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Impact of government subsidies for electric vehicles on used market values



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To encourage the take up of zero emission vehicles (ZEVs) and ultra-low emission vehicles (ULEVs), many governments around the world have chosen to offer direct subsidies to potential buyers to promote the adoption of this nascent technology

It is hoped that although vast improvements have been made in recent years in reducing emissions from traditional petrol and diesel fuelled vehicles, the wide scale introduction of electric, plug-in hybrid and other “clean” power-trains will further reduce global CO₂ emissions. This will not only result in less vehicle attributed pollution but also contribute towards achieving stringent Kyoto commitments.

However, other governments have elected to follow a different path, instead choosing to offer in-life benefits such as reduced ownership taxes, exemption from city congestion charges, use of restricted vehicle lanes (e.g. bus lanes) and inner-city parking concessions.

This report examines the impact of the two differing approaches on corresponding used vehicle values. The report has been compiled by CAP Consulting, the consulting arm of CAP Automotive, using information supplied by members of The Alliance, a group of leading independent European automotive intelligence and data suppliers who share expertise and co-operate on cross border projects.

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The Electric Car

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Battery powered electric vehicles are not a new development. At the end of the nineteenth century electric was the best-selling vehicle propulsion method in the USA. However, improvements in internal combustion engine technology together with the introduction of an extensive petroleum delivery network soon ended the dominance of electric battery power as a means of personal transportation propulsion and the early electric cars quickly became museum pieces.

However, rising concerns about the harm that internal combustion engine emissions cause to the environment, especially in the world's major cities, have resulted in some manufacturers focusing on the creation of a modern electric car that can seriously challenge traditionally powered vehicles as a means of transportation suitable for everyday use.

Foremost amongst the manufacturers pioneering this technology is the Renault-Nissan Alliance which has invested over €4 billion into electric vehicle development programs and whose clearly stated ambition is to be the world leader in zero-emission cars. As a result of this investment Nissan launched the Leaf in the US and Japan in late 2010, with European market launches in the following year. Since its introduction, the Leaf has become the world best-selling battery-powered electric vehicle, with over 71,000 units sold. The Leaf has thus become synonymous with the "electric car" in today's marketplace.

Whilst the US and Japan remain the Leaf's largest markets (with sales of over 30,000 and 28,000 units respectively), European sales continue to gather pace. So far over 12,000 units have been registered, making it not only the most common battery electric vehicle in Europe but also the most commonly available as a used vehicle. It is for this reason that the Nissan Leaf is the benchmark vehicle used in this report. It is also useful that because Nissan is a Japanese based manufacturer, the Leaf is considered to free of patriotic preferences which can heavily distort cross market comparisons.

France

Direct subsidies

At €7000 (up to a maximum of 30% of the total vehicle price) the up-front subsidy for electric vehicles in France is the largest of any major European automotive market. The subsidy is managed through the bonus-malus system where low emission cars benefit from subsidies, whilst high emission cars are penalised by extra charges.

In-life concessions

Many major cities offer free parking for electric vehicles. Within Paris, owners are also entitled to use the extensive "Autolib" parking and recharging stations through an agreement between the operators of such areas (Bolloré) and electric vehicle manufacturers.

Company owned vehicles emitting less than 50 g/km CO₂ are exempt from the annual tax charge known as TVS. This saves approximately €480 per annum compared to the typical C sector diesel car.

Information supplied by L'argus

Germany

Direct subsidies

Currently Germany offers no direct subsidy to buyers of electric vehicles. However, as the German government has set a target of one million electric cars on German roads by 2020 and the first offerings from German automotive manufacturers are now coming to market, this situation is likely to change at some point.

In-life concessions

Electric and plug-in hybrid vehicles are exempt from the annual motor vehicle tax (Kraftfahrzeugsteuer) for 5 years from the date of the original registration. This concession is worth approximately €100 per year compared to a typical 1.6 litre petrol vehicle.

