Workplace Electric Vehicle Charging

Everything you need to know about providing electric vehicle charging for your employees.
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Industry Background
In 1902, the still-young automobile industry grew by 142%, the largest recorded growth in history in the sector for over 100 years. In 2015, the plug-in hybrid and electric vehicle (PHEV) market topped that record when sales in the UK grew by 288%. Sales went from 4,000 cars in 2013 to 14,000 the following year. EVs now make up about 1.5% of all new car sales.

The industry is expected to double in size this year as EVs become more mainstream. There are already over 30 plug-in models for sale in the UK from nearly every major manufacturer, including VW, BMW, Nissan and Mitsubishi.

With an increasing demand for EVs comes an increasing need for charging infrastructure and an expectation from EV drivers to be able to charge everywhere they park for an hour or more. This includes their home, workplace and other destinations they visit regularly. While charging at the supermarket or gym can be beneficial, having access to charge points at home and at work is absolutely key.
Workplace Charging
Top Up Model

Charging an electric car is nothing like filling up your petrol or diesel car.

In a car with a combustion engine, we are used to driving around until near empty before taking a last-minute detour to the petrol station and spending 10 minutes waiting, filling and paying for our fuel.

On the other hand, charging an electric car is seamless and hassle-free. Electric car charging operates on a top up model, which means topping up your battery everywhere you stop for an hour or more. EV drivers often top up multiple times throughout the day.

The top up model requires a shift in mindset from all stakeholders involved, including consumers, businesses, car manufacturers and government. Our cars spend 95% of their time parked. That’s 22 hours of the day on average spent idle. With electric cars, drivers can utilise parking time to charge their battery, knowing it’s full every time they return to their car.

EV Charging Ecosystem

Backed by years of usage data, the ecosystem below shows how EV drivers apply the top up model in their charging behaviour. As expected, about 60% of charging is done at home, while 30% of the opportunity involves topping-up at work. EV drivers rely on and expect the opportunity to charge their EV while at work.
EVs in Your Business
Private EV Sales

By the end of 2015, there were over 50,000 plug-in cars on UK roads, representing about 0.25% of the total 30 million registered passenger cars in the UK. Based on sales targets from the DfT and the Alternative Fuel Directive from the EU, the UK is projected to gain 2 million plug-in cars by 2020. By then, EVs will make up nearly 7% of all registered cars; that is equivalent to 1 in every 15 cars on the road. This means 1 in every 15 employees driving to work will expect the necessary charging infrastructure.

The exponential growth is attributed to several factors, ranging from attractive purchase grants and tax incentives to investment in public charging and car manufacturers continually adding plug-in models to their portfolios.

Projected Private EV Sales

In Your Business

We can use this target market share to calculate the amount of plug-in drivers a business is expected to have this year and in the years leading to 2020.

Based on the example above, a business with 1,000 staff is likely to have about 8 employees driving EVs this year, with that number increasing to 18 drivers by next year and all the way up to 97 drivers by 2020.

These employees will be expecting charging facilities at work. To avoid falling behind this curve, businesses need to think about implementing workplace charging now.
Workplace Charging

Fleet EV Sales

The 30 million registered vehicles in the UK are made up of 51% private cars and 49% company-owned fleet cars. Fleets are typically leased and have a significantly shorter lifecycle than privately-owned cars. While the average private car is 7.5 years old, 85% of leased company cars are under 3 years old. This means that fleet cars drive the private market as leased cars are resold to the private second-hand market.

A July 2015 report from Lex Autolease, the UK’s biggest leasing company, revealed that plug-in cars already make up a staggering 7% of all fleet sales in the UK.

This is compared to 1.2% of new car sales in the private market for the same period. The rapid adoption in fleet is a strong indication of where the private market is heading in 2-3 years time. Based on current growth in fleet sales reported by Lex Autolease, we can project EV company car sales through the next five years.

Using this projection, by 2020 nearly 20% of all Lex Autolease fleet sales will be plug-in EV or hybrid. This means it is likely that 1 in every 5 company cars sold in the UK will be electric. To manage this shift, businesses will need to invest in charging infrastructure as they convert their fleet.

This will result in a 10% total market share for plug-in vehicles. In the context of workplace charging, 10% market of cars means that in less than 5 years, 1 in every 10 employees driving to work will own an EV and expect the necessary infrastructure to charge.

