EVRi

BRC CLIMATE ACTION ROADMAP

CUTTING CARBON IN THE FINAL MILE

BEST PRACTICE IN REDUCING RETAIL DELIVERY EMISSIONS

This report was produced in partnership with Evri

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FOREWORD

HELEN DICKINSON, CHIEF EXECUTIVE, BRC

Online shopping has been growing steadily over the past twenty years, delighting customers with its ability to deliver goods promptly and efficiently to their door.

Home deliveries rose considerably during the Covid-19 pandemic with over 4.2 billion parcels delivered across the UK in 2020/21. Despite the re-opening of stores, the high level of home delivery has been maintained and 45% of consumers receive at least one parcel per week compared to 36% pre-pandemic.

But with freight accounting for one third of all transport emissions, and final mile deliveries comprising a significant proportion, left un-checked this convenience will result in a negative impact on the environment. We expect online to account for 30% of retail sales by 2025 therefore, without a strategy to align convenience with a downward drive on emissions, transport related carbon impacts will continue to climb.

Our Climate Action Roadmap helps retailers reduce their environmental impact, prioritises moving to low carbon logistics. Final mile has complexities that through the Roadmap we are working hard with members and our partner Evri to identify and resolve. We are looking to Government to work with us in establishing a clear and workable policy on transport and logistics that assists our members to meet the retail wide target of Net Zero by 2040 target.

Customer acceptance will also pay a considerable part in how we move forward. Shoppers now generate a considerable number of home deliveries and many of them are also requested for next-day. It is incumbent on retailers to provide consumers with clear messaging and information to enable them to make environmentally beneficial choices. There are opportunities to combine convenience with environmental benefit by utilising hubs and aggregating delivery slots and the sector must provide leadership in helping consumers to understand the benefits of these options.

Our members have been commissioning new technology solutions and facilitating cultural change to lead the way in reducing their logistics emissions footprint. Electric vehicles, sophisticated route planning and vehicle monitoring are all playing their part in reducing carbon emissions. We represent a wide variety of organisations reliant on final mile solutions including home delivery grocers, courier delivered fashion and homewares and food takeaway providers and it is vital that we embed this best practice.

I am delighted to present this report, in conjunction with Evri, which sets out just some of the ways that our members are meeting the needs of our customers with innovation to protect our planet.

CASE STUDY

EVRI: FINAL-MILE PARCEL DELIVERIES THAT DON'T COST THE EARTH

Evri recently launched a comprehensive and ambitious strategy to reach net zero direct and indirect carbon emissions by 2035. As part of that roadmap, the company is exploring active delivery models to create zero-emission final-mile delivery solutions, particularly in urban and congested areas.

In 2021, Evri successfully delivered 75,000 parcels via a street-portering trial, in collaboration with Ford, from one of their London delivery units. The street porters (human couriers) unload the van and deliver parcels in a street or small area whilst the van returns to depot to reload. Two electric vans and eight porters meant six diesel vans were taken off the road.

In early 2022 Evri trialled an e-cargo bike delivery model in Driffield, East Yorkshire. E-cargo bikes have long presented a sustainable delivery solution compared to traditional vans. Most designs were severely limited by capacity, but the EAV bike Evri trialled has a 2m3 capacity, similar to a small van, and is able to carry upwards of 130 parcels. Results showed an increase in productivity of around 13% and an 89% reduction in CO2 emissions – a very real proof of concept that could aid in the decarbonisation of the final mile.

EVRI X ZEDIFY

In May 2022, Evri partnered with zero-emission delivery start-up Zedify, a company with the shared goal of making deliveries more sustainable. Evri x Zedify kicked off in Bristol, an ideal city to trial such a project with its commitment to launch a clean air zone and government investment in sustainable urban planning.

Zedify pick up Evri parcels from its Brislington delivery unit before Zedify riders, on 100% electric cargo bikes deliver them, on time, to homes and businesses across the city. Zedify's operation model utilises hyper-local micro-hubs which act as a gateway at the edge of the city centre for daily deliveries of established volumes of parcels.

