Clean Air Villages 4 Case Study

Making the Switch: A Guide for Fleet Owners

Processes, challenges and solutions to having an EV fleet and what going electric could mean for your business.

Read now
The main reason for our switch was to save money and make a positive contribution to the environment. Electric vehicles have changed our business for the better, but I would encourage business owners to consider if charging is right for their business and would meet the needs of their organisation.

Ali Panchoo, Marketing Manager, Cleanology.

This case study is a guide for businesses considering making the switch to electric vehicles (EVs). This forms part of Cross River Partnership (CRP)'s Defra-funded Clean Air Villages 4 programme. In this best practice document, you will be guided through the processes, challenges and opportunities involved in operating a fleet of EVs, and what going electric could mean for your business.

CRP spoke to eight businesses about their electric fleet. We asked questions about their electric vehicles, motivations and challenges, charging infrastructure and what’s next for EVs in terms of regulation, technology and cost.
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The businesses we spoke with found that customers tend to be very pleased with the switch to EV. EVs have been shown to improve customer retention rates.

Businesses reported that their staff take more pride in their vehicles when they are electric. The reduced noise and instant acceleration can also make the driving experience more pleasant.

All the businesses we interviewed reported that having EVs has provided a commercial and competitive advantage for their organisation.

Fleet emissions are often the highest proportion of carbon emissions within an organisation. Businesses can obtain relevant accreditations such as Planet Mark to demonstrate their sustainability progress.

Changes to London’s road charging schemes, such as the Ultra Low Emission Zone (ULEZ) expansion, as well as the eventual ban on the sale of petrol and diesel vehicles in 2030, means that getting ahead of the curve could save you money.
The majority of organisations we spoke with only use EVs London-wide. Longer distance and lack of charging infrastructure make cross-country travel difficult. However, technology and infrastructure are improving rapidly, so businesses should look at this on a case-by-case basis.

Range outside London

Businesses reported that drivers can still be hesitant about operating EVs, but mentioned that this can be overcome with training and time. Most new EVs have a range of 100+ miles and are very reliable.

Range anxiety

Having lights and heaters on reduces range, making it lower in the colder months.

Reduced winter range

There is a lack of larger vans available, especially second-hand or more affordable options. This is changing though, with more entering the market.

Lack of larger EVs available

Businesses reported long wait times to acquire an EV, due to supply issues and high demand.

Long lead times due to supply chain issues

EVs can be a higher initial outlay. When compared to money saved on other costs such as petrol and the congestion charge, most organisations interviewed stated that costs have balanced out. However, with new momentum from the government, it is likely that EVs will soon become cheaper than an ICE (Internal Combustion Engine) equivalent.

High initial vehicle cost
Fleet and Charging

Cleanology’s electric vehicle fleet, established in September 2020, consists of both leased and purchased new electric vehicles. With a daily mileage of 100 miles, each vehicle is charged once per day using rapid chargers, either at work or at the driver’s home. Cleanology staff are happy with the switch to electric vehicle, as are their clients. But they found that mileage can sometimes be an issue and can cause range anxiety, as conditions make it difficult to drive the electric fleet outside of the M25.

From the experience of changing over our fleet, I would say that there are far too many charging companies to choose from, so consideration is needed in this aspect. However, the switch has hugely benefitted our business through cost savings and is beneficial to our brand and aligns with our corporate social responsibility objectives.

ALI PANCHOO
Marketing Manager, Cleanology

Cleanology is a commercial contract cleaning service in Clapham, London Borough of Lambeth, with over 700 employees. Winner of the prestigious Green Apple Award for Environmental Innovation, Cleanology are environmentally focused - from using chemical-free products to driving ultra-low emission vehicles across London.

Number of EVs: 6
Vehicle types: Nissan ENV200
Year switched: 2020
Name of contact(s): Ali Panchoo
Role of contact(s): Marketing Manager
Complete is a national company providing zero emission deliveries of business products and services. They have 19 branches across the UK, including one in Forest Hill, London Borough of Lewisham. Their four London-based vans currently each have a daily mileage of around 60 miles and are operational from 6:30am - 2pm. Complete have ambitious sustainability goals and are aiming to be net zero by 2035, including a reduction of 80% in their Scope 1 & 2 emissions by Q4 2022. As a result, by the end of 2022, Complete will have an entirely electric fleet. They already have 150 electric vans on order to achieve this.

**Fleet and Charging**

Switching to electric was always the company’s vision. Their customers drove this switch to electric, requiring their supplier to be more sustainable. They were willing to pay more, which helped the transition.

