asos

ASOS Operational Carbon Report

2019/2020

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Foreword – Nick Beighton

It would be impossible to open this report without acknowledging the backdrop against which it was produced. The COVID-19 pandemic put significant obstacles in the path of our business and challenged our resilience in ways never before experienced.

That difficult context makes me even more proud to share the results of the hard work of our people over the past year, to further reduce the impact of our business operations and decouple our sales growth from our environmental footprint.

In our last report, released in January 2020, we looked back at a successful Carbon 2020 programme that had reduced our carbon intensity per customer order by 30% since 2015. One year on, we've taken that work even further. We've now achieved an emissions intensity reduction of 45% since 2015, driven by a 13% reduction in absolute emissions over the last reporting period (from September 2019 to September 2020).

For the first time, this year we've also reported on our emissions intensity with regards to our revenue. This metric will be increasingly important for us as our business continues to grow in the years ahead. Our report shows that we've achieved a 28% reduction in emissions per million £ revenue year-on-year.

While a very small part of these most recent reductions can be attributed to the impact of the COVID-19 pandemic (for instance our reduced returns rate and reduced business travel), much more is due to the successful implementation of a number of different projects.

First and foremost, this year's report is the first in which our Atlanta fulfilment centre, launched in 2019, has been fully operational for the entire reporting period. As well as providing our customers in North America with a faster delivery proposition, more localised fulfilment has significantly contributed to a reduction in emissions resulting from deliveries to those customers.

Other highlights from the past year, all detailed in this report, include accelerating the switchover of our sites around the world to renewable electricity; prioritising sea or road freight over air freight for product wherever possible; and further enhancing the sustainability of our packaging through the removal of unnecessary lines and increasing our use of recycled material.

Of course, as with previous years, this report focusses exclusively on the operational emissions of our business and doesn't include any detail on the emissions associated with our product supply chain, or our 2040 Net Zero commitment under the British Retail Consortium's Climate Action Roadmap.

We have some exciting plans in this area and from next year look forward to reporting on our emissions on a consolidated basis across the entire business. Ahead of then, and as referenced in our report in January last year, we will be setting ambitious, science-based targets, building on our commitment under the British Retail Consortium's Climate Action Roadmap.

I look forward to sharing more on that in the coming months.

Nick

Performance highlights

Following the successful completion of our Carbon 2020 programme in the three years to 31 August 2019, we have continued to deliver significant advancements across all areas of our global operational footprint in our latest reporting period. (Reporting periods are aligned to our financial year, which runs from September to August).

Operation performance	2018/19	2019/20	% change
Total revenue (£m)	2,734	3,264	19%
Total parcels delivered	72,826,805	80,254,355	10%
Total emissions (tCO2e)	268,239	232,503	-13%

Intensity metrics	2018/19	2019/20	% change
tCO2e/m2 (buildings only)	0.04	0.03	-31%
tCO2e/revenue (across company)	99	71	-28%
kgCO2e/parcels delivered (across company)	3.7	2.9	-21%

CO2 per £m revenue down 28% since 2018/19

45% reduction in carbon emissions per order since 2015/16

13% reduction in absolute operational emissions since 2018/19

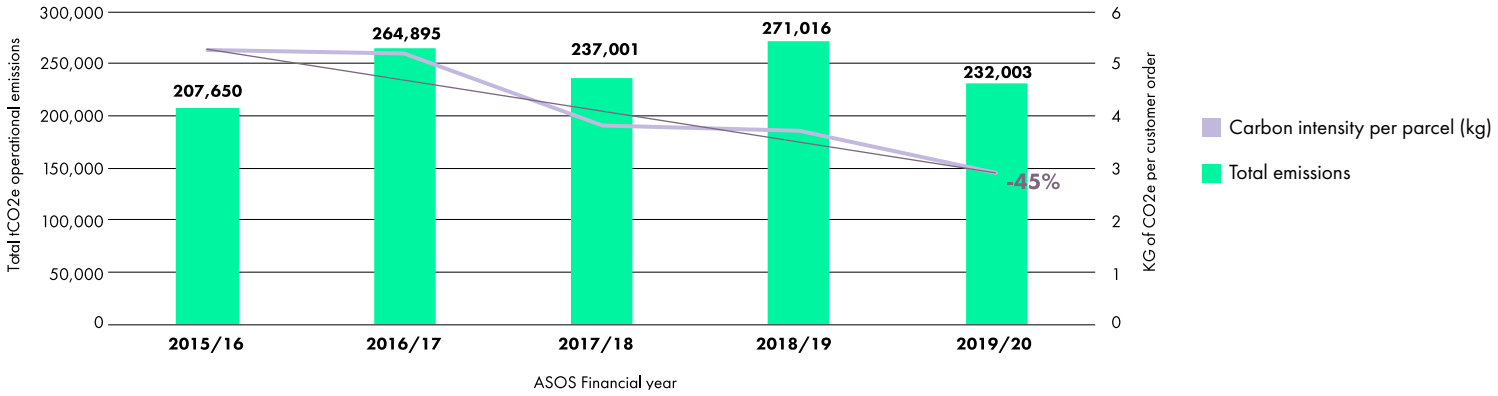
2019-2020 Operational Carbon Summary

The COVID-19 pandemic, which dominated this reporting period, has undeniably had an impact on our business and our operations. Yet we also remain acutely aware of the other crisis facing the planet, climate change, and our responsibility in reducing our impact and minimising our contribution to this crisis. During the 2020 financial year, our e-commerce infrastructure enabled us to continue servicing our customers globally, **increasing our active customer base by 15%, total orders placed by 11%, and revenue by 19%.** At the same time, we were able to **reduce our absolute operational emissions by 13% and the kilograms of carbon dioxide emissions (kg CO2e) per customer order by 21% year on year.** When looking back at 2015-16, the year our Carbon 2020 programme began, these improvements are even more notable, with a **45% reduction in kg CO2e per customer order from 2015/16 to 2019/2020.**

By targeting each of our core impact areas across transportation of goods, fulfilment, packaging and operations, we've made significant steps in our journey to decouple business growth from our environmental impact. Within transportation, we've reduced our emissions footprint by increasing our capability to fulfil goods more locally to North America from our Atlanta warehouse, combined with a focus on sea freighting products inbound from suppliers, rather than air freighting. Across our fulfilment centres and operations, we've accelerated the transition to renewable electricity globally as well as implementing a comprehensive energy management strategy with the view to maximise the efficiency of all our properties. We've also made significant progress in packaging and have eliminated over 40% of the individual types of packaging we buy, increased the recycled content of our mailing and garment bags to 80% and 90% respectively, and created robust closed-loop solutions to reintegrate as much post-consumer waste back into our packaging as possible.

While we continue to deliver against our existing targets, we're also finalising our longer-term commitments in this area, which will sit alongside the public commitments we've already made, such as the British Retail Consortium's 'Climate Action Roadmap'. We look forward to sharing more in due course.

Carbon intensity per customer order



19-20 Operational Footprint Breakdown

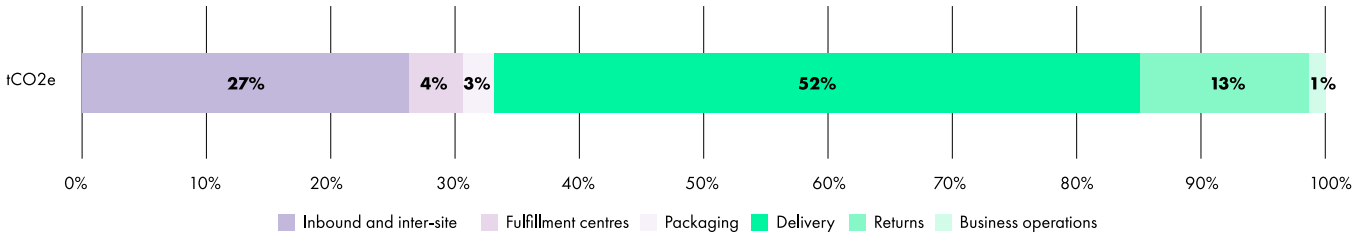
Our responsibility for our environmental impact extends throughout our value chain. This report focusses exclusively on the emissions caused by our direct operations, such as our offices and fulfilment centres, and our operational supply chain, including importing products from suppliers and deliveries to customers. It does not explore the impact of product manufacture or end-use, however we hope to begin reporting on this soon. For details on our ongoing work on product sustainability, sourcing, circular design or ethical trade, please see further reports **here.**

Our operational emissions are broken down into the six key categories listed below. These are listed in the order products move through our supply chain and onto customers: inbound and inter-site transport, then fulfilment centres, packaging, deliveries, returns, and finally, business operations. Within packaging, we include emissions associated with the full life-cycle of our own brand packaging. Within business operations, we include all emissions associated with the running of our business, which includes things like waste, business travel, and our offices and data centres.