In terms of operational innovation, Zedify's model is built entirely on 100% electric zero-emission delivery vehicles, including cargo bikes and trikes. Deliveries are consolidated, so parcels headed to similar neighbourhoods are combined into one cargo bike, enabling deliveries to be as time-efficient and cost-effective as possible. Although Zedify don't currently consolidate Evri's volume with other volume they might be carrying, the partnership is working towards this as a next step.

This innovative approach means the project is easily scalable and can be implemented in other cities where Zedify has hubs, including London and Edinburgh.

The project has provided local people and businesses with reliable and efficient deliveries. The initial trial showed a 98% reduction in carbon emissions in the final mile compared to a traditional van delivery. The estimated carbon saving figure from the trial is 62kg CO2e per week.

The barometer for long-term success is scalability and commercial feasibility, and the ability to complement or augment existing operational processes in a seamless manner. Zedify is in ten UK cities and on track to open in a further eight cities in 2022-23.

CASE STUDY

THE JOHN LEWIS PARTNERSHIP – HIGH POWERED WIRELESS CHARGING

The John Lewis Partnership (JLP) has an ambitious strategy to decarbonise fleet operations by 2030, and is working with Flexible Power Systems (FPS) on a number of trials. FPS use cutting edge data science and simulation to map the cost, emissions and power aspects of the transition and working together the companies delivered a UK fleet first wireless charging trial. FPS developed a cloud-based EV (electric vehicle) and smart-charging management platform to improve EV productivity as part of the trial and JLP drivers report a quieter smoother experience, less fatigue and improved wellbeing.

WIRELESS CHARGING

Funded by the Office for Zero Emission Vehicles (OZEV) delivered in partnership with Innovate UK, FPS & JLP delivered a UK first supermarket trial of high-powered wireless charging on light commercial vehicles, which was implemented at St Katharine Docks Waitrose.

Wireless charging offers fleet users benefits in terms of eliminating trailing cables which can be trip hazards and faster initiation of charging to improve vehicle availability.

As part of the trial a new vehicle and charger management platform was developed. Vehicle and charger communications were combined with the transport planning system, building metering system, weather and pricing data, to provide a real time integrated picture of EV performance that can be used for strategic planning, saving both carbon and costs.

The first 27 stores processed identified savings of £10.3m vs. an unoptimised baseline and potential for savings of 10.7kTCO2e from those stores alone.

> FPS use cutting edge data science and simulation to map the cost, emissions and power aspects of the transition and working together the companies delivered a UK fleet first wireless charging trial.

DRIVER WELLBEING

The system also has an instore dashboard to help drivers manage range anxiety. Drivers report a quieter smoother experience, less fatigue, and improved wellbeing. The technology exceeded its efficiency targets and 95% of surveyed staff responded positively to the trial. JLP customers expressed positive feedback for green deliveries.

Learning from the trial is being used to inform JLP's roll out planning with wireless charging, in particular an option for sites that require fast vehicle turnaround times or that have significant space constraints.

CLEAN AIR ZONES

Having been developed for St Katharine Docks, JLP is applying the platform to a further pilot of EVs in its Home Service fleet that started in February 2022.

These EVs are used for customer home visits by JLP partners. These partners often travel within clean air zones and the EV vehicles provide a cleaner alternative.

FPS matched partners' journey profiles with vehicle capabilities, identifying technically feasible and cost-effective vehicle and charging options for all 245 vehicles in the Home Services Fleet.

These vehicles use a mixture of depot, Shell recharge and home network charging which will be tracked through the platform.

TECHNOLOGY FOR GOOD

JLP is committed to significantly reducing its environmental impact. The company is seeing a wave of activism from customers who expect businesses to reduce their carbon footprint and the electrification of our eComm fleet c. 2,500 vans and c. 1000 business cars by 2030 is the next major phase of the JLP strategy to be fossil fuel free by 2030.

CASE STUDY

ZOOM BY OCADO

Zoom by Ocado is Ocado Retail's rapid grocery delivery service. With over 10,000 products, customers can choose from a range five times the size of most immediacy services including fresh food, everyday baby necessities, M&S food and drink, Ocado's own-label range, big-name brands, hyper-local suppliers and more.

