

7



## Action 7

# Tweak online shopping

*This Action is one of eight in the report, “[Together We Can: 8 Habit changes for below 2°C](#)”, where all references and the disclaimer can be found. We recommend you read the full report to see how you can make a bigger impact.*

SAY NO TO CARS  
FLY LESS  
WATCH ELECTRICITY BILLS  
CHANGE ONLINE HABITS  
RETHINK DIETS  
CUT FOOD WASTE  
**TWEAK ONLINE SHOPPING**  
SLOW DOWN FAST FASHION

## Action 7: Tweak online shopping

### Why we chose this...

- Online shopping has a significant carbon footprint – online retailing giant ASOS estimated that its average parcel took 3.8 kg of carbon dioxide equivalent (kgCO<sub>2</sub>e) to deliver – about the same as driving a passenger car for 15 km or charging 485 smartphones.<sup>104,174</sup>

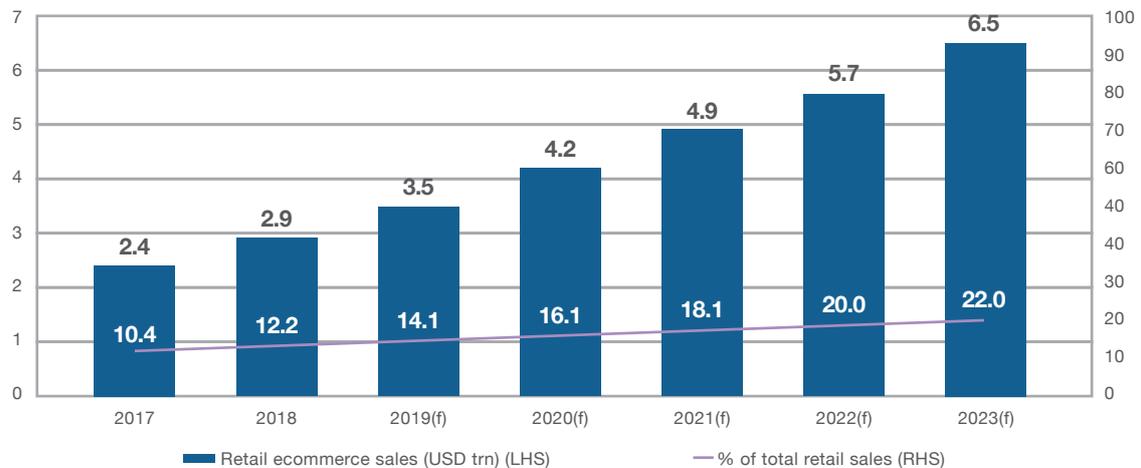
 **CWR** SENDING A PARCEL OF CLOTHES TO AUSTRALIA MEANS...



Source: CWR, ASOS 2017/8 GHG Report, USEPA greenhouse gas equivalencies calculator  
 \* Refers to ASOS clothing parcel  
 © CWR, 2022 all rights reserved

- What's worse, is that the carbon footprint of an online package doubles every time it is returned, and return rates have spiked 95% over the past five years.<sup>175</sup> At brick-and-mortar shops, return rates are only 8% to 10%. That compares with 20% for e-commerce purchases and up to 30% for holiday purchases.<sup>176, 177, 178</sup> In the US alone, returns generate 15 million tonnes of carbon emissions a year.<sup>179</sup>
- We may not realise it but next-day shipping also increase emissions. Deliveries are usually consolidated to ensure maximum deliveries with the fewest journeys. But express deliveries – the next day, for example – make this difficult as more trips mean more emissions. According to the *Australian Financial Review*, up to 55% of carbon emissions could be saved if shoppers chose standard delivery instead of express for online orders.<sup>180</sup>
- Online shopping is already popular – even more so with COVID-19 – and is set to grow even further. As the chart below shows, retail e-commerce sales are projected to more than double from USD 2.9 trillion in 2018 to USD 6.5 trillion by 2023.