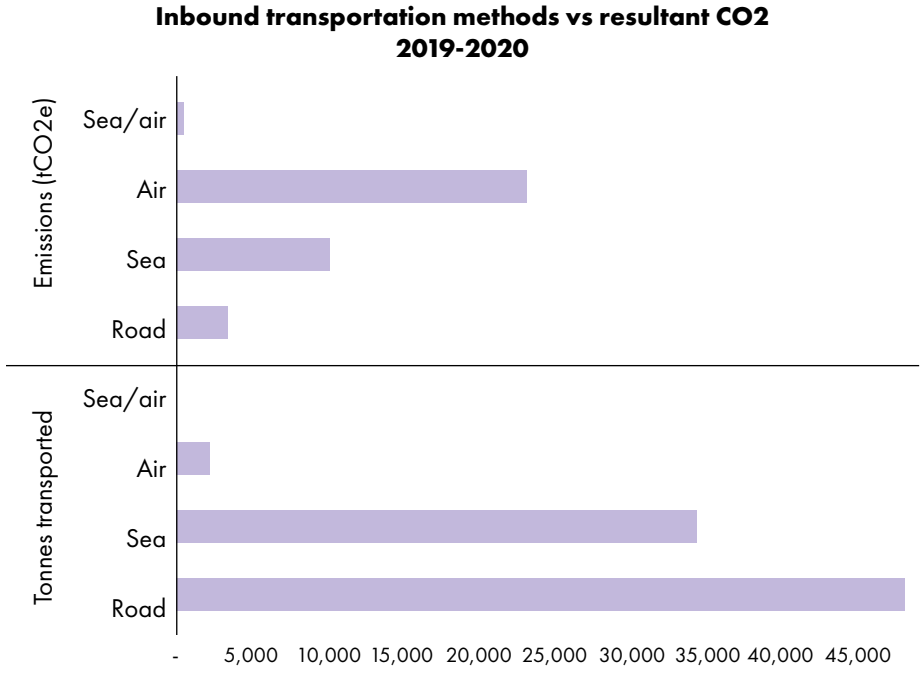
As in previous years, the transportation of goods contributes the largest share towards our operational emissions, with outbound deliveries making up 52% of the total 92% generated by transport. While deliveries do contribute to our overall footprint, our online retail model does generate efficiencies versus physical retail. For example, deliveries to customers are consolidated across a set of increasingly electrified fleets, as opposed to customers individually travelling to bricks-and-mortar stores (each of which then has embedded impacts through energy consumption and operations). We're also able to use lower-carbon freight methods to a smaller number of centralised international warehouses, rather than filling a dispersed portfolio of physical stores with stock.

We continue to work collaboratively with our couriers and freight partners around the world to optimise the routes we use to deliver parcels and evolve the technology, fuel and mechanisms that power vehicles. We remain conscious of the smaller but not insignificant impacts seen across the remainder of our operational footprint, and this report will detail the continued work underway across that full value chain. One area we are particularly aware of is the associated impacts of returns, which although intrinsic to our offering, do have associated emissions. We are working to reduce returns through our use of technology, for example by embedding sizing technology and reviews into our website so that customers can make more informed purchasing choices and therefore be less likely to need to make a return.

Proportion of total emissions by operational area



Inbound and inter-site deliveries



	Tonnes transported				Emissions (tCO2e)			
	Road	Sea	Air	Sea/air	Road	Sea	Air	Sea/air
Total 2019-2020	42,335	30,264	2,225	33	3,172	9,150	20,458	370

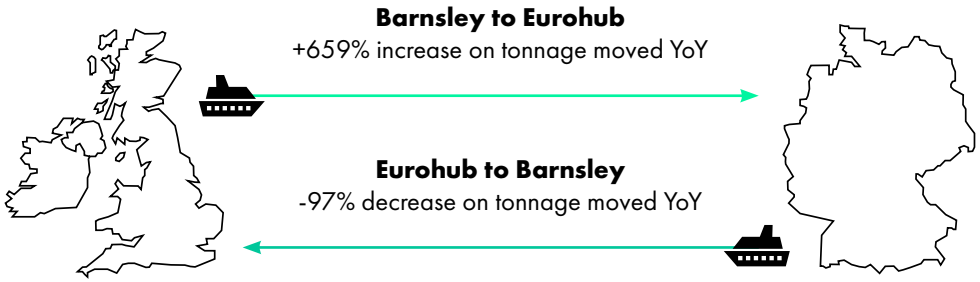
A large proportion of our transportation emissions results from the movement of goods through **our product supply chain** into our fulfilment centres around the world. This year we've seen an increase in the total tonnage of goods transported. This has largely been driven by the higher average weights of our highest performing product categories over the lockdown period: loungewear, sneakers and Face & Body.

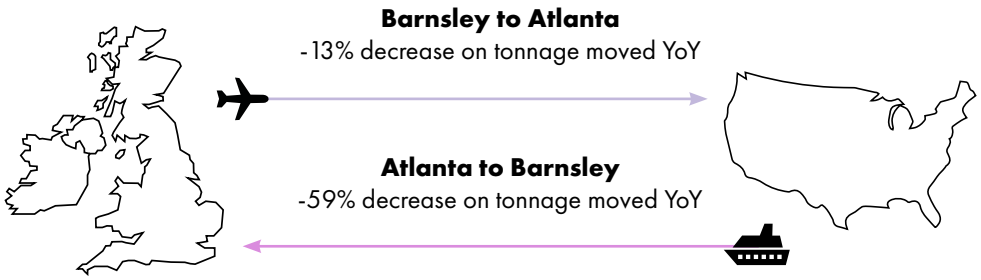
While the total tonnage of goods moved increased, **emissions associated with the transportation of these goods fell 23% compared to the previous year.** This was due to work undertaken within the business to more proactively plan stock, and to internal target-setting prioritising sea and road freight over air freight. This year, we've also worked with our partners to introduce a hybrid model incorporating both sea and air freight. This allows us to expedite shipments if necessary, while reverting to the lowest carbon method wherever possible. Over the reporting period, only **3% of all volume we moved inbound travelled by air,** with road at 57% and sea at 40%.

Although the volume of emissions resulting from sea and road freight increased this year as a result, the lower carbon intensity for each freight method means we can more rapidly decouple business growth from emissions.

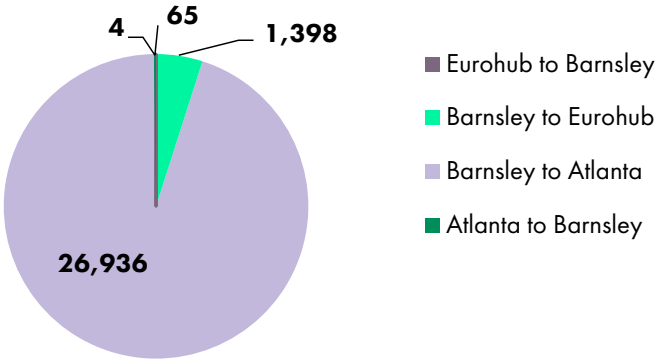
As well as increasingly prioritising lower-carbon freight methods across our supply chain, we're continuing to support the work of our partners and the industry on advancing solutions which look to further decrease the carbon impact of transportation. Through innovations such as load optimisation, alternative fuels and increased combustion efficiency, the industry can further decrease emissions associated with transporting goods globally.

Inter-site deliveries





tCO2e across IWT routes 19-20



In addition to freight emissions originating via inbound journeys into our fulfilment centres (FCs), we also measure and manage the resultant CO2 emissions from inter-warehouse transfers (IWTs) which move stock between our global FCs.

As with last year's report, the majority of these emissions result from moving stock into our Atlanta FC. The total tonnage of goods moved between FCs has increased by 103% this year, however **CO2 emissions have decreased by 27%.** This is because the largest share of volume this year moved between our Barnsley and Eurohub warehouses via road or sea. This compared favourably to the previous period, when the majority of IWTs were inbound into Atlanta via air freight in order to build up our stock portfolio. This year we've also seen emissions fall as IWTs from Atlanta to Barnsley were carried out via sea freight rather than air freight, a transition we're hoping to replicate for Barnsley to Atlanta IWTs in the near future.