As part of Ocado's wider business commitment to become net zero by 2040, Zoom by Ocado is focused on reducing final mile emissions across its sites. To find the right vehicles to replace the existing, older fleet, around 20 different vehicles were rigorously tried and tested - they had to be road safe, scalable to suit the growing business and 100% green.

The chosen fleet comprises a mix of electric cars, e-cargo bikes and electric mopeds meaning orders are delivered with less air and noise pollution. It also allows for orders to be made more efficiently as bicycles are able to take advantage of the city cycle network. Collectively, the new vehicles at each site travel up to 1,000 miles per day emission-free - distance that would previously have been completed by emitting vehicles. Using pedal vehicles has led to a happier and healthier workforce.

Each new site will operate with the fleet of new non-emitting final mile delivery vehicles. The existing sites are currently in the process of transitioning from the old to the new and will soon be fully non-emitting. Currently, around 80% of orders now use the new non-emitting fleet for final mile delivery, with the remaining ~20% moving over in the near future. This is a major milestone in Zoom by Ocado's efforts to reduce final mile emissions and shows the speed of transformation since just over a year ago, the figures were reversed.

CASE STUDY

CURRYS – MOBILISING SOLAR POWER

Currys, as a member of EV100* has committed to transition 100% of its company cars and small van fleet and 50% of our medium to heavy fleet to electric or alternative fuel fleet by 2030. This also complements the company's business commitment to have net zero emissions by 2040.

Currys operates a fleet of 3.5 tonne (t) & 7.2t Iveco Daily vans, which are used seven days per week on home delivery & installations for customers, across 20 Customer Service Centres (CSCs) throughout the UK.

Vans are leased via preferred fleet management companies and are used in a robust, intensive way over a seven day working week. The lease period is for a maximum of four years to maintain compliance and a safe comfortable working environment for delivery colleagues.

Under EV100, Currys is actively looking at ways to lower its CO2 emissions and to plan the transition from ICE (internal combustion engine) to EV and alternative fuels. There are 299 new vans (104 x 3.5t + 195 x 7.2t) which will all be in service by October 2022, with a further 110 x 7.2t vans due for delivery from May 2023. These vans are all ICE and will be used on home deliveries.

> Under EV100, Currys is actively looking at ways to lower its CO2 emissions and to plan the transition from ICE (internal combustion engine) to EV and alternative fuels.

In planning ahead for the transition to EV and alternative fuels Currys had to consider three key points for the journey:

1. The majority of CSCs at which the vans are parked overnight for loading do not currently have the charging infrastructure to support a full fleet transition at this point in time.

2. There is limited choice and availability at present of EV 3.5t to 7.5t vans, which means that it is difficult to trial operations and ascertain the likely range vs advertised range of vans.

3. There is a need to carry out thorough trials to ensure the infrastructure at site level, and on the road meets the needs of the business to carry out efficient multi-drop deliveries and to ensure that the routing of vans is done in a way that allows for charging to take place if and when required.

*EV100 is a global collective of companies committed to accelerating the transition to electric vehicles (EVs), see ***www.theclimategroup.org/ev100***

These points are currently being addressed internally with Project Managed Study Groups to consider implications and solutions to the potential issues EV (in particular) will raise. Currys is currently engaged with key market suppliers to examine both charging infrastructure for CSCs and also for home charging as there are approximately 250 engineers operating Ford Transit Custom vans who are based at home and operate 'deep field'.

With regard to EV vans, Currys is in active discussions with all the main manufacturers in order to garner the most up-to-date knowledge on the sector and developments. To this end the company is close to signing a lease agreement for a number of electric vehicles.

As the current (new) fleet is still 100% ICE, Currys investigated ways CO2 savings could be made sooner than the next fleet transition, which led to a partnership with TRAILAR Solar Panels. TRAILAR is the leader in solar transport technology, with a mission to make commercial vehicles 'greener' by reducing their environmental impact. Cutting-edge, ultra-thin solar panels are fitted onto the roof space of existing or new vehicles and connect the panels to the vehicle battery. Solar power is generated and then used to power various on-board electrical activities, reducing the alternator's requirement to create energy via the burning of fuel, powering all on-board electrical equipment.

