

The Swedish system for the Benefit-in-kind (BIK) tax calculation considers five different components. For BEVs and PHEVs the MSRP is reduced to the MSRP of a compatible ICE, minus EUR 920 and they also benefit from the lower road tax as this is also subject to BIK. Income tax and social security contributions add up to a tax rate of more than 80% in Sweden and this then makes a difference in the taxable amount more important than in other countries.

7.1.13. EU27+UK¹² – Incentive & Tax Advantages Estimations – ZLEV

In EU-27+UK, what are the incentives and tax advantages to promote ZLEV models in the company car market? Do the tax advantages distinguish between zero emission (BEV & FCEV) and low emission (PHEV) vehicles, and if so - what are the differences?

Estimated total based on EU-8 Member states and Sweden’s final figures

Based on the information collected for the incentive and tax advantages to promote ZLEV models for the EU-8 Member states and Sweden in the company car market we have estimated the following incentive totals, taxes and depreciation values for the EU-27+UK.

Consolidated government incentives Electrical Vehicles and Plug-ins – EU27 + UK – Estimation



Government incentives Electrical Vehicles and Plug-ins – EU27 + UK – Estimation



The EU-27+UK would include all European Member states and the United Kingdom apart from Malta & Bulgaria

The EU-8 and Sweden represent the majority percentage of all the True Fleet registrations in Europe (89% approx.) and while not all the other countries of the EU will have the same taxation, benefits, incentives, levies or maluses, these 9 markets would be a very good representation of the fleet market and on which we have based the estimated total for the EU-27+UK.

Looking at the adoption of BEV or PHEV in the EU countries outside of the EU-8 & Sweden we can certainly see an uplift in registrations as referenced in 10.3.1. But as

¹² The EU-27+UK would include all European Member states and the United Kingdom apart from Malta & Bulgaria.

the numbers suggest this is certainly just the start for most of those countries in their adoption of these powertrains and any incentives are still likely in their infancy.

Therefore, it is difficult to capture all the incentives or tax advantages before calculating the numbers thereby allowing us to distinguish between BEV and PHEV and their corresponding incentives or tax advantages for the EU-27+UK. Also given the broad difference visible between the individual EU-8 member states and Sweden as displayed in the previous subsections we believe any estimation would not reflect the EU-27+UK correctly here.

What is clear is that each of the EU-8 countries, though for Poland this is probably at the start, have shown a growing maturity in how they have handled their incentives and bonuses for BEVs & PHEVs and perhaps these trials and errors can help further the adoption and uptake of EVs in the other 20 European countries.

8. Results – Part 2 – PHEV Usage

Are there any measures or monitoring of how PHEV are used (in electric mode, charging, etc)?

Based on the data we were able to accumulate it does not appear to support the active steering of electric mode usage in PHEVs. No significant difference in either Private or Commercial usage of this powertrain was visible either. Fuel usage between the PHEV models and ICE model is small and the usage of the electric mode is either low or ineffective.

Key points on the data

- Vehicle selection: Top 3 commercial PHEV in 2019 for each country except for France as there was no data for Mitsubishi Outlander.
- There is a lack of formal tracking and no governmental programs we could find for tracking or monitoring.
- Best measure (for fleet) is via Fuel card (NL and UK) or telematics
- Fuel card companies do normally not pro-actively analyse fuel consumption on vehicle level (data protection).
- Companies themselves might use telematics or fuel card results.
- There are websites available where private users of PHEVs gather their data.

Plug-in Vehicle: Normal use vs. Real life¹³¹⁴¹⁵¹⁶¹⁷

	Data Basis	Ø PHEV OEM	Ø PHEV real	Ø ICE Real	Diff. OEM - PHEV Real	Diff. PHEV- ICE	Top PHEV- Models
 GER*	Private	1.9 	4.9 	8.1 	256%	61%	BMW 2 & 5 Series, Mitsubishi Outlander
 UK**	Fleet	2.0 	5.5 	N/A N/A	281%	N/A	Mitsubishi Outlander, BMW PHEV models
 FRA***	Private	2.4 	7.1 	8.2 	294%	86%	Mitsubishi Outlander, Volvo XC60, Mini Countryman
 NL****	Fleet	2.0 	7.1 	8.4 	356%	85%	Mitsubishi Outlander, Volvo V60, Volvo XC60
 POL***	Private	2.4 	7.4 	9.3 	306%	80%	Mini Countryman, BMW 5 Series, Volvo XC90

13* https://www.spritmonitor.de/de/uebersicht/0-Alle_Hersteller/0-Alle_Modelle.html?fueltype=6&vehicletype=1&activity=730&powerunit=2
 14 ** <https://www.dailymail.co.uk/sciencetech/article-7973435/Plug-hybrid-cars-emit-THREE-TIMES-carbon-dioxide-official-figures-suggest.html>
 15 *** <https://www.praktijkverbruik.nl/default.aspx>
 16 **** <http://www.fiches-auto.fr/articles-auto/dossiers-conseils/index-159-hybride.php>
 17 ***** <https://www.autocentrum.pl/spalanie/>

Fleet Managers Survey – Germany¹⁸



Results of Interviews with Fleet Managers from Large fleets ¹⁹

- No active policies in place due to minimal percentage of fleet vehicles in parc.
- With planned increase of parc electrification this point becomes part of the electrification agenda surrounding the below points:
 - Fuel usage targets
 - Km’s driven in purely electrical mode
- No participant could give a clear roadmap on when the measures will likely be put in place to monitor PHEV usage.

¹⁸ Dataforce questionnaire: May 2020, 58 fleet owners with PHEV vehicles

¹⁹Dataforce personal interviews May 2020, 10 Large European fleets

9. Policy Recommendations – Part 2

What are the most effective policy measures (from current best practice across the selected MS) to speed up the adoption of ZLEV into company car fleets? Please include recommendations for national and EU policymakers.

Policy Measures

Infrastructure

The area where politics & government must act most quickly and strictly is that of the charging infrastructure. This part seems to have been neglected far too long. Quite a large number of the population has already built up a positive mindset regarding the need to go green and the car manufacturers are already pushing hard to produce electric vehicles capable of replacing internal combustion engine variants in the next 3 years. So, what is missing to make the equation work? Is a set of rules, regulations and support that would force infrastructure to be built up in office buildings, company parking places, at home and on route.

Measure 1 Office Charging

Most of our cars are parked inside office garages for 8 hours a day. A perfect place to charge them especially since a quite large portion of the population has no chance to charge their vehicles at home.

In a first step, owners of office buildings need to be obliged (helped) to invest in any necessary upgrades that individual countries laws require when dealing with hybrid and electrical vehicles. These upgrades may include rules, like in Germany, where there is a requirement to conform to fire protection regulations. Employers that are reluctant to install charging infrastructure could also be incentivised should employees drive a BEV vehicle.

As a second step, it should be possible to install a demand-based charging infrastructure in the office buildings, based on the power currently available in the buildings and without the landlords being able to decline (housing regulations). This should result in a build-up of charging infrastructure in existing buildings, when the

need arises, but without forcing everyone and wasting valuable subsidies in the process.

A third step, would be to change the regulations for all office buildings currently under planning or construction, stipulating car parking will only be approved if a ratio of 30% to 50% is equipped with a charging infrastructure or can be proved core requirements are in place and charging units can be easily retrofitted. Here it is also important to cater for an adequate power supply of the buildings in advance.

Measure 2 Home Charging

Support measures for private households to install charging points in their homes. When planning new residential areas, make sure that the charging infrastructure is part of the planning process. This would include the power supply of the areas as well as the regulations that new homes need to be able to support a charging point, or even better a new home cannot be built without installing a “wallbox”.

Of course, there are still a lot of houses and housing being built without direct access for parking. In this case special rules must apply, possibly utilising a similar scheme to Amsterdam, where a resident can register the she/he has a chargeable car and the municipality must then ensure there is a charging point sufficiently close enough for their use nearby (use of lantern electric infrastructure as base for slow charging overnight)

Measure 3 Charging “on route”

The first charging points “on route” we saw in Europe were the fast high-power-chargers of Tesla. They were followed by chargers which we find in the parking lots of supermarkets or the occasional spots in the city or in city centre parking lots. The charging network is still very scattered and today its quite a challenge and takes some planning to cover longer distances with a BEV.

If we want the car not only to be used for commuting but also in our normal work and private life the infrastructure of fast chargers needs to grow. As the share of pure electric vehicles is still below 10%, the current waiting times once a place to charge is found are still considerably low or non-existent. In the case of Europe really pushing to go electric, we will see that potential waiting time change rapidly, therefore

government & politicians need to act fast in order not to kill the momentum. In the long run we will see ranges getting longer and the need to charge “on route” will become less important. Plug-In Hybrids currently can bridge the gap, enabling them to commute in pure electric mode, while for the longer distances a petrol or diesel engine takes the workload once the battery power has been exhausted.

For the listed measures, investments, subsidies, rules, regulations and laws to be put in place fast, funds will be needed and the finances to drive this change EU wide should be available: Especially since December and during the crisis the EU transformed itself globally into the leading political entity for sustainable growth.

On December 18th, the European Parliament and European Council reached agreement on a classification system for ecologically sustainable economic activities – EU Taxonomy.

On January 14th, the European Commission mobilised 1 trillion EUR in investments for the sustainable transformation of the EU – European Green Deal Investment Plan (EGDIP) and on the 27th of May, the European Commission presents an EUR 750 billion recovery package for ecological growth following Covid-19 – EU Recovery Plan. However, for the infrastructure it's not solely about funds but about the detailed work needed in terms of rules and regulations in order to make the Green Deal become reality.

Taxation & Subsidies

In order to promote the adoption of alternative powertrain vehicles in the EU, taxation and subsidies play a vital role. As seen in Norway, the tax benefits or better the absence of taxes can lead to an enormous leap in market share for BEV and PHEVs. Policy measures should aim to make BEV, PHEV and ICE vehicles more comparable in terms of costs. Currently, BEVs and PHEVs are still far more expensive than their fellow ICE versions. Therefore, tax benefits or subsidies which level the total cost of use (TCU) can help to make alternative powertrain vehicles more attractive for the customer.

Even if the mindset has already changed for quite a lot of people, the range anxiety and the lack of a large selection of models currently still must be overcome. Here our

research in fleets has shown that benefits should above all follow a long-term plan, so that companies and private households can rely on the regulations when they make their own plans. In the Netherlands, we see the “seesaw” effects on new car registrations, as varying measures/policies were introduced for alternative powertrain vehicles. The more the costs come down, the more the driving range goes up and as the range of models increases, the less the necessity to continue to subsidise the adoption of alternative powertrain.

Measures could include the reduction or exemption from, road tax, benefit in kind tax and/ or VAT, depending on the country specific laws.

Marketing & Education

Today we draw our information from numerous sources but what they all have in common is their shallowness. To push content with rich explanations is extremely difficult. Therefore, it would be an important step to inform everyone about the measures taken or available as there is so much second guessing going on.

To be able to calculate the TCO/ TCU/ TCM as a company or an individual between a BEV, PHEV and a Diesel driven car can help enormously to push the acceptance. But that also means making this information available to all the residents in the EU again and again. To have an answer for the second life or the disposal of batteries counts as much into the equation as how the electricity is going to reach the wall boxes and charging stations without compromising the electricity network. Honestly, high quality Information about the current and planned progress being put forward in all media channels, enabling maximum reach, can help to keep momentum. Build trust that the governments and politicians don't just want the businesses and private individuals to change but are willing to drive the change forward themselves along with being measured by its success.

10. Results – Part 3 – Powertrain Composition

What was the powertrain composition (diesel, petrol, battery electric (BEV), plug-in hybrid (PHEV), hybrid (HEV), natural gas, fuel cell (FCEV) or other) of the company car fleet in 2019?

The powertrain composition of the company car market has changed quite dramatically in the last few years. We can see the gradual increase coming from the alternative powertrains, as more models enter the marketplaces, as company car policies change and start to reflect their respective companies' environmental objectives and as the technology offering matures and allows for more widespread usage. However, the biggest change to be seen certainly comes from the two main ICE powertrain variants of Petrol and Diesel.

There is no doubt as to the impact that the “Dieselgate” scandal had on the automotive industry, whether this can be identified as the sole reason for the decline in Diesel is open to debate. However, the resulting actions spurred on by this episode, investigations, more stringent air quality/pollution testing, discussions around transport policy decisions and driving bans have certainly further fuelled the decline.

We can possibly associate further impacts to powertrain composition with the gradual tightening of European Emission standards for new passenger cars, set out in 2014 by Regulation (EU) No 333/2014, the move from NEDC based testing to WLTP and even the overall push on both European and National level for improvements to city or national air-quality.

We can see these influences' impact on Commercial/Corporate powertrain composition on a citywide level in cities like Paris and Madrid as the local government/cities enacted or introduced bans or maluses on certain high-level emission vehicles.

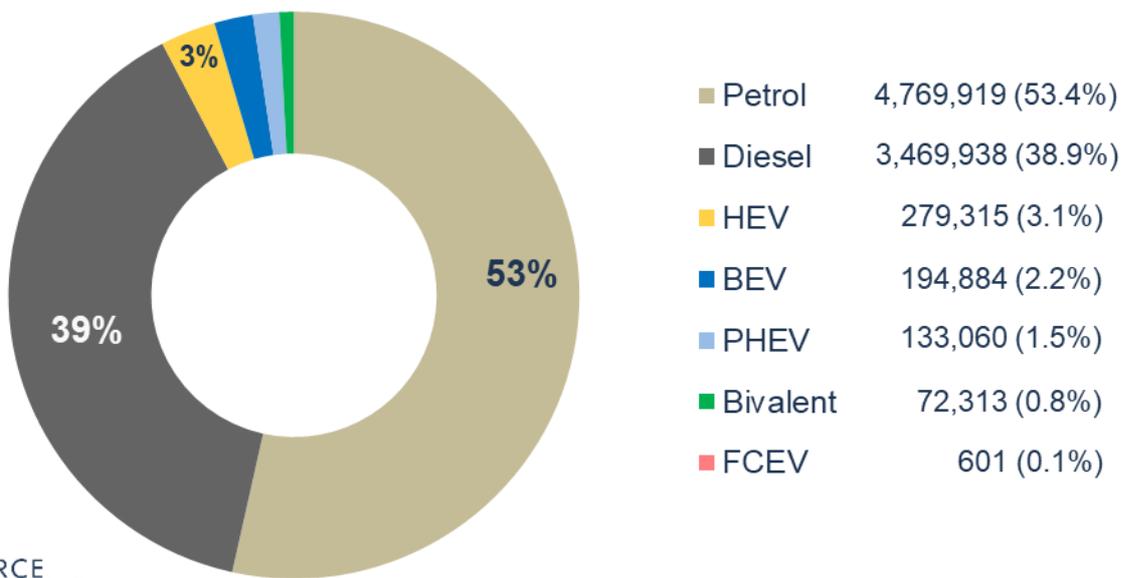
However, a certain dampening to all these influences and their positive emission gains may be coming from the huge consumer trend both Privately and Commercially toward the vehicle type: SUV. Vehicles that are often larger but certainly less fuel efficient than a similar segment size car.

10.1.1. EU-27+UK²⁰ – Powertrain Composition - 2019

In 2019 we see that Petrol powertrain has the commanding share of the market, but this has been only the 2nd year of that dominance within the Commercial/Corporate segment which up until 2018 had seen the Diesel powertrain leading. Given the vilification (either rightly or wrongly) of the Diesel powertrain in the press regarding its CO² emissions it has been the Petrol powertrain that has mostly moved in to fill the void.

What was the powertrain composition of the company car fleet in 2019?

Fuel type split 2019 (EU-27+UK), Commercial Market)

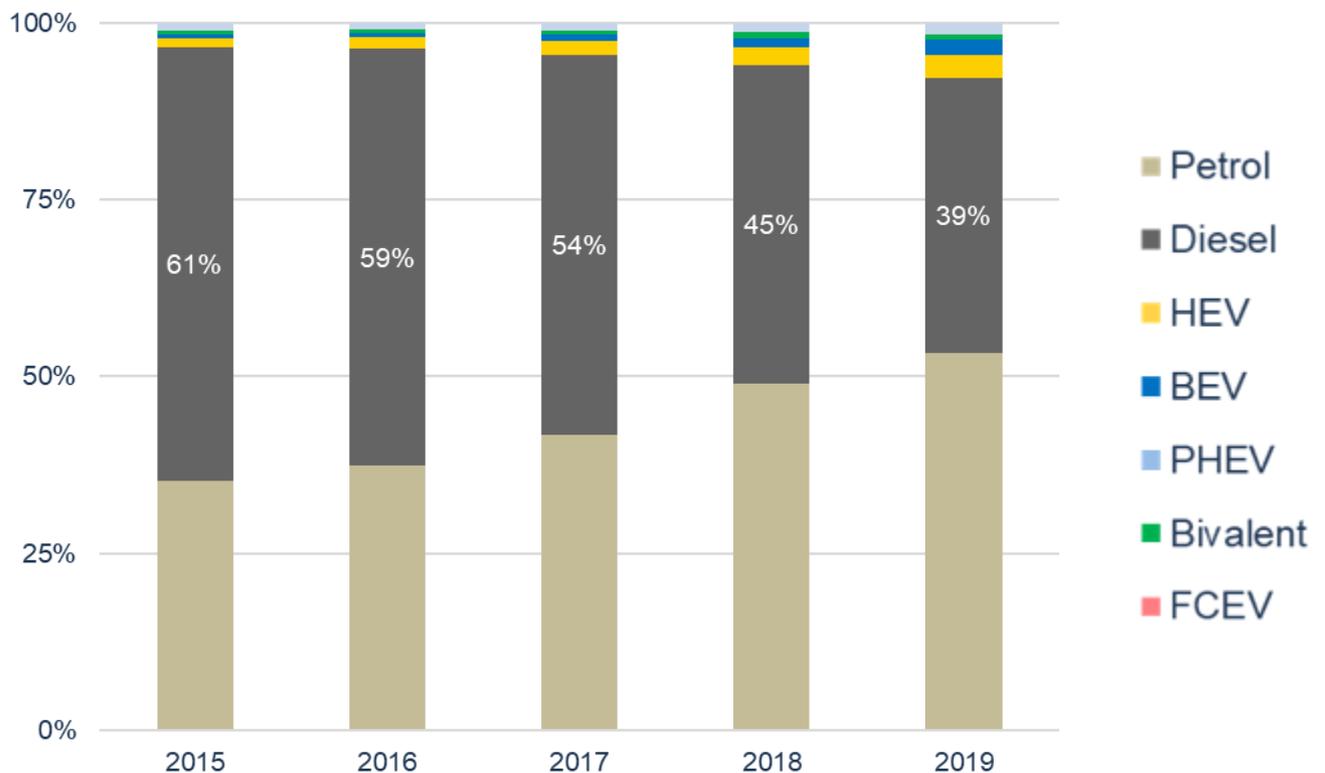


The Diesel market share has been in decline since 2017 possibly not only based on consumer sentiment toward this powertrain but also as OEMs moved to remove the powertrain from certain model line-ups, especially in the Small (B) and Mini (A) vehicle segments.

²⁰ The EU-27+UK would include all European Member states and the United Kingdom apart from Malta & Bulgaria.

Clear leader in the alternative powertrain category comes from HEV or Hybrid vehicles though BEV registrations have continued to grow at an exponential rate, alongside the volume of models being offered. We have also seen a steadily increasing share of PHEV, with this powertrain likely to gain further traction in 2020, especially given the number of models entering the market. The FCEV powertrain currently still play a very limited role in the markets and given the challenges with fuelling infrastructure for Hydrogen, the very few models available/registered in 2019 (Hyundai Nexu, Toyota Mirai, and the last few units of the now discontinued Mercedes GLC) it might well remain this way for the foreseeable future.

