

Change
is in the air



Sustainability Report 2019

virgin atlantic 

 HOLIDAYS



Introduction



Welcome to our 2019 annual 'Change is in the Air' Sustainability Report, which provides an overview of our programme and describes our key sustainability results.

Here you can find the lowdown on our sustainability performance, including our carbon footprint, aircraft carbon and fuel metrics, and a host of other data on waste, water and noise, plus how we work with suppliers, invest in our people and support communities around the world to do business for good.

If you'd like to learn more about the activities and initiatives that help us deliver these results, you can visit our websites where we have a collection of videos, news and stories from across the business:

virginatlantic.com/changeisintheair

virginholidays.co.uk/responsible-tourism

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Message from our CEO

Our vision is to become the most loved travel company. To achieve this it's our responsibility to give our customers the confidence that we're serious in our commitment to climate action and improving the lives of people at home and abroad wherever we do business.

Business as a force for good is in our DNA. How we operate and the decisions we make today affect not only our customers but also future generations. In particular, we know we have a critical role to play in addressing the climate challenge that faces us. Whether it's the aircraft we operate, the fuels we help develop or being an active participant in international goals and climate agreements, we're determined to use our role to drive positive global change. Our climate action is a critical part of our new three year Velocity plan.

Key to our own carbon reduction journey is our fleet renewal programme. Because of new, more efficient aircraft, since 2007 we've reduced our CO₂ per revenue tonne km (our efficiency metric) by 18.1% and our total emissions by 21%. Unfortunately an industry wide engine supply issue affecting our Boeing 787-9 fleet has impacted on our 2018 results. However, we expect to see further improvements in our carbon performance as the 787-9 issues are resolved, and our 12 new A350s come into service from 2019 which are 30% more fuel efficient than the aircraft they replace.

In October 2018 we operated the world's first commercial flight using LanzaTech's ground breaking sustainable aviation fuel – made by recycling carbon from

waste industrial gases. In this year's report we discuss how close we are to commercialisation and the government help we need to make this a reality. We also explain the new internationally agreed Carbon Offsetting and Reduction Scheme for International Aviation and our commitment to supporting this huge deal that will reduce billions of tonnes of carbon over its lifetime.

As a key pillar of Velocity, we have embarked on collaborative work with our partners to promote sustainable practices within our supply chain. In 2018 we enhanced our Responsible Supplier Policy and continued our industry leading efforts with the Sustainable Restaurant Association ensuring 63% of our caterers now meet our comprehensive sustainability standards for onboard food. We also established that 25% of our hotels now have independent sustainability certification. We're using these results as a platform to drive further improvements in 2019.

The generosity of our customers and our people in supporting our charity and other non-profit partnerships is humbling. Across Virgin Atlantic and Virgin Holidays we distributed the equivalent of over £1.6m in 2018. This included building on our airline's long standing partnership with WE. They're helping us deliver sustainable change in overseas communities, and inspiring young people to 'be the change' they want to see in the world, through an empowering schools' programme. Virgin Holidays continued to support the Branson Centre for Entrepreneurship in Jamaica

with a £200,000 donation to promote local entrepreneurs, jobs and economic growth.

We're clear that the long term health and sustainability of our business depends not only our commitment to environmental and social action, but also on the happiness and wellbeing of our people. At the heart of our vision to become the most loved travel company is a drive to create a culture of inclusion, a place of work where everyone can be at their best. It's never been more important for us to ensure our team, like our customers, can proudly be themselves, no matter their gender, background, their beliefs, the colour of their skin, their physical ability or who they choose to love.

We know that business can be a huge force for good. We're committed to continue to drive sustainability leadership and innovation and improve people's lives around the world – from addressing the huge issue of climate change, to the way we work with suppliers, to supporting communities in our destinations, and looking out for our customers and people – as we strive to be the most loved travel company.

Shai Weiss, CEO

Our customers share our love for travel: to pursue business opportunities; to visit their family and friends; to see new sights and recharge their batteries. But we all know that travel impacts on the environment and can affect human and animal welfare too.

Our sustainability programme in a nutshell

We call our sustainability programme Change is in the Air. That's because for us, sustainability means changing things for the better and working to improve the lives of people around the world.



Celebrating our first flight with LanzaTech's sustainable fuel

We naturally focus on our biggest environmental and social priorities. And as we strive to become the most loved travel company, we want to play our part in tackling global and local issues that are important to our customers and our people.

We launched our Change is in the Air programme in 2007. Because of our airline operations, we've always been clear about our role in addressing climate change and reducing carbon emissions. We also know we can have a significant, positive impact by working with our suppliers to promote human rights and good labour standards, as well as encouraging resource efficiencies, waste reductions, environmental stewardship and animal welfare improvements. To make sure we're on the right track, we work with a number of respected non profit partners on these activities, as well as directly with charities through our community investment programme.

We know that the long term health of our business depends on the happiness and wellbeing of our people, which means investing in our people and building an inclusive environment where everyone can thrive. Our people are at the heart of our sustainability programme too, through their passion to get involved and make a difference. From key business actions that reduce carbon emissions to engaging our suppliers on responsible supply chain practices through to the act of stepping in to help a community directly, an ethos of business for good flows through our organisation.

Our priorities

Because of our airline operations, our biggest impact and therefore top environmental priority is around aircraft fuel and carbon reductions. Some of our key initiatives involve investing in a new fuel efficient fleet, improving our operational procedures and innovating with partners for new low carbon fuels. Our facilities team is working on a range of measures across our ground operations too, reducing waste, product and energy consumption and has been for more than a decade.

As well as encouraging better environmental practices, our sustainable supply chain programme focuses on improving the people and animal welfare credentials of the products and services we design, contract and buy. We're engaging suppliers across our business, from caterers to hotels to attraction providers, to communicate and champion our sustainability values.

Our people make us who we are. We want to create an environment where people love to work, and where they can be at their best. Our aim is to create a motivated, resilient and vibrant workplace where our people are valued, listened to and supported. And we want our colleagues to feel good about being themselves, irrespective of their background, gender, race, beliefs, physical ability or who they choose to love.

Our programme also includes a number of valued non profit partnerships. For example, our sustainable aviation fuels work is supported by the Roundtable on Sustainable Biomaterials, our onboard food and drink programme by the Sustainable Restaurant Association and our cetaceans programme by the National Aquarium Baltimore and the World Cetacean Alliance.

Through our airline's community investment programme, Virgin Atlantic's main charity partner WE engages our teams and young people in the UK and US to get involved and make a positive difference in the world and supports communities in some of our destinations past and present. In 2018, Virgin Holidays continued its partnership with the Branson Centre for Entrepreneurship in Jamaica, supporting new businesses, jobs and economic development in the Caribbean.



How we work

Ultimately, our CEO Shai and his leadership team are accountable for our Change is in the Air sustainability programme. Our sustainability team works closely with our leadership team to make sure the sustainability strategy is aligned with our core values and business strategy.

We're clear that to be most effective, our sustainability activities need to be owned and delivered by our people across the business: our engineers, sales teams, cabin crew and product managers. This means teams take on the responsibility of delivering actions in their own areas and a number of these have roles embedded within functions, such as within our fuel efficiency, facilities, procurement, inflight services and communications teams.

The sustainability team drives the overall strategy, advises and coordinates all this work, while also incubating and delivering a number of key projects.

In 2018, our combined efforts were recognised by receiving two industry sustainability awards:

- Employee Engagement and Behaviour Change, at the edie Sustainability Leaders Awards, for our Captains' Study on fuel efficient flying; and
- World Travel and Tourism Council's Tourism for Tomorrow's Award for our sustainable onboard food and drink programme with the Sustainable Restaurant Association.

Environment



Our carbon footprint

Our total carbon footprint in 2018 was 5.8m tonnes of CO₂e¹. This is made up of 5,510,799 tonnes from Virgin Atlantic, and 264,350 tonnes from Virgin Holidays.

Aircraft emissions remain by far the largest part of our footprint, being responsible for 71.2% of our combined company emissions and more than 99% of our Scope 1 emissions. Indirect emissions from our suppliers, customers and some staff activities (like commuting) are responsible for the next biggest portion at 28.7% (referred to as Scope 3 emissions) and emissions from our electricity use in our ground operations (Scope 2) accounts for 0.1%.

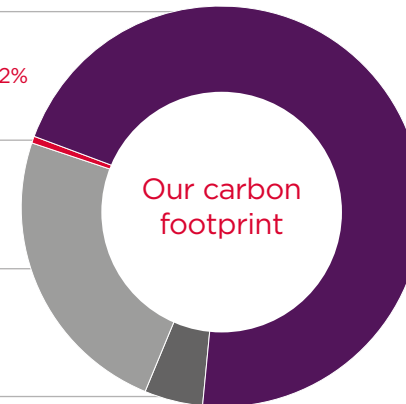
We measure our carbon footprint using the Greenhouse Gas Protocol Corporate Standard **guidelines** and the UK government's latest annual greenhouse gas **conversion factors**. Our carbon footprint is externally verified against the ISO 16064-3 verification standard. You can see BSI's verification statement in our Appendix and the tables overleaf show what was included.

Virgin Atlantic
Scope 1
(>99% aircraft emissions) 71.2%

Virgin Atlantic
Scope 2
(electricity) 0.1%

Virgin Atlantic
Scope 3
(mainly supply chain) 24.1%

Virgin Holidays
Scope 1, 2 and 3
(>99% Scope 3) 4.6%



¹ CO₂e, or carbon dioxide equivalent, is a standard unit for measuring carbon footprints. The idea is to express the impact of each different greenhouse gas in terms of the amount of CO₂ that would create the same amount of warming.

Methodology

In line with the Greenhouse Gas Protocol, we compile our carbon footprint by 'Scope'. This enables us to calculate and understand the sources of our direct and indirect emissions and to identify our most important carbon impacts. Our Scope 1 emissions cover those from aircraft fuel use and on the ground include our natural gas consumption, fuel use by company-owned cars and vans, refrigerants and all other fuels consumed (such as maintenance generators). Scope 2 emissions arise from ground electricity consumption only, while Scope 3 emissions are for our indirect emissions from sources such as the products and services we buy, business travel, employee commuting and waste generation. In 2018, we expanded our analysis to include more Scope 3 categories for Virgin Holidays so we can better align the coverage for our airline and holiday operations.

Where possible we use actual data and each year we aim to improve our data collection process in terms of both accuracy and coverage. The only estimations in this year's calculations for Scope 1 and Scope 2 emissions are natural gas consumption at our airport lounges (such as our Heathrow and Gatwick Clubhouses) because these are not metered, as well as a small uplift for ground vehicle fuel use where actual mileage was unknown. As our emissions from these sources combined are only 0.05% of our total carbon footprint, the effect of these estimations will be tiny in terms of the overall picture. Scope 3 emission calculations rely on some modelling techniques using financial data (approved by the Greenhouse Gas Protocol), as well as actual data.