Complete drivers love the EVs as they are quiet and pleasant to drive. Regenerative braking in the city charges the battery, and the range of 70 miles minimum is sufficient for all London drivers. Whilst the overall cost, including the initial outlay, of the vehicles isn’t noticeably cheaper or more expensive, having EVs has allowed Complete to work with more likeminded clients, giving a clear commercial advantage.

Outside of London, on open roads and with longer distances, Complete staff have experienced range anxiety as the charging infrastructure doesn’t yet exist. They commented that there needs to be more of an incentive in London to drive electric. To reduce their mileage and parking in Central London, Complete are using consolidation procurement for businesses in the same area/building.

Of Complete’s four vehicles in London, two are charged in the office and two are charged at their driver’s homes at their request, with drivers paying the electricity bill for this. Complete are planning to install fast chargers in the office and consider using public chargers, especially for those employees outside London who have to travel further.

**Do it. You might not be wanted in certain areas if you don’t, as there’s so many clients, especially in Central London, who are really pushing the air quality issue. Try to get on board early to get ahead of the curve.**

RUSSELL HODSON
Group CESR Director, Complete.
Father Nature is a landscaping social enterprise, serving Brixton, London Borough of Lambeth and beyond. They design, build and maintain outdoor spaces for private clients, businesses, schools, housing estates and councils. Their main mission is to connect inner city dwellers with nature and each other.

**Fleet and Charging**

Father Nature purchased a converted milk float for their fleet in 2009, and added a second in 2019. Both milk floats were purchased second-hand and costs roughly £100 per month each, including insurance, breakdown cover and charging. They do an estimated mileage of five miles per day and have a payload of three tonnes. The vehicle is typically used 10am - 4pm. Father Nature want to set an example in terms of sustainability - “Drive it like we talk it”. They drive electric because it’s cheaper and is also important for work in schools.

Key challenges include that the milk float is hard to drive, cold in winter and requires maintenance. But it’s great branding and sets a good example! Staff and customers think that the EV is characterful and it’s an interesting talking point.

The Father Nature EV is charged once per day at home, using a slow charger which usually takes six hours per charge. Father Nature think ahead regarding deliveries and driving further afield and Zipvans are sometimes used to fit in with their business schedule.

As a landscaping organisation, drivers get time to work on designs when charging their vehicle using a public charge point. The estimated cost to fully charge the vehicle once is £1. Father Nature’s work is normally local, they are currently in partnership to design, build and maintain all the current Low Traffic Neighbourhood planters and parklets for Lambeth Council, so the range of the milk float is sufficient.

Father Nature are also registered to use the Brixton shared electric van, a van for all of the businesses in the area which was set up in partnership between CRP, Brixton BID, London Borough of Lambeth and Zipcar.

**Go for it – you’ll love the contribution and enjoyment. EVs have also changed our business for the better, as the right sorts of clients recognise our effort. It’s not all about convenience – we must adapt or die.**

JAMES SWAYNE
Director, Father Nature.
Fruit4London, founded in 2008, are a grocery delivery company in the City. Pre-pandemic, Fruit4London was delivering to 750 offices, and this number is slowly returning. Currently, their vehicles work in the early morning until the afternoon and cover relatively small areas in London, between 30-50 miles per day.

**Fleet and Charging**

Fruit4London always had the intention of switching from petrol and diesel vehicles. In 2012, Fruit4London bought their first electric van through borrowing a Kangoo from a local Renault garage for a week. They trialled it for five days in a row, which was so successful that they bought two vans straight after.

When first buying EVs, they leased the battery, which was very cost efficient. Charging cost £1 per day, and there was no congestion charge. This was a huge saving compared to £15 per day spent on fuel. In recent years, batteries have become cheaper, and so Fruit 4 London have bought a converted Nissan ENV200 with a 140-mile range and larger payload (670kg) than the Renault Kangoo. In November 2021, they started to operate with a converted Vauxhall eVivaro. This is another upgrade, with a 75kW battery, a range of up to 200 miles and can carry one tonne.

When there are issues with range deterioration, batteries can be switched out on vehicles for a compatible and improved one, for around £5,000. Many customers are attracted to Fruit4London because of their zero-emission vans. Range anxiety can be reduced by limiting heating, especially in the winter months. Fruit 4 London can pre-heat their vehicles in the mornings while it is connected to power, but this requires forward planning. They have also had to retain one diesel van as they have a trailer which no electric van can pull yet.

EVs have been incredibly reliable for Fruit4London. After six years, they sold their Renaults which had never let them down (the brake pads never even needed changing!) This longevity is partly due to technology being better for braking and driving. According to Les, an EV teaches you to drive more sustainably by thinking ahead and doing things such as rolling towards traffic lights.

