Sustainable e-commerce: A how-to guide for retailers

SafeShops.be

Introduction

E-commerce and sustainability: a *contradictio in terminis* to some, a match made in heaven to others. What's clear is that these subjects continue to stir debate. In search for clarity, this whitepaper draws on twenty years of research that compares the environmental impact of **purchases ordered online** and **purchases carried out** in store. First, we summarise the key points made in these studies. In what follows after, we present concrete sustainability practices and inspiring case-study examples.

Scope

Research on the environmental impact of e-commerce compares the amount of emissions that are generated in getting the purchases from retailers' warehouses to consumers' homes. It focusses mostly on carbon dioxide (CO_2) emissions, primary driver of climate change, but also takes air polluting emissions into consideration (such as PM and NOx), major source of public health issues. How products are made is excluded. Despite weighing heaviest in terms of environmental impact, production processes remain unchanged regardless of whether products are sold and bought online or 'offline'. What's most important, is the way purchases are **stored, packed and transported**. Transport activities in particular determine about half of the environmental impact per purchase[i].

E-commerce's environmental potential

The conclusion: in one-to-one comparisons and under average conditions, online purchases are more sustainable than purchases in store. The carbon footprint of shoes ordered online at a Belgian webshop, for example, turned out to be five times lower than purchased in one of the retailer's stores[ii]. Depending on where people live, **e-commerce's environmental potential plays out differently**. In rural areas, distances between consumers are larger, while their tendency to order online is lower. This results in lower delivery densities and drives up the kilometres per parcel that couriers travel. Yet, delivery distances are still considerably lower compared to consumers' driving individually to stores and back. In urban areas, consumers are more inclined to walking and cycling. Yet, they live closer to each other and tend to order online more often, driving up delivery densities and resulting in lower kilometres per parcel.
Figure 1 illustrates the principle.

Nevertheless, such one-to-one comparisons do not take e-commerce's impact on **consumer behaviour** into consideration. Different questions arise. Do our online purchases actually replace store visits or do we still travel to stores before placing the order, for example for browsing the assortment and trying out different options?

Such behaviour is called 'showrooming' and significantly increases the environmental impact. Or on the contrary, does the possibility of browsing assortments and options online, optimise our travel to stores? Termed 'webrooming', this behaviour has beneficial effects on our store travel.

Transformed consumption landscape

Then, studies suggest that formerly single store visits are now divided into multiple online orders and deliveries; that we consume more because of the infinite online offer; and that we travel more in the time freed up running errands and going shopping[iii]. What's more, research largely disregards the environmental impact of our transformed **consumption landscape**, fostering remote online shopping at webshops that do not have a local footprint consisting of warehouses or stores. Therefore, such webshops rely more on airfreight shipments to carry out deliveries in time, skyrocketing the environmental impact in turn.

Behavioural patterns prompted by e-commerce differ widely, from consumer to consumer and from purchase to purchase. They are important to consider when discussing the environmental impact of shopping online and shopping in stores. Yet in today's **omnichannel world**, consumers spontaneously switch from online to offline. Also retailers increasingly combine the virtual with the physical. So, isn't it most relevant to focus on all retail processes and how to make all of them more sustainable? This whitepaper goes ahead, with a focus on e-commerce.

Growing importance of sustainability

The importance of sustainability grows. Consumers are increasingly sensitive, as SafeShops' latest survey demonstrates. Almost half of Belgian consumers think a good webshop has an eye for sustainability, but three in four cannot spontaneously name any good example[iv]! For the ninety days that led up to Earth Day 2020, Google searches for sustainable lifestyles increased by no less than 4550%[v]. Conclusion: there is still significant room for improvement, as well as opportunity to claim sustainability as a strategic value. Industry partners are increasingly requiring sustainable conduct of business as well. Finally, governments at all levels are introducing more stringent policies and regulations towards restricting and reducing CO_2 emissions, air pollution and congestion, ultimately forcing businesses to adjust.

How to reduce the environmental impact of online operations

What can **retailers** do to reduce the environmental impact of their online operations? For starters: offering options and providing information, this is what we discuss in the second section. But retailers cannot do it alone. Optimisation through collaboration with retailers' **service providers** is what we talk about in the third section. In the fourth section, we present ways to create awareness and offer guidance, enabling retailers to include **consumers** in their efforts as well. Collecting feedback on what service providers and customers report on order (e.g. unsuitable packaging), delivery (e.g. absent delivery details) and return (e.g. inappropriate product information) activities that go right, and particularly those that don't, allows webshops to continuously improve on efficiency and sustainability.
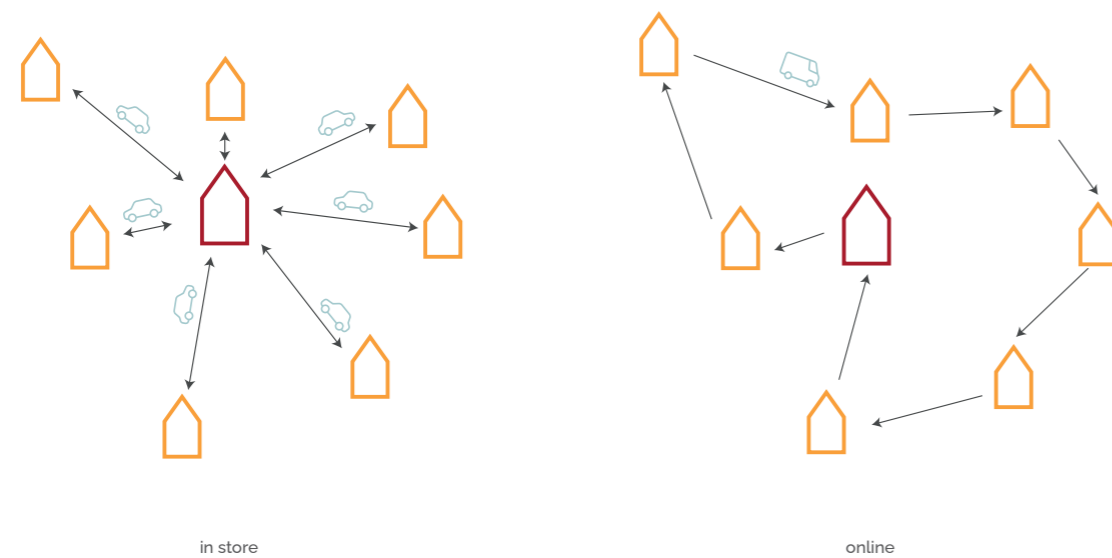
in store

online

Figure 1. Transport activities associated with online and store purchases[vi]

Table of contents

Research findings and recommendations:

Concrete sustainability practices and inspiring cases towards a sustainable e-commerce society:

Content by **Heleen Buldeo Rai** and cases by **Marie-Pascale Vandekerckhove,** commissioned by and in collaboration with **SafeShops.be** and partners BD myShopi, bol.com, bpost, RAJA Belgium and Veepee.