Virgin Atlantic Airways' carbon footprint

Type of emissions	Activity	Emissions (tCO ₂ e)	% of total	Verified
Direct (Scope 1)	Aircraft fuel	4,110,551.6	74.59%	☑
	Natural gas	2,306.6	0.04%	☑
	Ground vehicles	516.8	0.01%	☑
	Refrigerant ²	0.0	0.00%	☑
	Other fuels	384.3	0.01%	☑
	Subtotal	4,113,759	74.6%	☑
Indirect energy (Scope 2)	Purchased electricity	3,398.7	0.06%	☑
	Subtotal	3,399	0.1%	☑
Indirect other (Scope 3)	Category 1 - Purchased goods and services	250,114.1	4.54%	Unverified
	Category 2 - Capital goods	133,369.5	2.42%	Unverified
	Category 3 - Fuel and energy related, well to tank (WTT)	852,764.6	15.47%	☑
	Category 4 - 9 ³	157,392.2	2.86%	Unverified
	Subtotal	1,393,640	25.3%	
Total emissions (tCO ₂ e)		5,510,799		

² There were no refrigerant emissions recorded in 2018 because we did not top up any refrigerant fluids. This is due to moving out of our old office building, The Base.

³ Categories 4 - 9 include things like business travel, commuting, onwards customer travel and waste.

Virgin Holidays' carbon footprint

Type of emissions	Activity	Emissions (tCO ₂ e)	% of total	Verified
	Natural gas	0	0.00%	☑
	Ground vehicles	108.8	0.04%	☑
	Subtotal	109	0.0%	
Indirect energy (Scope 2)	Purchased electricity	330.9	0.13%	☑
	Subtotal	331	0.1%	
Indirect other (Scope 3)	Category 1 - Purchased goods and services	16,171.0	6.12%	Unverified
	Category 2 - Capital goods	3,032.7	1.15%	Unverified
	Category 3 - Fuel and energy related (WTT)	108.2	0.04%	☑
	Category 4 - 7 ⁴	3,487.1	1.32%	Unverified
	Category 11 - Use of sold products ⁵	241,111.2	91.21%	Unverified
	Subtotal	263,910	99.8%	
Total emissions (tCO ₂ e)		264,350		

⁴ Category 4 - 7 includes things like business travel, commuting and waste.

⁵ Category 11 Use of sold products represents the emissions associated with the holidays we arrange for our customers, such as flights, accommodation, excursions and ground transport. It does not include Virgin Atlantic flights, as these are captured under Virgin Atlantic Scope 1 emissions.



What our footprint means

Footprint scope

We report emissions that we have 'operational control' over. This means any sources of emissions for which we have full control to implement initiatives that would reduce them. For example, that includes the aircraft fuel we use, the gas and electricity consumption in properties that we're billed directly for, and our ground vehicles.

Considering our properties in 2018, we have included The VHQ (our new headquarters for both Virgin Atlantic and Virgin Holidays), The Base (additional office space and our main training centre), Gatwick and Heathrow Clubhouses and hangars, Swansea contact centre, other airport buildings and Virgin Holidays' stores around the country that are metered.

We don't include emissions from sources that are outside our control. For example, at some UK and international airside properties, as well as Virgin Holidays retail concessions within other stores, the heating and cooling are controlled by the building operator. In these cases we have a small presence in terms of the overall building infrastructure. As we have little influence over energy saving procedures or how much energy is being consumed, this falls outside of our reporting boundary.

Scope 1 emissions

Within the airline, the largest proportion of our emissions comes from fuel use (74.6% of our airline footprint). Our total carbon emissions from aircraft fuel consumption

have risen from 3,978,874 tonnes of CO₂e in 2017 to 4,110,552 tonnes of CO₂e in 2018, a 3.3% increase (131,678 tonnes). This is due to several of our most fuel efficient aircraft being grounded through the year to undergo enhanced maintenance associated with industry wide engine supply issues, as well as an increase in our flying programme through fewer flight cancellations relative to 2017. We explore this more in the [Environment](#) section.

Virgin Holidays' Scope 1 emissions increased by 34% from 81 to 109 tonnes of CO₂e, due to an increase in average mileage for our company cars. Nonetheless, this Scope 1 emissions value is still very low as the majority of Virgin Holidays staff are now based at our new headquarters, The VHQ, which has air source heat pumps instead of gas.

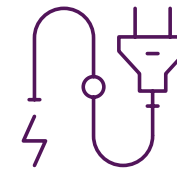
Scope 2 emissions

Our combined emissions from electricity consumption are 3,730 tonnes of CO₂e and account for 0.1% of our total carbon footprint. Both Virgin Atlantic and Virgin Holidays recorded a decrease in Scope 2 emissions in 2018 of 29.5% and 10.6% respectively. This is due to a combination of efficiency improvements in our main office buildings (The VHQ and The Base), as well as changes in the 2018 UK emission factor for electricity. This emission factor reduced by 19%, mainly due to a shift in UK power generation from coal to gas, and to a lesser extent through an increase in energy generated from renewable sources.



-29.5%

The Scope 2 emissions reduction recorded by Virgin Atlantic



-10.6%

The Scope 2 emissions reduction recorded by Virgin Holidays

Scope 3 emissions

Scope 3 is generally the most difficult part of a footprint to calculate, so we are continually working on capturing these emissions more accurately. As you can see from the Virgin Atlantic table, the largest part of our Scope 3 emissions is category 3 (fuel and energy related, well to tank – WTT). These are emissions associated with our fuel use and represent emissions from the extraction, processing and transport of the fuel, rather than its direct use which is accounted for under Scope 1.



85.5%

The percentage of our carbon footprint due to aircraft fuel related emissions



When our Scope 1 and Scope 3 aircraft fuel related emissions are considered together, they are responsible for 89.6% of our airline's carbon footprint (and 85.5% of our combined footprint).

Virgin Holidays' carbon footprint is dominated by Scope 3 emissions which represent over 99% of the full footprint. To avoid counting them twice, Virgin Atlantic flights have been excluded from Virgin Holidays' Scope 3 calculations, as these are captured under Virgin Atlantic Scope 1 emissions. However, it is worth noting that these flights would account for

392,113 tonnes of CO₂e emissions (based on customer numbers), so constitute the largest emissions source for Virgin Holidays.

Category 11 'Use of sold products' is the one we focus on for Virgin Holidays, as it represents the emissions associated with the holidays we arrange for our customers. Modelling for this category showed that hotels and accommodation accounted for 51% of these emissions. Other major contributors were flights on airlines other than Virgin Atlantic (22%), tours and excursions (11%) and ground transport (10% for transfers and car hire).



Scope 3 emissions for both Virgin Atlantic and Virgin Holidays have reduced this year by 115,897 tonnes (7.7%) and 27,093 tonnes (9.3%) respectively. This is due to methodology changes (updated emission factors) used for modelling our emissions from our financial data. It is the nature of using modelling to estimate Scope 3 emissions that large year on year changes can be the result of methodology changes, rather than changes within business operations. **Table 1** in the Appendix examines this in more detail.

Overall footprint

The combined footprint for both businesses gives an overall decrease in emissions of 13,213 tonnes of CO₂e since 2017, or a 0.2% decrease (you can see how our footprint has changed over the last five years in **Table 1** in the Appendix). This is due to the changes to the Scope 3 emission factors described above.

For Virgin Atlantic, we've documented an increase in total emissions during 2018 of 0.3%, corresponding to 13,892 tonnes of CO₂e. This is predominantly a combination of the increase of 131,678 tonnes (3.3%) in aircraft fuel consumption and a decrease of 115,897 tonnes in Scope 3 emissions. In 2018, there were some large decreases in the emission factors we use for the Scope 3 modelling, which led to this reported emissions decrease.

For Virgin Holidays (excluding Virgin Atlantic flights), there was a decrease of 27,104 tonnes of CO₂e in 2018, representing a 9.3% decrease in emissions. However, this is also due to a decrease in the Scope 3 emissions which are derived from modelled data.

Aircraft carbon and fuel

For our combined airline and holiday operations, carbon and fuel efficiency is clearly the number one environmental priority.

Aircraft fuel use accounts for more than 99% of operational (Scope 1 and 2) carbon emissions. If we consider indirect Scope 3 emissions too (mainly from our supply chains), aircraft fuel still accounts for 74.6% of our carbon footprint. It's also the single biggest cost to our business, so it's a clear win all round to address it.

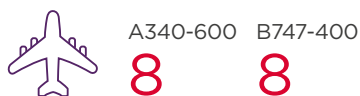
The biggest difference we can make to our carbon emissions right now is through the aircraft themselves. We've continued to upgrade our fleet, bringing new, more efficient aircraft into service to replace older less efficient ones. In 2018, we introduced three more Boeing 787-9 aircraft, completing our 787-9 fleet at 17 aircraft. In 2019, we'll commence delivery of our new A350-1000s, with 12 aircraft joining the fleet over the next three years. Through a combination of aircraft and engine efficiencies, as well as network planning to optimise passenger numbers and cargo loads, each aircraft is around 30% more fuel efficient per trip than the aircraft they are replacing. They're quieter too and will further reduce our noise footprint over the next three years.

Our focus on fuel doesn't stop there. For years we've been watching our onboard weight, optimising aircraft cleaning and maintenance, and advising our pilots how to fly more efficiently. All of these things help to reduce the fuel we use on each flight.

Two engine aircraft



Four engine aircraft



Discover more about these initiatives and many others on our [website](#). And read on to learn more about our performance in 2018.



Our progress



18%

Our reduction in CO₂ per Revenue Tonne Kilometre since 2007 – our efficiency metric

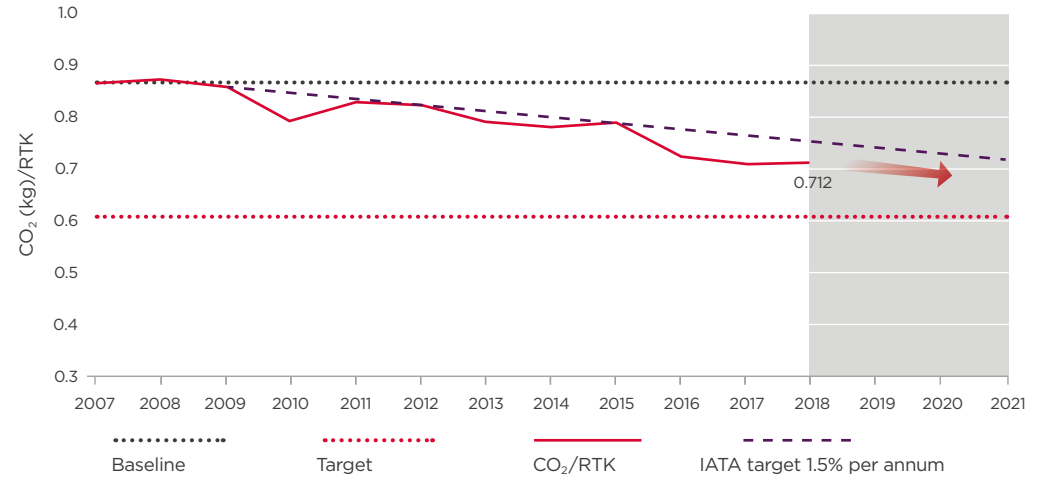
Our target is to reduce aircraft CO₂ emissions by 30% per Revenue Tonne Kilometre between 2007 and 2021⁶.