Projected EV Fleet Sales

<table>
<thead>
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<th>Year</th>
<th>2% of fleet cars</th>
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<tr>
<td>2014</td>
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<td>2020</td>
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<table>
<thead>
<tr>
<th>Private</th>
<th>Fleet</th>
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<tbody>
<tr>
<td>1.2%</td>
<td>7.0%</td>
</tr>
</tbody>
</table>

EV sales as % of total - Q3 2015
Benefits of EV Driving
Benefits of Workplace Charging

Employee Retention

Providing EV charging in the workplace is a cost-effective way to retain and actively support employees. In terms of fuel costs, employees can save up to £2,000 a year in petrol/diesel costs simply by switching to electric and charging at work. Should the business decide to offer EV charging at work for free, the cost of providing that electricity is only about £150 a year per employee.

When purchasing a company car, employees also benefit from a reduced 5% benefit-in-kind tax when purchasing an fleet EV (8% for plug-in hybrids) as opposed to 20% for a typical petrol/diesel car. Considering an average car with value of £30,000, this potentially saves up to £4,500 in tax payments over the full life of the vehicle.

Cost Savings

### Electric Vehicle
- Fuel £150/year
- Road tax £0
- Maintenance £150
- BIK £1,500
- 100% capital allowance
- Purchase grant £5,000

### Petrol Vehicle
- Fuel £2,250/year
- Road tax £300
- Maintenance £300
- BIK £6,000
- 8-18% capital allowance

Tax Advantages

Purchasing EVs in your fleet makes your business eligible for 'Enhanced Capital Allowances,' which significantly increase the amount of allowance you can write down against taxable profits each year. Standard allowances for conventional petrol/diesel cars allow your business to write down between 8-18% depending on the fleet’s emission levels. With plug-in hybrids and electric cars, a business qualifies for a 100% capital allowance write down in the year of acquisition.

Environmental Targets

Implementing EV charging also helps businesses reach their environmental targets by dramatically reducing their CO₂ emissions and the amount of carbon tax paid on those emissions. Electricity used to charge EVs, and the associated CO₂ generated, can be discounted from the total energy consumption when reporting carbon emissions. With the average UK electricity mix (coal, gas & renewables), an EV saves almost 90% of CO₂ emissions compared to petrol/diesel alternatives.

Positive Brand Image

Providing workplace EV charging also improves your business image with employees and customers. A recent report on brand perception by Wavelengths Consulting asked drivers whether they thought certain businesses cared about more than just making money. Drivers agreed significantly more (26% more) after knowing the company actively supported and invested in EV charging for their staff and customers.
Key Considerations
Key Considerations

Rollout Plan

Since the EV market is still in its early stages, adopting EV charging in the workplace is not a one-off investment. It first involves an initial trial site that already has EV drivers in order to validate its effectiveness. It’s then followed by a strategic rollout across the business that’s incorporated into the annual budget cycle over the next 3-5 years as demand grows.

With a strategic rollout in mind, a business needs to think about the ratio of charge points to EV drivers in each site, as well as their varying needs. Are drivers parked in the office all day? Do they top up for an hour at each business site? It’s recommended to maintain a 1:1 ratio of charge points to drivers for the first 10 EV drivers in each site. Beyond that, the recommended ratio may reduce to 1:3 but must not fall below that.

Failing to provide charging infrastructure for EV drivers has a negative effect on employee satisfaction and creates unnecessary friction at work. Most notably, Google and SAP reported in 2014 that lack of sufficient charge points at their Palo Alto offices has caused conflict between EV drivers. Employees were reported to be deliberately unplugging EVs of fellow co-workers due to lack of charging availability. The behaviour has created unnecessary friction at work and can be easily avoided with the right strategic rollout plan.

Scalability

Another aspect to consider is whether a workplace charging solution can scale with the growth of EVs in your business. Considering the exponential increase projected in EV sales, a business is expected to find up to 7% of its workforce owning a plug-in vehicle by 2020. This means a workplace solution may need to scale from 1 charge point up to 500 charge points in the next 5 years.

A business needs to favour a solution that seamlessly scales with demand and integrates across multiple sites, while still acting as a single centralised network. This ensures that even while the number of charge points increases exponentially, the solution requires minimum admin and support from the business.