Charging has not led to any rearrangement of the driver’s days, with one charge lasting the whole day. In their depot they have a V2G (Vehicle to Grid) charging station, which is 10kW. This can charge and discharge the vehicle batteries for energy management. Any surplus green energy generated from the grid can be fed into a car battery and the energy can also be taken out of a car battery when necessary. For public charging, Les spoke about a visit to Gridserve, a charging station with ultra-fast chargers powered by solar energy and facilities including meeting rooms and workspaces as the future. They have plans to expand across the country too.

When switching, Fruit 4 London recommend Voltia, a van conversion company who offer free short term leases of their vans. Les also mentioned that he is happy for businesses to contact him with questions - info@fruit4london.com.
GLH, formed 54 years ago, operate a fleet of 200 passenger and 150 courier vehicles across the whole of Greater London, based in London Borough of Barnet. It was the first taxi company to go hybrid in 2003 and bought their first fully electric vehicle in 2016. GLH have an average weekly mileage of 700 miles across their two fleets and are operational 24 hours a day.

**Fleet and Charging**

For GLH, the switch to EV has been excellent for new sales and has attracted new, environmentally conscious businesses. As the EVs have been well received by customers, this has in turn fostered a sense of pride for GLH drivers. The silence of the vehicles also makes the experience more pleasant for those riding in them.

By the end of the year, 45% of GLH’s passenger fleet will be fully electric, although supply chain delays have made this difficult. The rest of their fleet is ultra-low emission.

Range anxiety is the biggest challenge for GLH, and there are still new drivers who tend to choose a hybrid option because of this. As a result, pairing EVs with drivers has been difficult. However, drivers have become self-sufficient with charging now and have got into a routine which fits their day. Some GLH drivers come from afar and must stop at midday to charge at service stations whilst having a break, requiring a level of commitment to having an EV. The cost of vehicles is still a barrier for GLH. Most EVs cost over £30,000, compared to £21,000 for a Toyota Prius. Whilst customers seem impressed with the EVs and enjoy being in them, they still aren’t willing to pay extra for them.

GLH currently charge their vehicles once per day if possible, using public rapid chargers (43 kW+). A rough cost for charging is around £7.50 for an MG Estate from their fleet, but this can be up to £15 in some places.

**Advice and Guidance**

Whilst GLH mention that they probably made the switch too early (in terms of the technology, such as range and infrastructure, not quite being there in 2017), switching now makes sense. Although the initial outlay on the vehicle is more expensive, the congestion charge and fuel savings will lead to roughly breaking even cost-wise. Zoe also recommends trying a range of vehicles, because as the technology is new, there are questions surrounding the longevity of each EV. Zoe urged the government to create an incentive for driving EVs, as the changing of goalposts and introducing the ULEZ charges makes it difficult for companies committed to 3-5 year leases on vehicles. This makes forward planning difficult for businesses.

**Ethically, clean air can only be a good thing, and GLH has changed for the better. We are doing what’s right rather than ticking boxes. Now is the time to switch - there’s a wave to catch before EVs become the norm.**

ZOE WALSH
Sales and Customer Relations Director, GLH.
Established in 2010, GreenZone is a commercial cleaning and support services company based in the London Borough of Wandsworth. Sustainability, corporate and social responsibility are at the forefront of everything they do. GreenZone have a fleet of 26 vehicles. 12 are EVs, 5 are hybrid and the rest are diesel due to the national scope of the business. These will be converted to EV as soon as technology, infrastructure and commercial viability allow.

**Fleet and Charging**

GreenZone first operated with a fleet of hybrid Toyota Prius', later switching to an EV fleet due to the life cycle assessment of the Prius being unsustainable. From 2018 to 2020, GreenZone phased out their petrol vehicles in favour of EVs. GreenZone also need to switch their larger vehicles, so are trialling alternatives which recently resulted in the purchase of the Vauxhall Vivaro-e. All new vehicle use continues to be monitored to ensure the best long term, sustainable switch is made.

GreenZone have five Pod Point 7.5kW charge points at their head office. Office electricity is completely REGO-certified, so all charge points are powered by offshore wind energy, creating a closed-loop cycle. Each employee using an EV is provided with a charge point. Employees are engaged in the sustainability ethos and culture at GreenZone and are supportive of the switch. In an industry where staff turnover can be a challenge, enabling the workforce to feel part of GreenZone’s environmental mission is an important factor in staff retention. Both the existing and prospective client base are also very positive about the switch. This helps GreenZone to expand and grow whilst contributing to clients achieving their own ESG goals.