CO₂ per Revenue Tonne Kilometre (RTK) is an efficiency measure that means that we account for the amount of CO₂ emitted in relation to the people, luggage and cargo we carry. **Chart 1** shows that our CO₂ per RTK has reduced by 18.1% since 2007 to 0.712kg. Unfortunately we have not achieved a further improvement between 2017 and 2018. Like other airlines, we experienced supply issues with the Rolls Royce Trent 1000 engine on our 787-9 aircraft. This meant we had to make changes to our flying programme to support additional engine maintenance activity. On average this resulted in two of our most fuel efficient planes being parked each month. At the same time, to ensure continuity of service for our customers, we delayed retirement of older, less efficient aircraft and introduced four additional A330-200s into our fleet. As a result, our CO₂/RTK 2018 efficiency result is very similar to our 2017 value (0.711 kg).

We compare our target and performance with the International Air Transport Association (IATA) target of 1.5% efficiency improvement per annum, as plotted in **Chart 1**. Although we didn't achieve the IATA annual efficiency target of 1.5% efficiency improvement in 2018, we're pleased that overall we are still ahead of the IATA target when projected out from 2009. We expect more efficiency improvements as we introduce our new A350s into service.

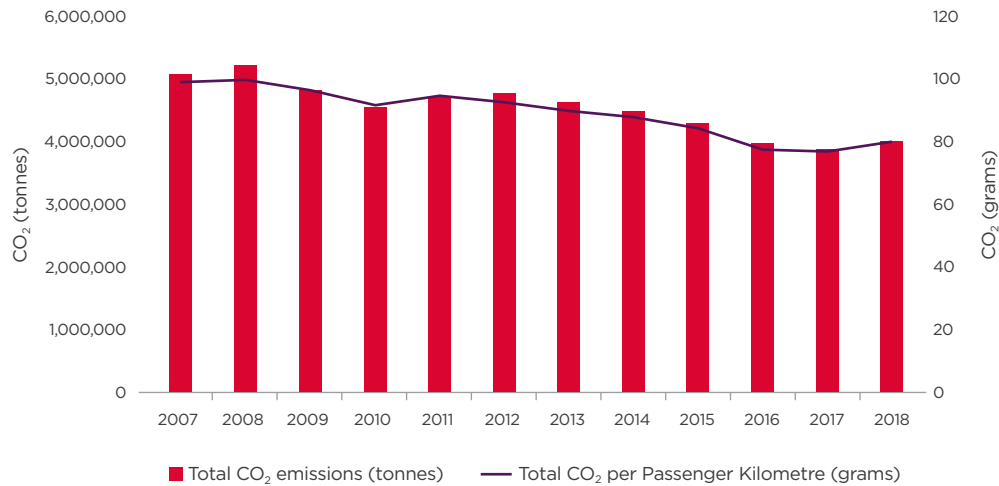
Read more about our carbon accounting methodology in the [Appendix](#).

Chart 1: CO₂ per Revenue Tonne Kilometre



⁶To allow for the industry wide engine supply issues and to align with the timeframe of our new three year business plan we have extended our 30% CO₂ per RTK reduction target from 2020 to 2021.

Chart 2: Total aircraft CO₂ emissions and CO₂ per Passenger Kilometre



We've seen our total aircraft CO₂ emissions increase in 2018, from 3,939,407 tonnes to 4,069,873 tonnes (Chart 2). This is partly due to the 787-9 aircraft swaps, but also because we operated more flights in 2018. In 2017, the 787-9 engine maintenance required us to cancel a number of flights. In 2018, introducing additional aircraft into our fleet led to fewer cancellations as a result of the engine maintenance, but contributed to an increase in total carbon emissions.

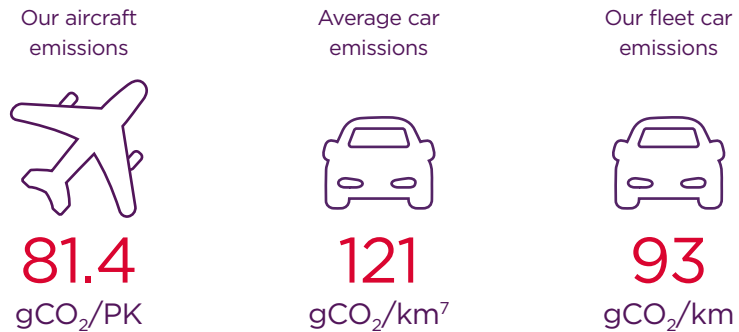
We track another efficiency metric too: our CO₂ emissions per Passenger Kilometre (CO₂/PK). In 2018, our CO₂/PK was 81.4g. That's a 19.2% reduction since 2007 but a 4.1% increase on last year (Chart 2). This is due to a large increase in the passenger: freight weighting conversion factor used to apportion carbon between our

passengers and cargo business. These are set by the UK government each year in the methodology for company reporting. In 2018 this weighting allocated more of our total carbon to our passengers than it did in 2017 (85.13% vs 81.49%), resulting in an increase in CO₂/PK this year. For comparison, if we applied last year's weighting factor then our CO₂/PK for 2018 would have actually reduced to 77.9g (an improvement on the 2017 value of 78.2g). We will review this methodology against other industry approaches during 2019 to see if improvements can be made to be more representative of our passenger and cargo business.

CO₂ per PK is sometimes compared to the performance of a single occupancy car since all cars sold in the EU and US provide



Our CO₂ per Passenger Kilometre compared to average new UK car and our average fleet car



CO₂ emissions information in gCO₂/km and most journeys are single occupancy. In the UK, 2018's average new (most efficient) car emissions were 121gCO₂/km whereas our 2018 aircraft CO₂ per PK value is 81.4g. In addition, the average emissions from our car fleet are less than the UK average at 93g CO₂/km. We explore our ground fleet data in more detail later in this section.

⁷ Source: The Society of Motor Manufacturers and traders Ltd (SMMT) New Car CO₂ Report 2018.

Industry targets

In 2009, the International Air Transport Association (IATA) agreed to the world's first set of sector specific climate change targets for aviation, focusing on aviation CO₂ emissions⁸.

The first IATA target from 2009 to 2020 is an average improvement in fuel efficiency of 1.5% per year. Fuel use and carbon emissions are directly related, so we've plotted how that would look for us in [Chart 1](#). This shows the ambition in our target set in 2007, which far exceeds the industry targets agreed later by IATA in 2009. With more efficient aircraft still to join our fleet (12 A350s from 2019 to 2021) as we replace our remaining less efficient ones, we expect our fuel and carbon efficiency to improve further in the coming years.

In 2018, we started to prepare in earnest for the new UN agreed Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), which will come into full effect in 2021. Virgin Atlantic has been a long time supporter of a carbon market based measure for our sector. We helped to establish a small industry group called Aviation Global Deal (AGD) in 2007 to call for just such a measure. We were delighted when an international agreement was reached by ICAO and nation states in 2016 with the full support of our industry body IATA. CORSIA addresses the second of the IATA targets: carbon neutral growth. CORSIA is the world's first global sectoral

carbon offsetting scheme, and between 2021 and 2035 will raise billions of dollars for high quality carbon reduction projects around the world. The ICAO procedures are currently being developed to ensure only robust carbon reduction projects are eligible for CORSIA, which could include renewable energy and conservation projects such as forest or mangrove restoration. And this means we'll start acquiring our first CORSIA compliant carbon reduction credits between 2021 and 2024. You can learn more about this highly significant market based measure for aviation [here](#).

⁸ To learn more about industry agreed climate change targets, visit [IATA's website](#).



Industry
agreed
targets

2009

1.5% p/a fuel
efficiency

Working towards
carbon neutral
growth

2020

Carbon
neutral growth

Implementation
of global sectoral
approach

2050

-50% CO₂

Half the net
aviation CO₂
of 2005

Partnering with ClimateCare

We've teamed up with climate and sustainable development experts ClimateCare on some new offsetting initiatives:

- We know many of our customers share our commitment to responsible travel and will want to reduce the carbon footprint of their journeys. We've introduced a new carbon offsetting calculator so our customers can offset their journey by contributing to renewable energy and natural resource conservation projects around the world. This helps people from poorer communities to access cleaner, safer, affordable energy and reduce carbon emissions. You can learn more about our partnership and the projects [here](#).

- Virgin Holidays have committed to offset their Scope 1 and 2 emissions from their 2018 carbon footprint. The best carbon offset projects are the ones that not only reduce carbon emissions but also benefit communities. We're working with ClimateCare to select an impactful project drawing on their knowledge and expertise.

To make a contribution to offsetting projects or calculate the cost of the carbon associated with a particular journey, visit our new [calculator](#). And use the code Virgin2019 at the checkout to receive a discount on your purchase.



Sustainable aviation fuels

As we reach the limits of current efficient airframe and engine technologies the next big breakthrough in aviation carbon reductions is set to come in the form of new sustainable aviation fuels (SAF).



We've partnered with innovative cleantech company **LanzaTech** which uses a groundbreaking approach to make fuels by recycling carbon from industrial waste gases and other unavoidable waste streams. After 10 years of development the technology is now close to jet fuel production on a commercial scale. In 2018 this fuel was qualified for use in commercial aircraft and in October we flew the world's first ever commercial flight using this pioneering new **fuel**.

LanzaTech's fuel has a fantastic sustainability profile with a saving of at least 70% across the product's carbon life cycle compared to fossil jet fuel. There are no land, food or water competition issues and this new technology has the full support of leading sustainability organisation the Roundtable on Sustainable Biomaterials. Crucially, because it's made from plentiful, affordable waste streams, fuel volumes could be available as soon as 2021 at a price comparable with current fossil fuel prices. This will be truly groundbreaking progress that would enable airlines like us to buy significant volumes and achieve considerable carbon savings.



>70%

Life cycle carbon savings achievable from using LanzaTech's sustainable aviation fuel



Together, we're working to bring the world's first carbon recycling or carbon capture and utilisation (CCU) jet fuel plant to the UK. With the inclusion of CCU and other advanced waste based approaches in the UK's Department for Transport incentive scheme (the Renewable Transport Fuels Obligation), three UK plants could be running by 2025. They could produce up to 125 million gallons of sustainable fuel per year from waste carbon emissions and other waste based feedstocks like unsorted unrecyclable municipal solid waste (MSW). That's enough to fly all our current UK outbound flights (as a 50:50 mix with fossil jet fuel) while bringing multiple benefits to the UK, like jobs and fuel security, and saving nearly one million tonnes of life cycle carbon per year. Following the support received so far, we're now actively seeking UK government and investor commitment to making this fuel a commercial reality in the UK and a world first for low carbon jet fuel developments around the globe.