For further reading, Heleen Buldeo Rai's book "Duurzaam online shoppen. Praktijkgids voor e-commerce van morgen" is now available in Dutch via https://www.lannoocampus.be/nl/duurzaam-online-shoppen

Webshops

Webshops offering options and providing information to

- ## … support sustainable purchases

Offer sustainable alternatives and inform consumers

A growing number of webshops are upgrading their sustainable product assortment, consisting of products that are produced in more responsible ways (e.g. fair-trade), consist of more ecological materials (e.g. eco-certified) or simply prolong their lifespan (e.g. second-hand). We encourage webshops to **diversify their product assortment** in this way, offering options to consumers and responding to consumers' growing interest and sensitivity to sustainability. When doing so, providing information on these options and supporting findability is essential. Webshops for example **include labels** that indicate adherence to recognised certifications and standards and add **dedicated filters** that consumers can use while browsing (Figure 2). With a plethora of environmental and sustainability labels available, be mindful about what kind of information to include where, so as to avoid unnecessary confusion.
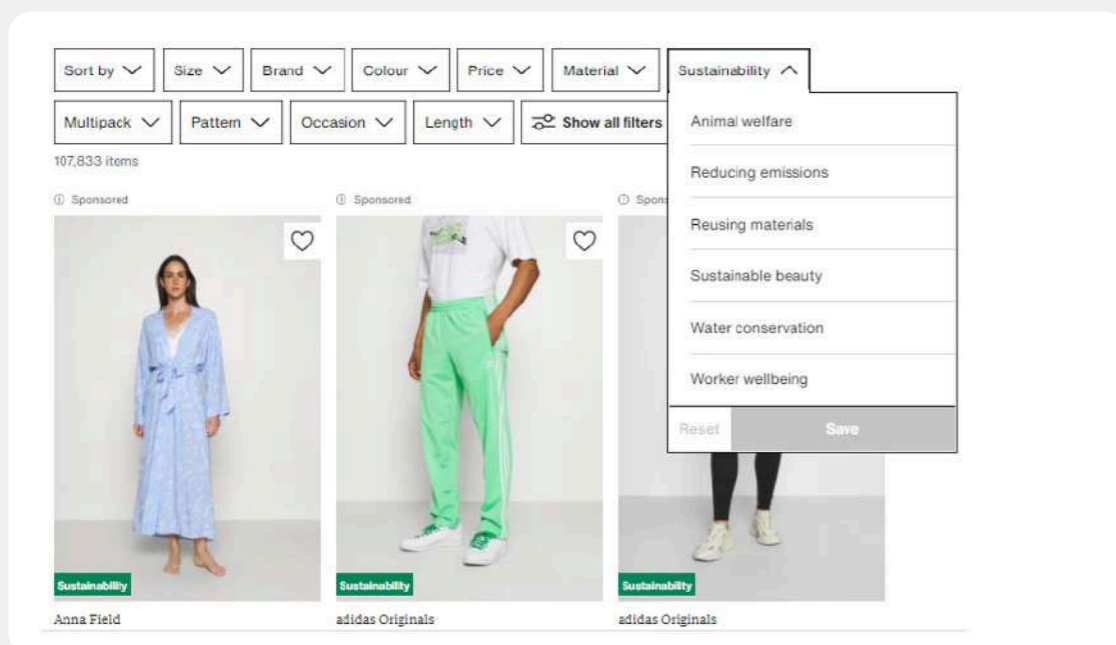

Figure 2: example of sustainability filter by Zalando

… enable efficient deliveries

Efficient deliveries minimise both the environmental impact per kilometre and the environmental impact per kilogram, making them more sustainable. Webshops largely depend on their logistics service providers to optimise their deliveries. Yet, they can still make a difference by offering more sustainable delivery options, tweaking what has become today's delivery standard: free, next-day home delivery. We encourage webshops to adjust timeslots to delivery speed; and make use of out-of-home delivery locations.

Offer 'no rush' options

First, longer delivery terms afford logistics service providers the flexibility to collect and group parcels for similar destinations (e.g. town, neighbourhood or street), enabling shorter routes with fuller vehicles. Webshops for example allow the **choice between 'express' and 'standard'** shipping or provide consumers **with a 'no rush'** option. Webshops with large volumes achieve sustainable deliveries faster, and so are areas with high population densities and tendencies to order online. When volumes are insufficient and customers are scattered, consider offering slower deliveries.

Introduce specific timeslots or neighbourhood delivery days

Second, precise timeslots allow consumers to organise better for delivery. As such, they limit chances that everyone is absent at the time of delivery, thereby avoiding inefficient (and inconvenient) failures. Yet, narrow timeslots only achieve environmental benefits when vehicle routes and loads are planned out properly, so when deliveries are slower. Webshops for example **employ narrow timeslots** of thirty minutes to two hours for deliveries taking place within a few days and **wide timeslots** from morning to evening for next-day deliveries. Webshops also **introduce specific timeslots in combination with 'neighbourhood delivery days',** allowing both their logistics service providers and consumers to optimally organise deliveries.

Offer different delivery alternatives

Third, home delivery can be the most efficient delivery option, but only when alternative locations are scarce and consumers carry out the collection in a dedicated trip by car. Otherwise, out-of-home is preferred. Such delivery location alternatives come in different forms: shops-in-shop collection points (e.g. press shops), automated parcel lockers (e.g. bpost), social collection points by neighbours (e.g. ViaTim) and stores serving as collection point for their own webshop (i.e. 'click-and-collect'). From this diverse range, webshops choose out-of-home locations that fit their organisation and customers' lifestyles best, for example prioritising click-and-collect when their store network is large or encouraging lockers located in their customers' neighbourhoods or offices.
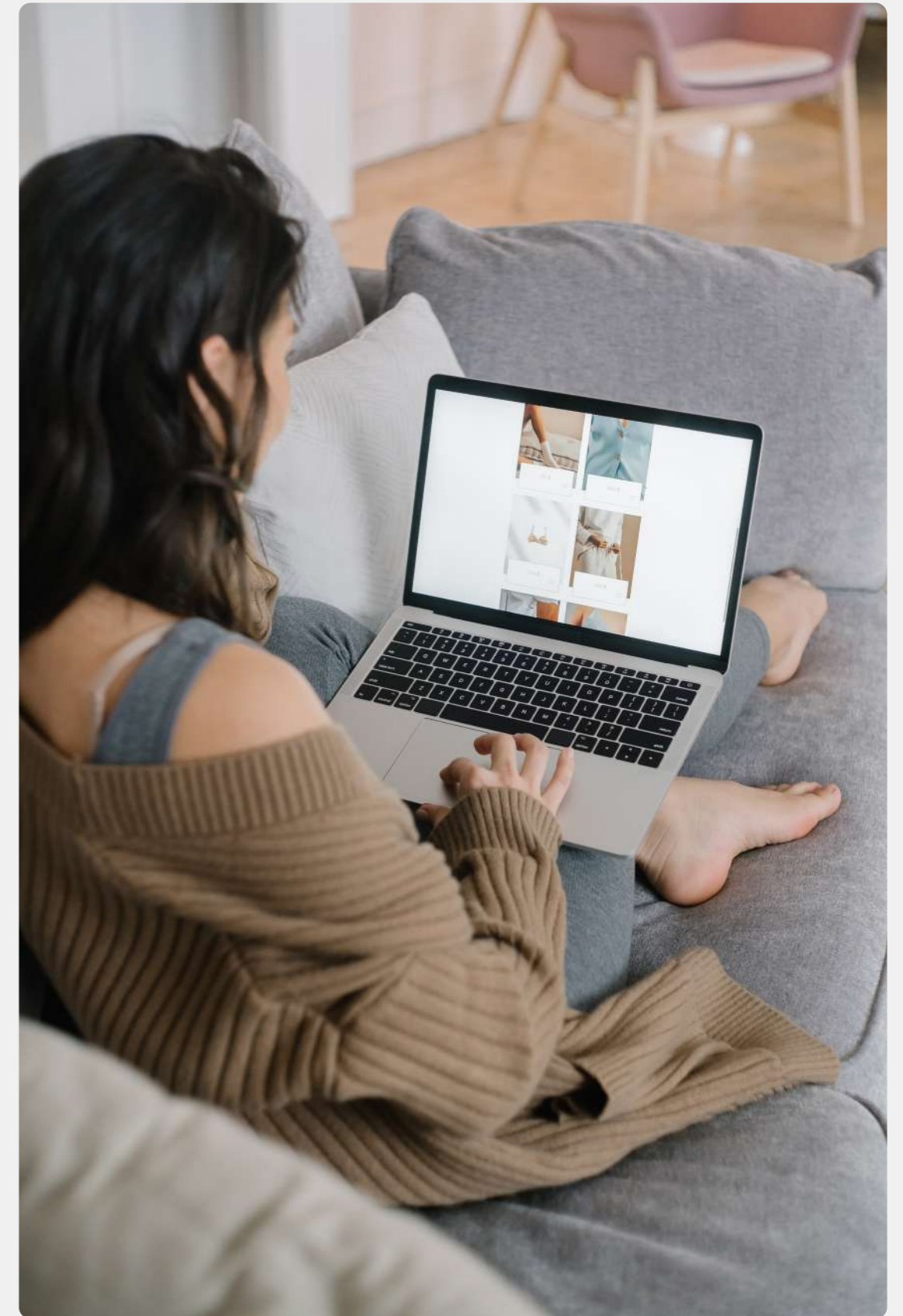
Webshops & service providers