Fulfilment centres

During the reporting year we worked with our partners, Amber Energy to formulate a comprehensive energy programme which covers the measurement, procurement, and management of all energy used across the ASOS portfolio. Using Amber Energy's methodology, 'The Utilities Trilemma®' we're able to accelerate our transition to renewables by making informed purchasing choices on the types of renewable energy we buy and gaining a greater understanding of how and where energy is used across our sites and what we can do to reduce it. **We have set ourselves targets to purchase 100% renewable electricity and improve site energy efficiency (kWh per order fulfilled) by 15% by 2023, using 2019/20 as a baseline.**

Lean

One of the first actions we undertook with Amber Energy was to transition our portfolio to consolidated renewable electricity contracts, driving efficiency in our procurement practices. Our Atlanta fulfilment centre is now the only site using non-renewable electricity, with works underway to transition to viable options with both on-site solutions and PPA models. We have also upgraded our electricity and gas meters at all properties, enabling enhanced data granularity and therefore better visibility and understanding of consumption trends.

Clean

Through access to granular consumption data across the ASOS portfolio and the energy audits we've undertaken across our sites, we've been able to identify projects which will look to save energy and further increase efficiency. A range of projects from LED upgrades to HVAC controls optimisations, to Solar PV installations are now being mapped. In FY 20/21 this programme will include installing sub-meters and upgrading our Building-Management System (BMS) controls. By identifying which individual pieces of kit are producing the most energy, we can look to optimise performance.

Green

76% of the ASOS buildings portfolio is now powered via renewable energy, with more generation via on-site solar PV being investigated currently for multiple sites. Although tremendous progress has been made this year, our primary goals for next year are to:

- **Finalise ASOS' transition to renewable electricity globally by formalising a solution for our Atlanta site;**
- **Further progress feasibility studies for solar PV installation at our major sites;**
- **Start works on energy reduction projects across ASOS operations globally.**

Fulfilment centres

Atlanta

Energy consumption:
6,883,663 kWh
4,472 tCO2e

Currently non-renewable, works underway to transition

Barnsley

Energy consumption:
11,036,929 kWh
1,589 tCO2e

Renewable source

Doncaster

Energy consumption:
2,865,446 kWh
567 tCO2e

Renewable source

Eurohub

Energy consumption:
12,169,768 kWh
2,168 tCO2e

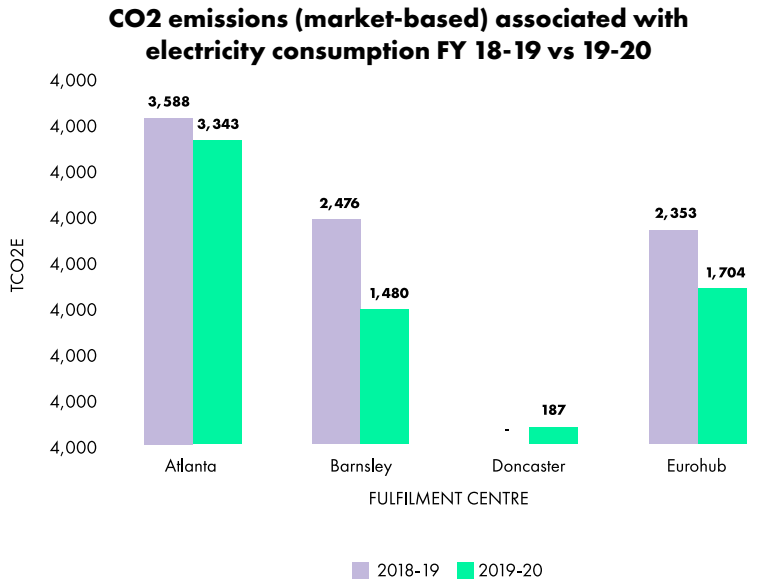
Renewable source

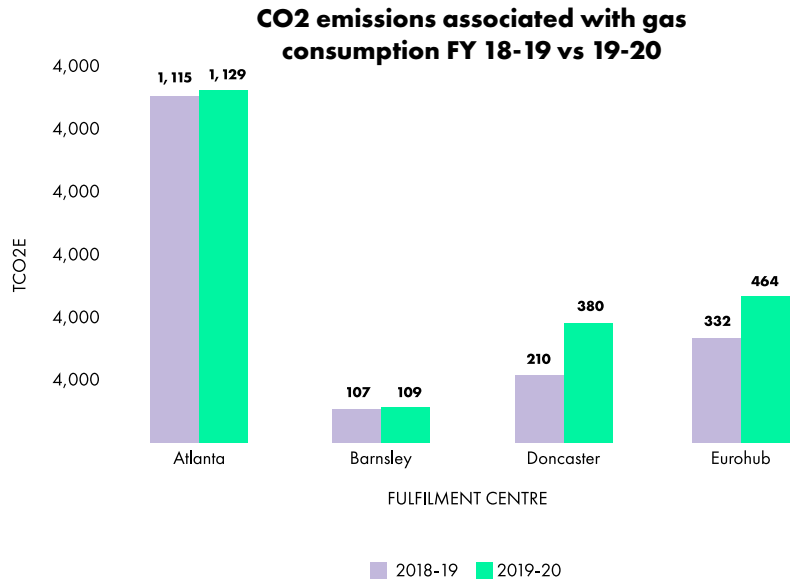
Lichfield

Energy consumption:
Will be reported in FY 20/21

Renewable source
Opening 2021

Energy consumption and CO2 figures inclusive of electricity (market-based) and gas.





Packaging

Over the last year we've worked with a third-party provider to create full life-cycle assessments (LCA) of more than 95% of the packaging materials purchased by ASOS. This increased data availability has helped us further disclose emissions resulting from our most prominent packaging lines: mailing bags, mailing boxes, and this year, for the first time, garment bags. We've also used those LCA's to estimate packaging used by the brands sold on our site. Those figures aren't included in this year's report but will be in future.

Retailers around the world use garment bags to protect items as they travel from international suppliers, into warehouses or stores and finally on to customers (and in our case, sometimes onward to our returns centres). To help us minimise our footprint in this area, we keep items in their original packaging throughout the journey, rather than removing garments from bags and repackaging them at our fulfilment centre.

As part of our ongoing commitments to make our packaging as sustainable as possible, this year we increased the recycled content of our garment bags to 90% from 65%. The graph on the right hand side breaks down the impact that using more recycled material in our bags has on our emissions, based on bag volumes from this reporting period.

It clearly demonstrates the emission reduction benefits of increasing our use of recycled content. Similar impacts are also reflected in the emissions associated with mailing bags, which have this year increased to 80% recycled content.

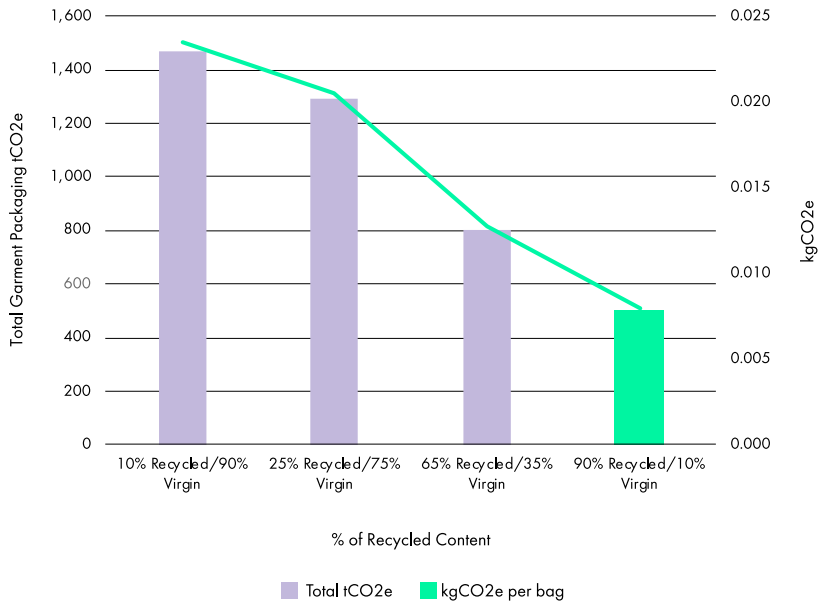
A growing percentage of the recycled material used in our bags is from old ASOS packaging. Customers are encouraged to return any used packaging, including opened garment or mailing bags, to us whenever they next make a return. We then take this post-consumer waste and integrate it into new ASOS packaging, reducing associated emissions through a closed-loop process.