You can follow our journey in our 'Flying on waste' [video](#) and learn about how close we are to together creating the world's first commercial carbon capture and utilisation jet fuel plant in the UK.

Waste watchers

How much fuel we use is affected by the weight of our aircraft, including the products we load. We weigh every single item before it goes onboard – from teapots to toothpicks – and it soon adds up. Given fuel is such a big bill for us, we've been removing and reducing plastics and other single use items for many years now and have been tracking our changes since 2016. It's important to bear in mind that in many cases lightweight items are still the right choice as heavier reusable items (like crockery) would significantly increase our weight, fuel use and carbon emissions. Also, due to strict international catering waste disease control measures, anything that touches meat or dairy must be incinerated or deep landfilled. This severely restricts our recycling options for many products.



8%

The reduction in our onboard product weight in the last three years

It's not always easy but our teams consider these whole life cycle issues in the choices we make. Through careful galley planning our loaded product weight onboard has reduced by 8% in the last three years. That's an average of 275kg per aircraft. In a full year that adds up to 6,408 tonnes in weight reduction across the fleet, saving 4,260 tonnes of carbon and more than £650,000 in fuel costs. Here are some of the changes we've made.



Instead of providing amenity kits as standard in our economy cabin, individual essential items are now available on request. As well as reducing waste, this saves 140 tonnes in weight onboard per year across our fleet



We've removed plastic bags from our headsets – they're now protected by our charity envelopes instead – saving 16 tonnes per year



We've changed to FSC-certified wooden stirrers instead of plastic; in the future they'll be sustainable bamboo. That saves 6.5 tonnes per year



We don't hand out straws on flights, but we carry a small amount of paper ones for those who need them – saving 125kg per year



UK ground operations

The emissions from our ground operations include the energy use in our buildings (electricity and gas) and the vehicles in our ground fleet. Because of the nature of our business, our ground operations account for just 0.1% of our total carbon footprint.

Nevertheless, since 2008 our facilities team has been on it. We've reduced our ground energy use by 47% and our CO₂e emissions by 64%. In 2018 alone, CO₂e emissions from our buildings portfolio decreased by an impressive 25% (Table 3 of the Appendix). This is a combination of the excellent construction and operation of our new office, The VHQ; energy efficiency improvements made at our office and training centre, The Base; and changes in the UK government's emission factor for electricity. This emission factor reduced by 19%, mainly due to a shift in UK power generation from coal to gas and, to a lesser extent, through an increase in energy generated from renewable sources.

As well as our aircraft, we have a ground fleet of around 200 vehicles made up of pool cars, sales cars, airport cars and light commercial vehicles (vans), with roughly

a 50:50 split between cars and vans. In 2017, our facilities team began moving to a fully hybrid and electric car fleet. We're 59% of the way through this replacement programme with 68 petrol-electric hybrids and two fully electric cars out of 108.

On average, the fuel efficiency of our vehicles is 60 miles per gallon (mpg), an efficiency improvement of 71% since 2009. The average CO₂ emission of our car fleet is 93 grams per kilometre, a reduction of 42% since 2009, while our vans have also reduced emissions by 30% to 173gCO₂/km (see Table 4 in the Appendix).

You can learn more about reducing emissions from our ground operations on our [website](#).

Other environmental measures

These are not the only environmental considerations for our business. We also measure and report on waste, water and noise for both our aircraft and ground operations. To find out more, view the data in the Appendix and visit our [website](#).

Supply chain

Working together

Virgin Atlantic and Virgin Holidays work with thousands of suppliers worldwide.

Our goal is to collaborate with them to improve the people, environmental and animal welfare credentials of the products and services we design and buy. With so many suppliers, it's a big task, and a continually evolving one.

On the airline side of things, our two biggest purchases are aircraft and fuel. As you can tell from the previous section, for some time now we've been improving our fuel and carbon efficiency through our aircraft purchases, as well as innovating on new low carbon sustainable aviation fuels. But in order to serve our 5.4 million customers a year we have to do a lot more than fly aircraft. We carry cargo, serve millions of meals and buy a huge array of things, from pillows to paperclips.

Purchasing is also central at Virgin Holidays where we work with our partners and suppliers to create memorable holidays and experiences for our customers. From boutique hotels to all inclusive resorts, the cornerstone of a holiday is where you stay. After flying, this is the biggest part of the Virgin Holidays supply chain, so it's where we're focusing our efforts.

Here we describe some of our procurement policies and practices as well as how we work with partners to champion changes in our supply chain. You can also learn more about our approaches and initiatives on our [website](#) where you'll find case studies, news stories and videos.



Our policies and practices

Responsible Supplier Policy

Our **Responsible Supplier Policy** emphasises to our suppliers that we're focused on sourcing goods and services in a way that treats the people we work with, directly and indirectly, with respect and dignity and that minimises damage to the environment and natural resources, as well as improving animal welfare standards where this is relevant. Our policy is based on international standards of basic human rights, such as the International Labour Convention and the UN Convention on Human Rights, as well as the UK Modern Slavery Act (MSA).

Supply chain management is an important part of the Modern Slavery Act. It sets out a range of measures on how modern slavery and human trafficking can be dealt with in the UK, as well as seeking transparency from companies on the actions they have taken to tackle these issues within their supply chains. We publish an annual modern slavery statement. You can read the latest statement on our [website](#).

Ethical Carriage of Cargo Policy

We also have a robust Ethical Carriage of Cargo Policy that addresses what our aircraft carry as freight. As required in UK law we don't carry live animals or commodities without a valid import/export

or CITES⁹ (Convention on International Trade in Endangered Species of Wild Fauna and Flora) licence. In addition, we refuse to carry a number of otherwise legal commodities, such as shark fins, ivory, hunting trophies and fur products because they compromise our business values and commitments.

Supplier assessments

In 2018 we began working with **EcoVadis**, who offer a collaborative platform and service to assess and encourage suppliers' sustainability performance. Suppliers submit questionnaires describing their policies and actions, together with supporting evidence. The analysis by EcoVadis creates a scorecard that allows us to understand performance and discuss areas for improvement with our suppliers as well as recognise best practice. The approach aligns well with our Responsible Supplier Policy, and supports our efforts to better understand and tackle human rights and environmental risks in our supply chain.



Hotel sustainability

For our holiday customers, the accommodation we provide has the next largest sustainability impact after their flight. During 2018 we mapped the performance of our hotels (top 80% by volume) against our Responsible Supplier Policy. Going forward we'll be actively working with our hotels to make sure they continue to improve against all areas of our policy. Priority areas include: tackling slavery; carbon, water and waste management; responsible food and drink sourcing; and promoting diversity and inclusion. An example of how we support our hotels to achieve these ambitions is the diversity and inclusion training we support for hotel staff and hospitality students, which features in the **People and partners** section.

We encourage hotels to seek independent sustainability certification to measure, demonstrate and improve their performance. For example, since 2005 we've worked with our trade association ABTA (Association of British Travel Agents) to help develop and establish the **Travelife** sustainability system. This scheme encourages hotels to improve their social, economic and environmental performance and audits hotels against a wide range of sustainability criteria. In addition to Travelife there are other well respected certification schemes out there and we welcome any sustainability certification scheme recognised by the **Global Sustainable Tourism Council (GSTC)**. Based on our assessment of publicly available information, upwards of 25% of our hotels currently have GSTC recognised certification and each year we are working to improve uptake.



>25%

Percentage of our hotels achieving independent certification for sustainability

⁹ CITES is an international agreement between governments that aims to make sure the international trade of wild animals and plants does not threaten their survival.

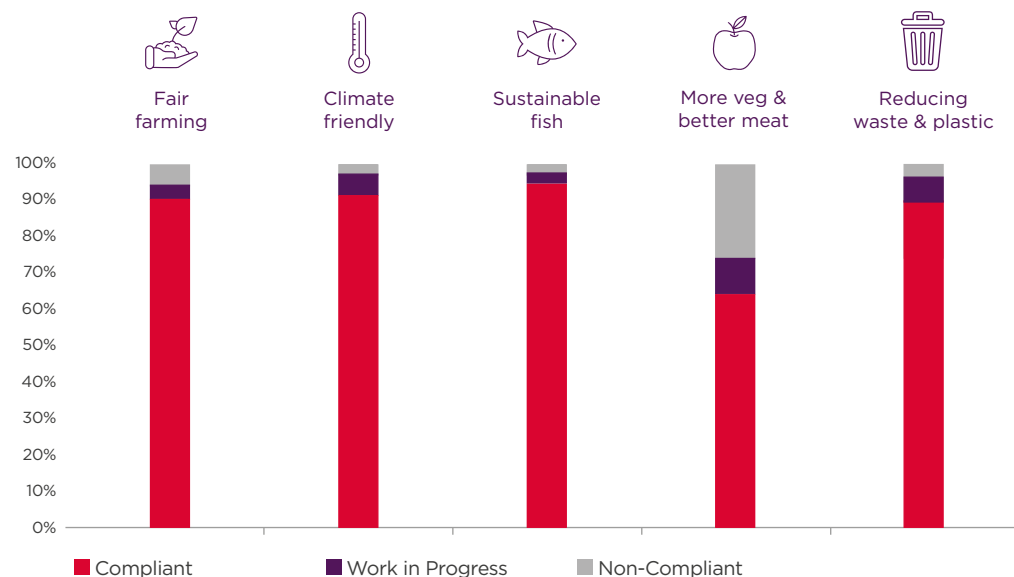
We serve around 10 million meals onboard every year, so it's important to us that we provide the best experience, while ensuring our meals are sourced responsibly. We like to think of it as 'Thoughtful Food'. Through our partnership with the Sustainable Restaurant Association (SRA) established in 2013, we ask our suppliers to meet a number of challenging criteria including sourcing fairly traded products, promoting higher animal welfare standards and sourcing sustainable certified fish, seafood, beef, soy and palm oil (or finding better alternatives). We're pleased to say that 63% of our flights worldwide

now meet all these standards. Further, when each standard is considered individually (e.g. sourcing fairly traded products), in many instances we have much higher compliance¹⁰ across our network, as shown in Chart 3. We're continuing to work with our caterers to improve in all these measures across all our destinations.

¹⁰ For compliance, we require every ingredient to meet the standards. Minor exceptions are tolerated providing they are being quickly addressed.



Chart 3: The percentage of inflight meals compliant with our Thoughtful Food sustainability standards



Tackling deforestation

Our 'Climate friendly' standard states that the products our caterers purchase support biodiversity and do not contribute towards deforestation. Soy, palm oil and some beef supplies represent a high deforestation risk, so we have been working with our caterers to remove, reduce or replace their use in our onboard meals with sustainably sourced options. We are aiming to achieve 100% sustainably sourced palm oil and soy in line with UK government recommendations, with a target year of 2021.