 **CWR** GLOBAL ECOMMERCE GROWTH 2017-2023(F)



Source: CWR, eMarketer, May 2019

- And then there is the packaging. Packaging used by the e-commerce sector in China alone is set to soar from 9.4 million tonnes in 2018 to an estimated 41.3 million tonnes in 2025.<sup>181</sup> Cardboard, styrofoam and bubble wrap are highly polluting, with paper and packaging being one of the dirtiest industries in China.<sup>182</sup>

## New online shopping habits

We have selected two online shopping habits that people can change to have a big climate impact. We believe they can be achieved, and there is sufficient existing research showing these habits as key drivers behind online shopping emissions.

### 1. Cut one online shopping return a month for a year

Given that each return essentially doubles the transport-related emissions of a package, the climate impact of this trend is huge. If we take the 2017/8 ASOS package as an average (which required 3.8 kgCO<sub>2</sub>e) to deliver, each person cutting one return a month for a year can save 45.6 kgCO<sub>2</sub>e. This is as much GHG emissions as driving a petrol car across the English Channel and back twice.

 **CWR** GHG SAVINGS FROM ONE PERSON CUTTING ONE RETURN A MONTH FOR A YEAR



Source: CWR, ASOS 2017/8 GHG Report, USEPA greenhouse gas equivalencies calculator  
 \* Refers to average ASOS clothing parcel  
 © CWR, 2022 all rights reserved

### 2. Choose standard instead of express delivery twice a month for a year

Do you really need those new headphones tomorrow? It's understandable that everybody wants their new purchase as soon as possible but that comes at a steep carbon cost. Using the Australian Financial Review estimates as a base and assuming a 2017/8 ASOS package to be a standard delivery, we estimate that one person choosing standard delivery instead of express twice a month for a year can save 50 kgCO<sub>2</sub>e. This is as much GHG emissions as driving from Nha Trang to Dalat.

 **CWR** GHG SAVINGS FROM ONE PERSON USING STANDARD INSTEAD OF EXPRESS DELIVERY

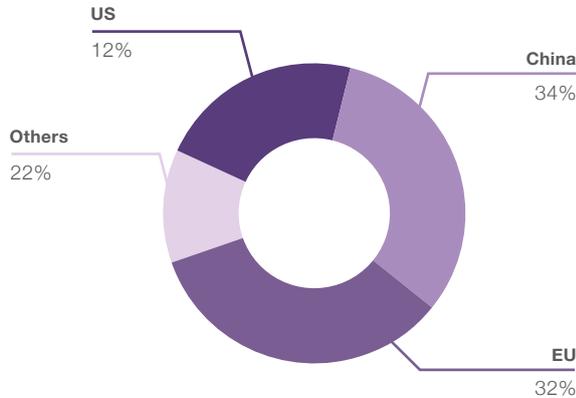


Source: CWR, Australian Financial Review article "The hidden cost of 'free' online shopping returns" by Hannah Wootton, USEPA greenhouse gas equivalencies calculator  
 \* Refers to average ASOS clothing parcel  
 \*\* assumes average ASOS clothing parcel's carbon emissions to be from standard delivery  
 © CWR, 2022 all rights reserved

With these simple actions, a single person can save up to 96 kgCO<sub>2</sub>e a year. Beyond these actions, there are many other ways to cut online shopping emissions (see '6 ways to do more' below).