The main challenge GreenZone have faced regarding EVs is range anxiety amongst drivers, as many jobs are national. Charging infrastructure, whilst being sufficient in many parts of London, is still much better and easier to access than any other part of the UK. Despite this, GreenZone have not had any significant problems with cars running out of range. Battery deterioration can also be an issue, with many older vehicles decreasing in distance range over time. This is exacerbated in winter, when more electricity is used for heating and lights.

GreenZone have been Planet Mark certified for the last 10 years, which requires them to reduce their carbon footprint annually. They have a dedicated Sustainability & Project Manager, who leads on this reporting. Although their largest emitter of carbon is still the vehicle fleet, GreenZone reduced their CO2 emissions by 26% between 2018 and 2020. According to CRP’s Clean Air Tool, this would save 68.1m² of Arctic Sea Ice. Whilst GreenZone are conscious of the need for technology, infrastructure and larger vehicle options to improve, they continue to reduce their vehicle emissions by training staff to drive in the most economical way. They even have an in-house competition between hybrid and diesel vehicle drivers to compete for the driver using the least fuel!

With restrictions on petrol and diesel vehicles in 2030, organisations must evolve their fleet in the way we have been and will continue to do. Evolving GreenZone to continually improve and minimise our impact on the environment is both fundamental to our ethos and imperative to business success. Clients are increasingly making choices based on environmental and social sustainability credentials.

STEVE TREW
Managing Director, GreenZone
Lyreco is a responsible workplace solutions partner, helping businesses to consolidate suppliers, reduce costs and contribute to a more sustainable future. Lyreco’s programme ‘Lyreco Goodness’ highlights their commitment to minimizing environmental impact.

### Fleet and Charging

In line with their CSR Strategy goal to be completely carbon neutral by 2030, Lyreco have 17 all-electric light commercial vehicles in their London fleet. Providing up to 80-90 miles of power, and with 80% charge being achievable in only 4.5 hours, the fleet delivers packages from Greenford, Tottenham and Dartford depots. Lyreco charge their fleet overnight using 7kw chargers. All their UK bases are powered by renewable sources.

With Lyreco’s current Renault fleet being charged overnight and newer vehicles compatible with rapid (50Kwh) charging, they have faced several challenges around the depot’s charging infrastructure, including maintaining levels of charge when charging multiple vehicles. To mitigate this, Lyreco have adapted their processes by charging over a longer period or chaining together charges. They have also explored public charge points on the road during break times. When Lyreco switch to larger vehicles (7.5 - 12 tonne), charging will be a further challenge.

“Lots of tenders are now asking if the company has EVs or plans to switch. Customers want us to go further and implement EVs UK-wide, not just London” Toni Da Silva, New Business Development, Lyreco.

Lyreco have received positive feedback from drivers who state they valued the ‘serene’ driving experience within central London. Drivers can also precondition the vehicle temperature with an app before heading out, which is a huge benefit, especially in winter.

### Advice and Guidance

Due to the global semiconductor shortage, the main disadvantage to rolling out an EV fleet is the lack of supply. This led Lyreco to consider converting EVs from left-hand to right-hand vehicles, as manufacturing companies have less demand for left-hand traffic.

Lyreco suggests collaborating and sharing ideas with other businesses that have already switched, especially LinkedIn groups, which are home to many like-minded people going through the same process. See p15 for a list of groups and publications to help with switching.

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"Talk to people who have done it before! We engaged with a lot of different support groups beforehand. There are always things you might not have thought of. Accepting that and getting further understanding from other people is vital."

RICHARD TAYLOR
Head of Operations, Lyreco
Planet Minimal’s goal is to drive single-use plastic out of supply chains, using electric vans to deliver sustainable products. They deliver to refill stores, independent supermarkets, offices and the hospitality industry using bulk containers for refill and reuse.

Planet Minimal is currently based in the London Borough of Islington and operate around London, with plans to expand to other parts of the UK.

**Fleet and Charging**

Planet Minimal first got an EV in February 2019, having never owned a petrol or diesel vehicle prior to this. They have both leased and purchased vehicles; a second-hand Nissan ENV200 (payload of 725kg), which cost £9,000 excluding VAT in 2019 and a leased Citroen e-Dispatch (payload of 1,225kg) for around £450 per month. Insurance for both is £2,500 per year. Charging costs for both is less than £200 per month, as opposed to between £600-800 for equivalent petrol/diesel costs. This is comprised of almost exclusively overnight charging at a warehouse, with a small amount of public rapid charging. Their estimated mileage per day for using one EV is 30 - 50 miles and vehicles are typically used between 7am - 7pm.