Discussions with TRAILAR revealed ICE vans could generate significant CO2 and fuel savings when fitted with the TRAILAR system. Calculations showed the amount of energy that could be harvested by the panels, and how these solar powered vehicles could save emissions. Other TRAILAR system benefits include:

- Solar panels are fitted while the vans are in-build which means no downtime on the fleet
- Solar panel design, low-zero maintenance, shatter-proof and low weight with no impact to daily operations
- CO2 emission savings from the solar panels fitted in-build and with OEM approval
- TRAILAR web portal with live tracking information
- Analytics showing CO2 savings, battery health, solar yield and fuel savings across the fleet and at an individual van level

A trial using only 7.5t vehicles operating out of Currys' Stevenage CSC proved the concept, with CO2 savings in line with projections. As a result, in October 2021, under the Currys Sustainability Fund, approval and funding was provided to fit out a new fleet of 195 x 7.2t Iveco Daily vans with TRAILAR solar panels. Calculations show that each van produces 1.39 tonnes of CO2 savings per year, equating to 5.56 tonnes over the four-year lease, giving a total saving over the 195 7.2 tonnes vans of 1,084 tonnes CO2.

The TRAILAR system is currently operational on 194 vans, producing the following savings to date:

37,016
litres of fuel saved

99,203 KGS
of CO2 emissions saved

18,508 KWH
of solar yield

The TRAILER system has helped Currys to effectively cut emissions as it transitions from ICE to EV vehicles.

It now has 298 out 299 vehicles in service - 194 x 7.2t vans + 104 x 3.5t vans. It also has specified TRAILAR to be fitted on 110 x 7.2t vans due to be delivered from May 2023, which will further increase its CO2 reduction. By 2023, for its core fleet Currys will have the following vans with TRAILAR operational: 305 x 7.2t – all with TRAILAR fitted, producing 1.39T of CO2e savings p.a. which equates to a 423.95T CO2 saving per year.

The solar panels actively enable Currys to reduce fuel and emissions for each fitted vehicle, as the TRAILAR Insights Platform captures and reports important vehicle telematic data, allowing the retailer to see how much fuel and CO2 each vehicle is saving each day, as well as a large set of other reports on battery health, utilisation, tail-lift usage and much more.

Additionally, each van has a one-tonne tail-lift fitted to ensure products can be moved safely and without damage, which leads to the tail lift being used intensively on seven day operations. Although the vans are fitted with battery guards, the intense use can still lead to batteries being drained leading to non-starts which impact heavily on customer deliveries and satisfaction. The TRAILAR system also allows 24/7 automatic monitoring of battery health, which means the CSCs can be sent email warnings by the portal when a van battery falls below a prescribed charge level. The CSC can take proactive action to prevent the van going VOR and therefore protects customer deliveries and revenue.

The long term benefit of this initiative is that it allows Currys to make emissions savings as it transitions its fleet to electric vehicles, reducing impact on the environment as it continues to work towards meeting its commitment to transition 100% of its company cars and small van fleet and 50% of our medium to heavy fleet to electric or alternative fuel fleet by 2030.

We currently have three EVs in service across the Group, along with 33 charging points installed across seven sites. While this represents a small proportion of the total vehicles in its owned fleet, Currys' approach is to run trials for up to a year, with a number of different drivers to give them a true on-the-job experience and to gain their feedback. To date, feedback has been positive which supports the business case for expanding their use. This is also market-leading, as no other major electrical retailer uses EVs for big box deliveries.

Looking to the future, Curry is also in talks with many of the major vehicle manufacturers to continue trialling car and van options, with the plan to introduce more EVs at scale in 2022, as well as develop and test other innovations such as its work with TRAILER in the UK to reduce emissions. The company also continues to target reductions through improved driver training, the use of telematics and its 'in-cab' driver alert system and – in the UK & Ireland – implementing ISO 50001.

CASE STUDY

SAINSBURYS – ANALYTICS TO IMPROVE EFFICIENCY

The decarbonisation of transport is a critical component of Sainsbury's target to reach Net Zero across its operations by 2035. Sainsbury's has been working with fleet electrification specialists Flexible Power Systems (FPS), utilising their expertise in the transition from diesel to zero carbon transport. FPS has been advising Sainsbury's on how and when to move its entire transport operation from diesel to alternative fuel and the infrastructure required to support this.