Optimising through collaboration to…

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… support successful deliveries

About one to two times out of ten, home deliveries fail because no one is present to accept the parcel[vii]. **Failed deliveries imply unnecessary vehicle-kilometres** and time losses for couriers, who either try to leave the parcel at nearby neighbours, deliver it to an out-of-home delivery location or return another day. This choice largely depends on the logistics service provider's policy and has different environmental impacts. While neighbour delivery is a fairly efficient solution, the other options result in additional kilometres due to rerouting, collection and/or redelivery. Increasing the number of successful deliveries can be as simple as strengthening the lines of communication between logistics service providers and consumers, who are the main stakeholders in this issue but lack a formal connection between them.

Share information

After all, consumers order and select delivery options at webshops, who in turn order delivery services at logistics service providers, all agreeing to specific terms. Because consumers and logistics service providers do not, there is often information missing. When deliveries are scheduled to take place and whether signatures are needed, for example, for consumers, and when someone is most likely to be at home or where a 'safe place' can be found in case of absence, for logistics service providers. Webshops **transfer contact and delivery specifics** completed by consumers to logistics service providers (e.g. telephone number, apartment code), **forward delivery details** from logistics service providers to consumers (e.g. delivery times, track-and-trace applications) and **communicate clearly about delivery services** to be expected on their webshop and order follow-up communication. In doing so, they improve reliability, predictability and ease of delivery.

… reduce excessive packaging

Although **packaging is not the most decisive factor in the carbon footprint** of online purchases, it is a major source of environmental concern and the number one nuisance among online consumers[viii]. Appropriate packaging is important, as it protects online orders and prevents them from getting damaged. For good reason, as parcels are dropped approximately seventeen times during the delivery process[ix]! Yet excessive packaging is still commonplace in e-commerce, with parcels too large for the products that they need to protect. This implies overuse of materials of all sorts to create and fill the boxes, such as plastics, paper and cardboard, but also directly affects delivery efficiency. Indeed, e-commerce parcels contain up to 40% air on average[x].

To avoid overusig packaging and filling materials and transporting air, webshops introduce a larger variety of options to better fit the various products they sell, including several shapes and sizes of paper envelops and **cardboard boxes**. When volumes allow, consider to **invest in a packaging machine** that transforms sheets of cardboard into boxes that fit perfectly every time, or join forces with a logistics partner equipped with one. Although we recycle the vast majority of paper and cardboard, it is still an

energy and transport consuming process. Webshops venturing into packaging alternatives **use reusable envelopes, satchels and boxes** that can immediately be reused after consumers send them back or experiment with **biodegradable packaging** that consumers can compost at home. And of course, products ordered together are best shipped together. Webshops, for example, **propose to pack and ship products together** to consumers even though this implies waiting longer, or **allow consumers to select a specific delivery day** in which several orders are packed and shipped together.

... optimise delivery distances

The environmental impact of online orders is largely determined by the distances couriers travel to deliver them, with short distances being preferred over longer ones. Most consumption products are produced remotely, meaning that

there are always long and complex supply chains involved. Regardless, when **products are stocked in proximity** to where they are ordered and designated to be shipped to, it benefits delivery distances. At the same time, it creates opportunities to use zero-emission vehicles. A technology-neutral objective in itself, today's zero-emission deliveries are supported by **electrification.** Although brake, tyre and road-wear create air pollution regardless of vehicle type, electric vehicles have no direct emissions. What's more, with the European electricity mix, they emit two times less CO_2 in a full lifecycle than petrol or diesel engines. This can be even four times less if we take the Belgian electricity mix and ten times less when driving on renewable electricity only[xi].

Electric vans and electric cargo-bicycles represent the most mature technologies. Both vehicle types come in a variety of options. The vans range from a few cubic metres' capacity to a bit more than ten, produced by traditional

manufacturers to innovative start-ups. The bicycles range from messenger bikes over front-loaders and rear-loaders to bicycles with trailers and carry a capacity up to two cubic metres (Figure 3). Yet, other developments besides electrification are moving sustainable e-commerce forward as well. For example, biogas and hydrogen vehicles are tested and proven to have low CO_2 and air polluting emissions[xii], while other initiatives experiment with public transport or waterways.

For webshops, stocking locally and shipping sustainably implies to have stores in proximity to consumers.
So-called 'ship-from-store' activities are increasingly common among omnichannel retailers, in which webshops **assign picking and packing of online orders to store staff and collaborate with delivery partners.** In doing so, deliveries are not only fast, but also environmentally-friendly. Yet, ship-from-store requires strong technical capacities that adequately link online orders to stores' stock, as well as strong local and hyperlocal partners to carry out deliveries. Without a store network, webshops select partners with an **electrified fleet and cross-dock hubs** to offer zero-emission deliveries. In doing so, logistics service providers use large vehicles to carry large parcel volumes to small hubs, which are then transferred to small electrified vehicles that carry out the final deliveries. Mostly fit for cities, logistics service providers that capture large volumes of small parcels in particular are leading the way, but it also works well for sensitive products categories such as flowers and food.

Name	Payload	Width	Name	Payload	Width
Messenger	20-40 kg 0.03-0.05 m³	50cm	Front-load cargo trike	100-200 kg 0.2-0.6 m³	80-90cm
Front-load cargo bike	100-125 kg 0.1-0.7 m³	50-90cm	Rear-load cargo trike	200-300 kg 0.5-1.5 m³	80-120cm
Rear-load cargo bike	100 kg 0.4-0.8 m³	50cm	Trailer	60-150 kg 0.2-2.1 m³	80-110cm

Figure 3: cargo-bicycle types & capacities[xiii]

Webshops & consumers

Creating awareness and offering guidance to

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… support sustainable deliveries

Webshops increasingly implement sustainable diversification of delivery options, but it remains too uncommon still. Potentially, this is fuelled by a perceived lack of interest or willingness from consumers. Needlessly so, as studies have demonstrated. When delivery and return options are free, online consumers are happy waiting longer for their orders to arrive or collecting their orders in out-of-home locations[xiv]. What is missing, however, is awareness among consumers on which delivery option is more sustainable, and which one is less. A survey among European consumers shows, for example, that almost half thinks there is no difference in environmental impact between fast and slow delivery, while one third even considers slow delivery to be more negative than fast[xv].