Recently the tax regime applying to the private use of company cars has changed to favour battery electric vehicles. Whilst all such vehicles continue to be taxed at 1% per month of the original gross list price, the total tax charge can now be offset with an allowance of €500 per kilowatt hour of battery size up to a maximum of €10,000. This means the notional benefit subject to taxation on a Nissan Leaf Acenta has dropped from approximately €330 per month to €230 which is more in line with similar, conventionally powered C sector vehicles.

Information supplied by bähr & fess forecasts

Italy

Direct subsidies

There are no direct subsidies for electric vehicles in Italy.

In-life concessions

Electric cars are exempt from the annual motor vehicle ownership tax for a period of 5 years from first registration. This exemption is worth approximately €250 per annum. On a regional basis, electric and PHEV vehicles are exempt from Milan's Area-C congestion charge scheme saving €5 per day.

Information supplied by Quattroruote Professional

UK

Direct subsidies

Within the UK, a direct purchase subsidy of 25% of the cost of a vehicle up to a maximum of £5,000 (€5,850) is available for electric vehicles and other ULEVs which run completely on either mains rechargeable batteries, plug-in hybrid electric vehicles (PHEVs) or hydrogen fuel cell vehicles and other forthcoming ultra-low emission (sub-75 g/km CO₂) technologies. Funding for the programme is confirmed until the end of the current parliament (April 2015).

In-life concessions

In addition to the direct subsidy, all sub-100g/km CO₂ vehicles are exempt from the annual circulation tax (VED). Cars and vans emitting 75g/km or less of CO₂ and meeting the Euro 5 emission standard qualify for a 100% discount from the London Congestion Charge, a saving of £10 (€11.70) a day.

Company car drivers using a battery electric vehicle currently pay no tax on private use. However this changes in 2015 when such vehicles will incur a charge of 13% of the original pre-subsidy list price. This will result in an annual tax charge of approximately £1,500 (€1,755) for a higher rate tax payer who uses a company funded Nissan Leaf Acenta for private use.

Information supplied by CAP Automotive

European New Price Comparison

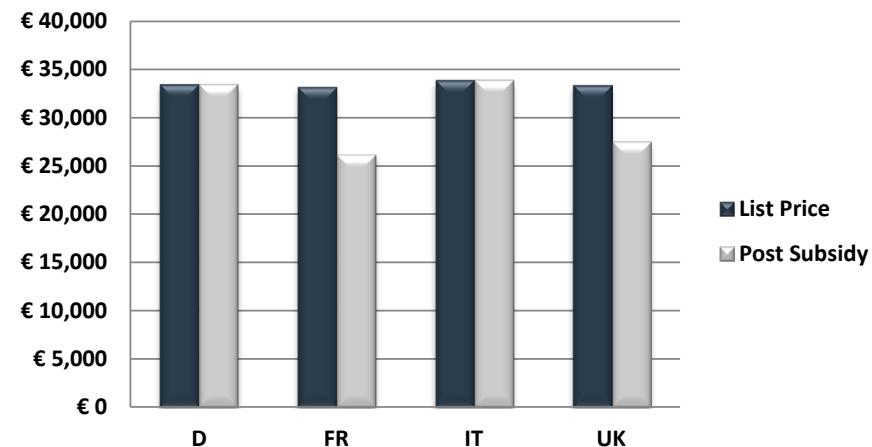
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As previously stated, the benchmark vehicle for this report is the Nissan Leaf Acenta which is available in all the above territories. The following prices include on the road (OTR) charges wherever such charges can be determined.

Nissan Leaf Acenta New Price



The most expensive country is Italy with a list price including the provincial registration tax (IPT) of €33,841 followed by Germany at €33,420, the UK at €33,333 and France at €33,150, a differential between the most expensive (Italy) and cheapest (France) markets of just €691. However, once the subsidies are applied the differential between the two countries increases dramatically to €7,691.