We encourage our suppliers to use certified sustainable sources of palm oil (CSPO) where possible and otherwise buy sustainable palm credits to support progress towards a sustainable palm oil industry more widely. This year we increased the granularity of our audit to assess where caterers are using products containing

segregated (certified) sustainable palm oil and soy. The results showed that currently 27% of palm oil and 14% of soy comes from segregated sources. These audits will enable us to share information with suppliers about what segregated products are available and help them achieve our 2021 target.



63%

The percentage of our flights where the caterers meet all of our sustainable food criteria

Our position on cetaceans

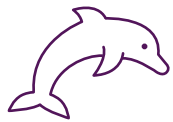
We offer our holidays customers a range of activities and attractions in their destinations. Often these involve animal encounters and here too we're keen to promote positive animal welfare practices. In the last few years we've removed a number of experiences that haven't met our own or ABTA's animal welfare standards and changed the way we work with others. Central to these are tourist attractions that feature captive whales and dolphins. The core principles are:

- we are not selling or promoting any new attractions or hotels featuring captive whales and dolphins
- we are promoting better welfare standards for existing facilities, ensuring that all will meet the ABTA guidelines at a minimum
- we're supporting the development of more responsible wild whale and dolphin watching and the creation of sanctuaries.

In 2018, we extended our commitment through two exciting partnerships:

- we've invested US\$100,000 in the world's first **dolphin sanctuary**, led by the non profit US National Aquarium in Baltimore. The sanctuary will become the new home for the aquarium's dolphins – Jade, Spirit, Maya, Bayley, Chesapeake, Beau and Foster. Together, they're on a tailored training programme to get them ready for their new home in January 2021
- we're partnering with the **World Cetacean Alliance** to develop Guidance for Responsible Whale and Dolphin Watching. We'll be working together to support operators and get all Virgin Holidays' wild cetacean experience providers certified.

Throughout 2018 we audited the captive cetacean facilities we work with against ABTA animal welfare guidelines and ended our partnership with those that don't meet these minimum requirements. Our **website** provides more information about our commitment and progress. You'll find further updates here too as this programme continues to evolve.



\$100,000

invested in the world's first
dolphin sanctuary



People and partners



Our people

Our vision is to be the most loved travel company and in 2018 we started to prepare for our latest three year business strategy, outlining the steps we'll take to achieve this 'most loved' status.

We took inspiration from our world leading customer experience programme. As part of this, we set ourselves the challenge to redefine a people experience that would truly help us attract and retain the best talent, with a working environment where people can be themselves and do their best work.

Diversity and inclusion

In 2018, we set a clear ambition to have a 50:50 gender balance in leadership roles and 12% Black Asian and Minority Ethnic (BAME) representation across our business by 2022. Our aim is for our diversity to reflect the diversity of the communities we serve.

In 2018 Virgin Atlantic's median gender pay gap was 30% while Virgin Holidays' pay gap was 23.1%. We believe in treating all of our people fairly, which is reflected in the fact that our analysis showed we do not have an equal pay issue. Like the rest of our industry, our gender pay gap is heavily influenced by the demographics of certain workgroups in our business, particularly pilots, engineers and cabin crew – and it means that our gender pay gap is higher than we'd like it to be. The introduction

of gender pay reporting continues to be essential in holding businesses to account and we're determined this will be a catalyst for change.

Last year we outlined a series of ambitions and measures to address these areas moving forward. This included the launch of our diversity and inclusion strategy 'Be Yourself', which commits to attracting and developing a more diverse workforce and building a more inclusive environment. We are determined to build a culture where diversity is not just accepted but embraced, championed and celebrated.





1. We will create an inclusive environment, where everyone's individuality is celebrated and valued.

We will do this by building our leadership capability to be curious and value difference in our teams through activities such as conscious inclusion learning, our Flourish learning experience and our reverse mentoring programme for our senior leaders. We will conduct an audit of our policies and procedures to make sure they are inclusive to all and are being applied consistently by every leader. And we will support our employees to set up inclusive employee networks.

In 2018, we made good progress in this area. One area we are particularly proud of is the growth of our employee networks. Scarlet, our women's networking group with 450 members, focuses on accelerating the connections, the confidence and the sponsorship of our women. It holds networking and education events and provides our women with advice and support.

Our LGBT+ community is also strongly supported through our LGBT+ Employee Network, with approximately 400 active members. And we're continuing to see new employee networks being formed, such as our cultural, Christian and disability engagement networks. These groups are already an important part of our working life and we are excited to support their ongoing development.

2. We will attract, recruit and develop a diverse workforce and unlock the full potential of our amazing people.

We'll do this by identifying innovative ways to recruit talent and we will develop an inclusive hiring toolkit. We will work to build strategic partnerships with organisations such as VERCIDA, Workingmums.co.uk and Stonewall to help us attract a diverse workforce.

In 2018 we established Springboard, a personal and professional development programme, designed and delivered by women for women. It gives women the skills and confidence to make meaningful changes and improvements in their careers and their personal lives. In 2018, 67 people attended, with exceptional feedback. Our 2019 target is for 140 to attend this course.

3. We will increase the awareness of inclusion and drive organisational and industry wide change.

We have done this by signing up to charters such as Woman in Aviation and Aerospace and Women in Hospitality. We support and deliver celebratory and educational events with our people and in the local community. We will promote our commitment to diversity through our internal communications channels and we will ensure our external marketing is inclusive for all customers.

In 2018, our Swansea Customer Centre joined a women's career development programme called Chwarae Teg. This Welsh government funded project promotes gender equality, career advancement and improving the position of women in the workforce across nine priority sectors in Wales, including travel and tourism. The vision of the programme is 'Building a Wales where women achieve and prosper'. Six women from our Customer Centre joined the programme where they received 1:1 mentoring and training to help reach their potential and achieved an ILM Level 2 Award in Leadership & Team Skills qualification.

Apprenticeships

In 2018, we registered as an apprenticeship employer provider so we can directly deliver training. From January 2018 to February 2019 we have enrolled 141 apprentices across the business, including roles in engineering, finance and retail. A particular success is the creation of a cabin crew apprenticeship scheme, created by collaborating with representatives from across all airlines, including the military.



141

Apprentices we have enrolled into roles across the business, such as engineering, finance and retail



Working well, living better

For our people to thrive we need to be well and feel at our best. We have taken an holistic view of wellbeing and invested in the mental, physical and financial wellbeing of our people. Our aim is to create a motivated, resilient and vibrant workplace where our people feel valued, listened to and supported.

In 2018 a significant area of focus was mental health. On World Mental Health Day we signed the Time to Change Pledge and publicly opened up a conversation about mental health to reduce stigma and discrimination within the workplace. In addition, we launched mental health first aid training and 182 people in our business qualified as mental health first aiders. We also ran 22 mental health awareness training workshops, 11 sickness absence training workshops, eight stress workshops and ran a trial of Headspace, a mindfulness app.



Our Learning Flightpath

We believe that learning isn't just an action it's a mind set, a skill, and a way of working that centres on personal growth and restlessness to improve. We have recently launched our Learning Flightpath - a comprehensive, interactive guide which aims to enrich our people experience and help us achieve greater commercial success. It will allow our people to take control of their own development and choose learning experiences that are relevant, impactful and easy to apply in their day to day roles.

Part of our Learning Flightpath offering has been the creation of the 'Flourish' programme. In 2018, 2,000 of our people leaders took part in 'Flourish' to develop the mind set and techniques they need to lead and inspire their teams. We believe that by enhancing the capacity and capability of our leaders we can enhance the experience of all our people, ultimately leading to a stronger customer experience.

LGBT+

Our teams have long been champions of LGBT+ rights, taking part in many Pride events in the UK and promoting LGBT+ friendly holidays. In 2018, we entered a float at Brighton Pride and supported Pride Cymru where our customer service team in Wales raised £10,000 to sponsor the event. We also continued our annual sponsorship of the Attitude awards to celebrate success in the LGBT+ community.



Our customers

Customer service has always been at the heart of the Virgin ethos.

We know that running a successful business is all about making our customers feel good and providing the best possible service. Our customer team puts this at the heart of everything it does.

We know it's important that everyone feels welcome regardless of their age, abilities, gender, background or who they choose to love. Here are some of the other ways we're making travel and adventure enjoyable for everyone.

Single parents

For single parents, the holiday market doesn't always meet their needs. Conventionally, hoteliers price their rooms on the basis of double occupancy which can increase prices for single parents. And the holiday itself needs to cater for both parent and child, making sure you're both having the time of your life. We've worked with Elite Island Resorts and other award winning hotels in the Caribbean to make booking a holiday less pricey for single parents, putting together a selection of all inclusive holidays with pricing and activities that are tailored to them.

Hidden disabilities

Hidden disabilities such as autism or dementia may not be instantly recognisable but often mean travelling can prove more stressful. It can be hard to ask for help when your disability isn't visible so we've developed an inconspicuous way of letting our staff know you may need some assistance. Working with Heathrow and Gatwick airports we introduced a hidden disabilities programme. A specially designed symbol, which can be worn as a pin badge or discretely tucked away in your passport as a bookmark, will alert extensively trained Virgin Atlantic staff that extra assistance may be needed by an individual or their family while travelling.



Taking Pride

We launched the UK's first **Pride Flight** between London and New York, which will take place on 23 June 2019 and mark the 50th anniversary of New York City's Stonewall Uprising, widely regarded

as a pivotal moment in LGBT+ history. Staffed entirely by LGBT+ pilots and cabin crew, we'll let our people and customers know we're celebrating LGBT+ culture at 38,000 feet.

Pioneering access to onboard entertainment

We've introduced tablets onboard with an accessible inflight entertainment (IFE) system featuring high contrast large text, audio descriptive content and subtitles, controls and menus that are easy to navigate, as well as support for multiple languages. The platform was developed in collaboration with Guide Dogs for the Blind and IFE software experts Bluebox, and won a prestigious Crystal Cabin Award in recognition of our joint efforts to improve access to passengers with sight loss. In addition, to support those who are hard of hearing, we've also introduced audio descriptive movies onboard, and typically have 20-25 supported movies per flight.

Special assistance

We want every single customer to enjoy their time with us, but we also know that flying and travelling can be a challenge, especially if you have a disability. That's why we have a whole team of people dedicated to helping you travel comfortably and safely. Our special assistance team is dedicated to helping passengers with special seating requirements, mobility assistance and aids and supporting passengers with particular medical conditions. Each year we are actively involved in Gatwick Airport's Accessibility Day. Customers with all types of disabilities come to the airport and experience check in, wheelchair assistance and lifts onto the aircraft to give them more confidence to travel in future.





Our non profit partnerships

The core aim of our Change is in the Air programme is to do business for good and improve lives at home and abroad. As part of our carbon reduction and supply chain programmes we work with a wide variety of colleagues and suppliers from our own industry, as well as with governments, scientists, environmentalists, non governmental organisations (NGOs) and charitable organisations around the world. These are reported in the previous sections. In addition, our community investment initiatives directly support a number of charity partnerships.

virgin atlantic 

The Virgin Atlantic Foundation (a UK registered charity) was established in 2003 to distribute funds raised through our airline's community investment programme. Through the foundation, we primarily support our long standing charity partner WE. This much loved partnership has inspired Virgin Atlantic people, their partners and our customers to raise millions of pounds for projects in the UK and some of our worldwide destinations past and present. Funds are mostly raised onboard through our Change for Children appeal and staff fundraising.