Create awareness

There are simple ways to create awareness among consumers and guide them towards more sustainable deliveries. Webshops for example **differentiate delivery options on price,** with more impactful options priced higher than options that are less impactful on the environment. That makes sense, as for webshops too, faster delivery or delivery at home is more expensive than slower delivery or delivery at an out-of-home location when volumes are not met.

Provide information

Demonstrated by studies as even more powerful than price differentiations,

is providing information on differences in environmental impact between different delivery options[xvi]. Webshops for example **inform which deliveries have lower impacts** by adding approximate CO_2 emissions or "did you know" tooltips. Yet symbolic information works too, 'nudging' consumers towards better choices (e.g. green leaf symbol, green van symbol, most sustainable delivery option placed first, most sustainable delivery option selected by default; Figure 4) or imposing a social norm (e.g. social media button or green packaging to share sustainable delivery choice with 'followers' and neighbours)[xviii].

… support sustainable collection trips

Out-of-home delivery locations are generally preferred from an environmental point of view, but this largely depends on consumers' collection trips. When consumers travel back and forth to a collection point by car, without chaining it to another activity or making a stop along the way, the environmental impact exceeds the impact of delivery at home[xix]. Also in this case, consumers seem largely unaware of their impact. A study in the Brussels-Capital Region, surveying consumers in the midst of using collection points, established that half of them travelled by car, while one fifth used public transport and another fifth travelled on foot or by bicycle. Almost 70% visit a

collection point close to where they live, implying that more sustainable collection trips are nonetheless feasible[xx]. Yet, if car-use is high in urban areas, it is probably a lot higher in more rural areas.

To raise awareness among consumers and encourage them to optimise their collection trips, webshops **implement tooltips and symbols** as well. For example, by combining a leaf with a bicycle next to the out-of-home delivery locations, or a message informing about the importance of collection trips. In doing so, consumers are informed about the conditions in which the environmental advantages of out-of-home delivery locations take place. Yet, collection points and lockers not only cluster parcel volumes and avoid delivery failures, they also allow couriers to arrive earlier in the morning or later in the evening, are easier to find and provide easier access for parking and unloading their vehicles.

Figure 4.
Example of symbols to differentiate delivery options[xvii].

... reduce preventable returns

Returns are an inherent part of online shopping, more so than for store shopping. 'Experience products' in particular, such as clothing, are more prone to returns compared to 'search products', such as books, which features are much more easily evaluated online. Returning online ordered products is an unsustainable practice to be avoided. It essentially doubles the delivery trajectory, as well as the environmental impacts associated with it. Sometimes

damages incurred along the way cause webshops to destroy returned products, instead of reselling them. Other reasons include seasonality and trends, making storage or reselling of returned products uninteresting.

We encourage webshops to upgrade the product information offered to consumers, to facilitate successful decision-making and reduce preventable returns. With clothing in particular, 70% of returns are due to fit problems[xxi]! Webshops **use both textual and visual information,** for example: 2D and 3D images of products, videos of products in use, details on product characteristics and components, recommendations on shape and sizing of products and experiences from consumers who ordered the same product as well. Some webshops even **introduce augmented reality** applications for smartphones, tablets and laptops (Figure 5).
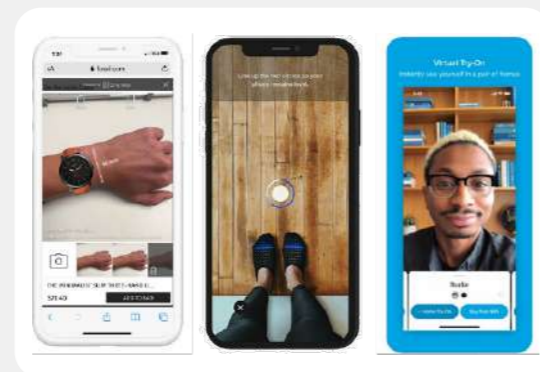
Figure 5. Examples of augmented reality applications by Fossil, Nike and Warby Parker

They allow to try out the look of a pair of glasses, a watch or a piece of furniture, for example, so consumers can virtually experience products in a way that feels more physical. Such applications are found to increase purchase satisfaction and decrease return rates[xxii].

When consumers still engage in 'bracketing' behaviour, ordering different sizes or colours from the same item, some webshops choose to **engage directly by contacting consumers** by call or chat, to guide them towards to most suitable option based on past orders and additional probing questions. Finally, webshops introduce returns in second-hand or outlet markets or join forces with specialised partners for reconditioning, refurbishing, remanufacturing and recycling products that have been returned for one reason or the other.

Quick consumer guide

Tips for conscious e-consumption

These are 10 ready-to use tips webshops can use to enhance consumer awareness and guide their customers towards a more sustainable online shopping behaviour.

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- Prioritise local web-shops over distant ones… (to avoid airfreight)

- Purchase as informed as possible… (to avoid returns)

- Rationalise browsing trips… (to avoid unnecessary vehicle-kilometres)

- Combine multiple purchases in one order…
(to avoid excessive deliveries and packaging)

- Choose collection over home delivery… (to avoid unnecessary vehicle-kilometres)

- Be mindful about collection trips… (to avoid unnecessary vehicle-kilometres)

- Choose recommended timeslots over others…
(to avoid insufficiently loaded vans and unnecessary vehicle-kilometres)

- In absence of recommended delivery timeslots, choose slow delivery over fast… (to avoid insufficiently loaden vans)

- Make sure to be at home at the time of delivery…
(to avoid unnecessary deliveries and vehicle-kilometres)

- Refuse, reuse, recycle and compost packaging… (to avoid excessive waste)