## Together we can... cut up to 61 Mt of GHG emissions...

### Who are the biggest online shoppers? (2018)



In 2018, the world had an estimated 1.8 billion active online shoppers. As the chart on the left shows, Chinese, Europeans and Americans accounted for almost 80% with 34% of online shoppers in China, 32% in the EU and 12% in the US.<sup>183, 184, 185, 186</sup>

We estimate that willing individuals from the US, EU and China who adopt the two new shopping habits outlined above could save 61 MtCO<sub>2</sub>e which is comparable to the GHG emissions of Singapore in 2015.<sup>15</sup>

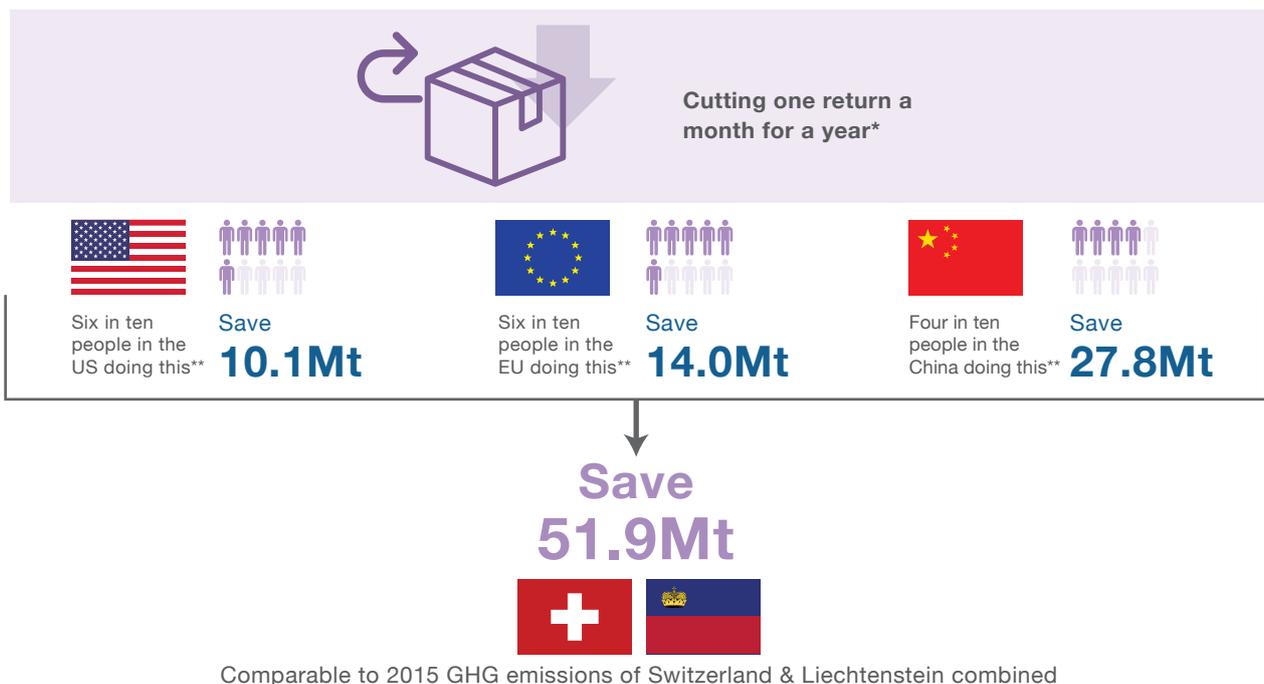
Source: CWR, CNIIC, Statista Digital Market Outlook 2019, Oberlo Statistics

### 1. Cut one online shopping return a month for a year

An estimated 41% of shoppers in the Top Three online shopping countries are 'serial returners' who buy variations of a product with the intent of returning it.<sup>187</sup> We estimate that roughly six in ten people from the US and the EU and four in ten from China would be willing to reduce the number of returns by one every month for a year. The estimated 221 million Americans who do this could save 10 MtCO<sub>2</sub>e while savings by 307 million Europeans would be 14 MtCO<sub>2</sub>e and savings by 610 million Chinese would be almost 28 MtCO<sub>2</sub>e. Together, these willing Americans, Europeans and Chinese could save almost 52 MtCO<sub>2</sub>e, equivalent to the combined GHG emissions of Switzerland and Liechtenstein 2015.<sup>15</sup>

Note: no specific data on willing individuals was available so we used the total number of online shoppers per country.