 **HOLIDAYS**

For more than a decade, £1 per adult and 50p per child has been set aside from every holiday sold per year by Virgin Holidays to support our non profit partnerships. With these funds we've helped empower young Caribbean entrepreneurs to grow their businesses by supporting the Branson Centre for entrepreneurship, as well as supporting other important causes. In 2018 we supported the Dreams Come True charity through our staff fundraising campaign and provided customers with the opportunity to give optional small charitable donations when booking their holiday online through the Pennies Foundation.



In 2018, our airline and the Virgin Atlantic Foundation distributed the equivalent of

£1,236,012

in donations, our people's time and other things. This was made up of:

'Change for Children' onboard passenger donations

£670,559

Our passengers generously donate their spare change and foreign currency onboard for our appeal. These funds are primarily in support of our charity partner WE, however we also gave funds to Save The Children and the Nelson Mandela Children's fund.

Staff fundraising

£207,952

Our people ran marathons, climbed mountains, organised football tournaments, comedy nights and so much more to support our 'Little Sparks, Big Imaginations' campaign for our charity partner WE, as well as sometimes supporting other causes by splitting their fundraising with another charity of their choice through our '50:50' fundraising model.

Volunteer staff time

£46,650

Our people gave their time to volunteer, supporting annual events with WE, such as WE Day and visiting WE international development communities, as well as local charities. For example, in 2018 our corporate communications team worked with Gatwick greenspace to clear invasive species in an area close to our head offices.

Flights and other items

£310,850

We donated 89 pairs of flight tickets to be auctioned and raffled to raise valuable funds for a range of children's charities, as well as 10 additional pairs for charities nominated by our people. We also gave complimentary and discounted tickets to children requiring life saving and life changing medical treatment. We supported WE by selling their Me To WE products in our onboard magazine and resources to support charity fundraising.

Our airline's main charity partners

Since 2010, our partnership with WE has received phenomenal support from our people and our customers. We support two main programmes with WE: WE Schools and WE Villages.

In the UK and US, we fund the 'Be The Change' WE Schools programme. This provides free educational resources and support to students aged seven to 18 years, enhancing the curriculum and empowering students to discover, and take action on, the causes they care about. In the 2017/2018 school year, we brought WE Schools to 167 schools across the UK, US and Caribbean.

Internationally, we support WE Villages (WE's international development programme) which focuses on delivering long term change to communities in poor, remote and rural areas. By addressing the five primary causes of poverty – lack of access to water, education, food, healthcare and economic opportunity – in tandem, these communities are empowered to become self sustaining in the long term and fulfil their own ambitions to rely less on foreign aid. Since 2016, in our international WE communities we've focused on enhancing our initial five year programme by introducing renewable energy solutions to provide communities in India, China and Kenya with free, clean energy. This means installing solar power in schools, health clinics, greenhouses and family homes. From 2019, we will be shifting our focus to improving access to education in WE communities.

What we did in 2018



Solar heating

Through WE, we are working to replace coal with solar as the primary source of heating in schools in the villages of Gufubao and Wujiazhuang in rural China. In these remote communities the winter can be harsh, typically lasting up to five months, with temperatures dropping to a low of -10 to -15°C. As schools are viewed as the centre of the community, having an upgraded and sustainable heating system will have an extremely positive impact on the health of the students and their families. As well as saving money on fuel, the children will be working in a more comfortable environment to further their education.



Emergency relief support

As well as our ongoing work with WE, during times of humanitarian crisis we work with international partner Save The Children to support their **Children's Emergency Fund**. In 2018, we ran two emergency Change for Children onboard appeals and were able to donate £48,863. We also supported their annual Christmas

Jumper Day campaign in December and were able to donate an additional £2,933 in Change for Children funds.

We raised funds for the **Nelson Mandela Children's Fund** in celebration of Mandela's 100th Centenary. Our generous passengers on our Johannesburg flights supported our appeal and we were able to donate £1,027 to the charity.



Change for children

Through Change for Children donations, we were able to support WE with a donation of £617,660. These funds will be used to support a number of projects with WE including the WE Schools programme in the UK and USA and a clean tech project in China implementing renewable energy in WE communities. Also, 30 UK school children were selected to join the annual Virgin Atlantic Scholarship Trip to India to volunteer in WE communities and we awarded five schools with Change is in the Air Awards to turn their sustainability ideas into action.

Staff fundraising

Every year, our airline teams raise thousands to support our staff fundraising campaign. In 2018, through our campaign 'Little Sparks, Big Imaginations' we were able to donate an additional £113,967 to WE. 'Little Sparks, Big Imaginations' was all about getting the WE Schools programme into 42 schools across the UK, particularly in our local communities of Crawley, Manchester and Swansea. £100,000 will be used to support this programme. The remaining funds will support other WE projects.



In 2018, our Virgin Holidays teams distributed the equivalent of

£402,022

in donations, our people's time and other things. This was made up of:

Non profit partnerships

£328,600

Virgin Holidays supported several non profit partnerships such as the Branson Centre for Entrepreneurship and the Caribbean Hotel and Tourism (CHTA) Education Foundation.

We also supported the World Cetacean Alliance and US National Aquarium as described in the [Supply chain](#) section.

Volunteer time

£18,375

Our people volunteered their time to local and national charities, such as with Springboard (which supports young people to develop skills for the tourism industry) and assisting local children's hospice Chestnut Tree House at their fundraising events.

Staff fundraising

£29,913

For the first time we held a staff fundraising campaign to raise money collectively for a good cause. Our people voted for Dreams Come True to be the beneficiary charity, as well as sometimes supporting other causes too by splitting their fundraising with another charity of their choice through our '50:50' fundraising model.

Local community causes

£25,134

The Virgin Holidays Staff Charity Committee supported many different charities with Virgin Holidays Vouchers, Love2Shop Vouchers and other charitable donations. Vouchers were used to buy equipment and prizes, or as part of auctions and raffles to raise funds.

Our holidays charity partners

In 2011, Virgin Holidays and Virgin Unite helped to establish the **Branson Centre for Entrepreneurship** in Jamaica and we have continued as the major funder ever since. In 2018, we once again donated £200,000 to the Branson Centre as they took a strategic shift, focusing on supporting businesses to scale up and support the Jamaican economy. The new approach helps entrepreneurs grow their businesses and gain capital investment. The 2018 cohort of entrepreneurs have already seen an average 45% increase in net profit for their businesses thanks to the support of the centre through workshops, training, mentoring and networking. Our holidays teams have also continued to support UK partner **Dreams Come True** – a national children’s charity whose mission is to enrich the lives of children and young people living with serious medical conditions by fulfilling their dreams and wishes.



What we did in 2018

Guest care in a diverse world

We donated US\$30,000 to the **Caribbean Hotel and Tourism (CHTA) Education Foundation** to support tourism education and career development in the region.

Through this CHTA partnership, we successfully trialled diversity and inclusion (D&I) training within our Barbadian hotels. 188 hotel staff and hospitality students in Barbados were trained on how to give the best guest care, focusing on a range of areas including gender, LGBT+, race, disability, and religion. As a result of the training the participants have reported being more aware and open minded towards guests with different needs and perspectives.

The training also provided career mapping for women. With empowering speeches from the Chairwomen of the Caribbean Hotel and Tourism Association, as well as graduates sponsored through the Virgin Holidays CHTA scholarship programme, the women were encouraged to seek opportunities for personal and professional growth. As a result, a local women’s network was set up with around 30 members; four months later four women had already achieved promotions.

We also partnered with local gay rights group B-GLAD (Barbados Gays and Lesbians Against Discrimination) and The Royal Commonwealth Society to organise a roundtable on LGBT+ inclusion. The meeting created a forum for discussion between tourism experts and business leaders on the benefits of diversity and inclusion in tourism, from hiring the brightest and best, to attracting the widest range of customers.



At the launch of these joint initiatives, Minister of Tourism and International Transport for Barbados Kerrie Symmonds commented: “This country cannot easily sit by and watch a lack of diversity or discrimination take place in any form, or in any fashion. I think it is very important Barbados stands up and says to the rest of the world that all are welcomed and none will be discriminated against because the whole world has a right to enjoy tourism, hassle free.”



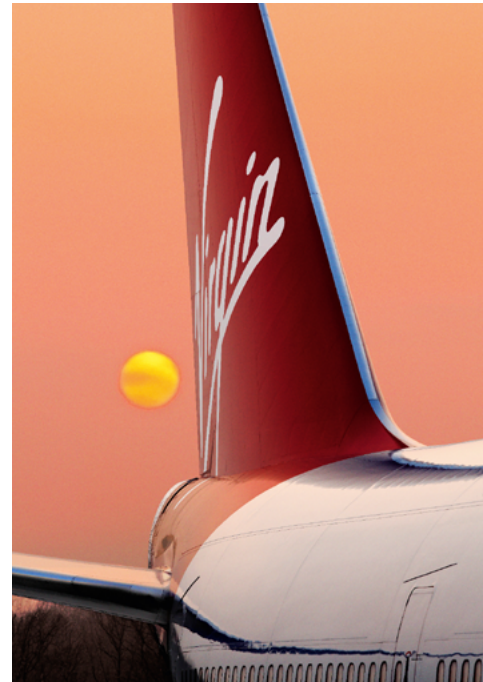
£328,600

Virgin Holidays’ support for non profit partnerships

Staff fundraising

In 2018 we broadened our support for Dreams Come True as our people nominated them as Virgin Holidays’ chosen charity for staff fundraising. Our people took on a variety of activities including the Three Peaks Challenge, 10km runs, bake sales and Christmas present wrapping. And our Managing Director took on La Marmotte – one of the toughest one day bike rides in Europe, covering 110 miles. We were delighted that we met our target of £30,000 by April 2019 to fulfil the dreams of at least eight children. We also continued with our online ‘Pennies’ scheme, giving our customers the opportunity to make a 50p donation to Dreams Come True when booking their holiday online.





Rounding up

We hope you've enjoyed this year's Change is in the Air Sustainability Report. We'd love to hear what you think. If you have any feedback or suggestions please let us know, at environment@fly.virgin.com or community.investment@fly.virgin.com.

There's lots more online about our Change is in the Air sustainability programme. Visit our websites to watch our videos, download past and present summaries and full sustainability reports, read case studies from across the business, and see our latest news.

virginatlantic.com/changeisintheair

virginholidays.co.uk/responsible-tourism

Appendix



Our carbon accounting methodology

How we calculate our carbon emissions

Each year, the UK government updates its guidance for measuring and reporting greenhouse gas (GHG) emissions, including methodologies and conversion factors. We use the latest methods to keep up with best practice. If everyone does this, it's easier to compare our own performance to others. When methodologies change significantly, we recalculate previous published figures so that all years are comparable.