Development fuel type share 2015-2019 (EU-27+UK, Commercial Market)



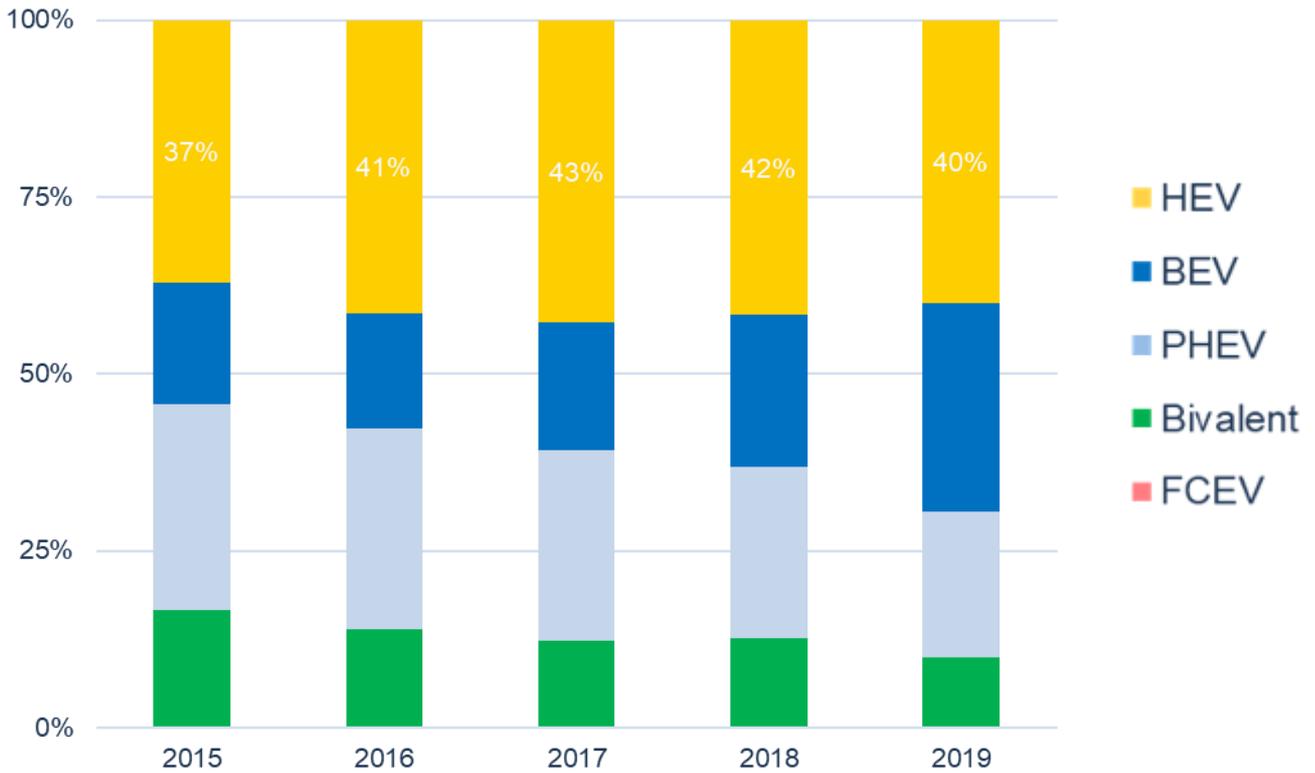
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The Bivalent (Mostly - CNG, LPG) powertrain has also shown a healthy increase and while already established and showing stable registrations in the Private market, for Commercial registrations it has grown by just over 60% since 2015. It should be

²¹ The EU-27+UK would include all European Member states and the United Kingdom apart from Malta & Bulgaria.

noted that the majority of these powertrain registrations come from just two markets: Italy (56.6%) and Spain (19.2%).

Development fuel type share – Alternative 2015-2019 (EU-27+UK, Commercial Market)



²² The EU-27+UK would include all European Member states and the United Kingdom apart from Malta & Bulgaria.

10.2. Results – Part 3 – Powertrain Composition

How has the share of zero and low emission (ZLEV) models (under 50g: BEV, PHEV & FCEV) evolved since 2015 EU-wide and in the selected markets?

IMPORTANT NOTICE –

In order to produce the figures displayed here specifically for the “PHEV under 50g” registrations from with the total Commercial registrations of PHEV powertrain, we utilised available CO² emissions data from Belgium, Germany, Netherlands, Spain and the UK. We then recorded all the relevant models with the PHEV powertrain under 50g, before overlying this model and fuel type selection onto the rest of EU-8 selected member states and the EU-27+UK²³ countries where CO² emissions are not available to us.

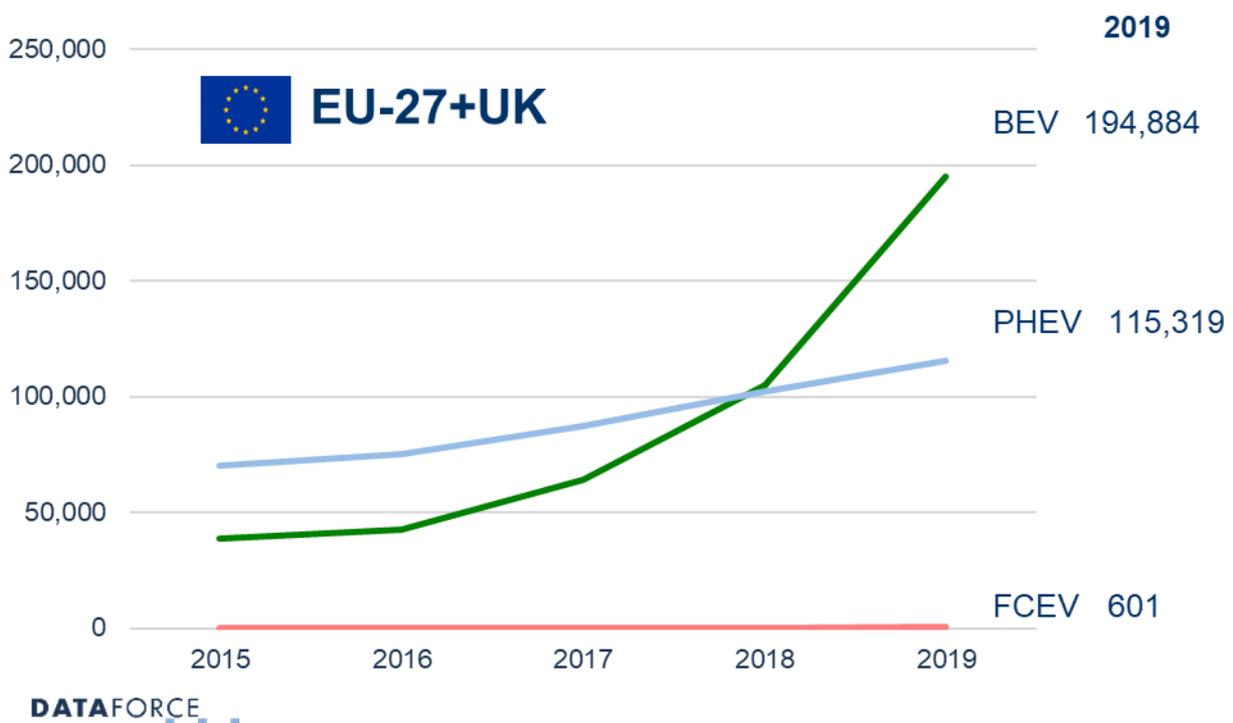
²³ The EU-27+UK would include all European Member states and the United Kingdom apart from Malta & Bulgaria.

10.2.1. EU-27+UK²⁴ – ZLEV under 50g

The EU-27+UK has seen increases to all the ZLEV powertrains over the period 2015-2019 just in varying degrees of growth. BEVs have seemingly exploded over the last two years, PHEVs have given us a more sedate but steady increase, while FCEV are still really in the starting blocks.

BEV powertrains for the EU-27+UK are certainly the ZLEV leader in terms of volume with 194,884 registrations for 2019. This total delivered an increase of 400% since 2015 and they now command a 2.18% share of all commercial registrations, up from 0.52% in 2015. However, it must be noted that the EU-8 alone registered 161,050 of these vehicles and make up 1.8% of that total share. BEVs are seemingly on target, based on the growth rate between 2018 & 2019, to overtake the volume of HEV registrations in 2020, should the trend continue.

How has the share of zero and low emission evolved since 2015?



²⁴ The EU-27+UK would include all European Member states and the United Kingdom apart from Malta & Bulgaria.

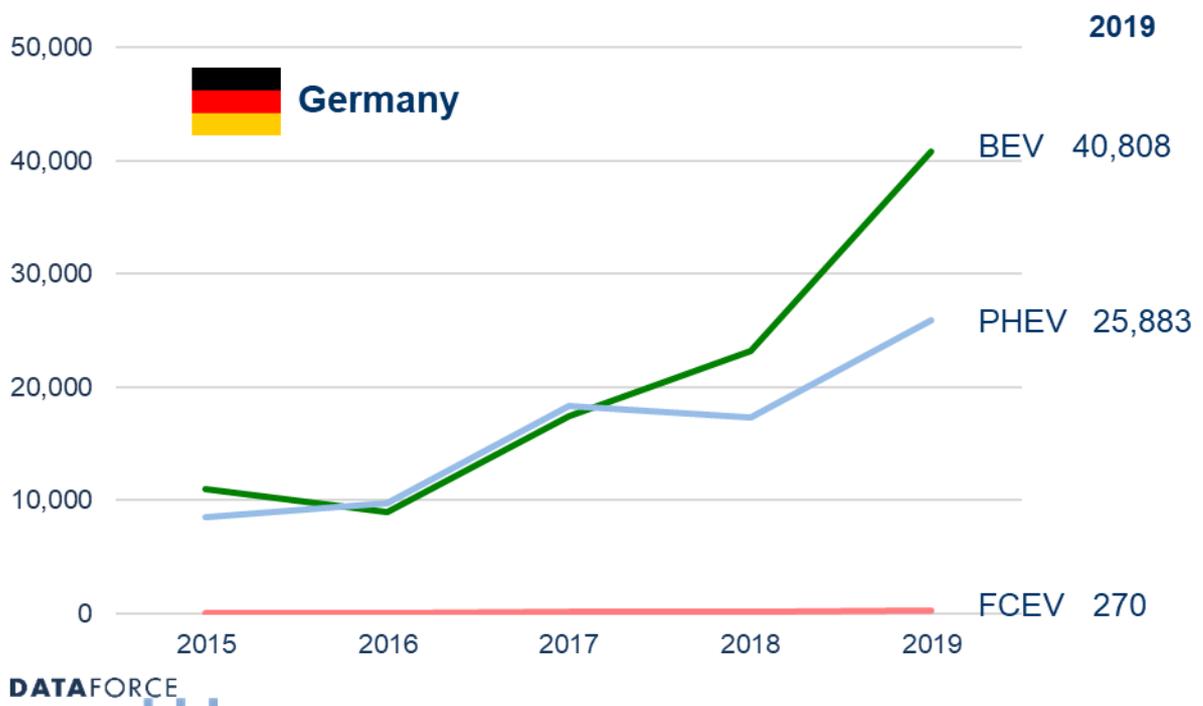
While PHEV has not had the same huge gains seen with BEV powertrain over the last two years, it has still increased at a steady pace and since 2015 expanded its volume by 79.6%. The PHEV share of the commercial market in 2019 was 1.49%, an increase of over half a percentage point from 2015s 0.98%. Judging by the number of PHEVs scheduled to be released into the market in 2020, the likelihood of a big increase in share for the PHEV powertrain is high and just like BEV it may just overtake the HEV Powertrain in volume for 2020.

FCEV powertrains at the present stage are having little impact on the market but perhaps we can draw a similar comparison to the BEV powertrain 10 years ago where despite there being several more models available there were only 874 registrations of BEVs from the EU-27+UK markets. There should be a future for this powertrain, but it will certainly need more models available and fuelling infrastructure investment. Only then will it garner the chance to really be adopted in the Commercial/Corporate channel and replace similar options available from other powertrains.

10.2.2. Germany – ZLEV under 50g

From the selected EU-8 Members states Germany would rank 2nd in terms of BEV volume for 2019 and has seen a 269% increase since 2015, registrations did however see a slight dip for 2016 before the growth once again continued. The volume in 2019 was 40,808 registrations equating to a 1.73% share of Germany’s total commercial registrations. This was one percentage point rise in the share over 2015s figures which stood at 0.52%.

How has the share of zero and low emission evolved since 2015?



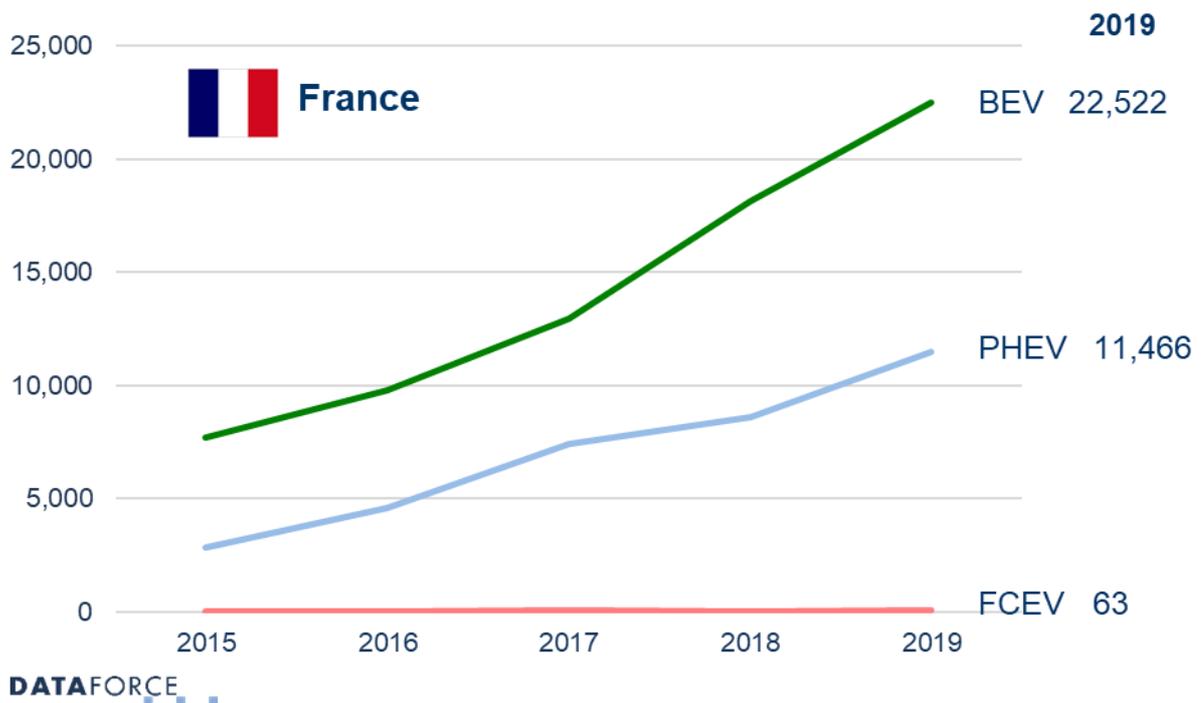
For PHEV Germany would have the highest volume from the EU-8 member states, the increase has been a little more subdued than BEV though. Still, in volume, it has increased by 205% since 2015 and for 2019 held a 1.1% share of the commercial registrations, up from the 0.4% share it held in 2015. This powertrain may also see the highest increase in volume for 2020, given the increase in PHEV models for 2020, the favourable reduction of Benefit-in-kind (BIK) to 0.25% and that a number of these will be introduced by the home-based manufacturers.

For FCEV, Germany is also the number one market in terms of Commercial/Corporate registrations from the EU-8 member states. As home to the European headquarters of Hyundai and Global headquarters of Mercedes, who have both produced a FCEV model, it is possibly unsurprising that Germany would be the highest volume market for the FCEV powertrain. Mercedes's GLC F-CELL model, which has now been discontinued, appeared in the registrations from 2017 and then quite heavily in the 2019, though all their registrations have been recorded in the Dealer & Manufacturer segment. Hyundai NEXO registrations since 2017 appear in RAC, Dealer & Manufacturer and True Fleet segments with their majority coming from the latter.

10.2.3. France - ZLEV under 50g

From the selected EU-8 Members states France would rank 3rd in terms of BEV volume for 2019, equating to a 1.87% share of the commercial registrations. French BEV powertrain volume experienced a 192% uplift since 2015 and this has brought a little over 1% increase to their commercial registration share.

How has the share of zero and low emission evolved since 2015?



For the PHEV engine vehicles France has seen a substantial growth rate of 299% between 2015 and 2019, which places it also 3rd in the EU-8 ranking for the powertrain. However, the volume has only just entered into the five-digit annual registration bracket as of 2019. The PHEV share of the commercial registrations has grown from 0.31% to 0.95% between the 2015-2019 time period.

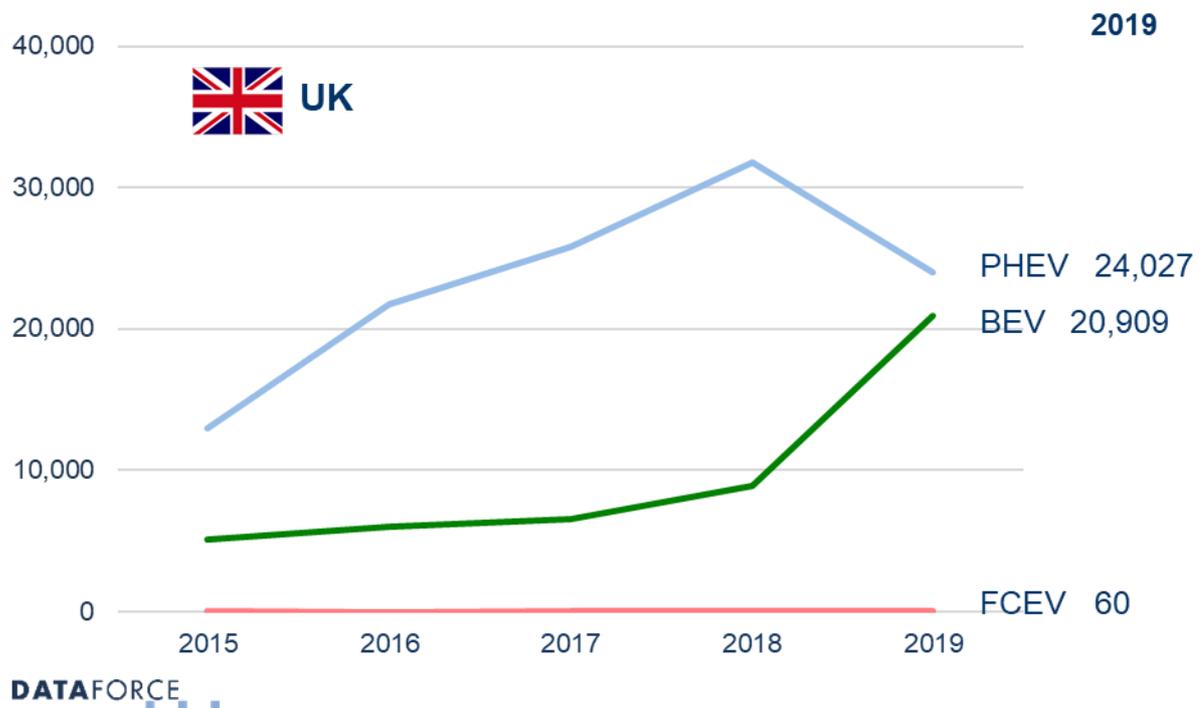
FCEV in France can lay claim to a hugely remarkable growth rate between 2015-2019, but as the figures remain only in double digit range the reality is not that impressive. Over half of the 2019 registrations can be found in the Dealer/Manufacturer sub channel. While FCEV has seemingly a long way to go, it is

worth noting that if we go back to 2009, there were only 8 Electric cars registered in the French Commercial channel.

10.2.4. UK – ZLEV under 50g

For the BEV powertrain, the UK market ranks 4th in comparison between the EU-8 Member states for 2019 and has surprisingly been one of the later markets to really experience a heavy growth rate. Between 2015-2018 we see a 75.5% growth however registrations were still below the five-digit mark, then between 2018 and 2019 we see a 134% increase and over 20,000 registrations within the commercial channel.

How has the share of zero and low emission evolved since 2015?



The UK could well boast of being the most mature market for the PHEV powertrain from the selected EU-8 member states at present. From 2015 to 2019 we saw an 85% increase in registrations from PHEV's, with the UK commercial market between 2016-2018 holding the strongest registration volume from the EU-8 selected markets and culminating in 2018's high of a 2.42% share of all the Commercial/Corporate registrations. For 2019 we see a dip in PHEV registrations bringing the share back to 1.86%, which coincides with the scrapping of the PHEV grant in late 2018 and can be assumed as the cause for this shift.