Carbon Breakdown:

Packaging total tCO2e 19-20: **6,573**

13% increase on 18-19 due to addition of garment packaging

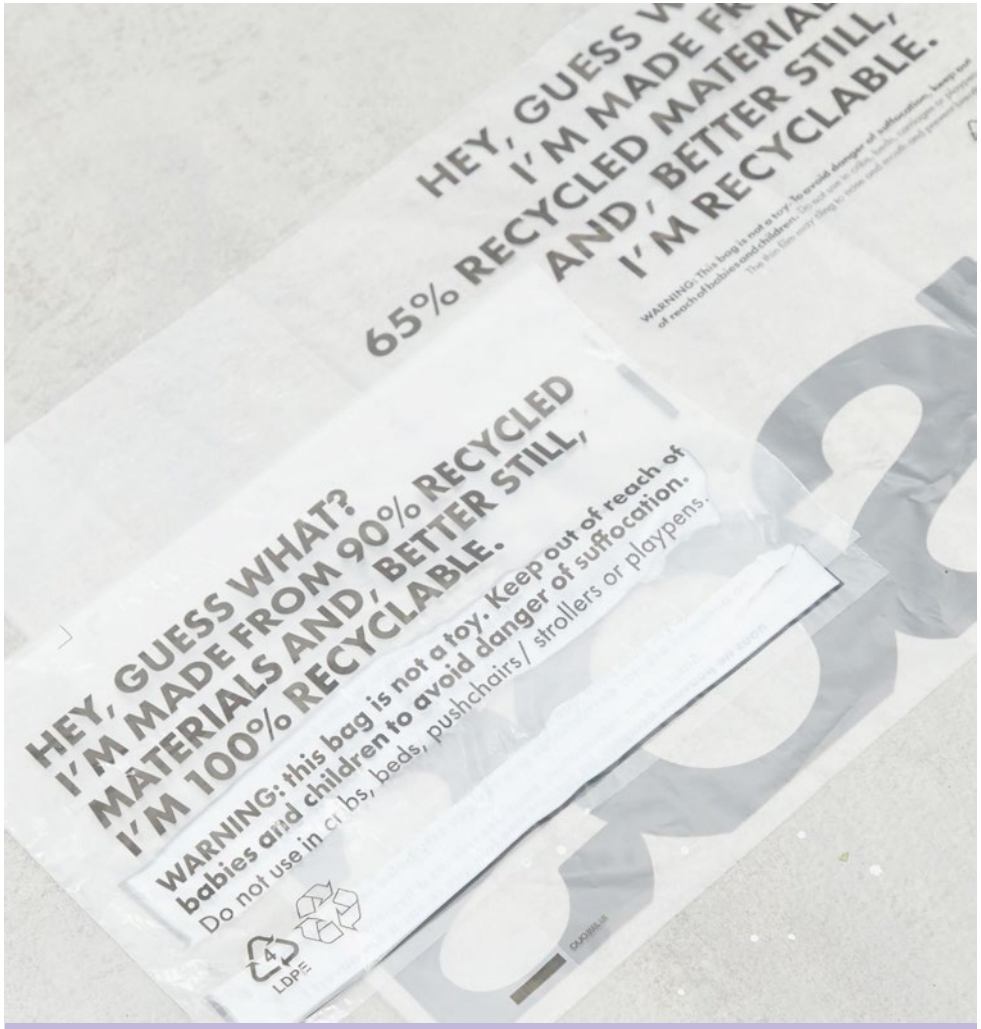
Impact of increasing the recycled content of plastic on carbon emissions



Packaging

Since becoming signatories of the Ellen MacArthur Foundation's New Plastics Economy in 2019, we've made significant progress against our commitments. At the top of the waste hierarchy, we prioritised the reduction of packaging by taking action to eliminate problematic and unnecessary packaging lines. We set an initial target to remove at least 50% of the range of our own-brand packaging compared to a 2018 baseline, and we're pleased to have already **eliminated nearly 40%** towards that goal – examples of which can be seen on the following pages.

We also committed to **100% of our packaging being reusable, recyclable or compostable by 2025.** During the process of eliminating unnecessary lines, all packaging which wasn't recyclable was removed. Although **our plastic packaging contains very high (between 80-90%) recycled content** and is technically recyclable, in principle this isn't always the case due to limitations within the existing waste infrastructure globally. In the UK, for example, our mailing bags must be recycled with other plastic bags rather than with household recycling. We therefore encourage all of our customers to send back any opened plastic packaging in future returns, so that we can work with our suppliers to recycle this back into ASOS bags again as post-consumer waste. Currently we're **recycling 460 tonnes of customer packaging a year into new ASOS packaging**. We're aware of the issues posed by plastics and are always actively exploring alternative packaging materials, however we believe plastic remains the most viable solution for our business, provided it's used responsibly. The continued use of plastics across industries necessitates the need to work with others in accelerating their place within a circular system. For more details on our packaging, just head **here.**



ASOS garment bags recycled content increased from 65% to 90%

Case study: Reusable packaging

Additional commitments from the pact include taking action to move from single-use towards reuse models wherever relevant. This year we're proud to have made progress against this target by finalising the development of our reusable mailing bag which we have been working on alongside a packaging partner, incorporating feedback from the postal network and some key logistics partners to improve performance and durability of the bags. We will be trialling these bags internally in Summer 2021 following a delay due to COVID-19.

ASOS internally developed reusable packaging

Reusable packaging collapsed-ready for customers to return

Removal of 25 million Swing Tags and Kimbals from ASOS Design lines

All brand/care labels increased to 70% recycled Polyester. In 20/21 this will increase to 100% recycled content

By switching to online returns, we are able to avoid the use of around 64 million return slips a year, which is the equivalent of saving approximately 8,450 trees' worth of paper

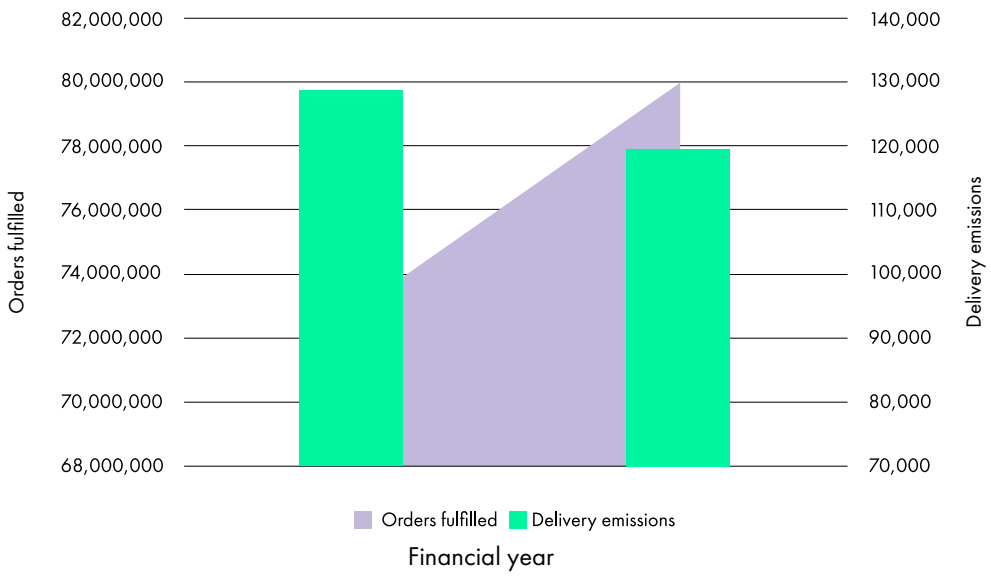
Customers can now expect 75% fewer lines of packaging per pair of ASOS Design shoes, delivered in a 100% recyclable bag – already removing 80,000 shoe boxes in the 19-20 reporting year

We streamlined our formal workwear packaging, leaving us with just two pieces of packaging for every ASOS Design shirt: a single cardboard collar, and a 100%-recyclable garment bag made from 90% recycled content