**CWR** ONLINE SHOPPERS FROM THE US, EU & CHINA CAN SAVE THE GHG EMISSIONS OF SWITZERLAND AND LIECHTENSTEIN COMBINED



Source: CWR, ASOS 2017/8 GHG Report, Return Magic Survey (2017), CNIIC, Statista Digital Market Outlook 2019, Oberlo Statistics, Worldometer population statistics, EDGAR emissions database

\*Refers to ASOS clothing parcel; assumes 3.8kgCO<sub>2</sub> per delivery;

\*\*Online shopper numbers were calculated based on statistics and population data = 67.4% of US are online shoppers, 60% for the EU and 42.7% of China; 100% of online shoppers was used

© CWR, 2022 all rights reserved

### Young people have a big role to play

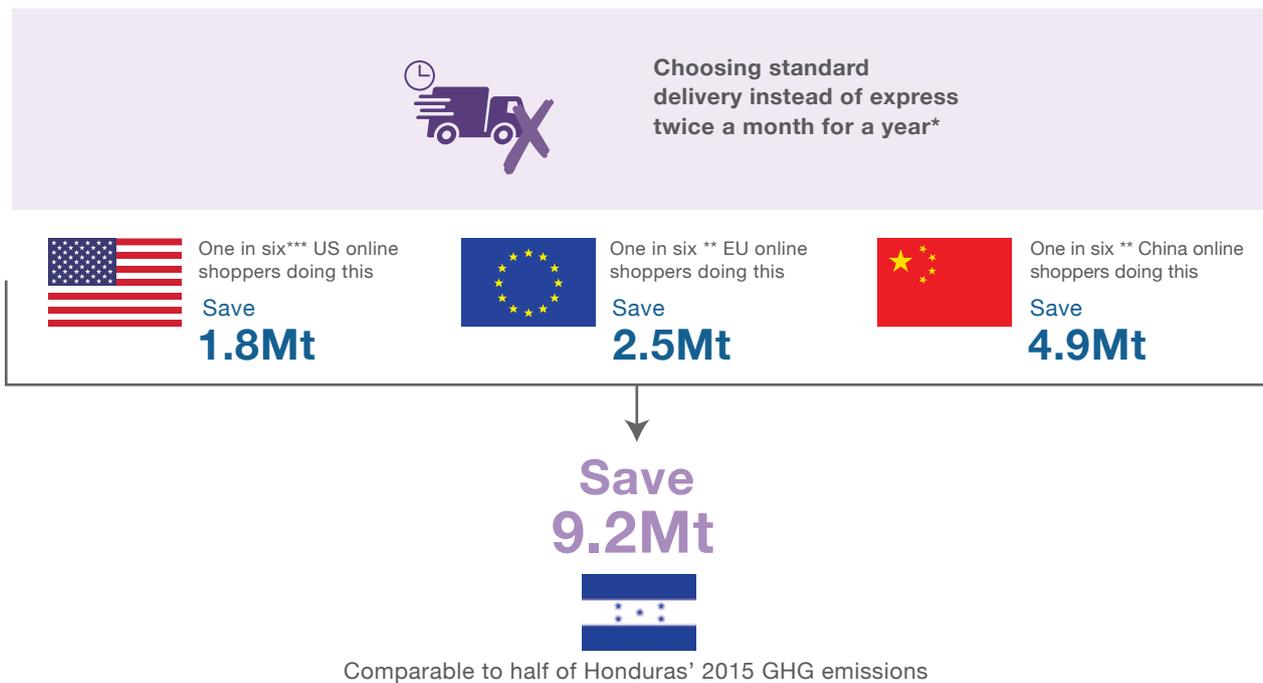
Millennials are big drivers of e-commerce. In the US, millennial spending accounted for an estimated 30% of retail sales in 2020. Globally, millennials make more than 54% of their purchases online. Given this and their reputation for being more environmentally conscious than older generations, millennials have a big part to play in greening online shopping. According to a study of 4,000 online shoppers from the US and the UK, over a third of those aged 18 to 34 confessed to making purchases with the intention of returning some items.