Emission conversion factors

In order to report the greenhouse gas emissions associated with our activities we must convert 'activity data' such as distance travelled, litres of fuel used, or tonnes of waste disposed of into carbon emissions. Emission conversion factors are used for this purpose, and each year we use the published DEFRA emission factors for that year:

<https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting>.

For 2018, our key emission conversion factors are:

	2018 kg CO ₂ e conversion factor	2018 kg CO ₂ conversion factor
Aviation turbine fuel (tonnes) ¹¹	3181.2	3149.7
Natural gas (kWh)	0.18396	
Electricity (kWh)	0.28307	

¹¹ For converting tonnes of fuel into tonnes of CO₂e or CO₂ we use multipliers 3.1812 and 3.1497 respectively.

Other emission conversion factors, such as for vehicles and refrigerants, can be viewed on the DEFRA guidance pages here:

<https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2018>.

Table 1: Virgin Atlantic and Virgin Holidays' carbon footprints¹²

Virgin Atlantic	2014	2015	2016	2017	2018	% change 2017-2018
Scope 1 - CO ₂ e (tonnes)	4,606,309	4,437,411	4,086,192	3,982,550	4,113,759	3.3%
Scope 2 - CO ₂ e (tonnes)	7,133	7,341	6,724	4,820	3,399	-29.5%
Scope 3 - CO ₂ e (tonnes)	1,620,632 ¹³	2,293,463 ¹⁴	1,554,199	1,509,537	1,393,640	-7.7%
Total - CO ₂ e (tonnes)	6,234,074	6,738,215	5,647,115	5,496,907	5,510,799	0.3%
Virgin Holidays	2014	2015	2016	2017	2018	% change 2017-2018
Scope 1 - CO ₂ e (tonnes)	-	246	180	81	109	34.3%
Scope 2 - CO ₂ e (tonnes)	-	589	596	370	331	-10.6%
Scope 3 - CO ₂ e (tonnes)	-	183	284,802 ¹⁵	291,003	263,910 ¹⁵	-9.3%
Total - CO ₂ e (tonnes)	-	1,018	285,578	291,454	264,350	-9.3%
Combined total footprint - CO ₂ e (tonnes)	6,234,074	6,739,233	5,933,011	5,788,361	5,775,149	-0.2%

Notes

- We have had our carbon footprint verified since 2015 – focusing on the verification of Scope 1, Scope 2 and Scope 3 (category 3) emissions, as described in the [Environment](#) section. You can see this year's verification opinion statement at the back of this Appendix. Statements from previous years are available on our website.
- In 2018, we updated the emission factors used to model some of our Scope 3 emissions that derive from financial data. This took into account currency and inflation changes. As a result, many of the emission factors reduced by more than 20%. For transparency, if 2017 Scope 3 emissions had used the updated emission factors, then the Scope 3 emissions for Virgin Atlantic and Virgin Holidays in 2017 would have been 1,285,910 tonnes and 224,159 tonnes respectively. Using these re-calculated Scope 3 values for 2017 would mean that Scope 3 emissions in 2018 had increased by 8.4% for Virgin Atlantic and 17.7% for Virgin Holidays.

¹² Table 1 shows the last five years' data. The full data set from 2012 is available in our 2017 Sustainability Report, which can be downloaded from our [website](#).

¹³ This is the value calculated and reported to the CDP for 2014 and has been updated here to improve transparency of our historic emissions.

¹⁴ In 2015, aircraft purchased led to a large increase in Scope 3 Category 2 - Capital Goods.

¹⁵ In 2016 and 2018, Virgin Holidays' Scope 3 footprint was expanded to include more Scope 3 categories.

Table 2: Virgin Atlantic aircraft carbon emissions¹⁶

	Base year: 2007	2014	2015	2016	2017	2018	% change 2007-2018
CO ₂ (kg) per Revenue Tonne Kilometre	0.869	0.783	0.791	0.724	0.711	0.712	-18.1%
CO ₂ (g) per Passenger Kilometre	100.7	89.4	85.9 ¹⁷	78.9	78.2	81.4	-19.2%
Total CO ₂ emissions (tonnes) from aircraft operations	5,164,993	4,557,026	4,389,779	4,041,476	3,939,407	4,069,873	-21.2%
Total CO ₂ e emissions (tonnes) from aircraft operations	5,218,451	4,604,122	4,433,713	4,081,920	3,978,874	4,110,552	-21.2%

Our aircraft carbon metrics

For our three main metrics, we used the latest guidance and following methodology:

- Total CO₂/CO₂e emissions: Calculated using the aviation turbine fuel CO₂ or CO₂e conversion factor, multiplied by the amount of fuel used from all flights. There's a direct relationship between aircraft fuel and CO₂ emissions, whereby 1 tonne of fuel used leads to 3.149 tonnes of CO₂ emitted.
- CO₂/RTK. As above, CO₂ is calculated using the aviation turbine fuel CO₂ conversion factor, multiplied by the amount of fuel used. RTK is calculated from all revenue (paying) passengers and freight (cargo) flown, multiplied by the total number of kilometres flown. The airport to airport distance is calculated using the Great Circle Distance (the shortest distance between two points on a sphere). This is then increased by 8% to allow for 'real world' distances flown, for example including sub optimal routing and queuing to land at airports during periods of heavy congestion.
- CO₂/PK. As above, CO₂ is calculated using the aviation turbine fuel CO₂ conversion factor, multiplied by the amount of fuel used. PK is calculated from all passengers flown, multiplied by the total number of kilometres flown (Great Circle Distance + 8%). A passenger to freight weighting is also applied, so emissions can be allocated between passengers (this takes into account luggage, seats, galleys, etc) excluding the emissions associated with transporting freight. We've used the recommended allocation methodology for longhaul flights of 85.13% to passengers and 14.87% to freight.

¹⁶ Table 2 shows data for our 2007 base year and the last five years. The full data set is available in our 2017 Sustainability Report (downloadable from our [website](#)).

¹⁷ A formula error was discovered which has led to an update in the previously published number for 2015 CO₂(g)/PK.

Table 3: Virgin Atlantic and Virgin Holidays' UK ground energy performance

Energy performance	Base year: 2008	2014	2015	2016	2017	2018	% change from base year
Electricity and gas, all sites kWh	36,707,798	29,008,287	27,741,032	28,015,312	22,152,161	19,412,336	-47.1%
Virgin Atlantic electricity and gas, tonnes CO ₂ e	11,928	9,496	8,601	8,006	5,889	4,385	-63.2%
Virgin Holidays electricity and gas, tonnes CO ₂ e	1,039	827	766	701	376	331	-68.1%
Combined electricity and gas, tonnes CO ₂ e	12,966	10,323	9,367	8,707	6,265	4,716	-63.6%
Airport properties electricity, kWh	N/A	N/A	2,003,445	1,862,445	1,706,679	1,621,533	N/A
Airport properties electricity, tonnes CO ₂ e	N/A	N/A	925,972	767,420	600,000	459,007	N/A

Notes

- Data is supplied by our energy providers based on meter readings.
- 'All sites' varies each year to reflect our buildings portfolio. We include all major buildings and smaller properties where the utility is under our operational control. For energy usage in 2018, this includes our offices – The VHQ and The Base, as well as our hangars at Heathrow and Gatwick, our contact (sales) centre in Swansea, and a number of Virgin Holidays stores.
- Electricity usage at airport properties is shown separately as this was not available in 2008 and so is not included in the base year data. Gas is part of the service charge for these properties and is not metered. For reporting our carbon footprint (Table 1) we estimate our gas usage in airport properties where we have operational control (i.e. Clubhouses) using industry benchmarks.

Table 4: Virgin Atlantic and Virgin Holidays' UK ground transport fleet performance¹⁸

	2009	2014	2015	2016	2017	2018	% change 2009-2018
Average CO ₂ emissions for cars (g CO ₂ /km)	160	105	103	103	94	93	-42%
Average CO ₂ emissions for light commercial vehicles (g CO ₂ /km)	248	172	173	174	173	173	-30%
Average CO ₂ for all vehicles (g CO ₂ /km)	204	139	137	138	131	130	-36%
Average mpg for cars	43	70	72	72	75	75	74%
Average mpg for light commercial vehicles	28	43	43	43	43	43	54%
Average mpg for all vehicles	35	57	58	58	60	60	71%
Number of vehicles	220	195	201	192	209	203	-8%

Notes

- Virgin Holidays' vehicles have been included in the figures from 2015 onwards (15 in 2015, 9 in 2016, 27 in 2017 and 24 in 2018).
- There is an approximate 50:50 split between cars and light commercial vehicles.
- We have changed our methodology in this report, backdated to 2015, so that the averages above represent the year end position of our fleet, rather than an average for the whole year. This is due to the large number of changes happening each year within our fleet as we transition to hybrid and electric vehicles.

¹⁸ Table 4 shows data for our 2009 base year, and the last five years. The full data set, using the previous whole-year average methodology, is available in our 2017 Sustainability Report (downloadable from our [website](#)).

Table 5: Virgin Atlantic's average aircraft noise¹⁹

		Base year: 2012	2014	2015	2016	2017	2018
Aircraft fleet	A320-200		3				
	A330-300	10	10	10	10	10	10
	A330-200						4
	A340-300	4	2				
	A340-600	16	13	11	8	7	8
	B747-400	13	12	10	8	8	8
	B787-9		2	9	13	14	17
Average noise (decibels)	97.60	95.44	95.41	95.26	95.04	95.20	
% of 6dB reduction target	-	-36%	-37%	-39%	-43%	-40%	

Notes

- Average noise is modelled using the number of flights performed by each aircraft type, multiplied by the aircraft noise specifications for takeoff, lateral and approach respectively. We then create an average across all aircraft by dividing by the total number of flights performed in the year.
- Our target is to reduce our average noise by 6dB by 2020. The new aircraft we are introducing into our fleet are quieter, as well as more fuel efficient, than the aircraft they are replacing. You can read the Virgin Atlantic Aircraft Noise Management Strategy [here](#).

¹⁹ Table 5 shows data for our 2012 base year and the last five years. The full data set is available in our 2017 Sustainability Report (downloadable from our [website](#)).

Table 6: Virgin Atlantic and Virgin Holidays' UK water use²⁰

	Base year: 2012	2014	2015	2016	2017	2018	% change from 2012-2018
Virgin Atlantic (m ³)	64,496	51,683	54,175	55,608	49,789	45,977	-28.7%
Virgin Holidays (m ³)	5,737	5,360	3,016	4,207	2,053	2,637	-54.0%
Total (m ³)	70,233	56,452	57,144	59,379	51,841	48,614	-30.8%

Notes

- Data is provided by our water supplier based on meter readings.
- 'All sites' varies each year to reflect our buildings portfolio. We include all major buildings and smaller properties where the utility is under our operational control. For water usage in 2018, this includes our offices The VHQ and The Base, as well as our hangars at Heathrow and Gatwick, airport properties, our contact (sales) centre in Swansea, and a number of Virgin Holidays stores.