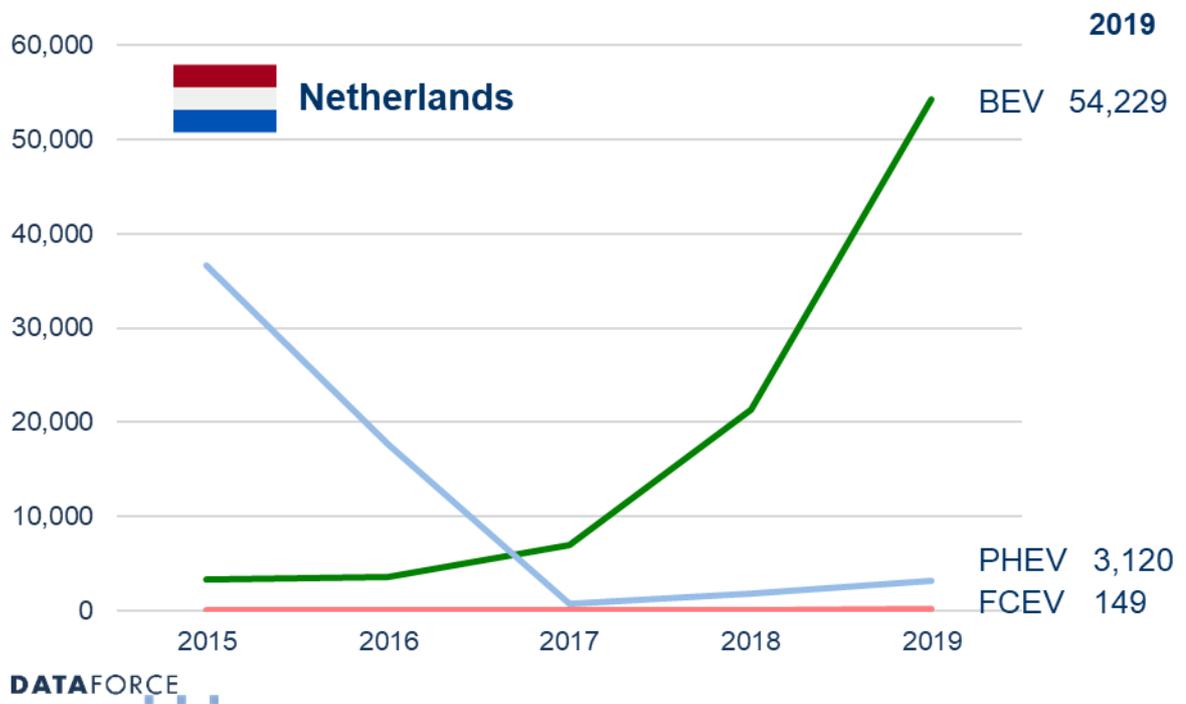
FCEV in the UK is seemingly moving in parallel to the French market. It has comparable registrations volume's in the double-digit range, though for the UK we see this in the True Fleet sub-channel and like France a similar deceptively good growth rate between 2015-2019. The UK like most markets still only has a very limited fuelling infrastructure but according to the UK H2 Mobility website, there are currently 14 hydrogen fuelling stations for cars with a further 4 planned.²⁵

²⁵ <http://www.ukh2mobility.co.uk/stations/>

10.2.5. Netherlands – ZLEV under 50g

In 2019 the Netherlands registered over 54,000 registrations for the BEV powertrain. Not only did it achieve a clear lead over all other selected EU-8 member states. It registered the most BEV's for both the total market, narrowly beating Norway, and the commercial channel EU wide. This BEV volume meant that 18.1% of all commercial registrations for 2019 had a BEV powertrain. The progression of the BEVs between 2015- 2019 shows a staggering 1548% increase, though this was subdued between 2015-2017 before really exploding over the last two years.

How has the share of zero and low emission evolved since 2015?



PHEV powertrains in the Netherlands have seen the opposite effect to BEV with a significant drop off in registrations since 2015. The share in 2019 represents 1.04% of the commercial registrations, and this has been quite a fall considering 2015's share was 12.3% or a little over 36,000 registrations and 2016 was a 7.68% share or 17,000 registrations. With such a drastic fall in PHEV registrations it is once again clear, just like in the UK, what the changes to taxation or bonus/malus schemes can have on the powertrain mix.

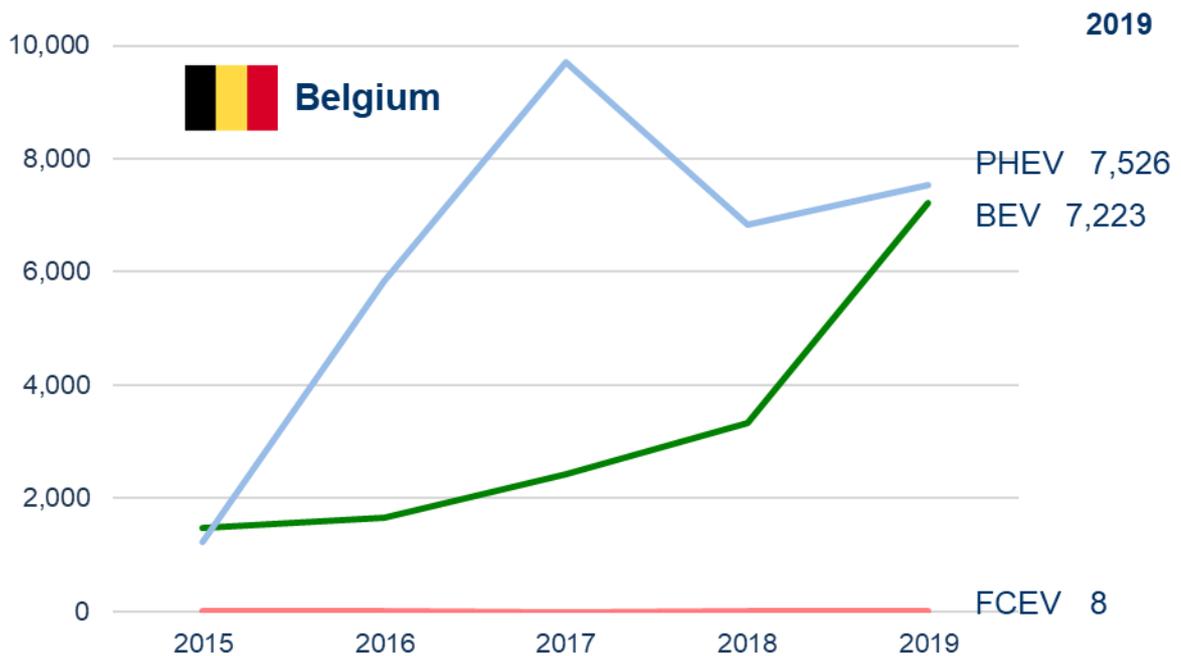
FCEV in the Netherlands has followed much of the rest of the EU-8 selected members: low registrations, though fluctuating between double and single digits from 2015-2018. We do see a significant spike over the 11 registrations seen in 2018 with 149 registrations for the FCEV powertrain for 2019, though this increase is somewhat surprising given the fact that according to the Dutch government, as of September 2019, there are only three stations with Hydrogen fuelling capabilities²⁶. Most of these registrations, like the UK, appear in the True Fleet channel sub channel.

²⁶ <https://www.netherlandsandyou.nl/latest-news/news/2019/09/30/hydrogen-cars-on-the-roads-why-not-next-year>

10.2.6. Belgium – ZLEV under 50g

BEVs in Belgium have followed a similar path in their growth rate as the UK, with steady small increases to the registrations before a large spike in 2019 resulting in a 2.28% share of the Commercial/Corporate registrations. Between 2015 to 2018 was a 124% increase in registrations, before another gain 117% between 2018 & 2019.

How has the share of zero and low emission evolved since 2015?



The Belgium market since 2015 has seen a heavy interest in the PHEV powertrains, especially between 2015-2017, giving them the highest growth rate for PHEVs from the EU-8 selected members of 511%. The registrations for this powertrain spiked in 2017, contracted in 2018, before bouncing back in 2019 but not quite achieving the high seen in 2017. However, the 7,526 PHEV registrations for 2019 equate to a 2.37% share of the commercial registrations, placing this powertrain as more popular in Belgium than BEV’s, again showing another similarity between them and the UK market.

There appears to be very little fluctuation in the FCEV registrations for the Belgium market from 2015-2019 and other than Spain or Poland who have virtually no registrations, it could be called the most stable market from the EU-8 Member states.

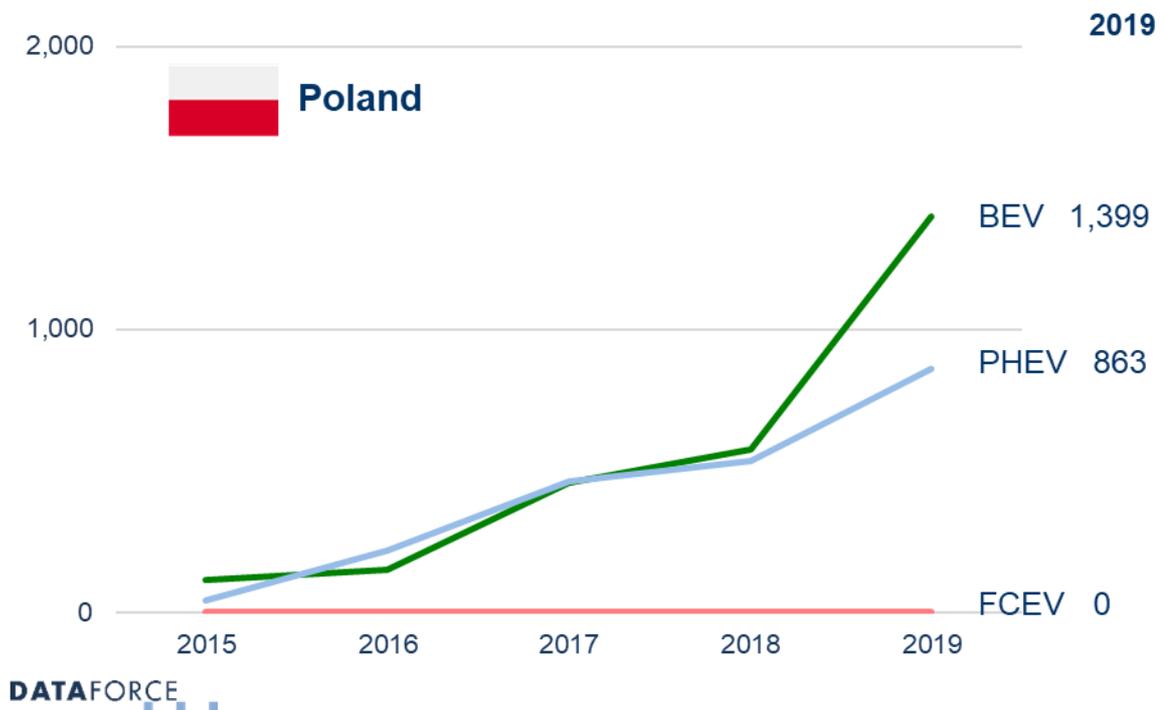
Only eight registrations were seen in 2016, 2018 and 2019, possibly a surprise given Toyota (which produces the Mirai) have their European headquarter in Brussels. Again, infrastructure is presumably the issue with only two fuelling stations in Belgium as of April 2019, though a further three are planned for 2020²⁷.

²⁷ <https://www.brusseltimes.com/all-news/belgium-all-news/55679/three-more-hydrogen-filling-stations-in-flanders-public-filling-zones-europe-benelux/>

10.2.7. Poland – ZLEV under 50g

Poland’s ZLEV powertrain composition is the least developed of the selected EU-8 member states. BEVs are the strongest of the ZLEV powertrains in the market and with government benefits now available for these cars, saw the market register 1,399 vehicles. The BEV growth since 2015 is very strong in both volume and market share, though in 2019 this still only equated to a 0.36% share of all Poland’s Commercial/Corporate registrations.

How has the share of zero and low emission evolved since 2015?



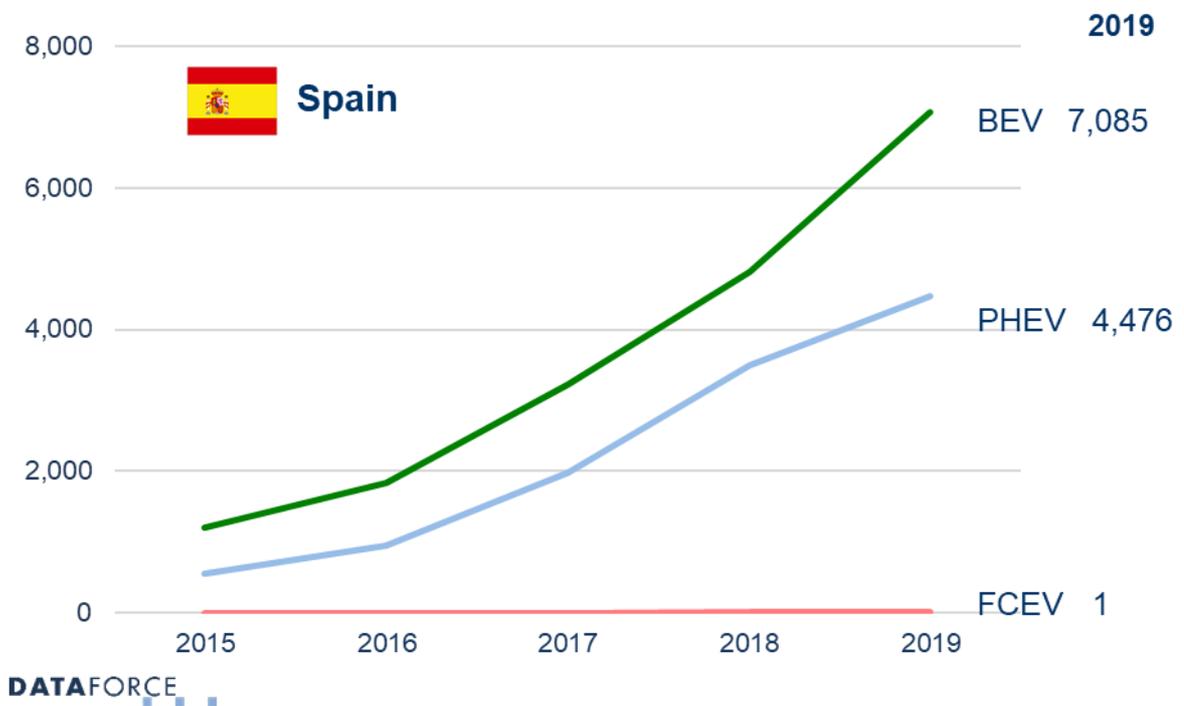
The PHEV powertrain also remains well behind any of the other EU-8 and in 2019 this was just 863 registrations or a 0.22% share of the Commercial/Corporate registrations. Between 2015 and 2019 the growth rate for PHEV has been stronger than the BEV and this has continued into 2020. It is possibly worth noting that if Poland’s Commercial/Corporate market development, as described earlier, is any potential indication of the market capabilities then both PHEV and BEV registrations will doubtlessly catch up with the rest of the EU-8.

Currently the Polish market does not have any infrastructure/fuelling stations for FCEV vehicles and as a result there are no registrations of FCEV vehicles in the market. Also, with the market still in the early stages of both BEV and PHEV adoptions it is possible that FCEV will take a few more years before entering this marketplace.

10.2.8. Spain – ZLEV under 50g

Spain registered 7,085 vehicles with a BEV powertrain in 2019, marking it out as the most popular of the ZLEV powertrains for the market. BEV's make up a 1.01% share of the Commercial/Corporate registrations and in terms of volume they rank 6th in comparison to the other EU-8 selected member states. Spain, along with France, has not experienced the more pronounced fluctuations seen from the other markets and this has resulted in Spain having one of the steadiest growths for BEV (and PHEV) when comparing the EU-8 markets.

How has the share of zero and low emission evolved since 2015?



The PHEV market in Spain has, in terms of growth rate, developed faster than the BEV powertrain and comparing 2015 to 2019 figures has seen 706% increase in the registrations. Spain's 4,476 registrations for 2019 rank it 5th in terms of PHEV volume from the EU-8 markets and this powertrain makes up 0.64% share of the Commercial/Corporate registrations. At the current rate PHEV registrations might well eclipse the BEV powertrain in 2020.

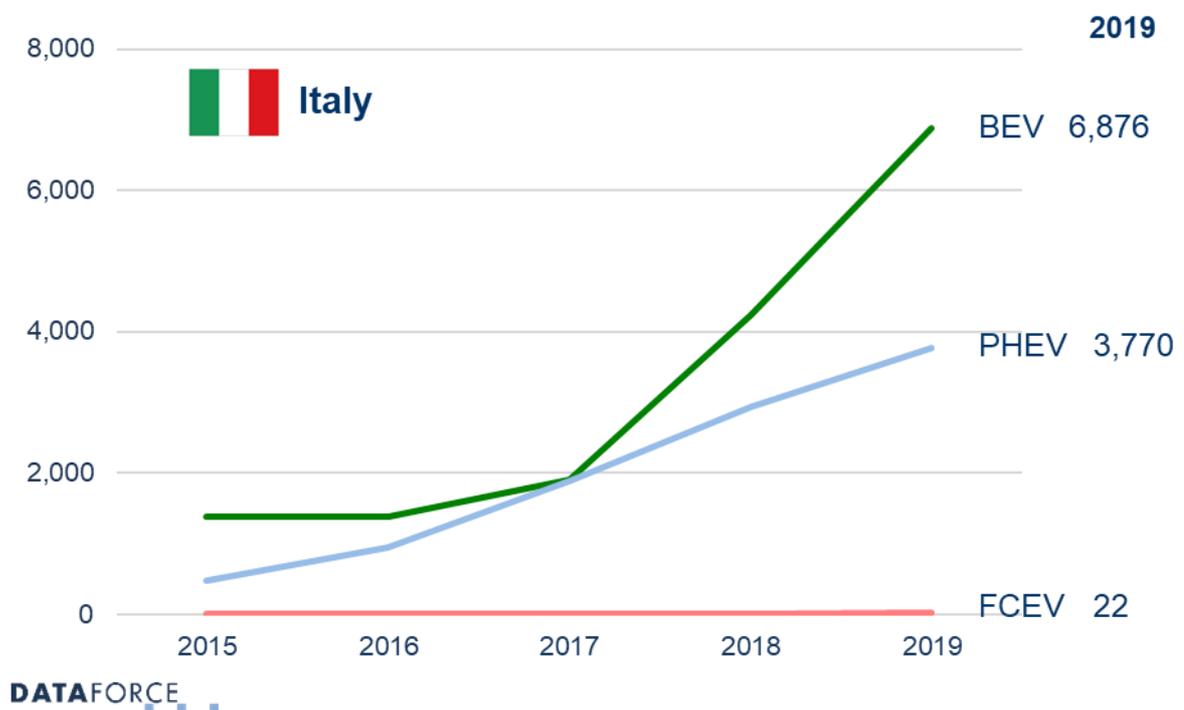
Currently Spain has only had a couple of registrations for FCEV, again like Poland the market infrastructure/fuelling stations are not yet available. However, according to FuturENERGY²⁸, Enagás with its subsidiary Enagás Emprende will shortly be building a Hydrogen fuelling station north of Madrid, while Toyota España will provide a fleet of 12 Mirai to also be based in Madrid.

²⁸ <https://futureenergyweb.es/en/enagas-toyota-spain-and-urbaser-will-promote-the-first-hydrogen-refuelling-station-designed-for-passenger-cars-in-spain/>

10.2.9. Italy – ZLEV under 50g

Italy’s BEV powertrain evolution, given the size of the commercial market, is still quite underdeveloped, especially in comparison to the other markets of the EU-8. In terms of volume it ranked 7th in 2019, registering 6,876 vehicles into the Commercial/Corporate channel but this equated to just 0.82% share. Looking back at the development we can see some faltering steps between 2015 & 2017 before more pronounced growth rates become visible in 2018, with a doubling of registrations or 122% growth, followed in 2019 by a slightly more subdued 62% growth in volume.

How has the share of zero and low emission evolved since 2015?



PHEVs volume in Italy is around half that of the BEV powertrain and while continuing to grow the powertrain has not achieved the same growth percentile BEV’s have over the last two years. 2019 saw Commercial/Corporate registrations of 3,770 PHEVs which equated to a 0.45% share. This perhaps highlights its underdevelopment given Italy’s volume of 841,346 Commercial/Corporate registrations. The growth in PHEV since 2015 has been very steady though and the 0.45% share for 2019 can be viewed as a healthy increase over 2015s 0.08% share.

Italy has had very limited FCEV registrations from 2015 to 2018 (single digits) but in 2019 saw 22 new car registrations in the commercial market, advancing the Italian markets FCEV registrations beyond Belgium, Spain and Poland of the EU-8. These registrations were split between RAC and Dealer & Manufacturer sub-channels with the majority being registered by the Rental companies. Italy is slightly further ahead in FCEV infrastructure than either Spain or Poland and according to [mobilitah2.it](https://www.mobilitah2.it)²⁹ there are three refuelling stations currently in operation in Italy for FCEV powertrains, with more planned.