Customer deliveries

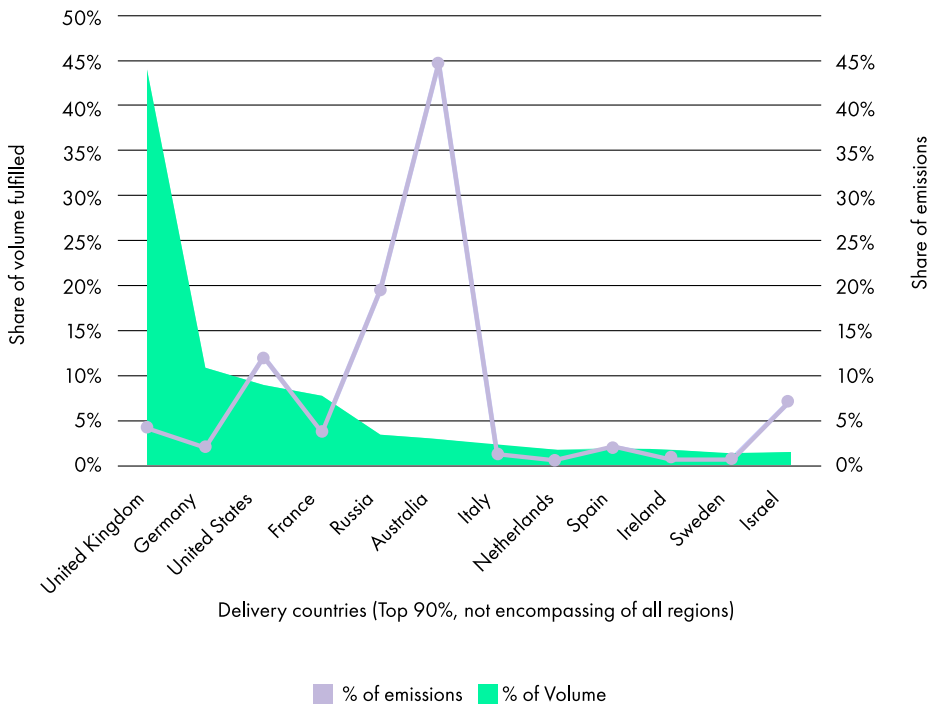
As an online-only retailer, the majority of our operational emissions are associated with the delivery of goods to our customers globally. Despite an 11% increase in the number of orders fulfilled globally from the previous year, the absolute **emissions associated with delivery is down 7%,** as seen in the graph on the left-hand side. Where in 2018/19 fulfilling products to the US was among the top sources of our delivery emissions, the results from this year's figures highlight tCO2e savings in the US of more than 55%, contributing to a **16% reduction in the amount of emissions generated per parcel delivered globally.** These changes evidence the emissions-reduction benefits of more localised fulfilment.

Orders fulfilled vs delivery emissions YoY



	2018/2019	2019/202
Orders fulfilled	72,826,805	80,254,355
Delivery emissions	129,765	120,465

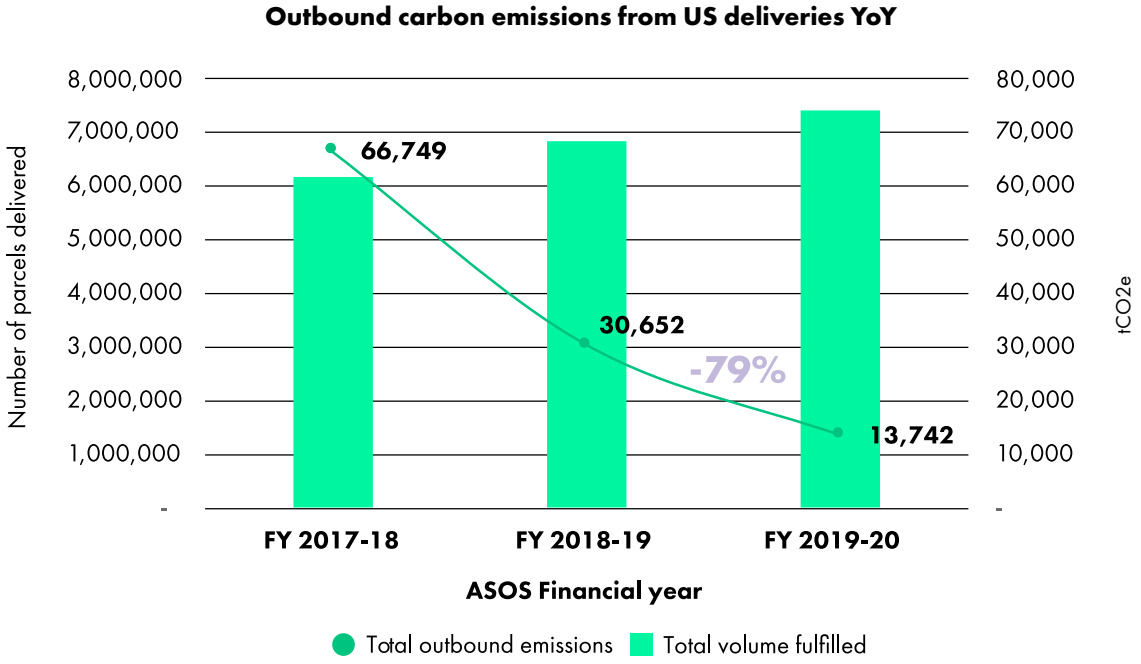
Share of emissions across ASOS' top territories



Customer deliveries

US Fulfilment Centre Case Study

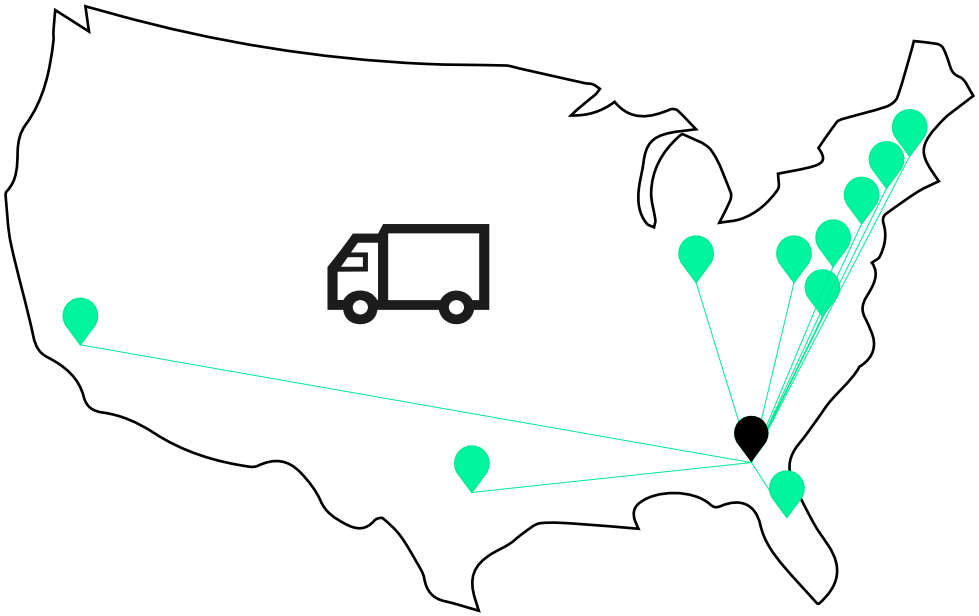
With the full-time operation of our US fulfilment centre in Atlanta, we've been able to make substantial reductions in the transport emissions generated from fulfilling ASOS parcels to the US and surrounding territories. This can be seen in the graph below where in 2017-18 all parcels were delivered to the US from Barnsley, in comparison to the following year when emissions begin to decrease as 20% of parcels were delivered from Atlanta. In this reporting year, 99% of parcels are now delivered from the US, resulting in an impressive **83% reduction in emissions-per-parcel delivered.** As the ASOS brand grows and we continue to enable localised fulfilment, we can reduce overall transport distances and therefore increase the use of lower-carbon delivery vehicles. Throughout our operations, progress against our sustainability goals is driven not only by our internal strategic priorities, but through ongoing collaboration with our global business partners to align with our Fashion With Integrity programme. For US deliveries these partners are namely **FedEx** and **UPS.** Click the links within to read more about their individual sustainability ambitions.