Corresponding Used Values

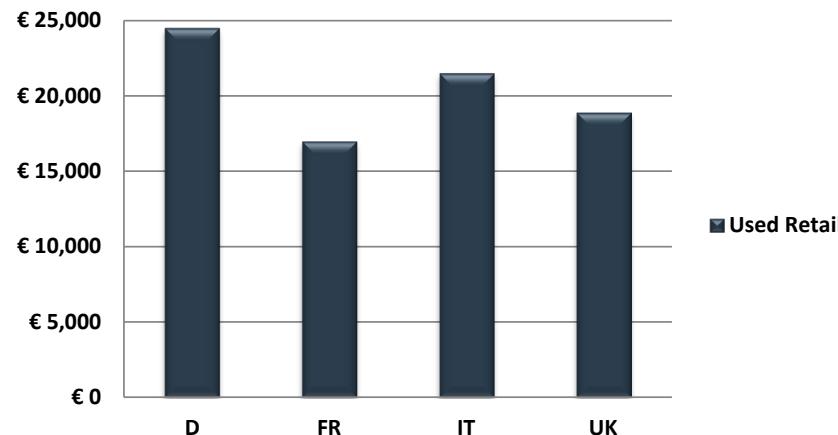
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Because the Nissan Leaf was introduced in Europe in 2011 there are comparatively few used examples available. In the UK, for instance, on a leading used car sales web site (autotrader.co.uk) there are just 126 used Nissan Leafs currently available in the UK. The pan-European site autoscout24.com has just 115 used examples advertised over the other three countries covered in this report. However, there is sufficient evidence for the members of The Alliance in each respective country to be able to establish and publish authoritative prices.

The prices shown in the following table are the retail prices for a standard Nissan Leaf registered in mid 2012 with around 10,000 kms.

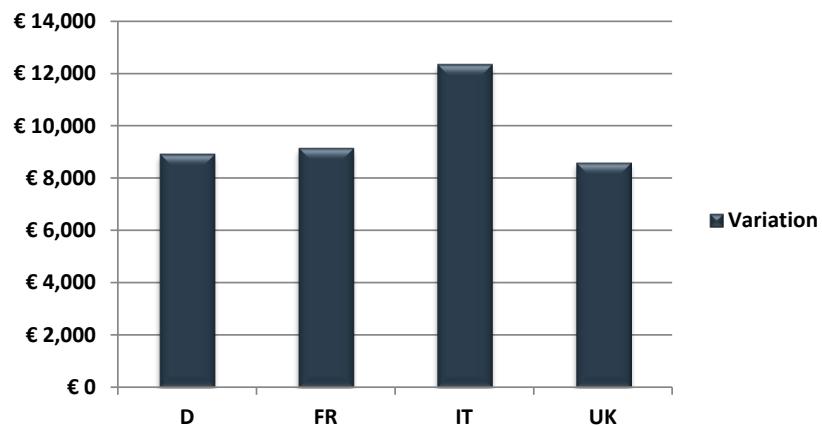
Nissan Leaf Used Value (2012 7k-10k)



German used retail prices are the highest at €24,500 followed by Italy at €21,500, the UK at €18,895 and finally France at around €17,000. What is clear is that used values in countries where up-front subsidies exist are far lower than in those territories where no incentive is available. Interestingly the used price differential between Germany and France is €7,500 which is remarkably similar to the post-subsidy new car price differential (€7,241).

Further analysis of the differential between the used retail value of a 12 months old Nissan Leaf and a brand new Leaf Acenta model shows it is Italy where the greatest differential exists (€12,341). However, all three remaining territories shows a remarkably similar variance between the post-subsidy new car price and the retail value of a 12 months old example with Germany at €8,920, France at €9,150 and the UK at €8,588.