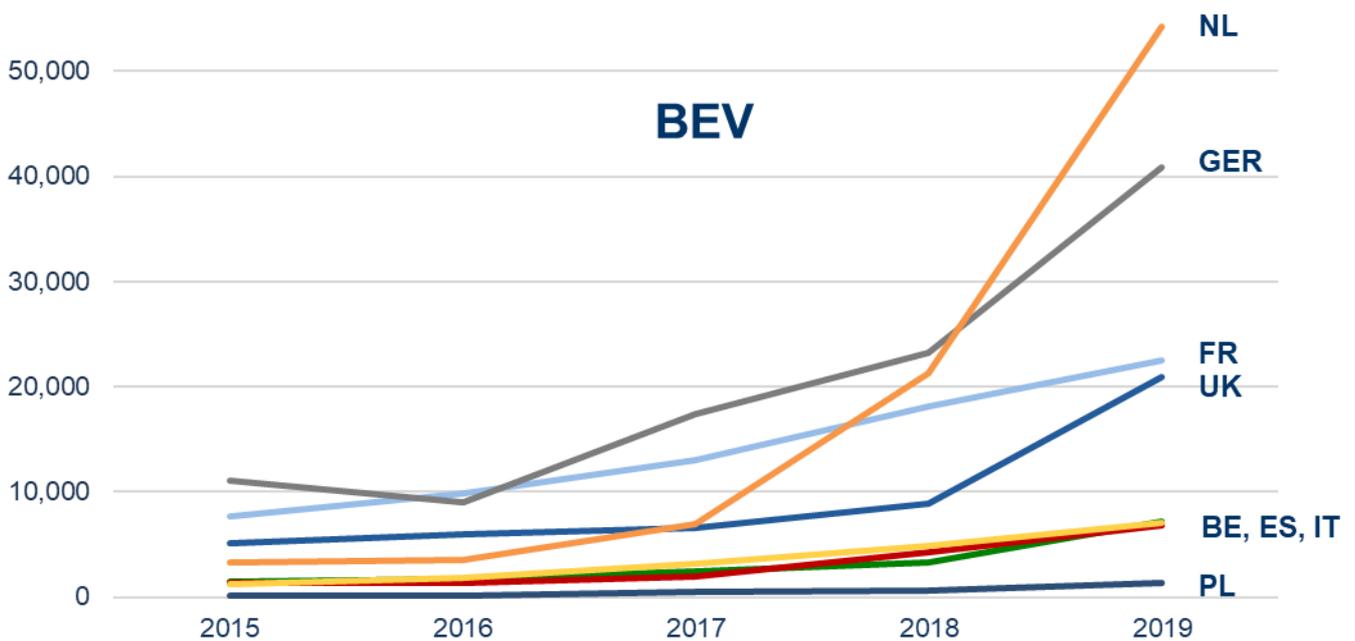
²⁹ <https://www.mobilitah2.it/stations>

10.2.10. EU-8 & EU-27+UK³⁰ – BEVs under 50g – Conclusions

The BEV powertrain in both the EU-8 selected member states and the EU-27+UK clearly show the current ongoing increases and acceptance of the powertrain within the Commercial/Corporate car market.

The EU-8 countries have all delivered a steadily increasing amount of registrations for BEV vehicles, some more than others, but all have been driven by the increase in model availability, subsidies/bonuses/exemptions available, increased charging infrastructure and on a company consumer level a more environmentally focused approach to their fleets.

How has the share of zero and low emission evolved since 2015?

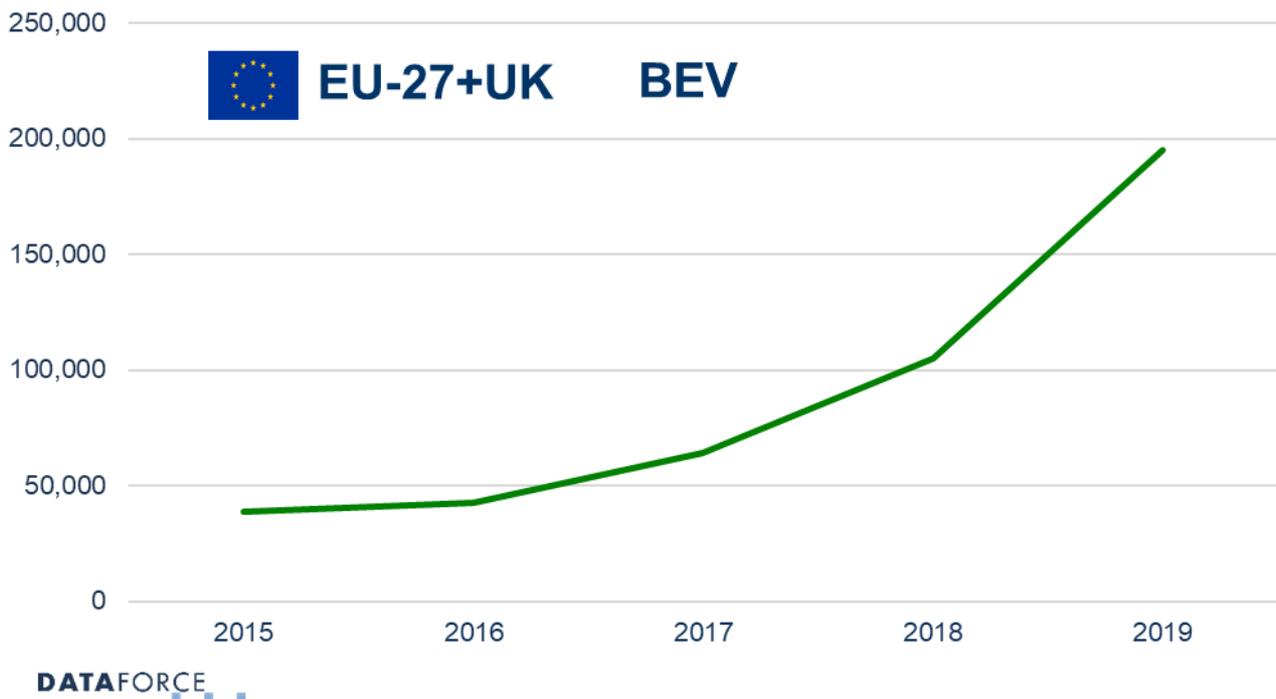


Whether these companies fall into True Fleets or its subsegment of Leasing and LTR, RAC or even perhaps grudgingly the Manufacturers themselves, the market has certainly been driven towards a greener, more electric focussed future.

³⁰ The EU-27+UK would include all European Member states and the United Kingdom apart from Malta & Bulgaria

While the figures and growth in the EU-27+UK³¹ is mainly driven by the larger nations, there is still an identifiable upswing from most of the smaller nations and even countries with older, less modern infrastructure. In fact, there are only two countries whose BEV registrations between 2018-2019 contracted.

How has the share of zero and low emission evolved since 2015?



Is the upswing quick enough? Are there enough BEV being produced to fulfil the need, including the smaller countries? Is the infrastructure being implemented quick enough for all countries? Possibly, possibly not, but the wheels are clearly in motion and registrations and market share for the BEV powertrain is only going in one direction, upwards.

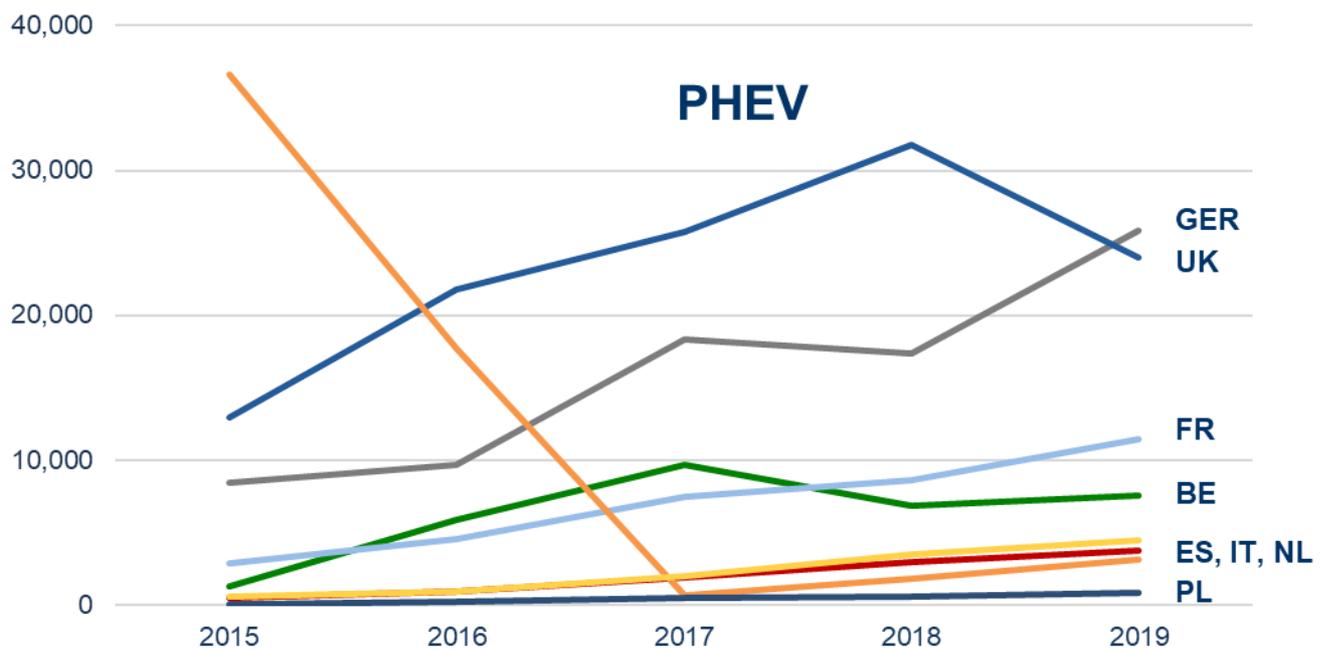
³¹ The EU-27+UK would include all European Member states and the United Kingdom apart from Malta & Bulgaria.

10.2.11. EU-8 & EU-27+UK³² – PHEVs under 50g – Conclusions

PHEV Powertrains have seen some quite significant fluctuations from several markets and in terms of volume have not been quite so easily adopted by the markets, unless of course the incentive was sufficiently attractive. This is likely to change in 2020 as a huge number of new PHEVs are scheduled to enter the markets.

The expansions and contractions of the PHEV registrations have been visibly played out in three of the EU-8 markets and can presumably be linked to the incentives available or their subsequent removal. The largest visible movement being seen in the Netherlands between 2015-2017 after the removal of the PHEV bonus.

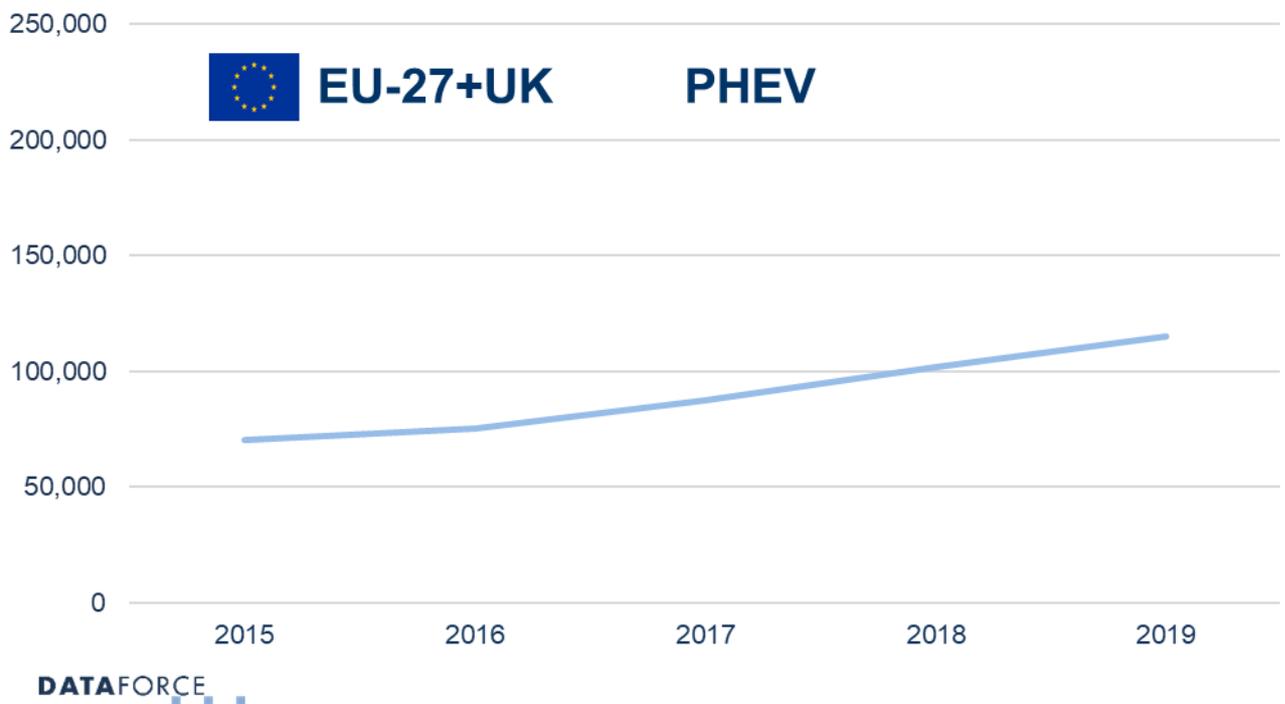
How has the share of zero and low emission evolved since 2015?



³² The EU-27+UK would include all European Member states and the United Kingdom apart from Malta & Bulgaria.

The EU-27+UK³³ PHEV growth rate in comparison to the BEV powertrain is certainly more subdued though still shows a steady increase in registrations. We can also see that it is not just the large nations that have had increase and contraction in this powertrain. However, given the smaller amount of registrations it is unlikely incentives, or lack thereof, are a factor here. It is more likely OEMs shifting smaller nations PHEV allocation to other markets in a bid to satisfy the larger nations needs.

How has the share of zero and low emission evolved since 2015?



As mentioned earlier the scheduled release of new PHEV models in 2020 should see these numbers jump once again, especially as the OEM's pushed to enter as many low CO² vehicles into the markets and fight to either minimise or remove the risk posed by the fines from 2021 emission targets levied against them. How far this push will be stymied by the Covid-19 pandemic remains to be seen but looking at the registrations from the start of 2020 we certainly expect an increase of PHEVs in both volume and share.

³³ The EU-27+UK would include all European Member states and the United Kingdom apart from Malta & Bulgaria.

10.3. Results – Part 3 – Powertrain Composition

What is the annual mileage of these cars by powertrain (for PHEV if available divide between electric and charge sustaining mode)?

In order to attempt to answer this question we took a few of different approaches to try to ascertain the annual mileage of the individual ZLEV powertrains. This was not possible on a deep level, but through contacts with Leasing companies, Fleet managers both Internationally & Germany based we were able to calculate annual mileage numbers for EVs (PHEV & BEV combined). During this research there was no indication from any source that an FCEV was part of their fleet.

10.3.1. Results – EV Mileage

The following is based on the interviews and research we had performed regarding the average mileage of EVs:

Through one of the top 5 leasing companies we were able to ascertain that on average there EVs on contract would travel approximately 27,000kms per year.

From another of the top 5 leasing companies we learned that their average contract mileage for EVs is: 70kms over the average 3-year contract or 23,300kms approximately per year.

Ten fleet managers from some of the largest fleets based in Europe, covering a European fleet parc of 72,000 cars (132,600 globally) and covering nearly all powertrains, provided us with a split for their EVs (alongside the ICE variants). This gave us the opportunity to calculate the below averages based on their answers.

- 8% of their EVs fleets travelled under 10,000kms per year³⁴
- 64% of their EVs fleets travelled around 15,000kms per year
- 10% of their EVs fleets travelled around 20,000kms per year
- 18% of their EVs fleets travelled around 25,000kms per year

Based on this we estimated the average mileage of the large fleets EV powertrains to be approximately 16,500kms per year.

Factoring in the inputs displayed above, our calculations for the average EV mileage came to 22,300kms per year. In addition to this, we also used the other powertrain data provided by the fleet managers and calculated the average ICE mileage of 27,000kms per year.

Our conclusion here given the averages we see, which was also backed by the fleet managers themselves, is that the EVs are and must be utilised as direct replacements for the ICE powertrain vehicles. Yes their inclusion in the fleet does help lower the carbon footprint of the business, allows for marketing to promote the environmentally conscious nature of their fleet but they must be able to perform the

³⁴ Fleets under 10,000kms were calculated at 5,000kms per car

same tasks and duties in the fleets as the ICE's can, they are not merely showpieces. This also re-enforces the need for OEMs to provide better battery range BEVs and PHEVs, allowing for the broader possible replacement of a comparable ICE powertrain vehicle.

10.4. Results – Part 3 – Powertrain Composition

Please separate the technologies by vehicle segment and the share of EVs in each segment & provide their mileage?

In order to understand the segments a little better we have put together the following points to give a guide as to just what size or model of vehicle will reside in the mentioned segments:

A-Segment: Mini e.g. Fiat 500, Fiat Panda, Smart ForTwo, Renault Twingo

B-Segment: Small e.g. Renault Clio, Opel Corse, Renault Captur,
Volkswagen Polo

C-Segment: Compact e.g. Volkswagen Golf, Volkswagen Tiguan, Ford Focus,
Nissan Qashqai

D-Segment: Medium e.g. Mercedes C-Class, VW Passat, BMW 3 Series,
Audi A4

E-Segment: Medium-Large e.g. Mercedes E-Class, BMW 5 Series, Audi A6,
BMW X5

F-Segment: Large e.g. Mercedes S-Class, BMW 7 Series, Audi A8,
BMW X-7

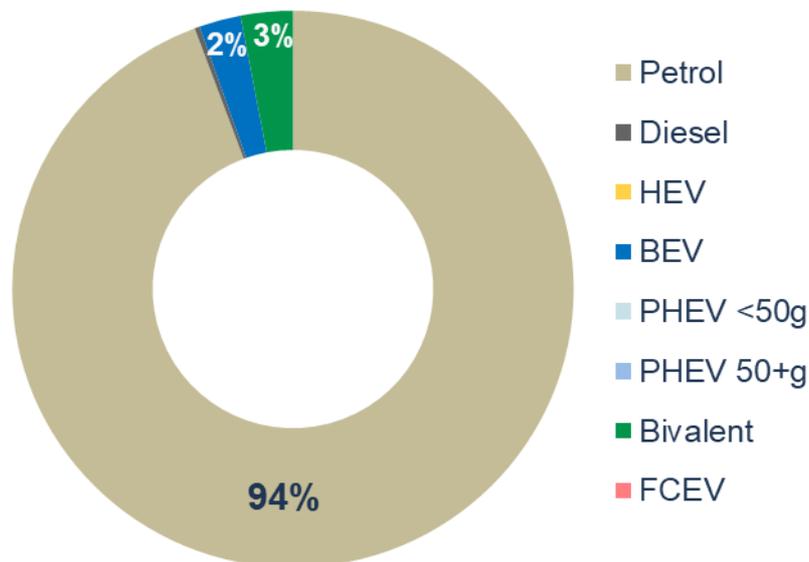
We can see from each of the different vehicle segments there is a vast difference when it come to the powertrain compositions and there are several factors that can be attributed to this. The most obvious of these will come from the actual EV models available for that segment or lack thereof. Given the popularity of the body type SUV, this will also have a discernible influence on which segment an OEM is trying to fulfil or garner share from. There is also the factor of the technology itself and being able to produce a vehicle capable of the km range needed, with it still needing to be manufactured and sold within an attractive or attainable price range.

10.4.1. A-Segment – EU-27+UK³⁵

For the A-Segment, BEVs account for a 2.3% share of the Commercial/Corporate registrations in 2019. There were no registrations for PHEV under or over 50g, or for the FCEV powertrain recorded within this segment. Utilising the calculated mileage from section 10.3.1 of 22,300 kms average per EV, the A-segment EV powertrains make up an annual mileage of 304,038,200kms

What was the powertrain composition of the company car fleet in 2019?

A Segment



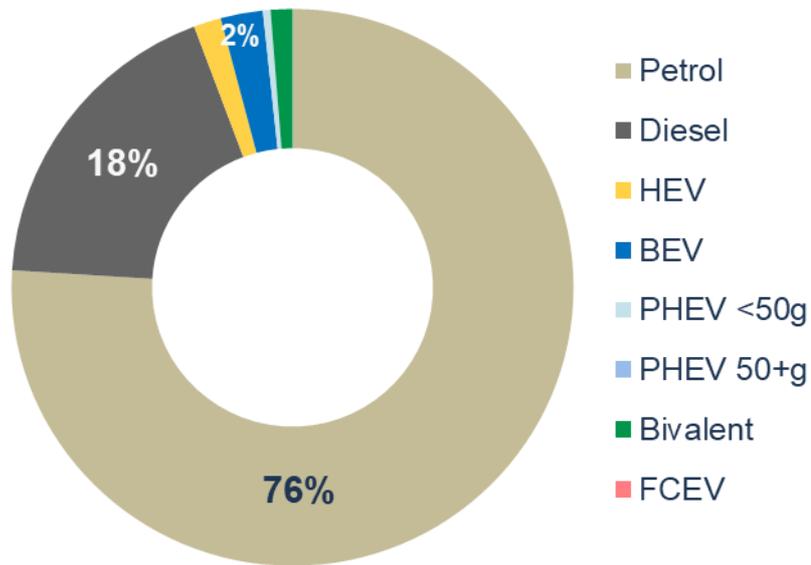
³⁵ The EU-27+UK would include all European Member states and the United Kingdom apart from Malta & Bulgaria.