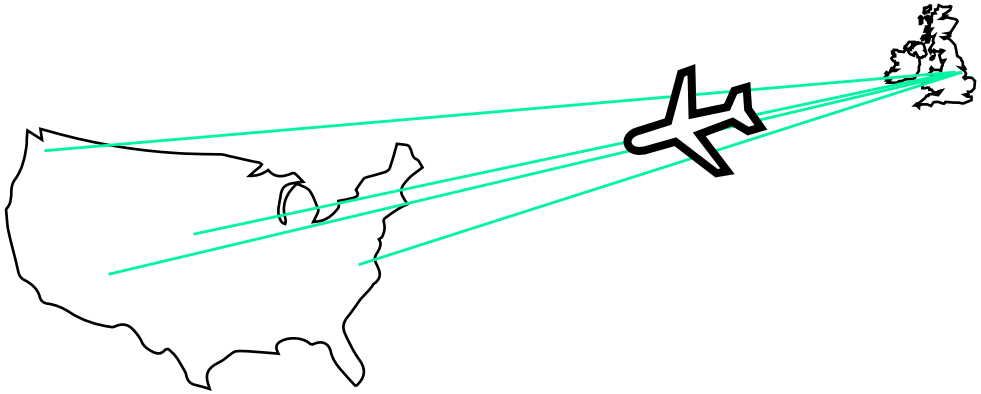
Customer deliveries

US Fulfilment Centre Case Study

As the ASOS brand grows and we continue to enable localised fulfilment, we can reduce overall transport distances and therefore increase the use of lower-carbon delivery vehicles



Delivery methods now enabled to US customers and surrounding territories from our US fulfilment centre, reducing outbound emissions



Products were previously delivered to US customers from our UK warehouse, mandating the need for air travel and increasing emissions

Customer deliveries

With a significant share of our operational emissions originating from deliveries and returns, we work closely with our wide network of international carriers to support and encourage sustainable or low-carbon innovations. These include alternative fuel vehicles, switching from higher carbon vehicles to those with a reduced intensity such as electric bikes, route optimisation and increased vehicle efficiency,all of which result in the carbon savings evidenced in this report.

By breaking down the emissions associated with deliveries, we learn that the bulk of emissions originate from the longest portions of the journey. These are most commonly from our warehouses into regional hubs for onward delivery, as these journeys are often carried out by larger vehicles such as HGVs.

Looking at our own operations, we have implemented a tech change to allow for orders to be consolidated: meaning if a customer places separate orders within the space of a few hours, we're able to combine those parcels at the fulfilment centre. This enables us to optimise the packaging used and reduce the amount of space needed on a vehicle, in turn increasing the number of customer orders we can load onto delivery vehicles. We're working alongside our carriers on developments such as double-decker trailers, and work is also underway within the alternative fuel space on innovations such as compressed-natural-gas and electric trucks, however this is a more slowly-evolving area. Other areas we're looking to maximise efficiencies include vehicle enhancements, driver performance tracking, clean air sensors, pedestrian or cycle-based street porters and more.

Across the final mile journeys of our orders, carriers are rapidly transitioning to electric vehicles. In the UK, one of our major couriers, **DPD, delivered 636,532 parcels to ASOS customers on all-electric vehicles over the reporting year,** with our other carriers around the world mirroring these developments.

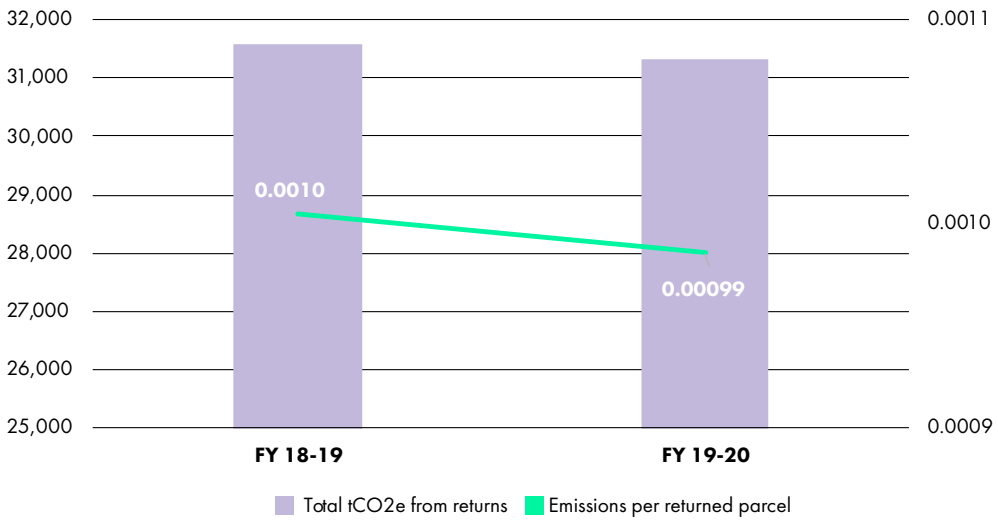
Transport remains our largest impact area across our operations and so we're further accelerating work within ASOS and with our carriers to find solutions more rapidly.

Customer returns

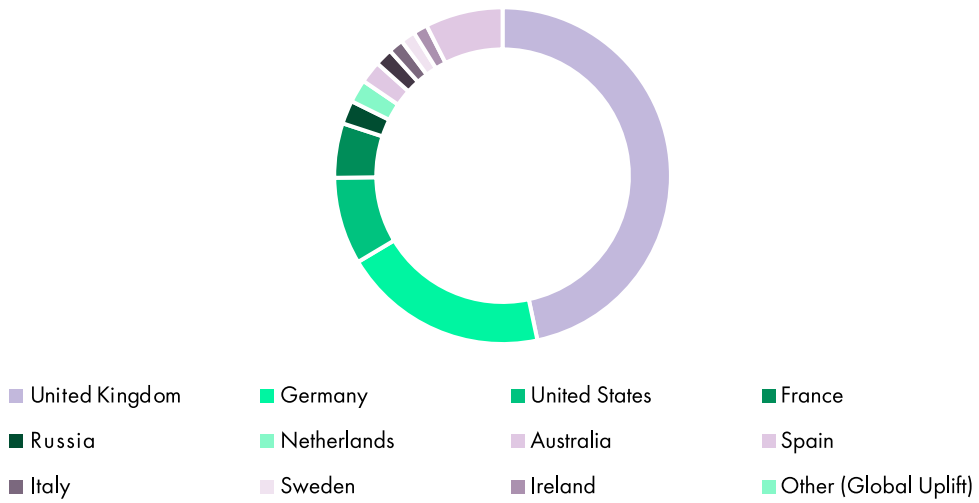
We do everything we can to equip customers with an effortless digital shopping experience; allowing them to browse, view and purchase from our selection of thousands of products, and also return products if they need to. As we don't operate any physical stores, transported returns are a part of our business model, and we need to ensure we're tracking their environmental impact and managing those appropriately. During the performance year, emissions generated by customer returns made up 13% of our total footprint at 31,335 tonnes CO2e. This was a **slight decrease (1%) on the previous year.**

Visits to ASOS.com grew 19% on the previous year and orders increased by 11% to 80.2m, however there was a markedly lower volume of customer returns in proportion to the number of orders globally. This is thought to reflect a shift to more deliberate purchasing, enabled through key web and app improvements; as well as through customers mixing into lower returns rate categories during COVID-19 lockdowns. For carbon impacts, these trends have resulted in a position of **returns emissions being down nearly 1% year on year,** where ordinarily we would expect to see absolute emissions increase as the total volume of orders and corresponding returns increases with business growth. These results are closely mirrored by the emissions generated per returned parcel, which decreased by 2%. As the majority of returns are focussed in territories where we have fulfilment centres as opposed to further afield, returns emissions are significantly lower than those of outbound deliveries.