Variation between new price and 12 months old value



Conclusion

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There can be little doubt that the presence of up-front government subsidies on ULEVs has an impact on corresponding used values. In both France and the UK, used values lag well behind Germany and Italy where no such subsidies exist. Indeed France, with the highest incentive at €7,000 has the lowest corresponding used values by quite some way. This fact is hardly surprising given that consumers will initially relate the price of a used vehicle to that of the “on the road” (OTR) price of a new car rather than the official list price. The close similarity between used car retail values and post-subsidy new car prices in Germany, France and the UK is testament to this.

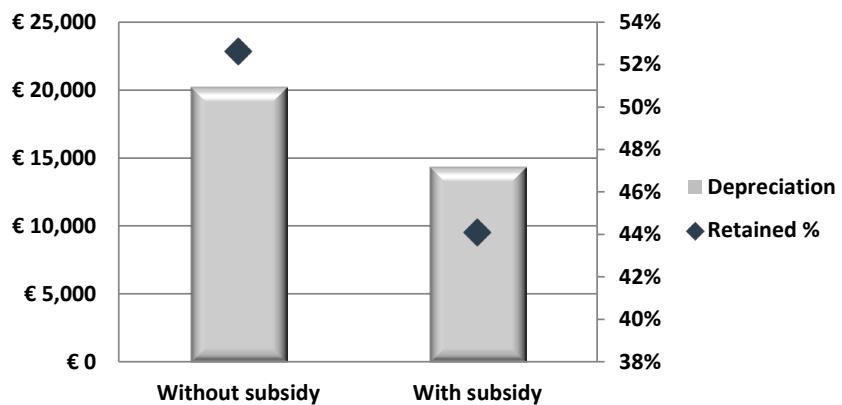
This means that up-front subsidies do not necessarily benefit new car buyers because the correspondingly lower used car values represent greater depreciation. That said, it could be argued that lower used car values are actually beneficial in helping establish the electric vehicle pool over a far larger user base because lower prices means more people can afford to “buy in” to the new technology.

However, the danger is that these initial comparatively low values have already set a precedent for used electric vehicle pricing and when subsidies are eventually removed, and consequently the OTR prices of new electric and other ULEV vehicles rise, used values are unlikely to follow suit. This would mean even greater depreciation levels and vastly increasing the cost of ownership – a significant disincentive to buy for most consumers.

In European markets this problem can be mitigated by moving used cars from low to higher value markets. Indeed, it is reported that this movement of vehicles out of France is already taking place. This also means that French tax payers are not enjoying the benefits of lower used values despite contributing considerably to the purchase of new vehicles. However, in the UK market, which is effectively isolated because of the right hand drive configuration of vehicles, such a large increase in the whole life costs of electric vehicles

due to increased depreciation could significantly undermine demand for electric cars unless new prices drop considerably. As it stands, 12 month depreciation levels in the UK already amount to almost half the subsidised new price for a Nissan Leaf. Without the original £5,000 (£5,850) subsidy, total 12 months depreciation over the first year would amount to over £20,000. With average depreciation for a comparable specification diesel Volkswagen Golf or Ford Focus currently standing at around €7,000, this would make the economic argument for buying the Leaf all but impossible to make even with the potential fuel savings.

Nissan Leaf 12 months 10k km Depreciation and Retained % (UK Wholesale)



Conclusion

In order to help mitigate such depreciation levels, further “in life” concessions would need to be made to make the overall ownership of electric cars more beneficial.

Benefits of ULEV ownership could include allowing such cars to use restricted lanes such as bus or multi-occupancy lanes and introducing nationwide “green badge” schemes where vehicles are allowed to park in city centre restricted parking places. Such schemes have proved to be extremely popular in Norway, the country with the largest penetration of electric vehicles per head. However, without such measures and relying only on the blunt instrument of up-front subsidies, there is a danger, in the UK at least, that this first wave of pioneering electric vehicles could in the future become a historical curiosity once again.



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The European Alliance



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