10.4.2. B-Segment – EU-27+UK³⁶

For the B-Segment, the BEVs account for a 2.4% share of the Commercial/Corporate registrations, these are further bolstered by 0.4% share from PHEV below 50g. There are no registrations for the FCEV powertrain recorded within this segment. Utilising the calculated mileage from section 10.3.1 of 22,300 kms average per EV, the B-segment EV powertrains make up an annual mileage of 1,540,417,100kms

What was the powertrain composition of the company car fleet in 2019?

B Segment



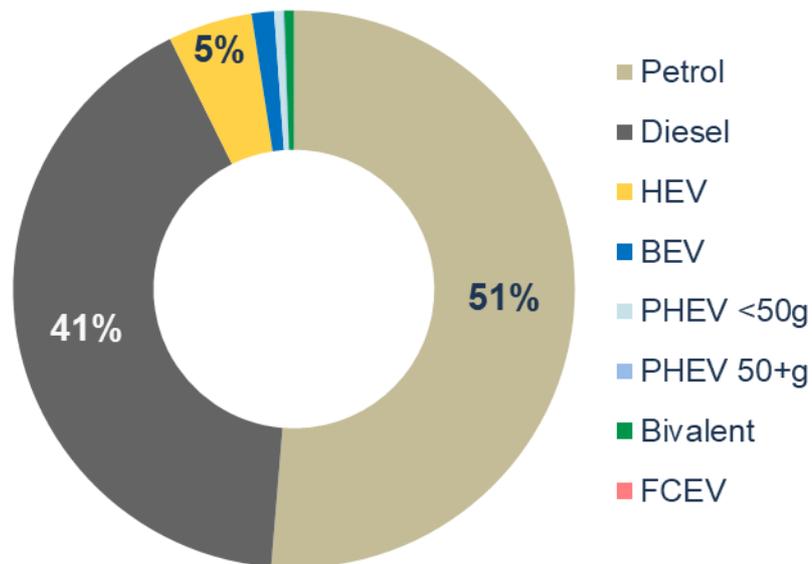
³⁶ The EU-27+UK would include all European Member states and the United Kingdom apart from Malta & Bulgaria.

10.4.3. C-Segment – EU-27+UK³⁷

For the C-Segment, the BEVs account for a 1.3% share of the Commercial/Corporate registrations, a further 0.5% share goes to PHEV below 50g and PHEV over 50g also sees a 0.1% share. The FCEV powertrain is present in the segment but only as single-digit registrations. Utilising the calculated mileage from section 10.3.1 of 22,300 kms average per EV, the C-segment EV powertrains under 50g make up an annual mileage of 1,344,979,900kms and 1,411,277,800kms if you include the PHEVs over 50g.

What was the powertrain composition of the company car fleet in 2019?

C Segment



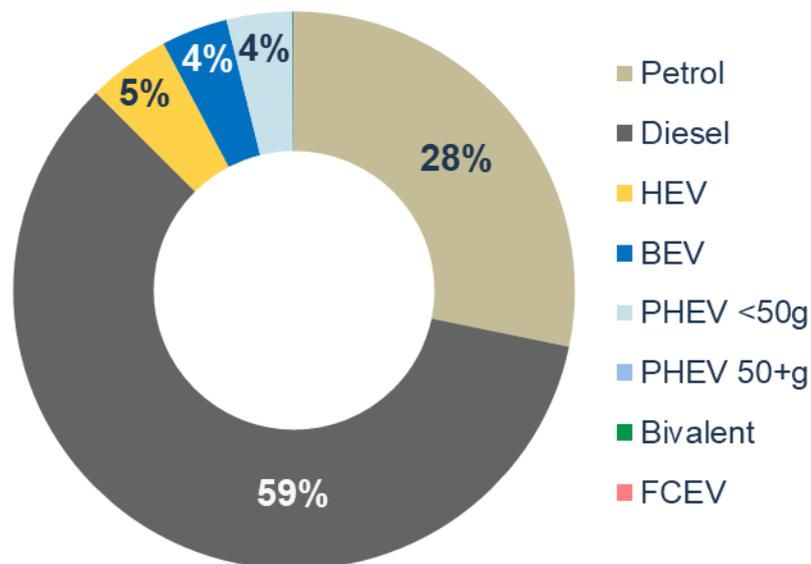
³⁷ The EU-27+UK would include all European Member states and the United Kingdom apart from Malta & Bulgaria.

10.4.4. D-Segment – EU-27+UK³⁸

The D-Segment makes up the largest volume of EVs for the EU-27+UK in 2019. The BEVs and the PHEVs below 50g both each account for a 3.8% share of the Commercial/Corporate registrations, though it is the BEVs which hold the slightly higher registration volume. The PHEV over 50g powertrain is present in the segment but only single-digit registrations. D-Segment holds the major portion of 2019s FCEV registrations, though this still only equates to a 0.04% share. Utilising the calculated mileage from section 10.3.1 of 22,300 kms average per EV, the D-Segment EV powertrains under 50g make up an annual mileage of 2,477,819,900kms and would be the highest annual mileage of any segment.

What was the powertrain composition of the company car fleet in 2019?

D Segment



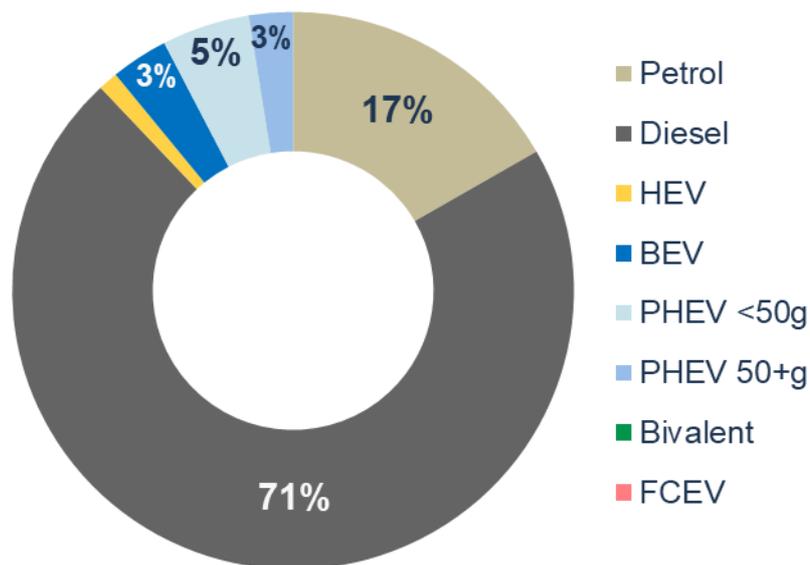
³⁸ The EU-27+UK would include all European Member states and the United Kingdom apart from Malta & Bulgaria.

10.4.5. E-Segment – EU-27+UK³⁹

While the E-Segment does not match the volume of the D-Segment, the EVs when combined do account for the largest share of Commercial/Corporate registrations of any vehicle segment in 2019. BEVs account for a 3.3% share of the segment, while the PHEVs below 50g hold a 5.1% share. PHEVs over 50g achieve its biggest share for any segment registering a 2.5% share. There are no registrations for the FCEV powertrain recorded within this segment. Utilising the calculated mileage from section 10.3.1 of 22,300 kms average per EV, the E-Segment EV powertrains under 50g make up an annual mileage of 1,068,459,900kms and if you include the PHEVs over 50g it is 1,391,609,200kms.

What was the powertrain composition of the company car fleet in 2019?

E Segment



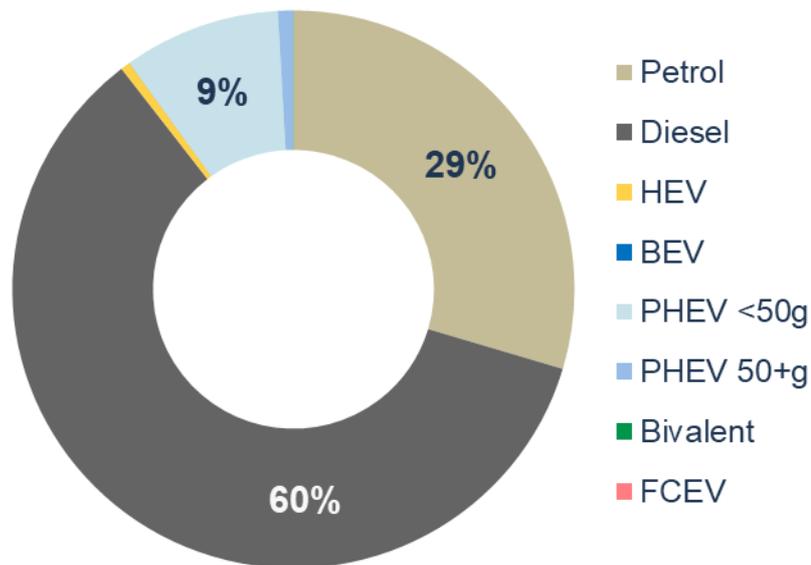
³⁹ The EU-27+UK would include all European Member states and the United Kingdom apart from Malta & Bulgaria.

10.4.6. F-Segment – EU-27+UK⁴⁰

The F-Segment holds the lowest volume of EVs for any vehicle segment in 2019. The BEV powertrain sees only single-digit registrations though PHEVs below 50g achieve their highest share from any of the segments with an 9.0%. PHEVs over 50g registered a 0.9% share of the segment. There are no registrations for the FCEV powertrain recorded within this segment. Utilising the calculated mileage from section 6.3.1 of 22,300 kms average per EV, the F-Segment EV powertrains under 50g make up an annual mileage of 57,021,100kms and if you include the PHEVs over 50g it is 62,440,000kms. This is the vehicle segment with the lowest annual mileage of EV powertrains.

What was the powertrain composition of the company car fleet in 2019?

F Segment



⁴⁰ The EU-27+UK would include all European Member states and the United Kingdom apart from Malta & Bulgaria.

10.4.7. EU-27+UK– Vehicle Segment Conclusion

We can see based on the data that there are certainly some vehicle segments which could use a lift when it comes to either EV volume or share. A-Segment or F-Segment certainly, but the focus will presumably remain with the B,C,D and E segments given this is where the bulk of the current Commercial/Corporate registrations are, where the OEMs can have the most impact in reducing their average CO² and of course still profit from what is regarded as more expensive technology than used to produce an ICE powertrain.

11. Results – Part 4 – Leasing Companies

Who are the 10 largest lease companies (true fleet) in Europe?

There are significant differences between the leasing companies we see inside the top 10. There are split into two main categories with both Independent and Captive leasing companies present. The top three and sixth are the Independent companies of ALD, Arval, LeasePlan and Lex Autolease respectively, while the others are classed as the captive leasing companies.

In broad terms the independents companies can offer many different options and while they may partner with manufacturers, they have not been directly created or controlled by them. The Captive leasing companies comprise of the rest of the top 10 and are subsidiaries of the OEMs themselves with most having been created to provide financing for their own brands exclusively. However, we see two anomalies within the group in Alphabet and Athlon. While both are owned wholly by a parent OEM (Alphabet is owned by BMW and Athlon by Daimler) they offer operational leasing vehicles for brands other than what is produced by the parent company.

There are also various alliances formed between leasing companies. This enables the leasing company to have a larger geographical reach and thereby helping service international customers better, facilitating integration of local market vehicles, taxation and compliance requirements and sometimes allowing for the singular use of that leasing company.

This also leads us into the results which you will now find on the following pages. While every effort has been made to quantify and understand each of the companies and its operational leasing figures/results as a singular entity, this is somewhat difficult, specifically for some of the captive leasing companies. Their individual results are not always available, are sometimes reported in conjunction with parent company results or may include both financial and operational leasing figures as the parent company views them as one.

11.1.1. Top 10 Leasing Companies – 2019

IMPORTANT NOTICE – While every effort is made to ensure that figures are correct numbers reported in the press, at conferences and within annual reports are often not consistent. These figures sometime do and do not comprise vehicles that are only managed but not owned, vehicles that are under white label contracts or vehicles that are registered under sister companies

1.  **ALD**
Automotive

2.  **ARVAL**
A BNP PARIBAS company

3.  LeasePlan

4.  **VOLKSWAGEN FINANCIAL SERVICES**

5.  **Alphabet**

6.  **LEX AUTOLEASE**

7.  **RCi** BANK
AND
SERVICES

8.  **ATHLON**

9.  **PSA**
FINANCE

10. DAIMLER
Daimler Financial Services

11.1.2. Rank#1 Lease Company - ALD



ALD is the Number One ranked Leasing company in terms of vehicles in operation or car parc and is a 100% subsidiary of the Societe Generale Group.

Powertrain Evolution⁴¹

	2016	2017	2018	2019
Diesel (% of total)	72%	67%	58%	43%
EV and Hybrid	N/A	69,433	102,290	>150,000

- Diesel share has dropped by more than 40% over the last 4 years.⁴²
- In the last 3 years electrified vehicles (BEV/HEV/PHEV) have evolved from 9% to more than 13% of all new orders (15% in Europe) and expected to rise to 20% in 2020).^{43a}
- BEV volume in 2018: 17.500.^{10b}

ZLEV (Zero Level Emissions Vehicles) objectives/comments

- ALD aims at reaching >200.000 green vehicles.^{9b}
- For 2020: 20% of new Passenger Car contracts to be green vehicles.^{10c}
- 2019: Distribution agreements signed with Tesla and Polestar.^{8b}
- Partnerships on EV charging solutions with E-On and Chargepoint.⁴⁴

⁴¹ <https://www.aldautomotive.com/Portals/international/ALD%20Full%20Year%202019%20Results.pdf?ver=2020-02-06-070917-287> Page 3 & 6

⁴² <https://www.globalfleet.com/en/financial-models/europe/features/alds-total-fleet-7-2019?a=BUY03&t%5B0%5D=ALD&t%5B1%5D=Soci%C3%A9t%C3%A9%20G%C3%A9n%C3%A9rale&t%5B2%5D=Wheels&curl=1>

⁴³ <https://www.aldautomotive.com/about-ald-automotive/corporate-social-responsibility/sustainable-mobility>

⁴⁴ https://issuu.com/nexuscommunication/docs/nexus_feu117_web?fr=sOGI2Yzi5Mzg5MQ&utm_source=Fleet+Europe+Newsletter&utm_campaign=150b4e96bc-EMAIL_CAMPAIGN_2019_09_23_FEU109_COPY_01&utm_medium=email&utm_term=0_4128e0d88f-150b4e96bc-65657219



Diesel
<50%

Diesel is already down to less than 50% of our passenger car deliveries.



>20% of new contracts in xEVs

In 2020, we aim to have more than 20% of our new Passenger Car contracts with "green" (BEV, PHEV, HEV) vehicles...



+200,000 "green" vehicles worldwide

...and to manage a portfolio of more 200,000 "green" vehicles across the world (vs 100,000 at End 2018)".

Shareholder Structure

- ALD Automotive is 100% subsidiary of the SOCIETE GENERALE GROUP.
- June 2017: listing @ EURONEXT stock exchange – 20,18% of total shares sold.⁴⁵

Total Funded Fleet/Gross Operating Income evolution^{46a}

- Since 2016 the funded fleet has risen by 28%.
- The European fleet consists of 80.3% of the total fleet (i.e. 1,413 Million).
- Gross Operating Income has risen by 10.2% in the same period.

	2016	2017	2018	2019
Funded Fleet (Million)	1,376	1,510	1,660	1,760
Gross Operating Income (€M)	1244.2	1332.8	1343	1371.4

Financing/Funding^{13b}

- Total Funding (end 2019): 18.4 Bn Euro (Financial Institutions/Bonds& Notes issued).
- 68% loans via Societe Generale.
- 2018: First Positive-Impact Bond issued for 500 Million Euro.
- Funds to be exclusively used to (re)finance fleets of electric/hybrid vehicles.
- 2019: 500 Million Euro raised via Public Markets.
- 2019: 250 Million Euro via European Investment Bank (to support funding of 15.000 electric vehicles – Cleaner Transport Facility Programme).

⁴⁵ https://www.aldautomotive.hr/Portals/croatia/adam/Content/-JNSogBDx0e_FQ-0nLYorg/Picto_Url/2018%20ALD%20Annual%20Report.pdf Page11

⁴⁶ [https://www.aldautomotive.com/Portals/international/adam/Content/OQm_Tf2m-Ea6KOBLCz6A6g/Picto_Url/2018%20ALD%20Annual%20Report%20\(including%20Financial%20statements\)%20-%20PDF%20BD.pdf](https://www.aldautomotive.com/Portals/international/adam/Content/OQm_Tf2m-Ea6KOBLCz6A6g/Picto_Url/2018%20ALD%20Annual%20Report%20(including%20Financial%20statements)%20-%20PDF%20BD.pdf)

Second-hand market

For any leasing company the de-fleeting of lease vehicles depends on a variety of different factors with no defined single way, either per country, make, model or segment. ALD have their own remarketing platform “ALDCarmarket.com” (available in 34 countries) which according to their 2018 annual market report⁴⁷ was able to dispose of more than 60% of their used car sales with roughly 20% of these vehicles being exported.

⁴⁷ [https://www.aldautomotive.com/Portals/international/adam/Content/OQm_Tf2m-Ea6KOBLCz6A6g/Picto_Url/2018%20ALD%20Annual%20Report%20\(including%20Financial%20statements\)%20-%20PDF%20BD.pdf](https://www.aldautomotive.com/Portals/international/adam/Content/OQm_Tf2m-Ea6KOBLCz6A6g/Picto_Url/2018%20ALD%20Annual%20Report%20(including%20Financial%20statements)%20-%20PDF%20BD.pdf)

11.1.3. Rank#2 Lease Company – ARVAL



Arval ranks as the 2nd largest leasing company in terms of car parc as is fully owned by BNP Paribas, Their European fleet equates to around 1,25 Million. Approx. or 97% of Arval’s global fleet.

Arval is founding member of Element-Arval Global Alliance that covers > 3 million vehicles (Arval mainly in Europe, Element primarily in USA).

Powertrain Evolution

Estimated European powertrain mix received.⁴⁸

- Diesel: 55% and decreasing further
- Petrol: 30%
- Hybrid: 12%
- EVs: 3%

ZLEV (Zero Level Emissions Vehicles) objectives/comments

- Arval wants to grow at twice the pace of the market regarding EV registrations.
- SMaRT program (Sustainable Mobility and Responsibility Targets) aims at supporting the clients to manage the energy transitions utilising a 5-step approach.⁴⁹
- Arval’s EV offer includes both the vehicle and charging infrastructure and is already available in 12 European countries and is currently being rolled out in further markets.
- Arval recently published a white paper “Fast Forward to Electric Vehicles” to highlight the transition and steps to take to bring BEVs into fleets.⁵⁰
- Fully integrated EV solutions through partnerships with Engie & EDF.

⁴⁸ Obtained as a verbal communication with a contact at Arval

⁴⁹ <https://www.arval.com/arval-launches-its-smart-approach-to-support-clients-in-their-energy-transition-strategy>

⁵⁰ https://cms-static.arval.com/sites/default/files/151/2020/03/arval_fast_foward_to_electric_vehicles%20%281%29.pdf

Shareholder Structure

- Arval is 100% subsidiary of BNP PARIBAS GROUP (is part of the Retail Banking core activity).
- Arval is responsible for Auto Finance whereas Leasing solutions takes care of equipment finance within BNP PARIBAS.

Total Funded Fleet/Gross⁵¹

	2016	2017	2018	2019
Funded Fleet (Million)	1,028	1,104	1,194	1,298
Gross Operating Income (€M)				

Financing/Funding

- 100% via the BNP PARIBAS GROUP/BANK.

Second-hand market⁵²

Arval also have their own remarketing platform called Arval Motortrade through which, according to their website, around a 150-160,000 vehicles pass through each year. The platform would hold vehicles from 16 different origin European markets but deliver to 31 countries of destination with customs procedures, transport services, after-sales support all available through them.

⁵¹ https://www.arval.nl/sites/default/files/119/2020/02/2019_strong_business_growth_Arval_worldwide_0.pdf

⁵² <https://www.arvaltrading.com/en/>

11.1.4. Rank#3 Lease Company – LeasePlan



LeasePlan is the 3rd largest leasing company in Europe.

Powertrain Evolution⁵³

	2016	2017	2018	2019
Diesel	83.2%	79.9%	72.5%	63.0%
Petrol	14.6%	17.1%	22.1%	28.1%
BEV	0.6%	0.8%	1.9%	4.1%
PHEV/HEV	1.5%	2.2%	3.5%	4.7%

- Diesel share dropped by more than 20% over the last 4 years.
- In the last 4 years electrified vehicles (BEV/HEV/PHEV) have evolved from 2.1% to more than 8.8%.
- 2019: BEV % more than doubled.
- New BEV/PHEV orders reached 7.4% (excl. US).
- NOTE: average contract mileage for BEV/PHEV: 70k vs 105k for diesel contracts.