Total returns CO2 emissions vs emissions intensity per returned parcel



Percentage of returns



Customer returns

Models at home and Augmented Reality

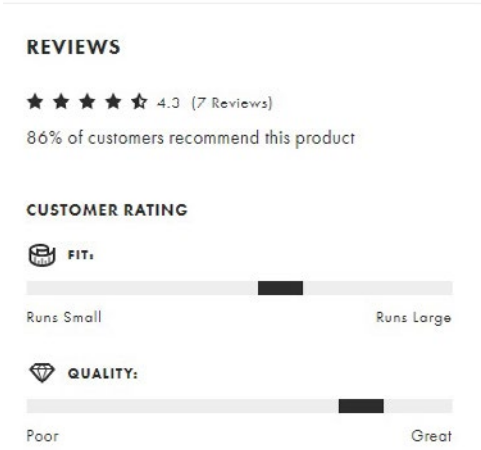
As much of the world adapted to working from home during COVID-19 lockdowns, so too did our models. By showcasing our product from their homes, our models allowed us to continue delivering outstanding content that matched our customers experiences, while also giving them the ability to see product fits accurately. This approach was combined with our Augmented Reality collaboration with Zeekit. By digitally mapping each product onto the model in a realistic way, taking account of the size, cut and fit of each garment, the technology ensured product presentation remained as realistic and engaging as possible, while supporting social distancing. The combination of these adaptations meant that customers could make more informed decisions about their purchases, therefore driving down returns and the emissions associated with them.

(Emissions from delivering products to models' homes is included in 'Customer Deliveries')

Product reviews

2020 saw the release of customer reviews across the ASOS platform, unlocking a series of insights that help us continually improve our products, sizing, supplier processes and brand partnerships on site, and also give customers visibility of others' experiences.

Reviews about product specification, fit and other features means prospective customers can make more informed decisions prior to purchase, resulting in fewer returns and reduced returns emissions.

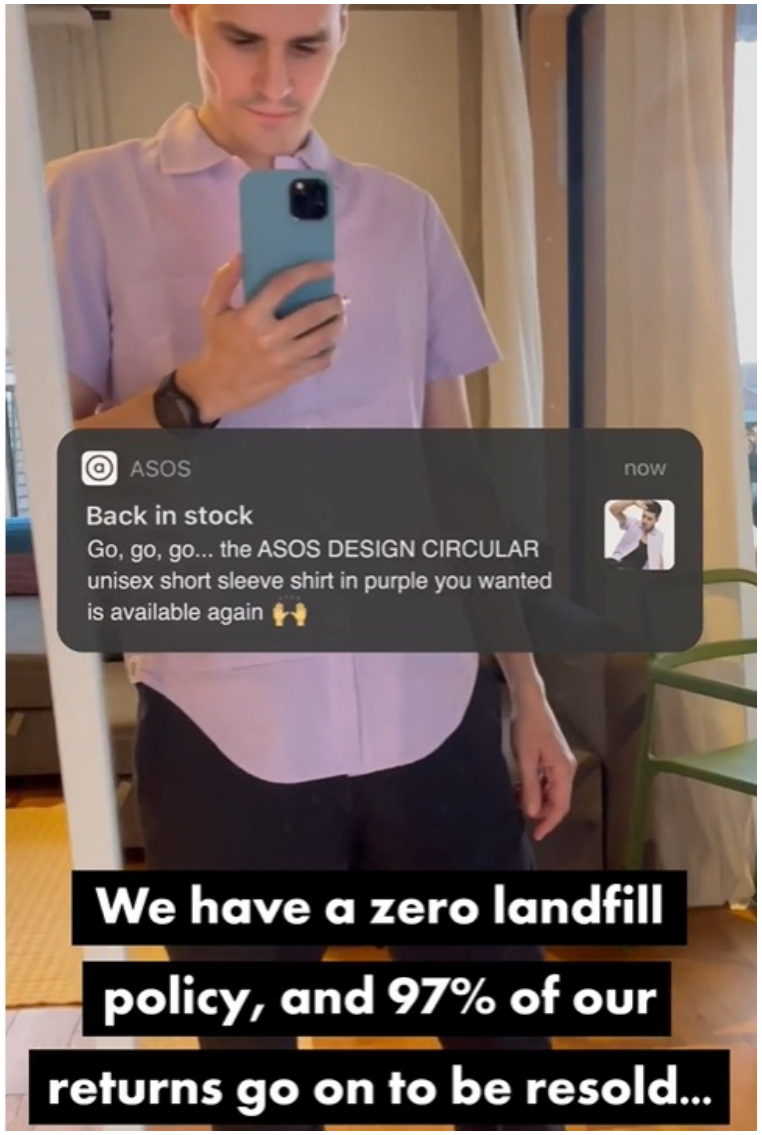


Zeekit digitally maps products onto models in a realistic way

Customer returns

Our responsibility for the environmental impact of returned products goes further than just how they get back to our fulfilment centres. We also take steps to ensure that products can be resold to our customers, and more than 97% of returns go on to be resold. We follow a multi-step process to make that possible:

- Our warehouse team checks the product to see if it's in mint condition
- If so, it goes back to the shelf for another customer to order.
- If the product needs some care, we have handy teams on site that can mend small damages and wash, press, and steam products to make sure they're suitable for resale.
- Less than 3% of returned products can't be resold to customers. When this happens, we either sell the product to second seller markets so it can be reused elsewhere, or we recycle it so it can be made into something new.
- Our products have gone on to be mattress filler and car chairs. We're committed to doing everything we can to keep our products in circulation, never turning to landfill or incineration.



Business operations

Like most businesses, COVID-19 has impacted our operations. Throughout the pandemic, our first priority was to protect the health, safety and wellbeing of our people. As we went into lockdown, we quickly redesigned how our fulfilment centres operate to make them COVID-secure and compliant with social distancing guidelines, and we moved all of our office staff to working from home wherever possible. Across our global sites, this meant a dramatic reduction in the numbers of staff working out of offices, commuting into them, and travelling for work. This also had an impact on our carbon footprint in our sites.

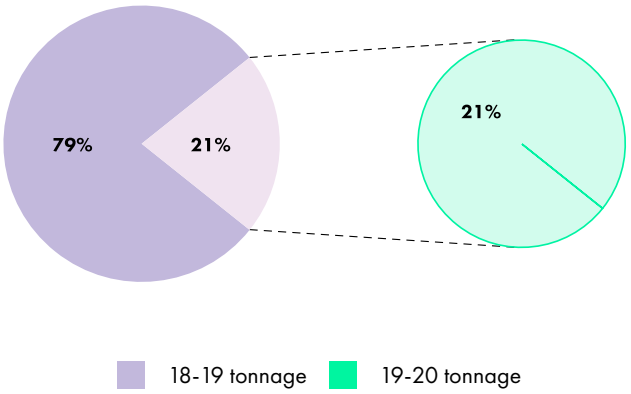
During FY19-20, 180% less waste was produced out of our offices compared to FY 18-19. Of this waste, **86% was either recycled or composted,** with the remaining 14% being sent to incineration to create energy from the waste

21% less electricity was used in ASOS offices compared to FY 18-19. **CO2 associated with this consumption was down a substantial 62% YoY** as both sites are now powered by renewable energy purchased from the grid