Download these 10 tips in French or Dutch on
https://www.safeshops.be/guided-document-sustainability/
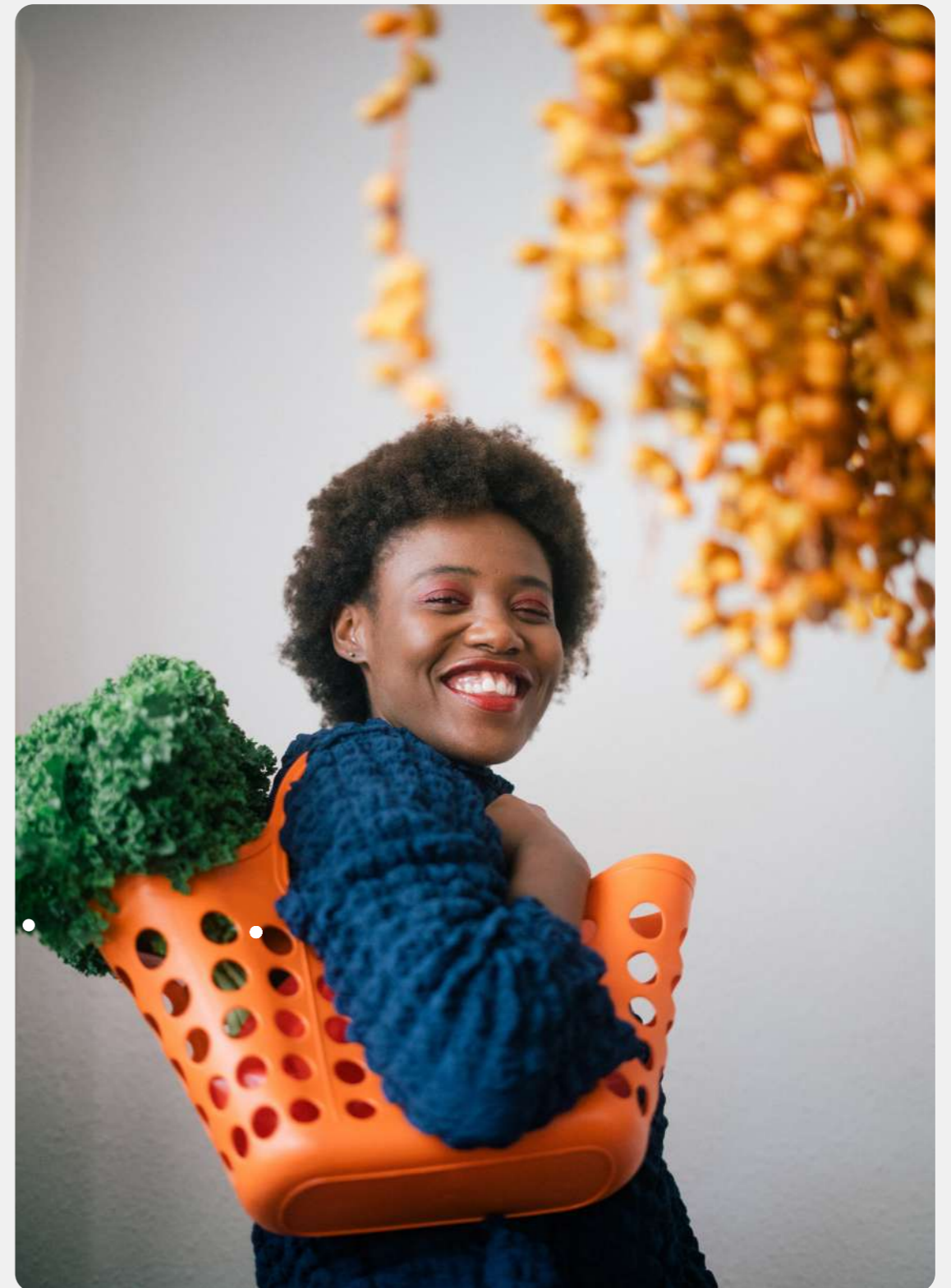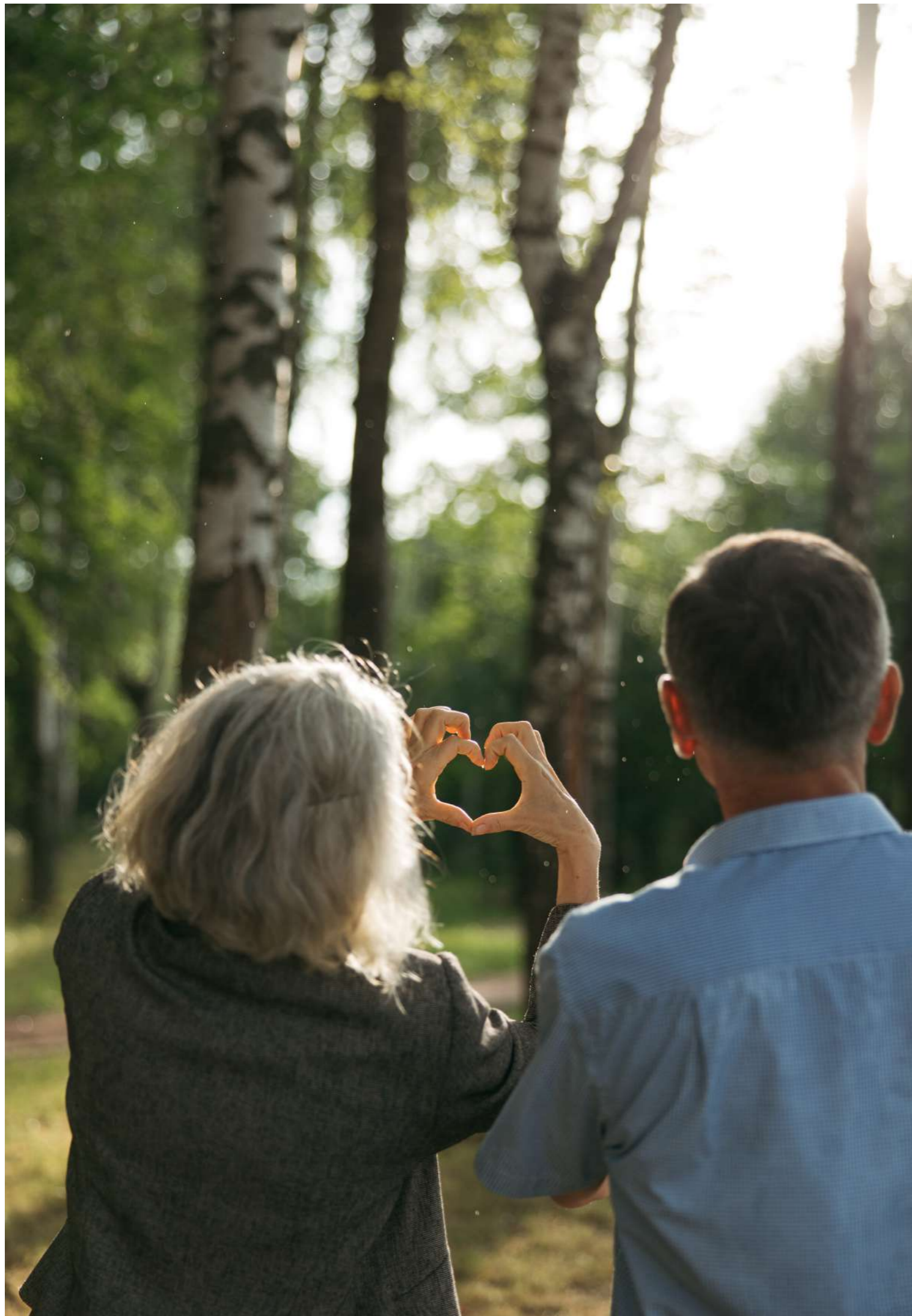
Towards a sustainable e-commerce society:

Creating an ecosystem of sustainable options for shops & consumers.

Creating an ecosystem of sustainable options for shops & consumers

The increasingly rapid climate change is urging us to rethink and adapt how we all work, live and consume. bpost group has done a great deal of that rethinking and is ready to take the lead. But everyone should jump on the bandwagon: both small and bigger (web)shops. And yes, they really can! How? By partnering up with business partners offering suitable eco-friendly delivery options and guiding their customers towards conscious and well-considered choices.

The recent pilot project for EcoZones in Mechelen has proven undoubtedly that providing the right options to consumers has a real impact: a total sustainability gain of 32%, unseen drops of CO2 and fine particles emissions and a change of consumer behaviour have been observed.

EcoZones as part of the solution

In July 2020, bpost group launched its first Ecozone, a pilot project with the aim of reducing the impact on traffic and the climate of parcel and letter pick-ups and drop-offs in Mechelen. Despite the phenomenal increase in the number of parcels since the beginning of the coronavirus pandemic, bpost has been able to deliver all letters and parcels in the 2800 postcode area emission-free.

bpost implemented the required changes at operational level, creating a Microhub and a dense network of 57 pick-up points (49 sites with parcel lockers, 7 post points & the post office), and replacing all diesel vehicles by electric cars or electric bikes equipped with an innovative trailer. These are used to deliver parcels, newspapers and letters to homes, pick-up points and post offices.