Source: Invesp "Millennial Online Shopping Habits – Statistics and Trends" by Lisa Ross, Forbes "Think Twice Before Returning That Online Purchase: Retailers Are Ready To Ban You From Shopping Again" by Adria Cheng, Oct 2018

## 2. Choose standard instead of express delivery twice a month for a year

A survey in 2017 found that 16% of online shoppers would be happy to wait six to ten days to receive orders.<sup>188</sup> Assuming one in six to be the share of willing individuals, we estimated that 52 million Americans could save almost 2 MtCO<sub>2</sub>e, that 82 million Europeans could save more than 2 MtCO<sub>2</sub>e and that 228 million Chinese could save almost 5 MtCO<sub>2</sub>e. Together, these people from the US, the EU and China could save more than 9 MtCO<sub>2</sub>e, equivalent to half the GHG emissions of Honduras in 2015.<sup>15</sup>

 **CWR** ONLINE SHOPPERS FROM THE US, EU & CHINA CAN SAVE HALF THE GHG OF HONDURAS BY SELECTING STANDARD INSTEAD OF EXPRESS DELIVERY



Source: CWR, ASOS 2017/8 GHG Report, Return Magic Survey (2017), CNIIC, Statista Digital Market Outlook 2019, Oberlo Statistics, Worldometer population statistics, EDGAR emissions database

\*Refers to ASOS clothing parcel; assumes 3.8kgCO<sub>2</sub> per delivery;

\*\*Online shopper numbers were calculated based on statistics and population data = 67.4% of US are online shoppers, 60% for the EU and 42.7% of China; 100% of online shoppers was used

