**What's the size of your next-day delivery's carbon footprint?**

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***Analysis: as online shopping grows, we need to remember that it takes a tree over a month to absorb the carbon emissions of an express delivery.***

We all get excited about the unmissable deal we just got in our inbox for a pair of trainers from our favourite brand and we want it delivered to our doorstep within the next couple of hours. But we get annoyed by the premium the retailer charged us for this express delivery, often with ‘no guaranteed’ delivery time.

But the real reason we should be getting annoyed is the size of carbon footprint we created simply by opting for next-day delivery. Would you still want next-day delivery if you knew that it would take a tree over a month to absorb the carbon emissions for this express delivery?

During the [Covid-19 pandemic](http://rte.ie/brainstorm/coronavirus), lockdowns around the world brought disruptions of unprecedented magnitude to retail supply chains. Adapting to this new normal, many high street retailers moved their business online. As consumers, we now use online shopping for everything from our daily groceries to getting the bits to set up our home offices.

About [72% of internet users in the EU shopped online](https://ec.europa.eu/eurostat/statistics-explained/index.php/E-commerce_statistics_for_individuals) and this figure is even higher in the UK with [91% of internet users](https://www.statista.com/statistics/275968/online-purchasing-penetration-in-great-britain/) being e-shoppers. A [survey](https://ec.europa.eu/eurostat/statistics-explained/index.php/E-commerce_statistics_for_individuals) suggests that most e-shoppers complain about "slower delivery than the indicated time at the purchase".

In Ireland, online sales grew substantially during the first lockdown between April and May 2020 and peaked before Christmas. [According to CSO retail data](https://www.cso.ie/en/releasesandpublications/er/rsi/retailsalesindexjanuary2021/)), clothing and footwear are the most popular types of products purchased online, followed by electrical goods and department store sales. The increased online sales put enormous pressure on courriers. An Post [reported](https://www.anpost.com/Media-Centre/News/Record-An-Post-Parcel-Volumes-exceeding-3m-Per-Wee) a record-high parcel volume with 3.3 million parcels per week in December 2020, a 230% year on year increase in volume compared to Christmas 2019.

Logistics service becomes a natural extension of the shopping experience in the e-commerce era. Online shoppers are not only concerned about the product, but also how it gets delivered in the last mile - the last step of the product’s journey from the local depot to our doorstep.

The increase in online shopping with unprecedented parcel volume has reshaped urban distribution patterns. Shipments become smaller and fragmented, often requiring direct delivery trips to residential destinations.

The World Economic Forum [suggests](https://www.weforum.org/agenda/2020/01/carbon-emissions-online-shopping-solutions/) that same-day and instant deliveries are the fastest-growing services in the last-mile delivery. In Europe, same-day delivery accounts for about 5% of total deliveries with Amazon's in-house logistics operation delivering to 72% of customers within 24 hours.

But delivery companies face many time and logistical constaints when it comes to last-mile delivery. Limited parking space, tight delivery time windows and expensive and limited infrastructure make freight operation in urban areas less efficient and profitable. Residents in bustling urban areas have to bear the negative impact that is caused by urban freight operations such as poor air quality, noise, congestion and disrupted safety and walkability for pedestrians.

The logistics industry and public authorities have put forward many suggestions to decarbonise freight transport in urban areas. But, another key actor in this value chain is you and me, the consumers who shop online and enjoy the ease of delivery.

A recent European [study](https://pubs.acs.org/doi/abs/10.1021/acs.est.9b06252) compared individual consumer’s carbon footprint for online shopping with traditional in-store shopping. The results show that the carbon emissions we create from buying a garment online can be four times higher than buying it in a physical store, with 0.81 kg vs 0.24 kg in terms of carbon dioxide equivalent emissions emited respectively. To put this in perspective, it would take 30 days for one common broadleaf tree to absord the carbon emissions we created buying this garment online (0.81kg), considering it is [estimated](https://granthaminstitute.com/2015/09/02/how-much-co2-can-trees-take-up) that it takes 100 years for such a tree to act as a carbon sink and absord 1 tonne of carbon emissions from the atomosphere.

Yes, the calculation of carbon footprints for our online shopping is [an extremely complex process](https://pubs.acs.org/doi/abs/10.1021/acs.est.9b06252), from upstream transport, energy use in warehousing storage, to last-mile delivery, and packaging and waste generated at the end of life-cycle. Product’s type, quantity, size and weight also need to be factored in.

But as consumers, and residents in our community, we can still act responsibly and be mindful of our potential impact to climate change. Here's a list of small actions we can take to reduce our carbon footprint when it comes to online shopping:

**(1) Walk the last 50 yards**

Arrange online parcel delivery to your local post office or direct it to a parcel locker or local store.

**(2) Have your parcels delivered in one batch**

If you purchase multiple items from the same store, choose to ship them together rather than send each item as soon as it is ready. Several retailers offer this option.

**(3) Say no to instant gratification**

Avoid ‘same-day or ‘next-day express delivery, as it might disrupt routine operation efficiency and result in empty runnings and poor load efficiency of delivery vans.

**(4) Use carbon calculators**

[Estimate](https://www.epa.ie/climate/calculators/) your personal or household carbon footprint for various daily activities.

**(5) Plant a tree**

The tree helps to [offset](https://www.carbonfootprint.com/individuals.html)) your carbon footprint and environmental impact by "breathing" in CO2 emissions as it grows.

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