The EVs are charged once per day onsite at work, and charging overnight is straightforward and cheap. Slow chargers are used using a three-pin socket, and charge time varies between four and eight hours. It’s estimated that fully charging a van costs £3.50 for the smaller van and £7.50 for the larger van. The benefits of not paying congestion/ULEZ charges are huge (up to £4,538 per year).

Planet Minimal have found EVs less stressful to operate, smoother and quieter which increases staff satisfaction. Not having to bother with fuel cards and refuelling at petrol stations is a huge benefit. EVs present the right image for the business and help to get customers on board, although this was not the primary reason for using EVs. All drivers love them and staff members are engaged with environmental objectives, so they appreciate the use of EVs. Public charge points are very rarely used, but when they are and drivers are waiting, they will get something to eat or work on laptops. According to Hamish, “EVs have definitely changed our business for the better”.

**Advice and Guidance**

Convenience, cost and sustainability were all factors in motivating the switch to EV. The business is also sustainability focused, so this was non-negotiable. Hamish Ainsley, Planet Minimal’s Director, used to work in EV sales and electric charging infrastructure consulting, so he felt comfortable and knew what was feasible.

Hamish was undecided on whether the ULEZ expansion will encourage more business fleets to switch to EVs and is frustrated that some of the vehicle are still permitted in the ULEZ. He believes that EURO standards are not high enough, so businesses still may not see the viability of EVs and opt for diesel vehicles that meet the requirements.

For organisations doing inner city logistics, there is absolutely no reason not to explore EVs. For private car fleets, so long as cars have a 250 mile range, there should be no barriers, as public charging infrastructure is perfectly adequate, even for high mileage driving.

Hamish Ainsley
Founder, Planet Minimal
Next Steps:

Advice and Guidance on EVs

LinkedIn Groups

The EV Café - Sharing all things EV with a network of experts and businesses. Host monthly virtual breakout sessions.

Distribution and Logistics Professionals - General logistics group with posts about fleet electrification. Recommended by Richard from Lyreco.

Hybrid Electric Vehicle for Commercial and Fleet Vehicles - Global group with regular posts about EVs.

Forums

Speak EV - Peer-to-peer advice on anything EV-related

Memberships

EVA England - EV-specific group with global branches

Logistics UK (formerly FTA) - Group representing the UK logistics industry. Lots of advice on policy and best practice for switching.

Road Haulage Association - Representing UK HGV and LGV companies including advice on switching to EVs.

Webinars

Cross River Partnership Lunctime Launch: The ULEZ Expansion: Your Options for a Cleaner, Cheaper, Greener London

Electric Vehicles Research - Daily webinars with expert speakers from the EV industry, including on-demand past webinars.

AVERE (The European Association for Electromobility) - Past webinars and a calendar for future webinars and in-person conferences across Europe.

Publications

Cross River Partnership - CAV3 Case Study: How Your Business Can Switch to an EV

Cross River Partnership - Ditch Diesel: Your Electric Vehicle Options Explained

Cross River Partnership - Electric Vehicle Rapid Charging Hubs: Guidance for Local Authorities and Landowners

Charged EVs - Global magazine with articles mainly focusing on EV and infrastructure innovation.

Car Magazine - The EV section has advice on buying an electric car, battery recommendations and more.

CRP Free Telematic Dongle Service

For businesses interested in switching to an EV, CRP’s vehicle monitoring service can help through these simple steps:

1. Register your interest through this survey
2. CRP will send you a dongle to track vehicle speed, distance, times and parking data for a month.
3. CRP will provide your data and EV suitability assessment in a report and 1-to-1 support with your EV procurement.

Contact CRP Project Manager Kate Fenton for information: katefenton@crossriverpartnership.org

Dongles subject to availability
Clean Air Villages 4 (CAV4) is a Defra-funded project which aims to deliver ambitious freight solutions for a clean air business recovery from COVID-19.

Cross River Partnership is a public-private partnership and is delivering CAV4 with 26 project partners to improve the air quality across different London ‘villages’, where both air pollution and population density levels are high.

CAV4 builds on the successes of the award winning CAV1 programme, as well as CAV2 and CAV3, which all focused on interventions to support businesses, communities and hospitals.

The CAV4 project is implementing Freight Solutions through five different elements – Consolidation, Distribution, Mode, Technology and Policy, trialled across different ‘Villages’. The CAV4 team is supporting organisations to discover the potential of low emission freight by trialling alternatives such as cargo bikes, electric vehicles, river freight and walking freight.

For more information, please contact CRP Project Manager Kate Fenton: katefenton@crossriverpartnership.org