²⁰ Table 6 shows data for our 2012 base year and the last five years. The full data set is available in our 2017 Sustainability Report (downloadable from our [website](#)).

Table 7: Virgin Atlantic and Virgin Holidays' UK ground waste²¹

	Base year: 2008	2014	2015	2016	2017	2018		% change from 2008-2018 (2010-2018 for composting and incineration) ²²
						Tonnes	% of waste stream	
Total recycled, tonnes	422.0	587.1	453.5	494.4	693.7	377.6	60.3%	-11%
Total composted, tonnes	0	19.9	12.6	12.4	18.2	11.4	1.8%	135%
Total incinerated (energy from waste), tonnes	0	145.9	163.0	195.6	176.5	212.2	33.9%	1535%
Total anaerobic digestion (energy from waste), tonnes	0	65.1	46.2	0	0	0	0%	0%
Total sent to landfill, tonnes	616.1	63.4	24.2	27.6	29.0	24.6	3.9%	-96%
Grand total waste, tonnes	1038.1	881.4	699.5	730.0	917.4	625.8	100.0%	-40%

Notes

- Data is provided by our waste contractor based on a mixture of actual weighed bins and industry averages. Since changing contractor in November 2012, our number of weighed bins has increased. We have also started checking the weight of different waste stream bins on our sites to compare and adjust industry standard guidelines.
- 'All sites' varies each year to reflect our buildings portfolio. We include all major buildings and smaller properties where the utility is under our operational control. For ground waste in 2018, this includes our offices The VHQ and The Base, as well as our hangars at Heathrow and Gatwick, our contact (sales) centre in Swansea, and a number of Virgin Holidays stores.

²¹ Table 7 shows data for our 2008 base year and the last five years. The full data set is available in our 2017 Sustainability Report (downloadable from our [website](#)).

²² 2010 base year values for composting and incineration are 4.8 and 13.0 tonnes respectively.

Table 8: Aircraft cabin waste (by MNH Sustainable Cabin Services)²³

	Base year: 2008	2014	2015	2016	2017	2018	% of total waste
Headsets and amenity kits recycled, tonnes	682.6	366.9	363.6	356.3	333.9	420.5	84%
Other items recycled (e.g. plastics, cardboard, paper, fabrics and textiles including pillows and cases etc.), tonnes	108.7	84.8	86.7	81.9	74.3	55.9	11%
Residual waste sent to landfill, tonnes	9.3	0.0	0.0	0.0	0.0	0	All diverted from landfill
Residual waste incinerated (waste to energy), tonnes	0.0	9.6	30.8	15.2	10.5	23.55	5%
Total MNH cabin waste diverted from landfill, tonnes	791.3	461.2	481.0	453.4	418.7	499.9	100%

Notes

- Data provided by **MNH Sustainable Cabin Services**. This data relates to specific cabin waste items collected and returned to MNH for refurbishment and recycling.
- To learn about how we manage our aircraft waste streams, please visit virginatlantic.com/changeintheair

²³ Table 8 shows data for our 2008 base year and the last five years. The full data set is available in our 2017 Sustainability Report (downloadable from our [website](#)).

Table 9: UK aircraft catering waste²⁴

	Base year: 2009	2014	2015	2016	2017	2018	2018 % of total	% change from 2009-2018 (2010-2017 for incineration) ²⁵
Total reused/ recycled, tonnes	343	231	242	326	482	529	18%	54.2%
Total incinerated (waste to energy), tonnes		2,224	2,057	2,116	2,085	2,196	73%	62.4%
Total sent to landfill, tonnes	2,593	140	276	366	338	270	9%	-89.6%
Grand total catering waste, tonnes	2,936	2,595	2,575	2,807	2,904	2,995	100%	2.0%

Notes

- Our caterers Gate Gourmet provide this data based on our services at UK airports. It includes waste generated during meal preparation at Gate Gourmet's facilities, as well as catering waste returned from the aircraft. Gate Gourmet services multiple airlines, so they estimate our waste based on the proportion of meals provided to all airlines. This means that although the data gives us a good idea, it's an estimate and depends on what other airlines using the same caterer are doing too.
- Cat 1 waste. By law, anything that touches meat or other animal products (like dairy), which arrives in the UK from outside the European Union, is classified as Cat 1 waste and has to be completely isolated and destroyed. This applies to much of our onboard catering waste, which needs to be incinerated or deep landfilled. Learn more about how we manage our onboard waste streams at virginatlantic.com/changeisintheair
- Reused/recycled waste shown in Table 9 originates from the meal preparation at Gate Gourmet's facilities. As described above, aircraft catering waste is incinerated or deep landfilled due to the Cat 1 legal restrictions.

²⁴ Table 9 shows data for our 2009 base year and the last five years. The full data set is available in our 2017 Sustainability Report (downloadable from our [website](#)).

²⁵ 2010 base year value for incineration is 1,352 tonnes.

Table 10: Be The Change WE schools programme

Activity	2014 results Sept 13 - July 14	2015 results Sept 14 - July 15	2016 results Sept 15 - July 16	2017 results Sept 16 - July 17	2018 results Sept 17 - July 18
UK Schools signed up for Be The Change schools programme. Target 65	88 (8 repeat visits, 80 new schools)	80 (29 repeat visits, 51 new schools)	70 (7 repeat visits, 63 new schools)	65 (7 repeat visits, 58 new schools)	79 (2 repeat visits, 77 new schools) ²⁶
Schools signed up for Global Be The Change schools programme				44 schools (USA)	46 schools (41 USA and 5 Caribbean)
Local fundraising by UK schools (GBP)					£111,315
Global fundraising by UK schools (GBP)					£73,111
Amount of food collected by UK schools (kg)					7,739
Volunteering by UK schools (hours)					46,904
30 international scholarships allocated per year.	30 from 506 applications	30 from 257 applications	27 from 339 applications ²⁷	30 from 233 applications	30 from 302 applications

Notes


- In 2018 we reviewed that data we were collecting for the Be The Change schools programme, and moved from tracking the number of pupils experiencing seminars or workshops²⁸ to reporting the actions taken as a result of the schools' participation. Data given above for the UK schools in 2018 is based on a survey where 32 of the 79 schools responded. The data has been extrapolated to estimate the impact gained from all 79 schools.

²⁶ These figures do not include the 42 schools funded by the Little Sparks, Big Imaginations staff fundraising in 2018.

²⁷ 30 applications were awarded but three students had to drop out before the trip took place due to personal or logistical reasons.

²⁸ Previous data on pupil attendance is available in our 2017 Sustainability Report (downloadable from our [website](#)).

Table 11: WE Villages clean energy projects



Year	Project(s)	Pillar	No. solar panels	Community impact	Annual fuel saving ²⁹	Annual CO ₂ saving (kg) ³⁰
2016 - Kenya	Sikirar borehole		19	990 community members have access to the borehole. This borehole previously relied on fuel and is now entirely run by solar.	£2,918	10,291
	Oleshwa Farm borehole	  	32	Before the solar installation, high power costs meant that water could only be pumped once a day. Now water is available throughout the day. The farm includes 200 acres of land and 12 greenhouses. It supports over 12,500 students across WE primary schools in Narok County, Kenya and over 1,900 community group members across WE partner communities.	£9,576	33,768
2017 - India	Verdara Secondary School computer lab		30	Solar panels have been installed which power 25 computers. 89 students from Grades 9 and 10 had access to these computers from July 2018. Total school population is 392.	£946	2,680
	Kalthana Primary School computer lab		20	Solar panels have been installed which power 24 computers. 53 students from Grades 3 to 5 had access to these computers from July 2018. Total school population is 94.	£946	2,680
2018 - rural China	Gufubao primary school		100	Construction of the project will start in autumn 2019 with 100 anticipated solar panels for Gufubao primary school. There are 85 students and teachers in Gufubao, who will benefit from the solar powered heating system.	TBC	TBC
	Wujiashuang primary school		200	Construction of the project will start in autumn 2019 with 200 anticipated solar panels for Wujiashuang primary school. There are 95 students and teachers in Wujiashuang who will benefit from the solar powered heating system.	TBC	TBC

 Water  Food  Opportunity  Education

²⁹ Fuel savings are calculated using the volume (litres) of fuel that would be required to power the borehole/computers (in the absence of solar), multiplied by the cost of fuel.

³⁰ CO₂ savings are calculated using the volume (litres) of fuel that would be required to power the borehole/computers (in the absence of solar), multiplied by the 2016 DEFRA conversion factor for 100% mineral oil diesel (2.68kg CO₂ per litre).



By Royal Charter

Verification Statement

In relation to: **Virgin Atlantic Limited**

The VHQ
Fleming Way
Crawley
RH10 9DF
United Kingdom

Scope:
The direct, indirect electricity and scope 3 category 3 - Fuel-and energy-related WTT emissions of carbon dioxide

Boundary:
Operational Control has been used to calculate the emissions

Criteria:
ISO14064-1 2012

Level of Assurance:
Reasonable

Materiality Level:
5%

Period:
1/1/18-31/12/18



Carbon Footprint:
4,970,471 tCO2e

Breakdown:	
Virgin Atlantic Airways	
Direct (Scope 1)	4,113,759
Indirect Energy (Scope 2)	3,399
Category 3 - Fuel-and energy-related (WTT)	852,765
Virgin Holidays	
Direct (Scope 1)	109
Indirect Energy (Scope 2)	331
Category 3 - Fuel-and energy-related (WTT)	108

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Information and Contact: BSI, Kitemark Court, Davy Avenue, Knowlhill, Milton Keynes MK5 8PP. Tel: +44 (0)845 080 9000
BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL UK. A member of the BSI Group of Companies.

By Royal Charter

The data on which the footprint is based has been provided by the company in the document Virgin Atlantic Carbon Footprint Report 2019 Finalv2. The calculations used to determine the footprint are deemed to be reasonable, sound and based on currently available best practice. The quantification and reporting of the carbon footprint has been independently verified by BSI against the specifications defined in ISO 14064-1:2012 and the GHG Protocol revised edition. The verification activity has been carried out in accordance with ISO 14064-3 and the principles of ISO 14065:2013.


Lead Verifier: Stuart Jamieson



Signed: EMEA Systems Certificate Operations & Compliance Director

Issue Date: 29.03.19

NOTE: BSI Assurance UK Ltd is independent to and has no financial interest in Virgin Atlantic Ltd. This Statement has been prepared for Virgin Atlantic Ltd only for the purposes of verifying its statements relating to its carbon emissions more particularly described in the scope above. It was not prepared for any other purpose. In making this Statement, BSI Assurance Limited has assumed that all information provided to it by Virgin Atlantic Limited is true, accurate and complete. BSI Assurance UK Limited accepts no liability to any third party who places reliance on this Statement.



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Information and Contact: BSI, Kitemark Court, Davy Avenue, Knowlhill, Milton Keynes MK5 8PP. Tel: +44 (0)845 080 9000
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