This builds on an innovative project undertaken with FPS to design, develop and deploy a new type of smart plug required to power electric Transport Refrigeration Units (TRUS), as well as serving the current fleet. Working with Flexible Power Systems' smart charging system, the plugs manage power demands from plugging in TRUs of all types in the distribution centre. Using this technology at Sainsbury's depots, saves 4 tonnes of carbon per vehicle a year. That is the equivalent of 3 times the emissions of a new car driving 15,000 miles a year.

Sainsbury's has been investing in innovative zero carbon technologies whilst also considering how it may impact operations. With the support of FPS, Sainsburys has produced a detailed roadmap, informing when to invest in zero carbon vehicle solutions, the vehicle specification, and infrastructure required to suit growing operations, as we move towards a target of Net Zero by 2035.

In addition to this Sainsburys has worked with Dynamon, a company specialising in developing analytics to increase the efficiency of transportation. They have created an advanced AI tool to support the retailer in identifying the optimum electric vehicles and charging infrastructure required. This has facilitated a smooth and efficient move to a zero carbon operation. They have been tasked with focusing on Argos transport operations at Local Fulfilment Centre's (LFC's) supporting the retailer in fast tracking the purchase of EV vans. Using fleet telematics and 'real life' vehicle performance they are identifying the type of vehicle Argos should use and battery size for various routes, allowing it to invest sensibly and efficiently in transport and power in our move from diesel to EV.

CASE STUDY

GETIR - DELIVERING CONVENIENCE SUSTAINABLY

Getir is the pioneer in ultrafast groceries. The tech company, founded in 2015, has revolutionised last-mile delivery with its groceries in minutes delivery proposition offering everyday items to its customers in minutes. Since launch, it has removed millions of petrol and diesel miles from the road

The UK was Getir's first overseas market Launched in London in January 2021, it now has around 100 stores which are spread across a dozen cities. As well as being the leading player in the ultrafast delivery of groceries sector in the UK, Getir is now operating in nine countries on three continents.

All deliveries to Getir's UK customers are made using electric bikes or electric mopeds,or even on foot if the delivery address is very close.

One of the key business aspirations is to prove that delivery using only electric vehicles is both achievable and financially beneficial for businesses, in the hope that it will be widely adopted going forward.

HOW DOES IT WORK?

Customers order using an App that connects them to their local store.

Once an order is made, a bell rings in the store and a store assistant gathers the items and places them in a bag in around a minute's time. The bag is checked by the courier before leaving the store and the delivery will be made in roughly eight minutes on average, as our stores are generally only two to three miles apart.

As a responsible business, Getir is focused on both community and the environment as part of its everyday operations. Its electric mopeds have two batteries, but we only make deliveries using one battery. As well as helping to limit speeds, this also means operators have the spare battery charging at all times. We are also investigating three wheel electric vehicles to help couriers maintain deliveries in icy weather.

The safety of couriers and other road users is critical to Getir. To help maintain safety levels, all of couriers are provided with branded PPE and all-weather uniforms. As well as being good marketing for the brand, it also means that couriers can be confident that they are wearing the best PPE available and can be seen and recognised openly, which helps to drive good behaviours on the roads.

Since launch, Getir's electric fleet has covered around 14 million miles on UK city roads. This has removed millions of miles of diesel and petrol car journeys from UK roads and helped to make UK cities cleaner, quieter and safer.

CASE STUDY

MORRISONS – OPTIMISING DRIVER EFFICIENCY

Morrisons has been using planning, vehicle technology and alternative fuels to cut its transport emissions. Operatives plan routes carefully to reduce road miles and combine driver training with telematics to reduce energy-intensive driving styles and idling time.

Morrisons has introduced a light-weight fleet of Morrisons.com vehicles that use 10-25% less fuel and is trialling new Morrisons.com electric vehicles to run doorstep deliveries. To make chilled vans more efficient, Morrisons is trialling the use of solar panels to power refrigeration.