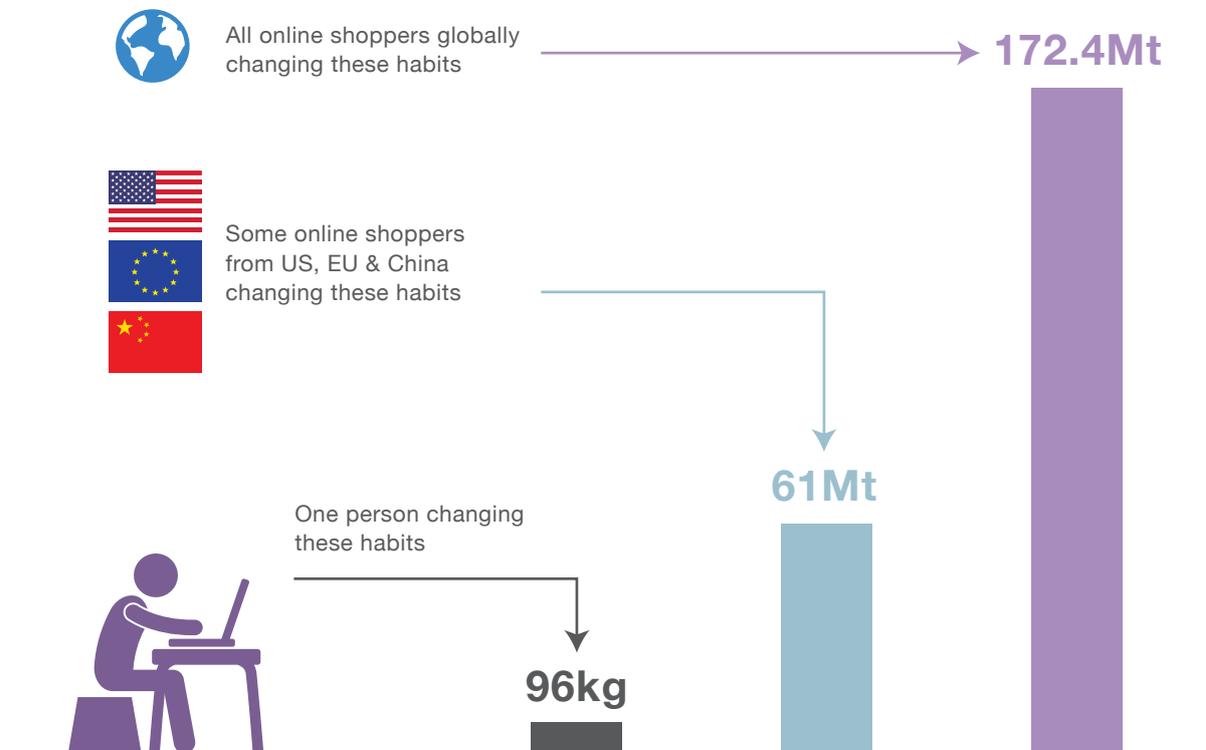
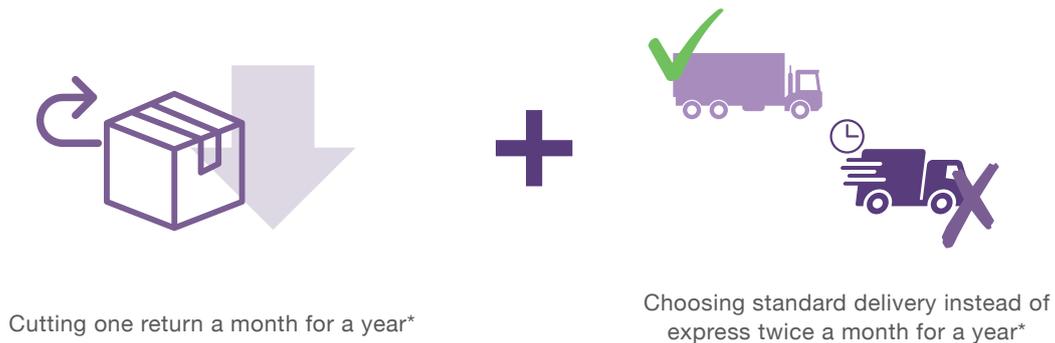
© CWR, 2022 all rights reserved

## Ramping up to cut emissions by as much as 172 million tonnes

Clearly changing some of our shopping habits can make a significant climate impact and it can be even bigger if all online shoppers followed suit.

If all of the world's 1.8 billion online shoppers reduced their returns by one every month for a year and used standard instead of express delivery twice a month for a year, the planet could save 172 MtCO<sub>2</sub>e, more than the GHG emissions of Qatar in 2015.<sup>15</sup>

 **CWR** RAMPING UP – UP TO 172.4MT SAVED IF ALL ONLINE SHOPPERS CUT RETURNS & USE STANDARD DELIVERY



Source: CWR, ASOS 2017/8 GHG Report, CNIIC, Statista Digital Market Outlook 2019, Oberlo Statistics. Internet Retailer and Bizrate Insights survey, Australian Financial Review article "The hidden cost of 'free' online shopping returns" by Hannah Wootton, Dec 2019, Worldometer population statistics, Return Magic Survey (2017)  
© CWR, 2022 all rights reserved

## 6 ways you can do more...

### 1. Do you really need it?

From athleisure clothing to smartphones and spinning machines to pet accessories, people are buying more and more online. In this section, we have focused on how to minimise online shopping carbon emissions but really and simply the best and easiest way to reduce emissions is not to buy anything, unless you need it.

### 2. Is it available locally?

Items delivered from the other side of the world may be available locally, either new or second-hand. The less distance packages travel, the lower the emissions.

#### Re-use or recycle the packaging

Excess packaging is a big challenge for e-commerce. In the US alone, returned items generate almost 2.3 billion kg of landfill waste every year, highlighting the need to reuse or recycle cardboard boxes and other packaging materials. Food delivery companies Foodpanda and Deliveroo have already phased out plastic bags and let people opt out of plastic cutlery and boxes when placing orders. Amazon's Frustration-Free Packaging Program aims to produce less waste and put an end to 'wrap rage'. China e-commerce giant Taobao offers biodegradable packaging to vendors in some locations.