As a warning, businesses should also be wary when installing charge point solutions from multiple providers throughout their strategic rollout, as these multiple systems may fail to integrate with each other down the line.
Key Considerations

Managing Accessibility

Businesses also require a simple and widely available method for drivers to access company charge points on a daily basis. For example, a smartphone can be used to communicate with your charge points and authenticate whether an EV driver has access to the charge point. This ensures the day-to-day charging experience at work is as smooth as can be and refrains from taking up extra resource and time from the business.

Some charging solutions require tags or physical keys to gain access to your network, but these physical access keys come with a large support overhead as these need to be issued, maintained and replaced.

Another thing to consider is the process of on-boarding new drivers to the network. While some workplace charge points will only be used by employees, other charge points may occasionally require temporary access by EV drivers visiting your premises (ie when a potential client visits your office). In this case, a smartphone can be used to provide immediate access to your network, rather than using a physical key that needs to be issued and causes unnecessary delay.

Investment Required

A workplace charging solution requires an initial upfront investment to set up a site trial. Beyond that, the strategic rollout in following years can be built into the business budget.

Some solution providers offer the ability to lease your charge points over a 3-5 year term. Leasing lets your business spread the cost of infrastructure over the term of the strategic rollout, rather than suffering a large upfront cost. This eliminates the capital expenditure required and keeps cash within your business. Leasing also provides the opportunity to upgrade your charge points on renewal rather than having to reinvest in new technology every 3-5 years.

Revenue and Expenditure

Choose a workplace solution that lets your business manage revenue generated from your network. Superior solutions offer functionality to create custom revenue models based on user type, access time and location. This helps the business recover its energy costs as a result of charging.

There are 4 common usage models typically applied for workplace charging:

- **Free Charging**: this model offers employees free unlimited EV charging.

- **Energy Cost Recovery**: this model charges employees based on energy consumed with the aim of recovering energy costs to the business.
Key Considerations

- **Energy and Unit Cost Recovery**: this model charges employees based on energy consumed as well as the monthly lease price of your charge points, allowing your business to recover the cost of energy and unit investment.

- **Profit Generating**: this model charges employees an arbitrary amount with the aim of generating profit from the charging network beyond cost recovery.

As an example, a business may wish to incentivise employees to work later by setting their charge points to free every weekday after 5pm. Another option would be to let employees top up for free, but charge customers £2/hour for the first 4 hours with the fee rising to £5/hour after that to encourage them to vacate the parking space.

Superior workplace solutions offer a back-end management system that helps your business set various revenue models and track energy costs as your charging infrastructure grows and your requirements become more complex.

![Employee Benefit-in-Kind](check-icon)

**Employee Benefit-in-Kind**

Providing EV charging at work for employees with private cars gives rise to a benefit-in-kind to EV drivers. Benefit-in-kinds are benefits which employees receive from their employer which are not part of their salary or wage.

These benefits are appropriately taxed by HMRC as income and are reported annually with form P11D. HMRC notes that while providing free charging at work gives rise to a benefit-in-kind, the business can exclude this benefit from reporting grounds by declaring EV charging as a ‘trivial benefit’. Trivial benefits are benefits that are deemed too small to be taxed. As the adoption of EVs continues to grow, the industry agrees that HMRC will shortly remove the ‘trivial benefit’ exclusion.

When this happens, businesses will need to consider a workplace solution that monitors and reports on individual employee benefit from charging their EV at work. Adopting a solution that automatically tracks employee benefit for P11D makes it significantly easier to adhere to the new tax rules once they take effect.
About POD Point
About POD Point

POD Point Work is the UK’s leading solution for workplace EV charging. POD Point provides EV charging for some of the UK’s largest businesses, including Sainsbury’s, O2, Lloyds and Britvic.

The workplace solution includes POD Point’s next generation smartphone-enabled charge points with three year on-site extended warranty.

The solution seamlessly scales across multiple business sites according to your EV charging needs and can be leased over a 3-5 year term.

It is all easily connected via the POD Point Management Information System (MIS), the industry’s most advanced backend platform for managing your charging infrastructure. Using the POD Point MIS, your business can manage access in real-time, monitor usage and expenditure, set pay-as-you-go pricing, and much more.

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