The MOBI research unit of the VUB monitored the sustainability impact of the Mechelen Ecozone with consideration for all aspects, including emissions, air pollution, noise pollution, distances covered, traffic problems and road wear and tear, and observed a total sustainability gain of 32% compared with the previous situation. This is essentially due to the reductions in

CO2 (97%) and fine particles (77%).

The increased use of bikes has reduced the total distance covered by bpost vehicles in the city centre by 164km/day. The green fleet is also quieter, resulting in a 49% decibel reduction. Furthermore, the pick-up points and Microhub enabled bpost to achieve a total sustainability gain of 64% on parcel rounds using cargo bikes.

Important change of behaviour

The hybrid network of post offices, post points and parcel lockers ensures optimal service coverage and proximity, getting people to change their behaviour. In Mechelen, residents have gradually adapted their behaviour, thus making a big contribution to the success of this EcoZone project.

A bpost survey shows that the use of pick-up points has increased each month. There has been minimal use of cars to this end. 85% of Mechelen residents go to pick up their parcels on foot or by bike. Only a small number of respondents take the car and two in three car users combine the pick-up with other activities, such as a trip to the supermarket, school or work. 81% of users covered less than 500m to get to a parcel locker station. All age categories are represented among users.

Based on these facts and figures, and the obvious positive impact on people and the environment, other EcoZones will be rolled out gradually throughout the country in 2021 (Leuven and Mons) and 2022.

Combining EcoZones with tailor-made delivery solutions for webshops should allow bpost to rapidly grow a more sustainable, environmental and consumer friendly society.

Dirk Tirez, CEO bpost group:

" "At bpost, we are committed to economic, social and environmental sustainability. Economic, because we need to guarantee a long-term future for all our employees. Social, because there is a social lift. Training programmes will be set up for all staff working in the offices. Environmentally, we are in line with the Paris Agreement. The objective is to reduce CO_2 emissions by more than 50% by 2030 compared to today, despite the growth in e-commerce activity.

We have demonstrated in Mechelen that it is possible to create circumstances in which all mail and all packages are delivered with zero CO_2 emissions. We also already have invested significantly in making our fleet eco-friendly, using double-deck trailers, electric vehicles and where possible electric bikes or scooters."

New concepts to give local merchants more clout

Together with local merchants, we look for new concepts that offer added value to their business, such as extending opening hours via Parcel Lockers.

Emission-free vehicles for better air quality

We are switching to environmentally-friendly and innovative vehicles. We are making maximum use of cargo bikes, replacing diesel cars with electric ones and even designing our own vehicle of the future.

Circular economy to reduce the mountain of waste

To reduce the mountain of waste, we are testing sustainable and reusable packaging.

24/7 pick-up, for maximum customer satisfaction

Parcel Lockers, which are available day and night, are scattered across the city. Moreover, deliveries to Pick-up points (Parcel Lockers, Post Offices, Parcel Points and Post Points) are more ecological than home deliveries.

Driving fewer kilometres for lower emissions and safer streets

Because we want to give everyone the opportunity to go to a Pick-up point on foot or by bike, a dense network is a crucial component of the Ecozone. We also prefer to travel by bike in the city centre.

A practical guide to a climate neutral business.

bol.com

A practical guide to a climate neutral business

Sustainable living & working, that is the New Normal. A conviction that led leading retail platform in the Benelux bol.com to make it a tangible reality. By making it happen for its more than 47.000 clients & webshops, 7.000 pick-up points and 13 million customers.

In 2025, shopping at bol.com will be climate neutral

An ambitious goal the company is well on its way to achieve, as it is working towards **zero CO2 emissions per parcel.** Why? "Because changing the world is something we do together": at bol.com they believe in the power of cooperation. They want to inspire others in the industry and encourage everyone to take that step towards climate-neutral shopping. How? Through the implementation of a series of measures at all levels. Bol.com agreed to share interesting insights that may as well serve as a practical guide to make your business climate neutral.

Here's how bol.com is handling sustainability:

1. **Buildings, fulfilment centres and data centres**

Since 2020, all facilities & buildings – including the huge fulfilment centre as big as 16 football pitches – are climate neutral, using 100% renewable energies (solar & wind), thermal energy storage, rain water & LED lighting. Roofs are home to birds, bats and bees. Company restaurants are serving mostly healthy, biological meals based on local ingredients and offering veggy alternatives. These efforts were rewarded with the BREEAM Award in 2017 & its certification for all new buildings since.

2. **Packaging**

Looking at all aspects of packaging really pays off: in 2018, bol.com already saved a pile of cardboard the size of 23 Eiffel Towers by using thinner cardboard for its boxes. A promising start! And in 2020, bol.com used 12% less packaging material compared to 2019. If an item is sufficiently well packed by the vendor, bol.com is no longer using any own packaging. When packaging is needed, 75% of the parcels are sent without stuffing inside the bol.com box.

Additionally, optimising the packaging machines helps to reduce air packaging & unnecessary use of materials. Recently, bol.com launched the first machine worldwide that can custom pack multiple items in one box. Together with the machines for single items, bol.com will use 25 packing machines next year. All cardboard waste at bol.com is recycled and before 2025, all cardboard used by bol.com will be CO2-neutral or recycled.

3. Delivery

Bol.com is working closely with its logistic partners to ensure a climate neutral delivery of all parcels. 24% of parcels for residential areas are already delivered by bike or on foot. Classic vehicles are gradually being replaced by a green fleet on bio-gas or electricity. In parallel, a dense network of pick-up points is rolled out, collaborating with supermarkets such as Albert Heijn and Delhaize. The objective is to offer a wide range of delivery options and avoid customers making a single-purpose trip by car just for the parcel purchased on bol.com. In addition, bol.com contributes to the development of the e-calculator Bewust Bezorgd in the Netherlands, that will allow customers and clients to calculate the CO_2 emission of their delivery option.

4. Returns

The first objective is of course to keep the number of returns as low as possible through extensive product information, descriptions and customer reviews. That alone proves to be very effective: at bol.com, only a few percent of all purchased items is sent back. Looking at the returned items, 70% is new, undamaged and unopened – those go straight back into the assortment, as would be the case in physical stores. Opened packages are checked & re-offered in Return-Deals with a discount. Returned items that do not fit the Return-Deal conditions are given a second life through resellers or associations. Damaged items are sent back to the vendor to be treated under the established warranty conditions.
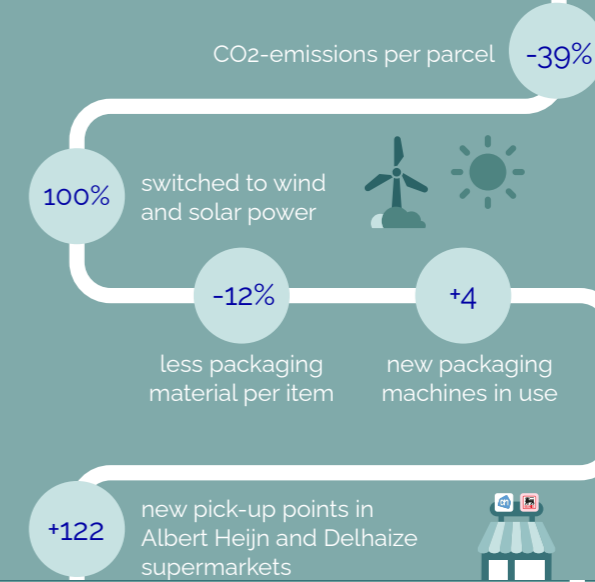
5. Product range

By 2022, **a sustainable alternative will be offered for each and every item** sold on bol.com. A major effort is being done in making these alternatives easily recognisable and findable, and in properly explaining to customers why an item is more sustainable. Currently, bol.com offers a sustainable alternative in 50 percent of its shelves. The target is 100 per cent by 2022. For example, the sustainable assortment now includes 1.6 million different second-hand products, more than 6,000 different products made from recycled materials and more than 12,000 different organic products. Since the beginning of 2020, bol.com no longer sells disposable plastic such as plastic cutlery, cups, straws and cotton buds on its platform.