Source: Amazon, foodpanda &, Deliveroo websites, www.ce.cn Dec 6 “菜鸟联合淘宝开设绿色专区快”

### 3. Go out and shop instead of shopping online

In the US, the average traditional shopper who goes to brick-and-mortar stores (without extensive searching) has a carbon footprint of around 1.6 kgCO<sub>2</sub>e for each purchase – lower than the 1.8 kgCO<sub>2</sub>e of the average online shopper demanding quick returns.<sup>189</sup> Physically going to shops saves carbon, especially when walking or taking public transport (see 'Action 1').

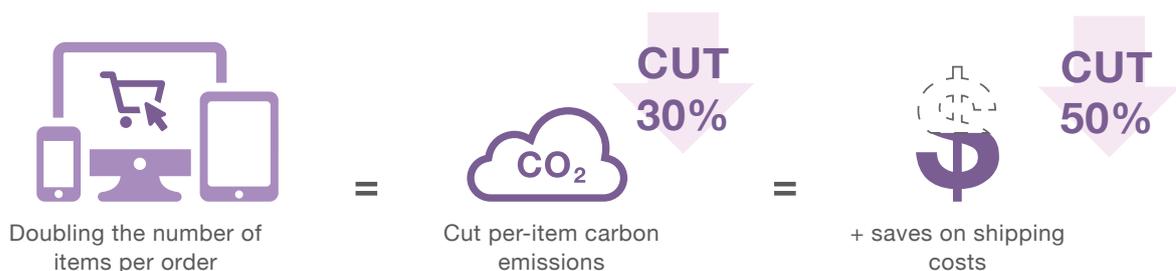
### 4. Browse for shorter periods and use WiFi

Every byte of data has a carbon and water footprint. Browsing at online stores for 15 minutes instead of two hours for a single clothing item (no returns, normal shipping) reduces the purchase's emissions by 50%.<sup>190</sup> Using WiFi instead of mobile networks can also make a big difference (see 'Action 4').

### 5. Consolidate shopping

Consolidating several purchases into one delivery instead of buying different goods at different times helps cut transport-related emissions. According to Bain & Co., doubling the average number of items purchased in an e-commerce transaction and eliminating split shipments can reduce average per-item emissions by 30% and cut shipping costs by more than 50%.<sup>191</sup>

 **CWR** CUT GHG EMISSIONS & COSTS BY BUNDLING YOUR PURCHASES INTO ONE ORDER



Source: CWR, Bain & Co brief "Retailers' Challenge: How to Cut Carbon Emissions as E-Commerce Soars" by Aaron Cheris, Casey Taylor, Jennifer Hayes and Jenny Davis-Peccoud, Apr 2017  
© CWR, 2022 all rights reserved

## 6. Collect it yourself (but don't drive)

The most carbon intensive stage of online shopping is the last stage from the local warehouse or shop to the doorstep.<sup>192</sup> This is made worse as up to 60% of all deliveries are unsuccessful on the first attempt so second or third attempts are needed.<sup>193</sup> Amazon is trying to tackle this with drones (see box below) but collecting items is also an option. In the UK for instance, department store John Lewis picked up 70% of their click-and-collect orders at a Waitrose market in 2016.<sup>193</sup> The challenge is that going to pickup locations can sometimes create larger carbon footprints than home delivery or simply walking to a brick-and-mortar shop (see 'Action 1').

### Drones to the rescue?

Online retailers are making efforts to reduce 'last-mile' emissions and Amazon may have found a solution – drones. It made the first drone delivery in 2016, although deliveries are limited to short distances in the US (30 minutes or less). Could this be scaled up? And what are the emissions associated with drones?

*Source: Amazon Prime Air*