ZLEV (Zero Level Emissions Vehicles) objectives/comments⁵⁴

- LeasePlan targets by 2030 to have all new orders to become electric vehicles (and achieving net zero emissions).
- End of 2021 all LeasePlan employee vehicles to become electric.
- LeasePlan offers a complete EV package including charging infrastructure (wallboxes for companies or individuals) in cooperation with ALLEGO.
- LeasePlan provides financial leasing for the EV scooter sharing project/company Cityscoot with more than 5000 EV scooters in Paris and other major French cities – project is expanding to Italy and Spain.

⁵³ <https://www.leaseplan.com/corporate/~media/Files/L/Leaseplan/documents/annual-report-2019/leaseplan-ar19-250320.pdf> Page 17

⁵⁴ <https://www.leaseplan.com/corporate/~media/Files/L/Leaseplan/documents/annual-report-2019/leaseplan-ar19-250320.pdf> Page5, 6, 9, 59, 60, 112

Shareholder Structure⁵⁵

LP Group B.V. is the sole shareholder of LeasePlan Corporation N.V., with TDR Capital, sovereign wealth funds ADIA and GIC and pension funds PGGM and ATP amongst the indirect shareholders of LeasePlan Corporation N.V.

None of these investors alone has a direct or indirect controlling interest in LeasePlan. There are no shares without voting rights or shares that give no or limited entitlement to profits or reserves of the company.

Indirect Investors:

- ADIA: Since 1976, the Abu Dhabi Investment Authority (ADIA) has been prudently investing funds on behalf of the Government of Abu Dhabi, with a focus on long-term value creation. ADIA manages a global investment portfolio that is diversified across more than two dozen asset classes and subcategories, including quoted equities, fixed income, real estate, private equity, alternatives and infrastructure.
- ATP was established in 1964 and is Denmark's, and one of Europe's, largest pension funds.
- Broad Street Investments: A Singapore based Holding company.
- GIC is a leading global investment firm with well over US\$100 billion in assets under management. Established in 1981, the firm manages Singapore's foreign reserves and is positioned for long-term and flexible investments across a wide range of asset classes, including public equities, fixed income, real estate, and private equity. In private equity, GIC invests through funds as well as directly in companies, partnering with fund managers and management teams to help businesses achieve their objectives. GIC employs more than 1,300 people.
- PGGM is a cooperative Dutch pension fund service provider. Institutional clients are offered: asset management, pension fund management, policy advice and management support. Either alone or together with strategic partners, PGGM develops innovative future provisions by linking together pension, care, housing and work.

⁵⁵ <https://www.leaseplan.com/corporate/~media/Files/L/Leaseplan/documents/annual-report-2019/leaseplan-ar19-250320.pdf>
Page 112

- TDR Capital LLP is a highly selective private equity firm with a track record of investing in businesses. TDR Capital LLP was founded in 2002 and currently manages funds totalling over EUR 5.0 billion on behalf of a range of sophisticated investors.

Total Funded Fleet/Gross

	2016	2017	2018	2019
Funded Fleet (Million)	1,7	1,4	1,82	1,86
Total Revenues (€M)	8,877	9,179	9,4	9,518

- The European fleet consists of approx. 89% of the total fleet (i.e. 1,66 Million)

Financing/Funding⁵⁶

- Financing done via Global Investors and Banks through secured and unsecured bonds as well as via bank facilities.
- 2019: Securitized notes for 2,5Bn Euro.
- 2019: raising 5,1 Bn Euro (secured/unsecured debt).
- 2019: Bank lines for 3,4 Bn Euro.
- March 2019 a Green Bond was issued (500 Million Euro) to support funding and transition of fleets into electric vehicles.

Second-hand market

CarNext.com is a subsidiary of LeasePlan and the Pan-European digital platform for used cars direct from their ex-lease vehicles. While still somewhat in its infancy (founded in 2017) CarNext has a network of over 45 delivery stores and pick up points stretching to 23 countries. In 2019 they delivered B2C sales of 39,600 vehicles and have a B2B auction platform with over 125,000 traders given daily access to auctions for LeasePlan's ex-lease vehicles.

⁵⁶ https://www.leaseplan.com/corporate/~/_media/Files/L/Leaseplan/documents/annual-report-2019/leaseplan-ar19-250320.pdf
Pages 50, 51



11.1.5. Rank#4 Lease Company – VW Financial Services

Volkswagen Financial Services is ranked as the 4th largest leasing company in Europe. They are operational in 48 markets globally through their various subsidiaries, shareholdings and joint ventures. The largest proportion of the annual operating result is now generated outside Germany with VW Financial services and their subsidiaries carrying a global fleet of 1,67 million vehicles.

Powertrain Evolution

No information was presently available specific to just Volkswagen Financial Services.

ZLEV (Zero Level Emissions Vehicles) objectives/comments⁺

2019 saw the development of “Blaue Flotte” (Blue Fleet), a program that is being used by Volkswagen Leasing GmbH to actively ramp up the use of electric vehicles in the market.

At the core of the initiative is investment in climate-related wetlands protection projects operated by Naturschutzbund Deutschland e.V. (NABU – Nature And Biodiversity Conservation Union) in line with the use of electric vehicles during the lease term, ideally to achieve a carbon positive balance during the lease terms of the vehicles concerned.

Every battery electric vehicle (BEV) from the Volkswagen Group that is delivered to fleet customers (including special customers and public authorities) via Volkswagen Leasing GmbH from January 1, 2020 onward will be part of the Blaue Flotte (blauflotte.vwfs.de). Going forward, the Blaue Flotte label will also be used to bring together all the e-mobility services provided by Volkswagen Financial Services, for example: initial advisory services and analysis of the potential of a company’s facilities for e-mobility solutions; integrated charging solutions such as the Charge & Fuel Card.^{57a}

⁺ This part will contain information from both Volkswagen financial services, VW Leasing and the VW Group and has been extracted from the Volkswagen financial services annual report.

⁵⁷ <https://www.vwfs.com/en/investor-relations/volkswagen-leasing-gmbh/annual-reports/> Page 5 & 28

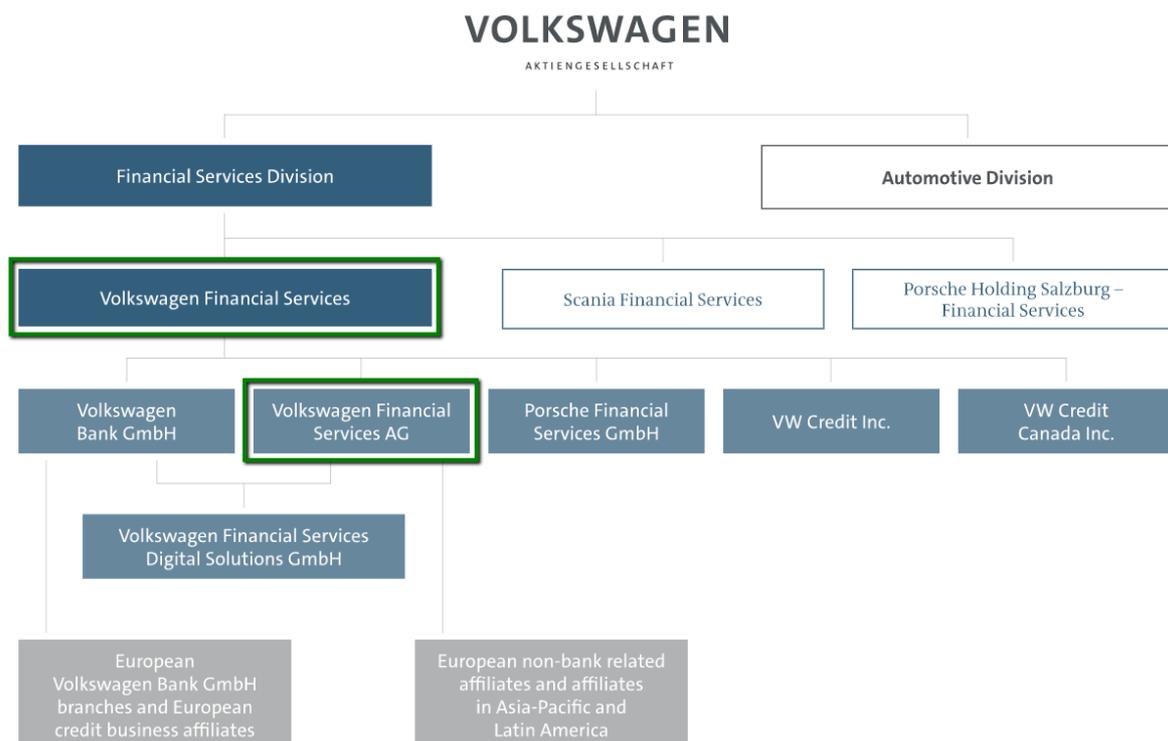
Volkswagen Leasing GmbH closely partners the Volkswagen Group brands in the marketing of electric vehicles. An attractive range of leasing services in particular – complemented by packages covering maintenance and wear- and-tear repairs – plays a key role in the marketing of electric vehicles produced by the Volkswagen Group.

Volkswagen Financial Services AG is also a partner of AUDI AG in the implementation of the recently launched e-tron charging service, which provides customers buying the new Audi e-tron with access to more than 90,000 public charging points in Europe.^{24b}

- VWFS offers customers a personalized approach on EV adoption (MEB consultancy).
- Partnerships: Charge cards (subsidiary LogPay) & Wallbox/Electricity provider (Elli).

Shareholder Structure

- VWFS AG is a 100% subsidiary of Volkswagen AG and is globally active.
- VWFS AG represents as captive all the Volkswagen AG brands and offers banking, leasing and insurance products.
- Within Volkswagen Leasing GmbH there are two automotive leasing



companies: Volkswagen Leasing GmbH and Euro Leasing GmbH.⁵⁸

⁵⁸ <https://www.vwfs.com/en/companies.html>

Total Funded Fleet/Gross^{+59a}

	2016	2017	2018	2019
Funded Fleet (Million)	1,281	1,386	1,487	1,674
Leasing Income (€M)	14,681	15,848	17,501	19,790

Financing/^{Funding+26b}

Strategic Principles

- In terms of funding, Volkswagen Leasing GmbH generally pursues a strategy of diversification with the aim of achieving the best possible balance of cost and risk. This means accessing the widest possible variety of funding sources in the various regions and countries with the objective of safeguarding funding on a long-term basis at optimum terms.

Implementation

- In 2019 overall, Volkswagen Leasing GmbH issued five bonds with a total value of €3.5 billion via its status as an issuer under Volkswagen Financial Services AG's debt issuance program.
- Volkswagen Leasing GmbH was also active in the market with its ABS program. German lease receivables were securitized in April 2019 in the form of "Volkswagen Car Lease 28" (VCL 28) and in November 2019 with VCL 29. The transactions each had a volume of €1.0 billion.
- This package of measures always ensured that Volkswagen Leasing GmbH had adequate liquidity during the reporting period.^{26c}

Second-hand market

No information was presently available specific to just Volkswagen Financial Services.

+ These parts contain information from both Volkswagen financial services and VW Leasing and the split between operational and financial leasing is not possible.

⁵⁹ <https://www.vwfs.com/en/investor-relations/volkswagen-leasing-gmbh/annual-reports/> Page 1 & 8

11.1.6. Rank#5 Lease Company – Alphabet



Operating under the brand name Alphabet, the BMW Group’s international multi-brand fleet business provides financing and comprehensive management services for corporate car fleets. The number of fleet contracts rose by 2.5% during the financial year 2019.

Powertrain Evolution

	2016	2017	2018	2019
EV+PHEV Orders	9,000	11,000	14,000	21,000

- PHEV and BEV growth by +42% in the last 5 years
- Alphabet now represents nearly 5% of all EV/PHEV registrations across 12 key markets – maintaining the company’s leadership in corporate electric mobility.^{60a}

ZLEV (Zero Level Emissions Vehicles) objectives/comments

AlphaElectric solution is a 360° approach, encompassing everything from vehicle selection to the appropriate infrastructure, and of course maintenance and running of electric fleets.^{27b}

- AlphaElectric was launched in 2013.^{27c}
- Alphabet supports customers choice towards EV’s through their consultancy department and via the AlphaElectric solution offer.
- Offers ‘solutions for intelligent charging management’ (market specific offer only).

Shareholder Structure⁶¹

- Alphabet is 100% subsidiary/division of the BMW GROUP.
- Alphabet has integrated ING Car Lease since 2011.
- Alphabet forms part of the BMW Group Financial Services that also offers insurance and banking products.

⁶⁰ <https://www.globalfleet.com/fr/new-energies/europe/features/growing-alphabet-now-active-30-countries?a=FJA05&t%5B0%5D=Alphabet&t%5B1%5D=BMW&t%5B2%5D=fleet%20electrification&curl=1;>

⁶¹ <https://www.bmwgroup.com/en/brands-and-services/alphabet.htm>

Total Funded Fleet/Gross⁶²

	2016	2017	2018	2019
Funded Fleet Contracts	644,420	679,895	700,080	717,353
Total Revenues (€M)	N/A	N/A	N/A	N/A

Financing/Funding

No information was presently available specific to just the Alphabet Company.

Second-hand market

No information was presently available specific to just the Alphabet Company.

⁶² https://www.bmwgroup.com/content/dam/grpw/websites/bmwgroup.com/ir/downloads/en/2020/gb/BMW-GB19_en_Finanzbericht.pdf



Powertrain Evolution

	2016	2017	2018	2019
EV+PHEV (ULEV)	N/A	N/A	N7A	28,000

ZLEV (Zero Level Emissions Vehicles) objectives/comments

- As a member of the EV100 Group the company has committed to achieving net zero emissions for its customers fleet of 350,000 vehicles by electrifying it fleet as far as possible and offsetting any residual emissions.
- Lex Autolease Parent company Lloyds banking group has also signed up to Climate group’s RE100 and EP100 projects and has further committed to electrifying its own corporate fleet.⁶³

Lex Autolease believes there is still a role for plug-in hybrids to play, particularly as there are still relatively few zero emission vehicles on the market. It has launched a £1 million fund to drive EV adoption, with the first 1,000 customers to sign up for a pure EV from January 2019 benefiting from a £1,000 contribution. The leasing giant believes the move could increase the total number of pure EVs registered next year by around 8% and will help Lex Autolease to double the size of its pure electric vehicle fleet.⁶⁴

Shareholder Structure

Lex Autolease is part of the Lloyds Banking Group.⁶⁵

Total Funded Fleet/Gross

No information was presently available specific to just LexAutolease.

⁶³ <https://www.theclimategroup.org/ev100-members>

⁶⁴ <https://fncdn.blob.core.windows.net/web/1/fn-digital-issue-pdfs/112018-fn50-suppl.pdf> Page27

⁶⁵ https://www.lloydsbankinggroup.com/globalassets/documents/investors/2019/2019_lbg_annual_report_v3.pdf Page 15

Financing/Funding⁺

The motor finance portfolio continued to grow in 2019, with loans and advances increasing by 7.0 per cent to £16.0 billion (31 December 2018: £14.9 billion). The portfolio continues to benefit from a prudent approach to residual values at origination and provisions through the loan lifecycle.

Residual value provisions, which are included in ECL allowances for Stage 1 and Stage 2, have increased to £201 million at 31 December 2019 (31 December 2018: £99 million). This is due to an anticipated increase in residual value deficits following some weakening in used car prices, a change in approach relating to the recognition of voluntary terminations and book growth.

As a result of this, the impairment charge increased to £203 million for 2019 (2018: £113 million) and coverage for the portfolio increased to 2.4 per cent (31 December 2018: 1.9 per cent).⁶⁶

Second-hand market

Lex Autolease abandoned its national remarketing operation, including two used car supermarkets, in 2006 and instead signed an exclusive deal with British Car Auctions (BCA) to sell its ex-fleet vehicles.⁶⁷

⁺ This part contains information from both Lloyds banking Group and Lex Autolease and has been extracted from the Lloyds Banking Group annual report.

⁶⁶ https://www.lloydsbankinggroup.com/globalassets/documents/investors/2019/2019_lbg_annual_report_v3.pdf Page 150

⁶⁷ <https://fncdn.blob.core.windows.net/web/1/fn-digital-issue-pdfs/112018-fn50-suppl.pdf> Page35



Powertrain Evolution

No information was presently available specific to just RCi Bank & Services.

ZLEV (Zero Level Emissions Vehicles) objectives/comments⁶⁸

As stated by Clotilde Delbos – Acting Chief Executive Officer of Renault SA, Chief Financial Officer of Groupe Renault and Chairman of the Board of Directors of RCi Bank and Services

“The implementation of CAFE standards in Europe will also push carmakers to add electric vehicles to their ranges in order to respect CO2 emissions targets. RCi Bank and Services needs to support them in their sales mix evolution by offering financing packages ensuring that the lowest-emission engines are attractive to customers. I have every confidence in all the teams at RCi Bank and Services to, adapt to the markets and increasingly stringent regulations, transform by adopting increasingly agile new organizational structures and new processes, innovate and extend our range of products and services while also remaining exemplary in every sense”

Shareholder Structure

- RCi Bank and Services is the captive financing/leasing part of the Renault Group and looking after all the brands (Renault/Dacia/Nissan).
- 100% owned by Renault Group.

Total Funded Fleet/Gross^{+69 70}

	2016	2017	2018	2019
Funded Fleet (Million)	1,564	1,771	1,799	1,798
Total Results before tax (€ Million)	0,912	1,077	1,215	1,327
New Financing (€ Billion)	17,9	20,6	20,9	21,4

+ This part contains information from RCi Bank & Services though the split between operational and financial leasing is not possible.

⁶⁸ https://annualreport2019.rcibs.com/wp-content/uploads/2020/04/RCI2019_RA_EN_VBAT_MEL_20_04_28-1.pdf Page 3

⁶⁹ <https://www.rcibs.com/en/news/2019-another-record-year-rci-bank-and-services-despite-downturn-automotive-market>

⁷⁰ <https://rapportannuel2019.rcibs.com/performances/>

Financing/Funding

- RCi Bank and Services diversify their funding.

Second-hand market

No information was presently available specific to just RCi Bank & Services.



Powertrain Evolution

No information was presently available specific to just Athlon

ZLEV (Zero Level Emissions Vehicles) objectives/comments⁺

- Consultancy and advice to customers how to switch to EVs (done in close cooperation with Daimler Group)
- Individual advice is provided by Athlon on total EV package (including charging solutions)

Shareholder Structure⁷¹

- Athlon is 100% subsidiary of Daimler Financial Services and is a captive leasing company of the Daimler Group (was acquired in 2016 from Dutch Rabobank/DLL) and was merged with Daimler fleet management with a fleet of respectively 250.000 and 85.000)
- Athlon forms part of Daimler Financial Services which had changed into Daimler Mobility AG

		MAYBACH
EQ	Mercedes me	
		SETRA
Mercedes-Benz Bank	Mercedes-Benz Financial Services	

+ This part contains information pertaining to both Athlon and the Daimler Group

⁷¹ <https://www.daimler.com/documents/investors/reports/annual-report/daimler/daimler-ir-annual-report-2019-incl-combined-management-report-daimler-ag.pdf> Page 3

Total Funded Fleet/Gross⁷²

	2016	2017	2018	2019
European Fleet	N/A	N/A	N/A	395,000*
Revenue (€M)	N/A	N/A	N/A	N/A

*405,000 vehicles were verbally confirmed during an interview with an Athlon employee

Financing/Funding

No information was presently available specific to just Athlon

Second-hand market

Athlon like many of the other leasing companies offers an auction website for dealers dedicated to vehicles that are being de-fleeted at the end of their lease. Their platform is called Athlon Car Plaza⁷³ and according to the website listed cars from 9 countries and the Spanish Canary Islands.

⁷² <https://www.athlon.com/be-en/about-athlon/who-we-are>

⁷³ <https://www.athloncarplaza.com/> and <https://www.athlon.com/be-en/company/carplaza-for-dealers>



FREE2MOVE LEASE⁺⁷⁴

In order to develop B2B Long-Term Lease business, particularly with key clients, a purpose-designed organization has been rolled out in Europe since 2016 between BPF (Banque PSA Finance) and PSA (Peugeot Société Anonyme). It operates under the name Free2Move Lease (F2ML). In 2019, F2ML business expanded to all the European countries where the Peugeot, Citroën and DS brands operate a subsidiary. For Opel and Vauxhall, F2ML is also offered in the ten major European countries, with Austria being the last one to launch in December 2019.

During the past year (scope enlarged from G6 to G10: France, Great Britain, Germany, Spain, Italy, Belgium, Netherlands, Portugal, Poland and Austria), for Peugeot, Citroën and DS, Free2Move Lease saw its volume rise 14.1% in vehicle registrations, with 118,900 units financed across the G10, or market share for B2B sales of the brands of 14.2%. Regarding Opel and Vauxhall, the number of units financed was 23,211, for a penetration of 8%.