AMBITION: BY 2025, SHOPPING AT BOL.COM WILL BE CLIMATE NEUTRAL

What did bol.com achieve in 2020?

Logistics & environment

- CO_2-emissions per parcel **-39%**
- **100%** switched to wind and solar power
- **-12%** less packaging material per item
- **+4** new packaging machines in use
- **+122** new pick-up points in Albert Heijn and Delhaize supermarkets

Shop & product range

- **34%** shop shelves with sustainable alternative
- stopped selling disposable plastic
- introduced a single distinctive sustainability label

People & society

- **1 mln** digital books donated to children via Thuisblijvertjes & Voorleesexpres
- donated baby monitors to hospitals in Belgium & The Netherlands **3.200**
- **>30.000** Christmas presents for children in poverty in Belgium & The Netherlands

Sustainable packaging.

Closing the loop.

RAJA

Today's waste is tomorrow's resources.

RAJA Belgium is known as one of Europe's largest suppliers of packaging materials, as well as warehouse equipment and office supplies. They believe in the intelligent use of raw material in a circular society and are therefore making the switch to recycled alternatives. A decision that is having a great impact, as sustainable packaging alternatives gradually become the main product. Wondering how that works?
Run through the infographic and pick up tips and solutions to implement this philosophy in your way of working.

Sustainable packaging

Circular ∞	Smart ✌
Choose the box	

Recycled alternatives

- Label-certified paper & cardboard. Click here for a practical overview https://www.rajapack.be/blog-be/ecologisch-label-verpakking/

- Mailing envelopes or bags made of recycled plastic. By pushing the air out of the envelope, you also guarantee the highest degree of filling.

- Grass paper boxes: up to 50% made from grass. Its production needs much less energy, water and chemicals. More on grass paper: https://www.rajapack.be/blog-be/graspapier/

- Mono-material packages: packaging completely made of the same material makes it easier to sort and recycle.

Less is more

- A variable height box is adjustable up to 12 heights: adjust it to your product and avoid shipping excessive air.

- With boxes tailored to your product such as bottle boxes, book boxes, shipping bags, … You'll need less material and optimize logistics.

- Pick return-proof boxes with 2 adhesive strips. With the first you close the box. The second can be used by your customer if he wants to return the parcel.

- Go for strong/stylish materials. You'll avoid extra packaging from your logistics partner.

Sustainable packaging

Circular ∞	Smart ✌
Fill the box	

Green fillings

- Stuffing and protective materials such as bubble wrap made completely or partially from recycled plastic or even paper.

- Vegetable filling chips made from starch. On contact with water, they break down completely and leave no trace.

Do it yourself

- Paper packaging machines produce paper cushions at a high rate, made from renewable raw materials and fully recyclable. You can rent several types, depending on your needs. Here's a practical overview: https://www.rajapack.be/blog-be/voordelen-opvulpapier/

- With a cardboard perforator, you can turn old cardboard into filling material. https://www.rajapack.be/blog-be/kartonperforator/

Close the box	

Recycled and recyclable

- Paper tapes made from natural materials can be sorted and recycled together as a mono-material.

- Gummed adhesive tape has a paper base and vegetal adhesive is made with potato starch. Both can be sorted and recycled together with the cardboard box.

- Recycled stretch film for wrapping your pallets or truck loads.

Easy & personal

- Pre-stretched stretch film does not shrink when wrapping your stacked pallets. You'll use up to 50% less stretch film and work up to 20% faster.

- Paper tape can be printed with your logo or a personal message. Inform your customers about your ecological approach or create a unique unboxing experience.

"

Gidi Pluym, CEO RAJA Belgium

At RAJA Belgium, we want to build, together with our customers, a sustainable economy based on circularity. We strive to use our communication channels to highlight the most sustainable innovations focusing on 5 basic principles: reduce, re-use, replace, renew & recycle. Currently, more than 1,700 of our products contain recycled materials and 40% of our offer consists of products made of paper or cardboard only. Also, we source 86% of our products in Europe to reduce CO_2 emissions due to transport.

Check our website www.rajapack.be/milieubewust and get inspired on how to implement those principles in your own business.

Sustainable delivery.

BD LOGISTICS citydepot
BY BD LOGISTICS

Sustainable delivery

Mobility, safety and environment are high on everyone's agenda. Cities are introducing more and more measures to reduce harmful emissions and the number of logistical movements in their city centres. Just think of the low emission zones and circulation plans: these measures do not make delivery in urban centres any easier. Yet sustainable solutions do exist.

CityDepot as part of BD Logistics for example, is the first in Belgium to offer a total solution for sustainable distribution to the city and back. Sustainability is approached in a wholistic way on an ecological, economic and social level. Time to take a closer look and see how they make it all work.

Optimizing the last and the first mile

CityDepot works with cross-dock warehouses at the borders of city centres in Antwerp, Brussels, Charleroi, Ghent, Hasselt, Leuven, Liège and Mechelen. From small parcels to large oversized packages, from flowers and temperature sensitive goods to pallets or furniture, CityDepot determines every delivery route and the most suitable vehicle based on 4 key data:

1. The delivery address,
2. The type of goods,
3. The delivery time,
4. The type of activity run at the delivery point.

Their platform makes maximum use of each route, picking up goods at the time of delivery and collecting returns during each delivery round while combining B2C and B2B flows

in the same route. They'll drive full into and full out of the city.
They therefore invested in a modular fleet of electric delivery vans, vans running on CNG and trucks on HVO. As a result, they reduce CO_2 emissions in the city centers by 75%.

CityDepot works as an open eco system. Collaboration with smaller and sustainable local logistic partners such as Vi-Tes in Leuven or Rayon 9 in Liège is another way of insuring a quality service of proximity. CityDepot has developed a national network of cargobike couriers, with local partnerships in every CityDepot hub. And developing partnerships with public services and employment projects such as WerKans in Mechelen ensure both enhanced efficiency and job creation.

Examples to follow

Wondering how you can make it work? Here are just a few examples of parties who already use sustainable distribution.

Woosh is a startup with a mission: to recycle used nappies. Why? Because babies are cute, but nappy waste is a huge problem: dirty nappies just end up in landfill or in the incinerator. In Belgium alone, nappy waste from day-care centres causes 7.97 million tonnes of CO_2 emissions annually. Together with CityDepot and its partners in Mechelen, Woosh is looking for the most innovative and sustainable way to deliver and collect its nappies. The company is considering all possibilities, from bicycle couriers to electric vehicles. The Woosh nappies are received in the hub on the outskirts of the city and are then delivered in the most sustainable way possible to the nurseries in Mechelen.

Fruit At Work prioritises sustainable cooperation with local players for the distribution of fruit, ultimately aiming for operational excellence with zero CO_2 emissions in transport. Since 2015, they have made all deliveries in city centres by bike when possible. Where cycling is not an option, CityDepot carries out the city deliveries using electric vehicles, CNG vehicles or vehicles that meet the Euro 6 standard.