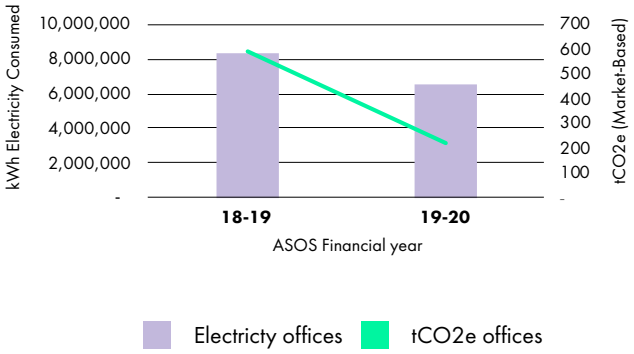
tCO2e reductions Year on Year

Cars	-79%
Taxis	-85%
Trains	-77%
Flights	-81%
Hotels	-53%

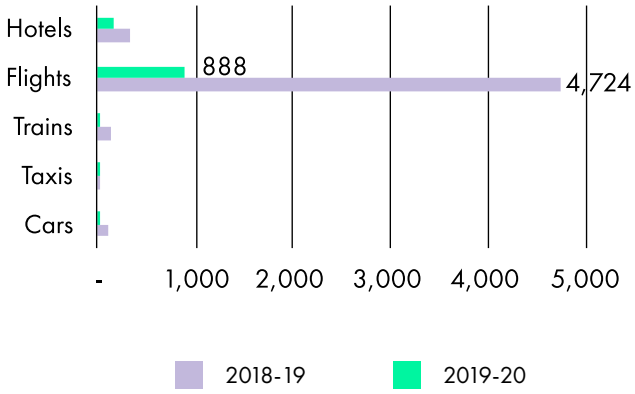
Office waste



Office Electricity Consumption and associated tCO2e (Market-Based) FY 19-20



Business travel and commuting carbon reductions



Carbon emissions by scope

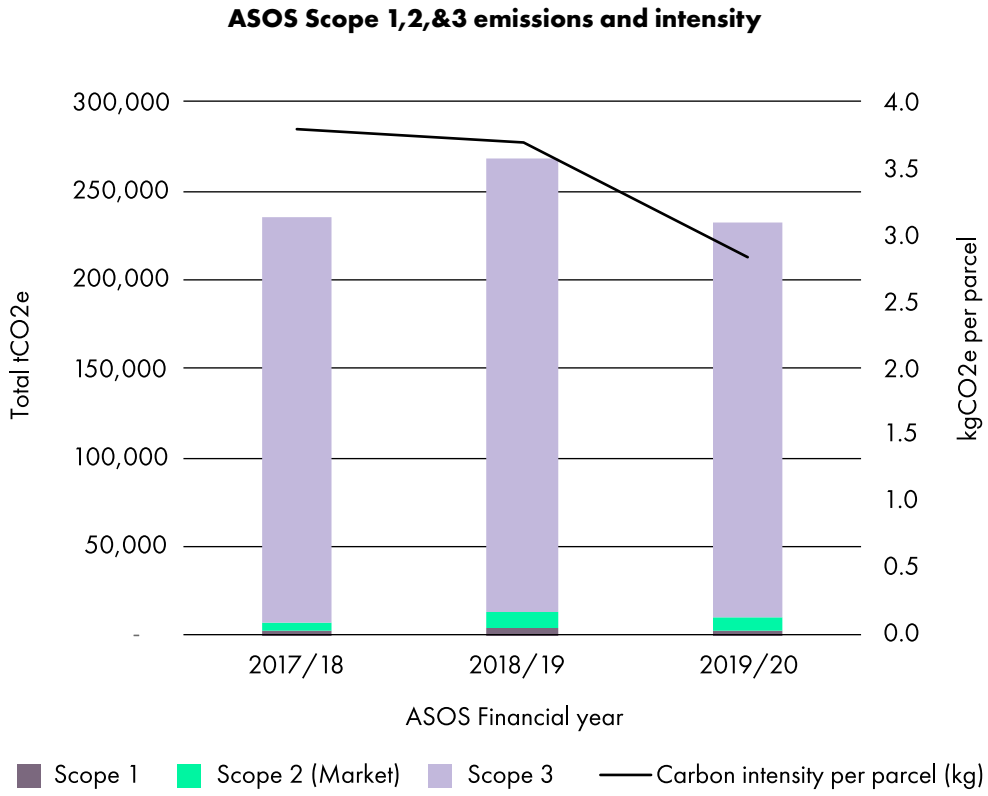
ASOS scope 1,2,3 emissions and intensity

Overall emissions are down 13% based on both location-and market based factors, with the greatest % reduction coming from Scope 2 due to renewable electricity transitions, and the largest reduction in tonnage originating from Scope 3 due to improvements in the transportation of goods. During the performance year, total orders fulfilled increased by 10%, but kg of CO2e per order was down 21%.

Tonnes CO2 e	2018/19	2019/2020	% change on 18/19
Scope 1	3,279	3,177	-3%
Scope 2 (Location)[1]	11,979	11,094	-7%
Scope 2 (Market)	9,202	6,496	-25%
Scope 3[2]	255,758	222,380	-13%
Total (Location)	271,016	236,651	-13%
Total (Market)	268,239	232,503	-13%
Total orders fulfilled	72,826,805	80,254,355	10%
Intensity (location) kgCo2e/order	3.72	2.95	-21%
Intensity (market) kgCo2e/order	3.68	2.90	-21%

[1] Location-based emissions are calculated using electricity grid averages whereas Market-based emissions are calculated using supply-specific factors

[2] The GHG Protocol identifies 15 categories within Scope 3 accounting, of which this report focuses on 4,5,6,7,9,and 12. Categories pertaining to products such as capital goods, processing, use and end-of-life will be covered in a report being released at the end of 2021



Methodology statement

1. Greenhouse gas emission reporting

We report our full operational greenhouse gas (GHG) emissions annually in accordance with the WRI GHG Protocol. Emissions are reported as tonnes of carbon dioxide equivalent (tCO2e). GHG emissions are broken down into three scopes; 1, 2 & 3. Scope 1 emissions are direct emissions from activities controlled by us that release emissions into the atmosphere, whereas scope 2 emissions are indirect emissions associated with our consumption of purchased energy. At ASOS, scope 1 comprises emissions from natural gas, refrigerant gases, diesel used in our back-up generators, and a small number of company owned vehicles. Scope 2 emissions are from electricity purchased for our owned and leased operations. Scope 2 emissions are reported using both the "location-based" and "market-based" accounting methods, but primarily shown within this report as the latter. Location-based emissions are reported using UK Government Greenhouse gas reporting – Intensity factors 2020. Market-based emissions are reported using the conversion factor associated with each individual electricity supply as per the supplier's guidance. Scope 1 emissions are currently reported using only the location-based method. Scope 3 emissions are those that are a consequence of our operational actions, but which occur at sources we do not own or control, and therefore are not classed as scope 2 emissions. The GHG Protocol identifies 15 categories within Scope 3 accounting, of which this report focuses on 4,5,6,7,9,and 12. Individual methodology statements for the calculation models behind upstream and downstream transportation as well as packaging LCA's are listed below.

2. Methodology: (INBOUND & IWT's)

Inbound and IWT emissions are similarly reported in accordance with the WRI GHG Protocol, with emission factors originating from the 2020 standard set- 'Freighting goods'

Ocean Freight Co2e emissions (Kgs): based on cargo and container gross weight (tonnes) multiplied by the port to port distance (km) and corresponding conversion factor (Co2e).

Air Freight Co2e emissions (Kgs): based on cargo gross weight (tonnes) multiplied by the airport to airport distance (km) and corresponding conversion factor (Co2e).

Sea/Air and EcoAir Freight Co2e emissions (Kgs): based on cargo gross weight (tonnes) multiplied by the airport to airport distance (km) and corresponding conversion factor (Co2e). Conversion factors for each leg of the service are taken into consideration (e.g. sea, road and air).

Road Freight Co2e emissions (Kgs): based on cargo cross weight (tonnes) multiplied by the port to port distance (km) and corresponding conversion factor (Co2e). Conversion factors for each leg of the service are taken into consideration where multimodal solutions are deployed (e.g. road, rail and roro ferry).

Final Mile Delivery Co2e emissions (Kgs): based on cargo gross weight (tonnes) multiplied by the distance between port of arrival and delivery point (km) and corresponding conversion factor (Co2e). Conversion factors for each leg of the service are taken into consideration when multimodal solutions are deployed (e.g. road, rail and roro ferry). Co2e emissions (Kgs) for container restitution are calculated and reported in this section.

3. Methodology: (CUSTOMER DELIVERIES & RETURNS)

As we do not operate our own transportation fleet, emissions resulting from deliveries and returns are calculated using the distance-based method. In order to capture the most accurate results, emissions are calculated for the top 90% most material territories (by volume fulfilled and returned from), and for the remaining 10%, an average tco2e per parcel intensity is calculated using a weighted average of the former. Distances travelled from our global fulfilment centres to customers , and from customers to our returns centres within the top 10 cities of our top 90% of territories are calculated using routing from couriers themselves, and from publicly accessible geodata (Google Maps). Distances for each leg are given within a 50km accuracy range, and are then multiplied by the weight of the goods that were transported across each of the legs within that journey, and the relevant emission factors for the vehicles which carried it. Emissions factors for each vehicle type used incorporate its average fuel consumption, average utilization, and further elements of the LCA calculated by DEFRA. Emission factors for this method are typically represented in grams or kilograms of carbon dioxide equivalent per tonne-kilometer or TEU-kilometer. Tonne-kilometer is a unit of measure representing one tonne of goods transported over 1 kilometer.

4. Methodology: (PACKAGING)

LCA's were undertaken by a third party across more than 10 different types of our most used packaging. A life cycle product carbon footprint measures the total greenhouse gas emissions generated by a product, from extraction of raw-materials, to end-of-life. It is measured in carbon dioxide equivalents (CO2e). Within this report, packaging footprints are associated with Cradle-to grave-LCA's: This measures the total greenhouse gas emissions from the extraction of raw materials through to the product's manufacture, distribution, use and eventual disposal.

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