To increase driving efficiency Morrisons has introduced Lightfoot devices into its vans. Lightfoot is connected to a vehicle's onboard computer and employs advanced artificial intelligence to 'understand' the vehicle. The system can detect gear selection, revs, engine load, payload and whether a vehicle is going uphill or downhill. It gives drivers feedback on their driving and a score at the end of each journey. Drivers with scores of 85% or over are eligible for Lightfoot prize draws.

Morrisons has also been developing efficient delivery catchment and optimising routes to minimise mileage.

CASE STUDY

TESCO – ADVOCATING FOR CHANGE

Tesco's flagship logistics initiative has been to switch its home delivery vehicle fleet to fully electric by 2028. Home Delivery contributes around 95,000 tCO2e, roughly 9% of Tesco's Scope 1 emissions. It is the area of its transport and logistics that Tesco has been able to prioritise for decarbonisation as the market for electric vans is more mature than larger vehicles.

Alongside both its science-based targets and specific commitments to Clean Van Commitment and EV100, the initiative is underpinned by groupwide climate governance that meets monthly. The achievement of the initiative is built into the Tesco leadership team's objectives and ladders up to its net zero commitment, linked to the Executive Performance Shares Plan.

To date, Tesco has launched almost 200 EVs on the road saving over 3,000 tCO2e (annualised). The company has faced a number of challenges, some unique to food retail:

- Tesco specifically required refrigerated chassis cab variant vehicles, for which there was only one viable option when the roll-out began. This option was with a small supplier based abroad and new to Tesco but project managers decided to partner with them and help seed market development rather than wait until a larger market player was ready.
- With the additional weight not only of the battery but also refrigeration system, this severely restricted payload so Tesco chose to wait until there was a derogation up to 4.25T vehicle weight to be able to start the transition, rather than switch at the expense of efficient operations.
- Despite overcoming these hurdles, with EVs weighing over 3.5T Tesco now needs to retrain all drivers to have an O Licence, trained by a specialist instructor and MOT each vehicle every year rather than every three.
- These oncosts compound the already upfront cost of around a 300% uplift for the vehicle purchase compared with its ICE equivalent, as well as the procurement and installation of charging equipment and in some cases, paying to upgrade the electricity capacity of the building to cope with demand peaks.

Tesco is investing significantly in order to be a first mover in the refrigerated home delivery space and advocating directly with government and industry forums such as the Electric Vehicle Fleet Accelerator, for the policy changes needed to address these barriers to enable a faster industry transition. The government has now issued a consultation on the derogation of EVs to consider allowances around O licence and MOT requirements and have invited Tesco's views.

To help manage supply availability risk Tesco is working directly with OEMs such as Ford to help shape the future of their EV fleets to best meet the demands of industry based on Tesco experiences to date.

Final mile logistics is one workstream under BRC's Climate Action Roadmap. For further information contact ***nicki.hunt@brc.org.uk***

BRC CLIMATE ACTION ROADMAP

BRC's Better Retail Better World campaign commits the retail industry to build a fairer, more sustainable economy in line with the UN Sustainable Development Goals.

One of the critical goals determined by us and our stakeholders is Climate Action.

The BRC Climate Action Roadmap is the framework to guide the industry to Net Zero.

Supporters of the BRC Climate Action Roadmap commit to working with other retailers, their suppliers, Government and other stakeholders, and to support customers to collectively deliver the industry's Net Zero ambition.

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ABOUT EVRI

Evri is the UK's biggest dedicated parcel delivery company, leading the way in creating responsible delivery experiences for everyone, everywhere. And we're doing that by offering the most conven-ient way to send, receive and return parcels without costing the earth.

Whether it's someone sending a birthday present to a friend, a marketplace trader shipping in bulk or a major brand such as John Lewis, ASOS or Next, we work closely with diverse communities and more than 80% of the UK's top retailers to safely get parcels from A to everywhere.

A lot of parcels, in fact. More than 700million a year.

And it's not just customers and retailers who trust us. We've won loads of industry awards over the years celebrating our achievements in IT, innovation, sustainability and our environmentally friendly green fleet.

Evri is more than just a name. It's a statement of intent, reflecting our commitment to customers and clients.

Every parcel, every person, every place – every delivery made for you.

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