The launch of Free2Move Lease has helped expand the range of services to businesses, particularly the extension of the connected services offering (Connect Fleet and Car Sharing) across the full European scope of operations. Sales of new services, the rapid development of proactive contract management, greater efficiency for the vehicle return process at the end of each contract, and robust used-vehicle markets, especially in the UK and France, have opened the way for F2ML to prove the efficiency of its business model for PSA and BPF

Powertrain Evolution

No information was presently available specific to just PSA Finance

+ This part will contain information from both Banque PSA Finance and PSA Group.

⁷⁴ https://www.banquepsafinance.com/sites/default/files/resultats_annuels_2019_eng.pdf Pages 19

ZLEV (Zero Level Emissions Vehicles) objectives/comments^{+75a}

Groupe PSA has already launched 10 new plug-in hybrid or all-electric models, in line with its roadmap to offer a 100% electrified range from 2025, of which 50% will be electrified by the end of 2021 with 13 additional electrified models.

From 2019, all new models launched by Groupe PSA come with either an all-electric or a plug-in hybrid powertrain. LEV orders are promising and in line with Group objectives to be compliant with European 2020 CO2 target from Day 1. The company mobilizes its recognized expertise and works with its partners and dealers to meet customer expectations by producing and offering a competitive line-up, with easy and state-of-the-art services for day-to-day life.

Free2move Lease^{39b}

In 2020, F2ML is looking to speed up growth with the deployment of operations for Opel and Vauxhall, and to actively support the marketing of the new LEV vehicles from Groupe PSA with the launch of innovative service offerings specific to this type of vehicle.

Shareholder Structure^{39c}

- PSA Finance (Banque PSA Finance – BPF) is the captive leasing company of the PSA group
- From 2019 a new leasing entity forms part of PSA Finance: Free2Move Lease (F2ML)
- Business Model based on partnerships: BPF is currently in joint ventures with Santander Group and BNP Paribas

BPF is a limited liability corporation (Société Anonyme) organized under the laws of France. BPF share capital amounts to €199,619,936. It is divided into 12,476,246 fully paid shares having a nominal value of €16 each.^{39d}

+ This part will contain information from PSA Group & Free2move Lease the ZLEV objective from strictly PSA Finance are not able to be defined.

⁷⁵ https://www.banquepsafinance.com/sites/default/files/resultats_annuels_2019_eng.pdf Pages 14, 19, 12, 52

All the share capital of BPF is owned by the majority shareholder Peugeot S.A. (9,348,180 shares, representing 74.93% of the equity) and by two wholly-owned subsidiaries of Peugeot S.A, namely Automobiles Peugeot S.A. (which owns 2,002,862 shares or 16.05% of BPF's equity) and by Automobiles Citroën SA (which owns 1,125,203 shares or 9.02% of BPF's equity). One share is also personally owned by one member of the Board of Directors.

Total Funded Fleet/Gross^{+76a}

	2016	2017	2018	2019
Funded Fleet (Total ex CH)	592,788	618,711	806,179	863,222
Funded Fleet (Europe)	525,912	532,866	750,942	819,047
Global Revenues (€ Bn)	6,4	7,8	11,3	12,6

Financing/^{Funding+40b}

- Financing business model based on partnerships: BPF is currently in joint ventures with Santander Group and BNP Paribas.

FINANCING ARRANGEMENTS BY SOURCE

<i>(in million euros)</i>	Dec. 31, 2019	Dec. 31, 2018	Jan. 01, 2018
Bank facilities	40	72	150
Bonds + BMTN	0	26	35
EMTN	223	218	208
Other	3	5	5
Long-Term	226	249	248
CD	0	0	0
CP	0	0	0
Other	0	0	0
Short-Term	0	0	0
Capital markets	226	249	298
Securitizations	0	0	0
Deposits	0	0	0
Other financing	0	0	0
Total external refinancing	266	321	398
Stockholder's equity + subordinated debt	3,189	2,878	2,583
Other liabilities	157	211	229
Total assets	3,612	3,411	3,210

+ These parts will contain information from PSA Finance but the split between operational and financial leasing is not possible.

⁷⁶ https://www.banquepsafinance.com/sites/default/files/resultats_annuels_2019_eng.pdf Pages 7, 16, 17, 33

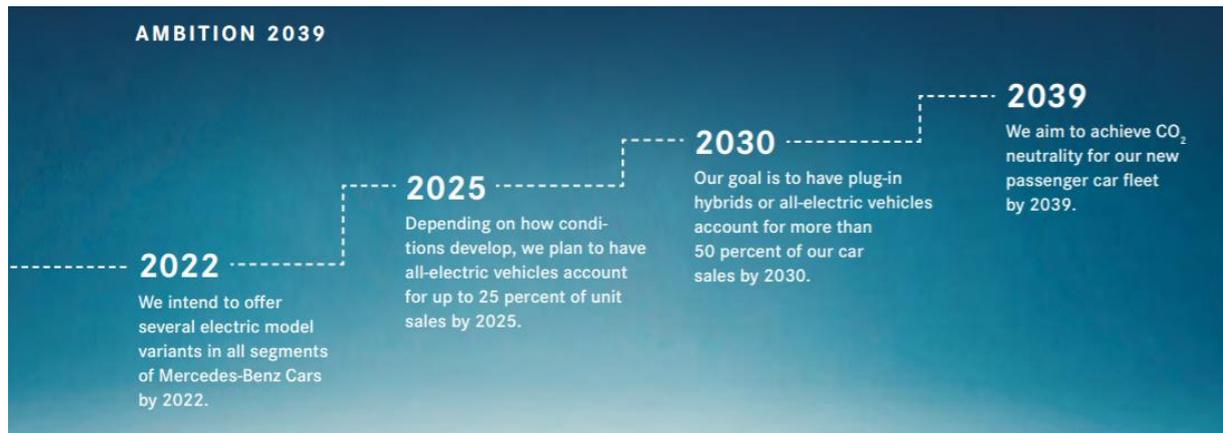
Second-hand market

No information was presently available specific to just PSA Finance

Powertrain Evolution

No information was presently available specific to just Daimler Financial Services

ZLEV (Zero Level Emissions Vehicles) objectives/comments⁺⁷⁷



Shareholder Structure⁷⁸

- Daimler Financial Services has changed into Daimler Mobility AG and has integrated several Daimler companies such as Athlon (Athlon is part of Daimler Financial Services since 2016).
- Daimler Mobility is also cooperating with BMW to offer mobility services in Europe via shares within the YOUR NOW Group.

+ This part will contain information from Daimler Group and these statements cannot be held as the distinct view or target of just Daimler Financial services.

⁷⁷ https://sustainabilityreport.daimler.com/2019/servicepages/downloads/files/daimler_sr_2019.pdf Pages 36,37, 94, 95

⁷⁸ <https://www.daimler.com/documents/investors/reports/annual-report/daimler/daimler-ir-annual-report-2019-incl-combined-management-report-daimler-ag.pdf> Pages 178, 54

Total Funded Fleet/Gross^{+79 80}

	2016	2017	2018	2019
Funded Fleet (Million)	4,3	4,8	5,2	5,4
Revenue Global(€M)	20660	24530	26269	28646

Europe represents in revenue 4,6 Bn € (i.e. 16% of total) ⁸¹

Financing/Funding⁺

At the Group, investments in property, plant and equipment decreased to €7.1 billion (2018: €7.5 billion). Research and development expenditure increased to €9.7 billion (2018: €9.1 billion). The free cash flow of the industrial business was €1.4 billion (2018: €2.9 billion). The sharp decrease resulted from a substantial cash outflow in connection with legal proceedings relating to diesel vehicles. Also, a continued high level of expenses for new products and technologies had a negative effect. The net liquidity of the industrial business stabilized at €11.0 billion (2018: €16.3 billion), taking into account lessee accounting in accordance with IFRS 16 and the dividend payment for fiscal year 2018. The inclusion of lessee accounting in accordance with IFRS16 reduced the net liquidity of the industrial business from the end of 2018 to the beginning of 2019 by €3.2 billion.⁸²

+ These parts will contain information from a total global fleet perspective of vehicles financed or leased and the Daimler Mobility Group which now encompasses several different entities. No individual split of Daimler Financial Services figures is possible.

⁷⁹ <https://www.daimler.com/dokumente/konzern/geschaefsfelder/daimler-financial-services-im-ueberblick-ausgabe-2019.pdf>

⁸⁰ <https://www.daimler-mobility.com/en/company/key-figures/daimler-mobility-in-the-annual-report/>

⁸¹ <https://www.daimler.com/documents/investors/reports/annual-report/daimler/daimler-ir-annual-report-2019-incl-combined-management-report-daimler-ag.pdf> Page 177

⁸² <https://www.daimler-mobility.com/en/company/key-figures/daimler-mobility-in-the-annual-report/annual-results-2019/>

Second-hand market

Daimler Financial Services have invested in a used car sales platform called “hey car”, though how much of their ex lease volume goes through the website is presently unclear. According to the website “heycar is an offer platform for the brand-neutral used car trade. Connected are over 1,000 groups of dealers with over 300,000 vehicles. But not all can sell their vehicles on the platform. The vehicles must meet certain criteria: For example, they may not have driven more than eight years or more than 150,000 km. Furthermore, heycar is a pure B2C platform for dealers”

11.2. Results – Part 4 – De-fleeting of Leasing Company Vehicles

Second-hand market: What are the policies/plans for vehicles once leasing companies are finished with them?

The policies/plans for leasing companies used cars or de-fleeted vehicles is not a straightforward question, there are not a simple set of answers for each company or can an individual companies' policy be used as in a broad term for all. With this in mind, we have put together an outline for which channels are used when a leasing company de-fleets and puts their vehicles into the second-hand market.

Introduction

The process to dispose of end-of lease vehicles to the second-hand market is a critical aspect for leasing companies. The Residual Value risk is the main risk they are confronted with. They continuously optimize and professionalize their approach to used car customers and used car traders, to maximize the sales price and as a result limit the risk exposure.

In general, the majority of leasing companies don't plan to make a profit on the used car transaction. The resale value should basically cover the Residual value ideally including the Remarketing costs. If they would plan a real profit, their residual values would be lower than competition and as a result, they would not be competitive in the lease market.

For the main leasing companies the volume they must sell per year is impressive. LeasePlan, for instance, disposes of more than 250.000 used cars per year in more than 30 countries. Clearly the process needs to run very efficiently and there needs to be a wide customer base, through various channels, in order to sell these at the highest possible price.

The exact total remarketing volumes are not shared by leasing companies but there is a clear indication if you start from the fleet size. In average a leasing duration is around 45 months. The volumes of the top 10 leasing companies would then be between 100.000 and 300.000 vehicles as an estimation.

De-fleeting process

Part of the efficiency at resale lies in the de-fleeting process. This consists of different steps between stopping the vehicle contract to the pickup by the used car buyer, being private or trader.

Some of the main steps are the following:

- **Handover of the ex-lease vehicle** - This can be done at a Dealer while picking up a new car, at a Leasing companies' central compound or even at home or the office where the car will be taken by an outsourced service provider.
- **Vehicle check** - The vehicle is thoroughly checked to create a complete status report including all details and damages. This is mostly done together with the driver as they might be liable for some of the damages. This service is, by definition, always provided by an external supplier as this check needs to be neutral. Companies that are contracted here are e.g. Macadam, Dekra Automotive Solutions or SGS.
- **Transport** – The car will be transported to a central compound of the leasing company.
- **Unfair Wear and Tear (UFWT)** - The leasing company analyzes the damages and defines which charges could be charged back to the company who leased the vehicle.

Channel decision

Depending on various criteria, the leasing company decides through which channel the car will be sold. When the model, mileage, and condition allow it, they might choose to sell the vehicle directly to the end customer. However, most of the vehicles are sold to traders because of the higher mileage or because of the volume that must be sold in a short timeframe.

The evolution over the last years has been to use a multichannel approach, often referred to as B2X. The reason why is straightforward: leasing companies try to maximise the resale value. The way to do this, is by offering the same vehicle across as many channels as possible. In general, you could predict to a certain degree, which channel could be the best performing. High mileage vehicles are often sold to used car traders for export outside of Europe and low mileage cars create more interest from brand Dealers to sell to their retail customers. This works in general but as every single car could create interest from a completely different angle, leasing companies want to offer them into as many channels as possible.

Another reason for the multi-channel approach lies with alternative powertrains. The supply and demand in multiple countries don't necessarily match. Countries with high incentives when buying a new EV, might create volume while the used car demand is not yet present. Used car traders will be reluctant to buy them, franchised dealers will have some interest but export channels to other countries will be required to sell the created supply.

Across these channels, a continuous growth has been seen in online trade via electronic platforms. ALD sold close to 300k vehicles in 2019 with more than 60% of these purely online.

Some different channels

To grasp the complexity and diversity of channels we'll describe some of the key ones:

B2B (in house on-line platform)

The main leasing companies have built their own B2B platforms to sell vehicles to independent used car traders and to authorized brand dealers. These platforms are available in different languages, so they attract buyers all over the world. Two types of sale are mostly used: Auction and buy now. In an auction format, traders bid against each other. With "buy now", the price is fixed and anyone who offers that price has the vehicle. Some examples of trading platforms are:

- **Alphabet Car Square**
- **ALD Carmarket**
- **Arval Motortrade**
- **Athlon Car Plaza**
- **CarNext (LeasePlan)**

The screenshot displays the ALD Carmarket website interface. At the top, it features the ALD Carmarket logo and a banner with the text "THE FASTEST WAY FOR PROFESSIONAL TRADERS TO BUY USED VEHICLES". Below the banner are three main sections: "TRUST US" (highlighting ALD's automotive group), "CHOOSE & BUY QUICKLY" (mentioning weekly auctions), and "ENJOY QUALITY VEHICLES" (noting careful selection and maintenance history).

The main content area is divided into several regional sections:

- DNK - Auction - 71**: "CLOSING SOON" (03m 54s), End: 19 mar 2020 10h30. Listings include Skoda Octavia, VW Tiguan Allspace, Ford Mondeo, and Opel Corsa.
- BEL - BUYNOW - 233**: "OPEN" (04h 33m 25s), End: 19 mar 2020 15h00. Listings include Toyota C-HR, Jaguar XF Diesel - 2015, Toyota C-HR, and Jaguar XE Diesel.
- GB - Select Prestige**: "COMING UP NEXT" (32m 03s), Start date: 19 Mar 2020 10h00, End: 23 Mar 2020 11h00. Listings include BMW 1 series Hatch/Sporthatch, Jaguar XF Saloon, Mercedes A-Class 5 Door, and Volvo XC60.
- FR - VENTE PRIX FIXES S12 - 2 2020**: "CLOSING SOON" (29m 20s), End: 19 mars 2020 11h00. Listings include Audi A5, Skoda Octavia, Toyota Auris, and Mercedes A-Class II.

Access to these platforms are restricted to used car traders, while there is no real barrier for entry. Leasing companies are happy to welcome any professional used car trader or franchised dealers to join the platforms. Even if someone buys only one car per year, this still means he gave the highest price. CarNext states in their annual report they have more than 125.000 traders active on their platform.

B2B (outsourced)

There are many external providers that can handle the sales process for the leasing companies. Some of the most known are BCA, Adesa, Manheim and Autorola. They operate these auctions under their name. Predominantly smaller leasing companies will use them, as they don't have enough to offer every week to attract a big used car trader public. Big leasing companies often use them to offer a few cars to benchmark their own platform.

In some areas like the US and UK, the physical auctions are still very important. Here cars are displayed at the compound of e.g. BCA, people can inspect them before the auction and cars are driven in front of the auctioneer and public one by one.

B2C (Business to Customer)

Increasingly leasing companies have developed their used car sales directly to the end customer. By cutting out the middleman, they try to optimize their profits. They build their own network of physical stores often supported by a very strong online offer with home delivery.

B2D (Business to Driver)

An additional channel is the sale to or via the driver of the vehicle. Certainly, when the lease car is a management vehicle, the driver is offered the possibility to take over the car at the end of the lease period. This could be for personal use or to sell to friends and family. This reduces the standard de-fleeting costs and the time the used car gets paid.

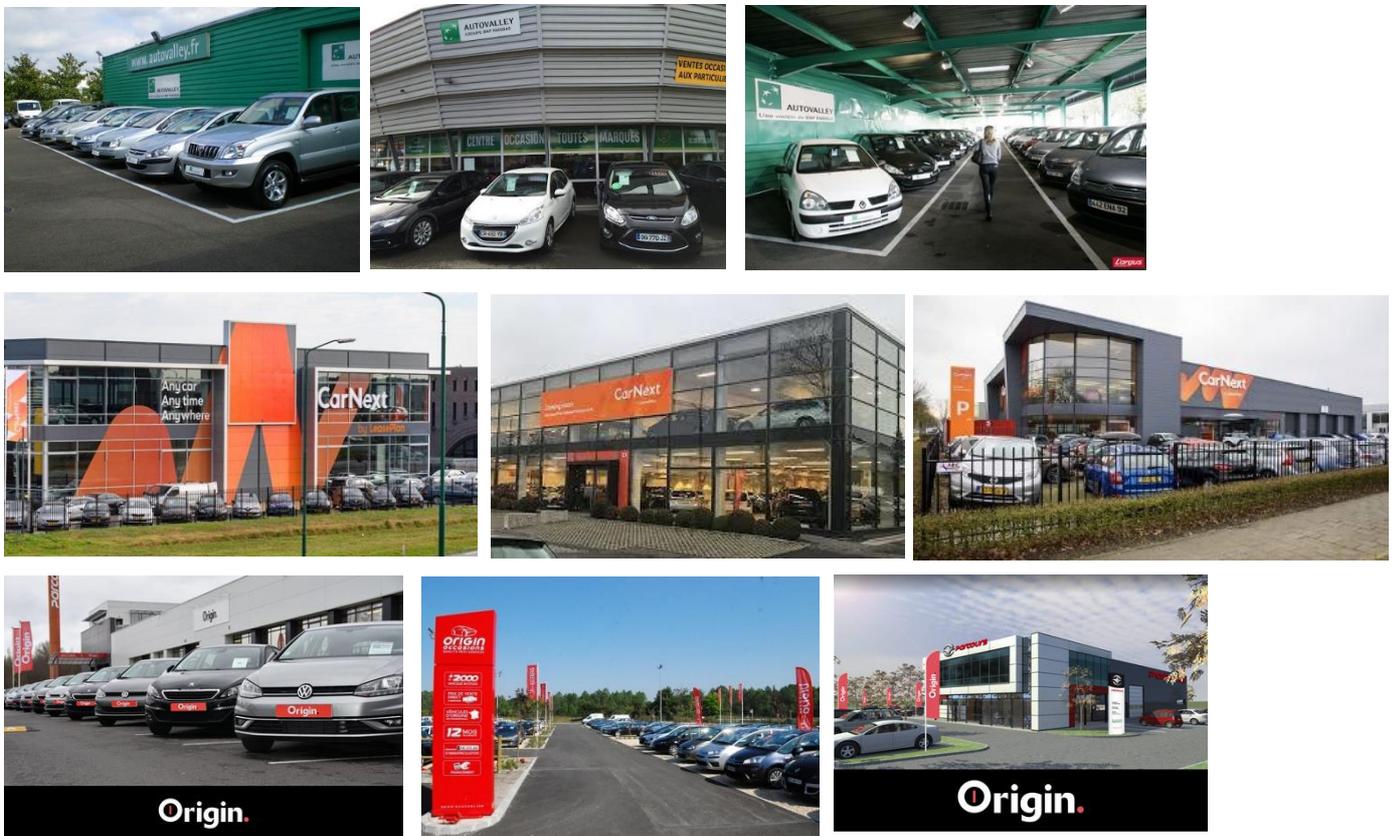
B2E (Business to Employee)

Leasing companies have many employees themselves but have also fleet clients with a big workforce. These can all be approached and potentially given a special advantage.

B2C development

The last years have seen leasing companies devoting their main efforts to develop the B2C channel. In the Remarketing world, LeasePlan has received most of the attention as they have very ambitious targets to develop this channel under the CarNext umbrella. In 2019 they sold close to 40.000 cars B2C, which is only a small part of the 250.000 they remarket in total but still it is an important contributor in their B2X strategy.

Below the initiatives of the main players. Arval with AutoValley? LeasePlan with CarNext and ALD with origin.



The development of their own remarketing channel is critical to enable the sale of alternative powertrains. Many of the B2C customers (traders) might not be the best placed in selling de-fleeted EVs in the near future.

