

Guilt-free online shopping: can parcel deliveries ever be truly carbon-neutral?

Written by David M. Herold, Sustainable Logistics Researcher, Griffith University

Whether you're a fashion junkie or a reluctant shopper, there is no denying that buying online is hugely convenient – a couple of clicks and your order is on its way to your door. But we are all aware that these goods need to be transported, and that a delivery involving planes, ships and trucks will produce greenhouse gases and therefore add to climate change.

Wouldn't it be nice to know that your online shopping does not contribute to global warming? Are carbon-neutral deliveries possible? What are logistics companies doing to reduce their environmental impact?

With online shopping [hitting new heights](#), transport companies have [expanded their airfreight capacity](#) and overall freight volumes [grew by 3.8% in 2016](#).

More packages for customers might be good for the companies' bottom line, but it is rather bad for the environment. In response, most major logistics companies have implemented carbon-reduction strategies. These companies not only regard carbon reduction as a way to gain their customers' trust by appealing to their environmental conscience, but also as an opportunity to save costs by improving energy efficiency - which also cuts carbon emissions.

Current energy efficiency initiatives include an [increase in the use of electric vehicles and bikes](#) to cover the "last mile" – the final leg of the parcel's journey from depot to doorstep. Another strategy is the introduction of [better logistics software](#) that helps companies to plan routes and track drivers' movement, delivering more goods in fewer vehicles.

Companies are also increasingly looking for "[intermodal solutions](#)" - instead of using only trucks for delivery, they might incorporate other transport modes such as rail or ships at various points in the journey, depending on what will use the least fuel energy.

Going zero-carbon?

Guilt-free online shopping: can parcel deliveries ever be truly carbon-neutral?

Written by David M. Herold, Sustainable Logistics Researcher, Griffith University

These initiatives are a step in the right direction, but some companies say they plan to get rid of carbon emissions altogether.

One of the biggest challenges is the reduction of emissions from planes. Air freight – and aviation overall – is a [massive contributor](#) to total world greenhouse emissions.

Some transport companies are [working with entrepreneurs](#) to replace jet fuel with non-fossil alternatives, such as [biofuels from algae](#). Algae grows naturally all over the world, can be rapidly cultured, and can be grown on land that is not suitable for conventional farming, thus largely avoiding competition with agriculture.

Algae is currently seen as a fuel for the future, rather than a viable option today. Producing algal biofuel on the necessary scale for commercial aviation is currently too expensive, but studies suggest that widespread replacement of kerosene with biofuels could [ultimately reduce carbon emissions by up to 65%](#).

Droning on

Drones to deliver goods will also be the new normal in the future, and some companies, [such as UPS](#), are already running trials.

While it doesn't make much sense to have a fleet of drones operating from a warehouse in the middle of nowhere, putting them in a van and using them to cover the "last mile" is potentially very efficient. It saves the driver the trouble of parking the truck, getting out, finding the package, and carrying it to the door in person.

More improvements are also planned for trucks and electric vehicles. Although trucks make up [fewer than 5% of vehicles](#) in many industrialised countries, they [produce 25% of greenhouse emissions in the European Union](#) and [20% in Australia](#).

Guilt-free online shopping: can parcel deliveries ever be truly carbon-neutral?

Written by David M. Herold, Sustainable Logistics Researcher, Griffith University

. Through new carbon emissions standards, trucks could [slash their emissions by up to 40% by 2030](#)

.

But rather than replace old vans with newer versions of the same model, the really smart thing to do would be to go electric – particularly if those vehicles can be charged with renewable electricity. As parcel delivery vans [typically only drive around 100km per day](#), they do not suffer the “range anxiety” of long-haul trucks, potentially making electric vans a viable option.

Logistics firm DHL [last year unveiled its own electric delivery van](#), and last month announced plans to [double its production](#)

.

Make it yourself

[3D printing](#) can also bring us closer to the goal of carbon neutrality, simply because it cuts out the need for delivery altogether, in favour of manufacturing your purchases yourself, at home.

Although 3D printing still faces sustainability challenges, it can be regarded as a disruptive technology that may lead to a great shift in supply chains, as most goods will be produced and sold close to their point of consumption. [One estimate](#) forecasts that 3D printing can potentially reduce global supply chains costs by 50-90%, consequently leading to large carbon savings.

Although these steps might not be enough to offer a 100% carbon-neutral delivery, the combination of these initiatives and their roll-out in the coming years has the potential to make ordering goods online significantly greener.

The future of transport looks bright – and transport companies will play their part to give you a clear conscience when you order online. Happy shopping!

.

David M. Herold does not work for, consult, own shares in or receive funding from any company or organisation that would benefit from this article, and has disclosed no relevant affiliations

Guilt-free online shopping: can parcel deliveries ever be truly carbon-neutral?

Written by David M. Herold, Sustainable Logistics Researcher, Griffith University

beyond the academic appointment above.

Authors: David M. Herold, Sustainable Logistics Researcher, Griffith University

Read more <http://theconversation.com/guilt-free-online-shopping-can-parcel-deliveries-ever-be-truly-carbon-neutral-77629>