Baert delivers its school supplies, handicraft and movement items,

development and teaching materials to numerous schools, nurseries, occupational therapists, speech therapists and physiotherapists from its central depot in Ternat to CityDepots just outside the cities.

From there, they are delivered to their customers in the city centres with the modular green fleet..

For **Recupel,** BD Logistics collects all electrical and electronic equipment (EEE) in the different Recupel collection points. In the BD Logistics premises, social partner Manus sorts all EEE by category (refrigerators and freezers, large and small domestic appliances, televisions, etc.) and prepares them for collection in bulk by a waste processor. But before that, a selection for reuse is made by a Recupel-approved reuse centre. A clever example of circular economy.

Others taking the sustainable delivery path are Bloomon, Boma, Decathlon,

… what about you?

Did you know?

" **… That the parcels coming from B2B and B2C e-commerce only account for 5% of the total flow of goods in city centres?**

According to a study of the University of Antwerp in 2020, the construction industry takes up 35% (bulk deliveries, big bags, cement, floors,…) of the total flow of goods in city centres. Another 25% concerns the large cargo flows to retailers and oversized goods carried out with big trucks and lorries. Cooled deliveries to retailers, the hospitality industry and pharma on the one hand and B2B deliveries of facility services and goods such as cleaning products and office supplies on the other hand account for another 15% each. The remaining 5% stands for e-commerce and express deliveries.

Study UA: https://www.bdlogistics.be/blogs/stedelijke-logistiek-is-zo-veel-meer-dan-alleen-maar-e-commerce-pakjes-verdelen-2/

" **… That consumers attach more and more importance to sustainable delivery?**

A recent survey by BD Logistics and GfK shows that half of Belgians describe themselves as 'frequent online shoppers'. 1 in 8 of them indicates to be willing to pay extra for a sustainable delivery (€8.5 on average). Among consumers under 35 years of age, this number increases to one in six. Besides, larger goods like furniture, DIY-products and garden tools are increasingly purchased via the Internet. When consumers want to return these, they are open to a paying pick-up service at home (averaging €12).

Survey Gfk: https://www.bdlogistics.be/nieuws/1-op-8-belgische-consumenten-is-bereid-extra-te-betalen-voor-duurzame-levering/

Taking the path of circularity.

Veepee

Online sales pioneer Veepee is taking the path of circularity

With more than 7,000 partner brands, Veepee opens 10 to 15 new sales every day, for 3 to 5 days, allowing its 66 million members to save up to 70% on their favourite brands. As a pioneer and major player in the European e-commerce market, Veepee has a unique business model based on temporary online sales: fashion, design & decoration, household appliances, high-tech, lifestyle, travel & tickets... Wondering how sustainability fits into that? And is a sustainable online business still viable? We had an enlightening chat with Tobias, Country Manager Veepee Benelux .

Why is Veepee concerned with the issue of sustainability – to the extent that you participate in this white paper?

Tobias: "Veepee acknowledges the importance of protecting the environment and its business' impact on it. Our ambition is to reduce that impact as much as possible. Our first challenge is to reduce our carbon footprint by 20% and offer 100% responsible packaging by 2025. More globally, we believe that circularity will shape the future of e-commerce by supporting brands in their strategy. The prospects offered by AI and data are encouraging new forms of product design, supply chains and stock management."

What is Veepee exactly doing in terms of sustainability?

Tobias: "Veepee's business model is to "re-stage" unsold stock or items that have reached the end of their lifecycle, by giving them a second life and ensuring they are attributed a reasonable economic value while making them desirable to customers. In 2020, our facilities, data centres and warehouses were upgraded with more efficient equipment and solar panels, reducing our emissions and our overall energy and water consumption. In Belgium, 1404 solar panels installed on the roof of our warehouse provide almost 50% of the energy required to run the operations on site. We also encourage cleaner modes of transport for our employees, including cycle mileage allowance, reserved parking spaces for bikes, charging sockets for electric cars, video conferences instead of live meetings, electric shuttle busses,…

In terms of packaging, we started in 2015 with the implementation of a tailor-made plastic wrapping solution that reduces the weight and volume of textile packaging. Our packages are fully recyclable and made of 80% recycled materials. We are currently investigating various options for using fully recycled materials.

We also worked out a specific strategy for waste and returned goods: we do not destroy anything. After thorough quality control and in agreement with our partner brands, returned items are offered for sale again in the context of Good Deals, sent back to the brand or donated to local associations.

Finally, we are in the process of rolling out ambitious projects that contribute to building a more circular economy: RE-TURN and RE-CYCLE".

How do those projects work and do they really have an impact?

Tobias: "The RE-TURN project was created directly for our members. This C2C initiative enables, coordinates and secures the resale of items purchased on Veepee through a secured platform: a member who wishes to return an item bought on Veepee can resell and send it directly to another member. In 2020, more than 230k items were uploaded on this platform and almost 2 million user accounts were created. In 8 months, more than 54,000 products have been resold directly from member to member. This model allows to cut the cost and travel miles a product would cover when first returned to the brand to be resold and resent afterwards. We are quite proud of the concept, especially as RE-TURN was

awarded the Innovation Prize in 2021 at the FEVAD's Favor'i e-commerce event.

RE-CYCLE is a C-to-B initiative for a more sustainable fashion: Veepee offers its members the opportunity to take part in a new project that focuses on product circularity. Each RE-CYCLE event is organised in collaboration with one brand and lasts five days. Members use a prepaid label to send back the items they no longer use. In return, they receive a voucher for that same brand. Returned items are sorted, repaired, upcycled and

resold by the brand or donated to associations. Since the very first RE-CYCLE event that was organised with the brand Aigle, many more brands (such as Fago, Monoprix, Giesswein...) have joined the adventure.
The enthusiasm of our members for those sustainable projects is illustrated by the success of these initiatives. I believe we can really make a difference and work towards a more sustainable, circular economy".

RE-CYCLE focuses on fashion... How do fashion brands look at that kind of initiatives and sustainability in general?

Tobias: "With Re-cycle, we take up the challenges of our partner brands in the fashion sector whose quality products are designed to last and be passed on, and whose customers aspire to more sustainable consumption. Our partner brands are increasingly attentive to environmental issues and we are in constant discussion with them to define effective, meaningful and sustainable collaborations.

Sandrine Conseiller, CEO Aigle :"Aigle developed its second-hand site and launched the Re-cycle operation with Veepee to raise awareness of the circular economy to as many people as possible. This doubly virtuous partnership allows us to increase the number of products collected for the circular economy and expand our client base to promote a more committed fashion. I am very happy that Veepee has put its logistics power and expertise behind such an important operation."

When looking at Veepee's journey for change into a more sustainable society, you've come a long way but still have big ambitions. How do you tackle the challenge of communication?

Tobias: "We are convinced that a responsible approach can only be realised through strong commitments, concrete, daily and long-term actions, and supported by tangible results. We must pursue these ambitions over the long term.

We named our CSR policy, Veepee Colibri, which echoes the Indian fable of Colibri often told by Pierre Rabhi, where each person is responsible for his or her part, however small it may be".

What are the very next steps for Veepee in terms of sustainability?

Tobias: "We are preparing to consolidate the RE-TURN and RE-CYCLE projects into international

models and roll out both services in the Benelux in 2022".

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This white paper is an initiative of SafeShops.be and aims to stimulate, inspire and offer guidance to webshops in their further transition towards sustainable e-commerce.

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