11.3. Results – Part 4 – Top Ten Company Cars

11.3.1. Results – Part 4 – Top Ten Company Cars – EU-27+UK⁸³

Top 10 Commercial/Corporate Car Models - 2019

<u>Rank</u>	<u>Model</u>	<u>Registrations</u>
1.	VW GOLF	281,357
2.	RENAULT CLIO	193,872
3.	SKODA OCTAVIA	165,550
4.	VW TIGUAN	160,653
5.	OPEL CORSA	133,738
6.	FORD FOCUS	132,396
7.	NISSAN QASHQAI	132,252
8.	FIAT 500	131,988
9.	RENAULT CAPTUR	131,334
10.	VW POLO	124,853

Top 10 Commercial/Corporate EV Car Models - 2019

<u>Rank</u>	<u>Model</u>	<u>Registrations</u>
1.	TESLA MODEL 3	48,382
2.	RENAULT ZOE	23,649
3.	BMW I3	18,738
4.	NISSAN LEAF	18,386
5.	MITSUBISHI OUTLANDER	16,387
6.	VW GOLF	15,024
7.	BMW 5 SERIES	12,290
8.	HYUNDAI KONA	11,763
9.	MINI COUNTRYMAN	10,730
10.	AUDI E-TRON	10,666

⁸³ The EU-27+UK would include all European Member states and the United Kingdom apart from Malta & Bulgaria.

11.4. Results – Part 4 – Large Fleets

Large Fleets - What were 10 very large fleets most popular company car models in 2019

Methodology

In order to gain a true insight in how fleet managers of 10 of the largest fleets in Europe are running their fleets and what they think about the future of alternative Powertrain, our CEO and fleet market expert Marc Odinius conducted open interviews in ten 45-minute online sessions. As a keynote speaker at fleet events like FleetEurope and GlobalFleet Marc is well known in the industry and was therefore able to access and speak with the who's who of the fleet industry.

The interviews were conducted with

Atos: www.atos.net

Allianz: www.allianz.com

AstraZeneca: www.astrazeneca.com

Dell: www.dell.com

IBM: www.ibm.com

Infor: www.infor.com

Philip Morris: www.pmi.com

Philips: www.philips.com

Roche: www.roche.com

Schindler: www.schindler.com

The information generated through the personal interviews with the fleet managers will be kept confidential at any time. The individual results of the Expert Interviews will be used to build an aggregated view on how the large fleet operate in general and what their intentions are regarding the adoption of alternative powertrain. The companies who were interviewed range among the top fleets in Europe

11.4.1. Fleetsize – Information is changing constantly

The fleets interviewed range from 1.000 to 25.000 cars in their global fleet. Let's assume very conservatively that every car will cost the company 10.000€ per year on average that means the fleet budget for the smallest fleet would be 10 million € and for the biggest fleet 250€ million € per year. So, it is important to always keep in mind that fleet managers administering fleets this size are accountable for an enormous budget.

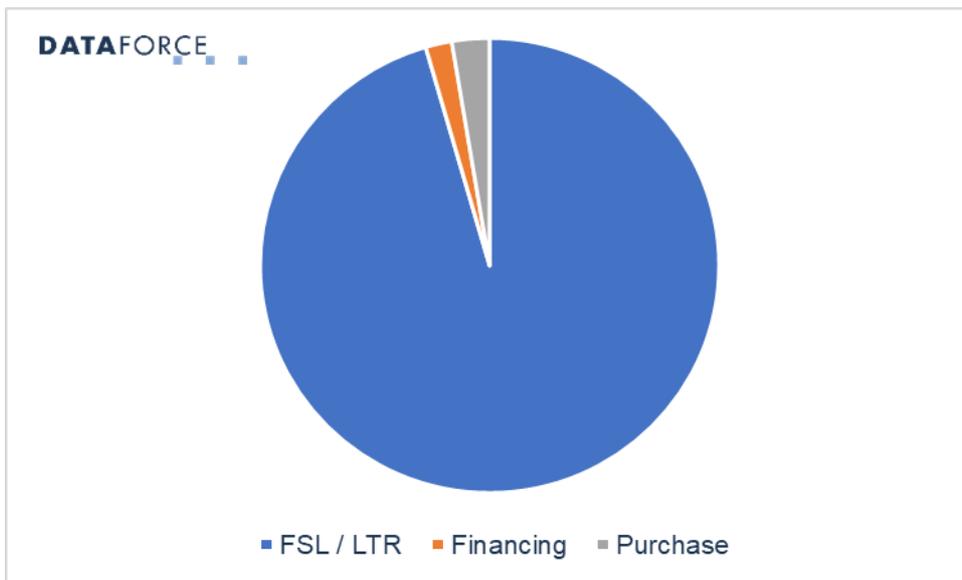
No of Fleets	Global Fleet Vol.	European Fleet Vol.	Top European Country	Top Country Vol.
Fleet Nr. 1	1.000	1.000	Germany	450
Fleet Nr. 2	13.000	9.000	France	1.800
Fleet Nr. 3	16.800	6.000	Spain	720
Fleet Nr. 4	18.000	12.500	Germany	2.200
Fleet Nr. 5	25.000	18.000	France	4.500
Fleet Nr. 6	4.800	4.500	Greece	1.100
Fleet Nr. 7	14.000	8.000	Germany	1.500
Fleet Nr. 8	12.000	4.500	Netherlands	850
Fleet Nr. 9	23.000	4.000	Russia	1.800
Fleet Nr. 10	5.000	4.900	Netherlands	1.800

Fleets of this size (1000-25000) are always a moving target, constant policy fluctuations as companies are acquired or sold, new cars are leased, other leasing contracts expire. Therefore nearly all interviewed fleet managers who all operate at least at a European, if not global level, were all very well informed about their fleet but did not always have all the finer detailed information at their fingertips and during the interview process the initially reported figures were sometimes considerably adapted in a matter of days.

11.4.2. Financing – Full-Service Leasing Only

For all companies with no exception full-service leasing was by far the most common method (90%) to ensure the mobility for their drivers and all companies rely on these full-service lease contracts with a duration of 3-4 years. Only a minimal part of the fleet is purchased or financed which usually is the case for pool cars or vans and trucks. Avg. share of financing methods for company cars

Average share of financing methods for company cars



Today the optimal RV (Residual Value) for cars is around 3 to 4 years therefore the best leasing rates will be offered by leasing companies for leasing contracts with this duration. Furthermore, the company car tax for user/chooser is often related to the new car price, therefore drivers are also not keen to drive the vehicles for extended periods of time. Within bigger fleets we also see the duration of contracts becoming shorter, using more flexible schemes like “Auto abos”.

Share of financing methods for company cars

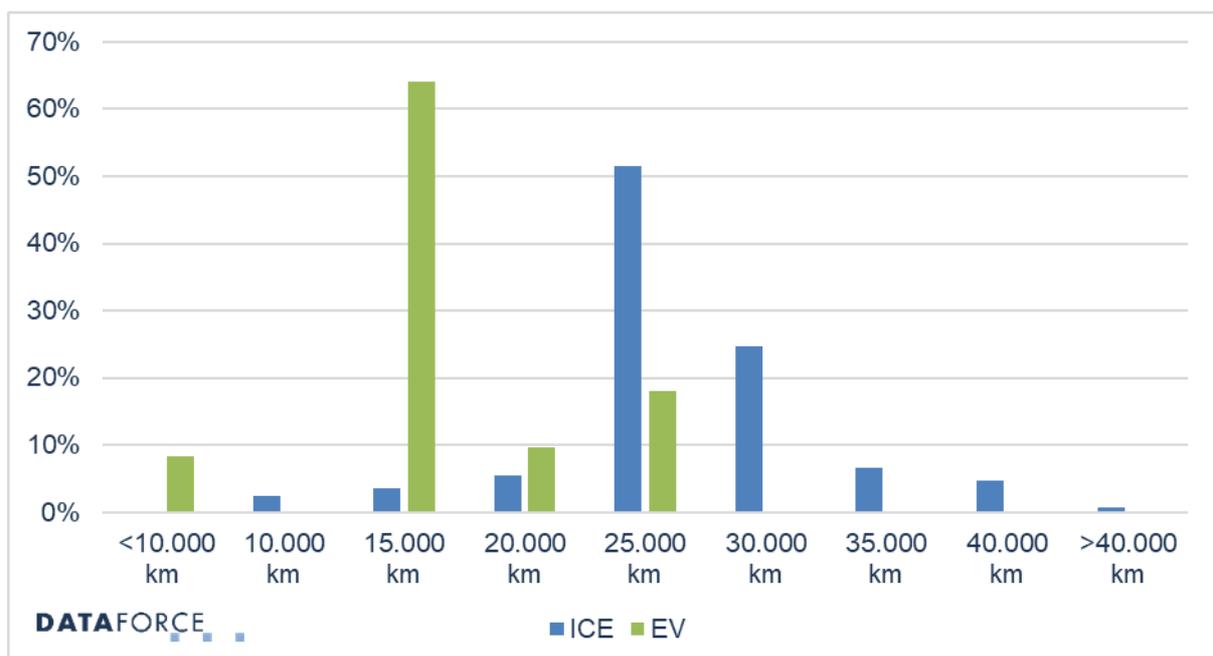
No of Fleets	Full-service Leasing / Long-term Rental	Financing	Purchase
Fleet Nr. 1	100		
Fleet Nr. 2	99		1
Fleet Nr. 3	100		

Fleet Nr. 4	90	9	1
Fleet Nr. 5	99		1
Fleet Nr. 6	100		
Fleet Nr. 7	96		4
Fleet Nr. 8	100		
Fleet Nr. 9	67	3	30
Fleet Nr. 10	98	2	
Fleet Avg.	96%	2%	3%

The average mileage is also very similar in the interviewed fleets, ranging between 25.000-30.000 km for 76% of the vehicles, 12% then have a lower mileage, while the other 12% is higher.

On average the EVs show lower mileage, mainly due to the fact that their range is still limited. But in the interviews the fleet managers did state that in many cases the BEVs are running alongside the classic company cars and for the same purpose. This is part of the success Tesla have achieved in fleets, as they can provide the required range to be in the evoked set of nearly all company car drivers and at the same time fulfilling the requirement of the company in terms of usability. BEVs are already seen as a true alternative but as range in big fleets is essential the percentage of BEV is still generally very low.

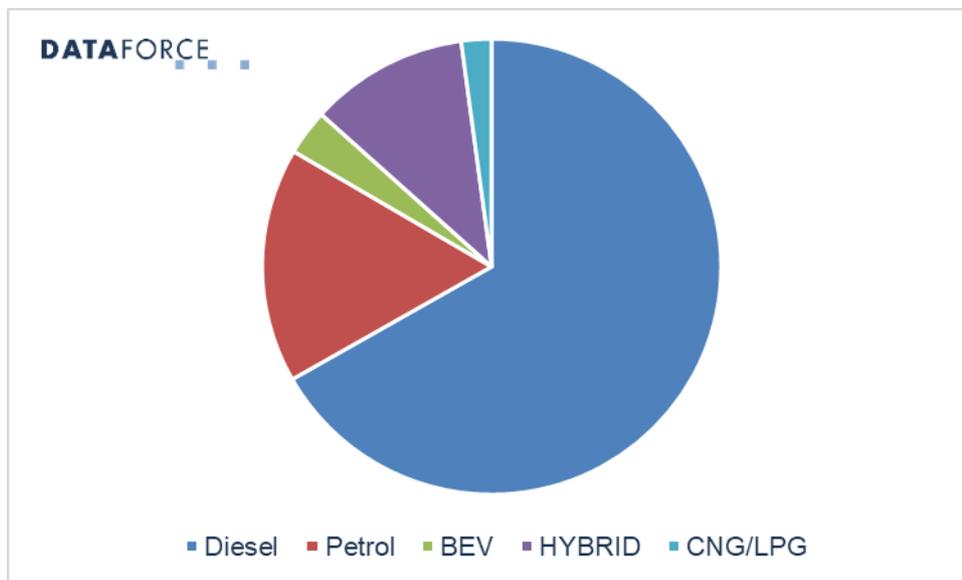
Average mileage of company cars in top European fleets



11.4.3. Current fueltype split - Only showing the past

The fueltype split within the company seems with one or two exceptions still very traditional, mainly diesel focused. But this view is misleading as nearly all fleets are just changing or already have changed their car policy to favour alternative powertrain driven vehicles. Only 1 out of the 10 companies can already show a hybrid share of 85%, all other companies are showing the usual 3-10% for alternative powertrain variants.

Average fueltype share of top European fleets



But here it's also worth remembering that big fleets in general show, when compared to other companies and even private individuals, by far the lowest CO2 emissions as they have always had stricter policies in place. In the past this also worked in favour of the fleet budget as lower emission vehicle usually had a diesel engine with a low fuel consumption or a smaller engine and an overall a lower price. Now that has changed, lower emission vehicles are not automatically leading to a cost saving.

As a result, we will see a reasonably rapid change in the fueltype mix of the fleet market, especially against the private market, as the fleet renewal cycle of 3-5 years is very short in comparison.

Fueltype share of the top European fleets

No. of Fleets	Diesel	Petrol	BEV	Hybrid	CNG/LPG
Fleet Nr. 1	90	10			
Fleet Nr. 2	95	4	1		
Fleet Nr. 3	15	0	1	84	0
Fleet Nr. 4	58	15	9	6	12
Fleet Nr. 5	60	30	2	8	0
Fleet Nr. 6	99	0	0	1	0
Fleet Nr. 7	83	8	3	6	
Fleet Nr. 8	75	18	5	2	0
Fleet Nr. 9	35	60	1	3	1
Fleet Nr. 10	83	10	4	3	0
Fleet Avg.	67%	17%	3%	11%	2%

11.4.4. Car policy present and future - Mindset has already changed

As multinational fleet managers, most have a need-based policy. Even though all have a car policy in place, this is often set up as a menu for the companies and employees to choose from, instead of imposing a fixed policy with regard to the choice of brands and models. Only for the smallest fleet did the fleet manager limit the choice of models to just one OEM Group. Due to the numbers of countries and the different preferences within Europe the range of brands and models is extensive and changes constantly.

Even though in their current line-up most of the interviewed fleet managers don't state exceptionally high numbers of cars with alternative powertrain yet, all fleet managers have specific targets and goals to become more environmentally friendly. Most are currently in the process of reworking their policies and not just to please the need of marketing. In one specific example, one fleet policy currently in use, didn't consider alternative powertrain vehicles at all even though they are currently running quite a lot of BEV already. But to illustrate the changes coming, if I would have conducted the same interview in September 2020, I would find that from 2021 onwards no pure ICE engines would be allowed anymore.

- Carbon Neutral as a company as a whole by 2025.**
- Signed up to EV 100 with the target 100% EV by 2030**
- Reduction of the true CO2 Emissions by 25% until 2022.**
- Become Global EV Leader among the biggest companies**
- From 2021 no pure ICE allowed anymore**
- 2021 choice of vehicle limited to 100 g/km CO2**

11.4.5. In it despite (for) the money

Even though currently the switch to become an EV or Hybrid fleet today is for most companies still very costly, the majority of the interviewed fleets are nevertheless pushing for the change. Of course they are also try to contain the current extra financial burden which is connected with the change, by trying to drive less kilometres to reduce their fleet, to introduce malus rules for drivers in case they don't adapt their behaviour and in one specific case the company even pays employees a bonus if they choose a hybrid or EV vehicle in order to speed up the changeover.

However, as stated at the beginning the fleet managers are responsible for very large budgets and next to the carbon footprint the policies continue to be cost driven. As the range of models grows and the saving on fuel and maintenance is considerable, most fleet managers calculate with the TCU / TCM which refers to the total cost of use or mobility and now in some European countries already BEVs and Hybrids operating cost get very close to cars with ICEs.

11.4.6. What can push the adoption of alternative Powertrain

Asking the fleets what measures would help most to speed up the adoption of alternative powertrain a wider range of models especially in the classic company car segment C and D (currently still missing) with an improved range, foreseeable taxation benefits and subsidies which would bridge the time until the prices/cost of the ICE and ZLEV cars are more comparable. But above all else the most criticized component was the currently still poor charging infrastructure and the missing rules and regulations which would enable and force a fast build-up of the (charging) infrastructure

Not being able to equip parking slots with a charging point in public and office garages is still a serious drawback. Today the infrastructure measures are lagging far behind from where they should be. Even the newest regulations don't foresee or force the owner of buildings (newly built or old) to provide charging infrastructure besides the obligatory one or two wall boxes.

In order of priority for the fleet managers the following measures would improve or speed up the adoption of alternative powertrain.



- No 1 Infrastructure: On premise - on the way (fast charging high power) – at home
- No 2 Rules, Regulations, Laws: stable taxation, benefits, incentives for both driver and company instead of short-term incentives for the company car driver only. Regulations to force the development of the infrastructure as stated above
- No 3 Range of Models: The line-up of BEVs and PHEVs is still limited but all fleet managers think that will be solved by the efforts of the OEM in the next 3 years. But next to the model range the range anxiety needs to be solved that would mean far more models with a range of 500km which would compare to the Tesla Model S need to be available

Interestingly incentives for employees were not mentioned by the fleet managers when asked outright. Some even see the employee incentives - if they are not sustainable - as a problem as employees might just choose the BEV or PHEV due to the incentive and as soon as the benefit is reduced or cancelled the next model of choice might change again.

11.4.7. Conclusion

If politics and as such governments push hard for the change and manufacturers provide the range of models with acceptable battery range and companies as well as private individuals are eager to go along then we need to make sure that all initiatives don't falter because rules, regulation and laws have not been put in place to support or even enable the change to an EV driven car industry because we can't plug in.

A key challenge for the TCU / TCM is the "unpredictable" Residual Value. Too much incentive currently goes into the new car, while the benefits for the second-hand car customer is limited. The budget should therefore ideally be directed towards running costs instead of purchase support.

9. Terms and Explanations –

- EU-27+UK: Austria, Belgium, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom.
- EU-8 Member States: Belgium, France, Germany, Italy, Netherlands, Poland, Spain, United Kingdom
- Private registrations would also hold private leasing registrations
- Commercial or Corporate registrations would hold registrations from the sub-categories of True Fleets, RAC/STR (Short Term Rentals) and Dealer & Manufacturers
- Petrol = This category would include Mild-Hybrid registrations
- Diesel = This category would include Mild-Hybrid registrations
- BEV = Battery Electric Vehicle and this category would include Electric + Range Extender Vehicles (i.e. BMW i3)
- HEV = Hybrid Electric Vehicle
- PHEV = Plug-In Hybrid Vehicle
- FCEV = Fuel-Cell Electric Vehicle
- Bivalent = This category would include the CNG/LPG/GAS registrations which are mostly twinned with a conventional Petrol/Diesel engine
- EVs = This category would include – BEV, FCEV and PHEV vehicles
- ICEs = Internal Combustion Engines
- ZLEV = Zero/Low Emission Vehicles
- ZLEV under 50g – In order to produce the figures for the ZLEV - PHEV powertrain, specifically the “PHEV under 50g” registrations, we utilised the available CO2 emissions data from Belgium, Germany, Netherlands, Spain & the UK of the EU-8 selected member states. We then recorded all the relevant models with the PHEV powertrain under 50g, before overlying this selection of model and fuel type onto the rest of EU-8 selected member states and the EU-27+UK countries where CO2 emissions are not available to us.
- FSL = Full-Service Leasing
- LTR = Long-term Rental

- TCU = Total Cost of Use
- TCM = Total Cost of Mobility

Marc A. Odinius (50) is the CEO of **Dataforce GmbH** – an automotive market research agency headquartered in Frankfurt, Germany. Founded in 1997, Dataforce has paved its way for success by first cooperating with the German Federal Motor Transport Authority (KBA) before expanding its sources into further markets to become one of the leading international data providers.

As one of the founding team members and now as CEO, Mr Odinius is leading Dataforce to fulfil its mission – improving automotive market transparency. As a visionary, he has pioneered in fleet analysis, designing data products that have revolutionised automotive market research. He has been responsible for national and international business development, played an active role in product development and now as CEO continues to drive forward the future of the Dataforce business.

Mr. Odinius is a renowned expert who actively supports automotive market players in strategic decision-making. Marc A. Odinius graduated with a master's degree with honours in cultural studies from Lüneburg University.

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APPENDIX 1: Reference and qualification

Dataforce was founded more than 20 years ago for the purpose of generating fleet market transparency and all our staff are still today dedicated to this mission. We have grown to be the market leader for segmented new car registration information which is the basis for the Fleet Leasing Module.

To set standards and to standardise in order to make data comparable across markets is key for us.

Next to being a professional data sourcing company we have set up BI Systems to make the information we provide accessible and easy to analyse.

Next to the secondary research based on data coming from ministries, statistics offices and other mainly public bodies we also have the largest standing panel of fleet managers 100.000 which we survey on a yearly basis since the company was founded.

Therefore, we have great experience in talking to fleet managers by means of telephone or online panels. Most recently we conducted a multinational survey concerning the Top LCV Fleets in selected European countries as well as online panels for a leasing company and a range of expert interviews for an OEM. Besides the market research projects for customers we survey the market on our own behalf to generate studies like the most recent study Powertrain 2019.

We are automotive market researchers focussing the fleet industry with primary and secondary research as well as integration services whereby our data is directly fed into the warehouses of our clients. We then consult the client on how to best read the information, enabling them to make better decisions utilising the data provided.