

Environmental Report 2019

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Environmental management policy

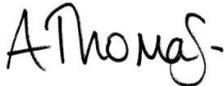
The JBA Group is committed to minimising the environmental impact of its operations and activities, as far as is reasonably practical, and using its influence to promote better environmental outcomes. Concern for, and protection of, the environment is integral to our professional activities and the management of the Group.

We maintain an ISO 14001:2015 certified Environmental Management System that is appropriate to the nature, scale and environmental impacts of our activities and services. We are committed to the continual improvement of our environmental management system, the prevention of pollution and reducing our per capita carbon emissions. JBA Consulting is a registered IEMA EIA Quality Mark organisation, making a contribution towards excellence in Environmental Impact Assessments.

We comply with all legislation, standards, statutory and other obligations and best practices that are relevant to our activities and the jurisdictions in which we operate. We seek to comply with client policies where required and reasonably possible to do so without conflicting with our own policies or other obligations

Environmental report

This report summarises the environmental performance of our operations in terms of our waste, carbon emissions and use of resources. It includes an assessment of our carbon footprint. It covers the period from 1 November 2018 to 31 October 2019 for all operating companies trading within the JBA Group.

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Carbon footprint

A printed copy of this document will result in a carbon footprint of 214g if 100% post-consumer recycled paper is used and 273g if primary-source paper is used, assuming the report is printed in black and white on A4 paper and in duplex.

Abbreviations

BVM	Belle Vue Mills, Skipton
CAD	Computer Aided Design
CFRAM	Catchment Flood Risk Assessment and Management
CIEEM	Chartered Institute of Ecology and Environmental Management
CO _{2e}	Carbon dioxide equivalent
COBR	Cabinet Office Briefing Room (UK Government's incident response meetings)
Defra	Department for Environment, Food and Rural Affairs
EIA	Environmental Impact Assessment
EMS Rep	Environmental management system representative
EPI	Environmental performance indicator
Group	JBA Group Limited
IEMA	Institute of Environmental Management and Assessment
IoM	Isle of Man
ISO	International Standards Organisation
JBA	JBA Group Limited
KWh	Kilowatt hours
LR	Lloyd's Register
NFM	Natural Flood Management
OPW	Office of Public Works
SAC	Special Area of Conservation

Summary of our 2018-19 performance

Overview

We continued to demonstrate sound environmental management of our activities during the year from November 2018 to October 2019. In particular, we

-  reduced our overall and per capita carbon footprint;
-  reduced our overall and per capita paper consumption;
-  reduced the overall and per capita CO₂e emissions from our measured office energy use;
-  reduced the overall and per capita CO₂e emissions associated with our business mileage;
-  moved our head office to a purpose-built building that combines innovation and environmental ethics;
-  increased the range of recyclable waste streams we collect in our offices; and
-  established a Sustainable Actions Log.

Objectives and intended outcomes

In 2018-19, we set ourselves three overarching environmental objectives with the aim of achieving the following outcomes:

Intended outcomes

Recognition as an environmentally responsible business.

Year on year reduction in carbon emissions.

Certification to ISO 14001:2015 and IEMA EIA Quality Mark.

Evidence of our professional expertise, innovation and value to the environment.

Objectives

Environmental impacts – reduce the adverse environmental impacts of the operational activities of the JBA Group.

Environmental management – improve our environmental management of projects.

Influencing stakeholders – widen our influence on stakeholders to achieve better environmental outcomes.

Performance against our objectives



To help us achieve our intended outcomes, we identified key actions for each objective and monitored our performance.

Objective - Reduce the adverse environmental impacts of our operational activities

We identified the following key actions to minimise the adverse environmental impacts of our operational activities in 2018-19:

- [reduce our use of natural resources](#) – measured by our per capita paper use¹
- [reduce our energy use and associated carbon emissions](#) – measured by the per capita CO₂e emissions from our energy use² and business travel³
- [reduce our business waste](#)
- [increase staff awareness of our environmental impacts](#)
- [monitor and report our environmental performance](#) within our operational activities

We reduced the amount of paper we used per capita by 23% compared to last year. We used less virgin and less recycled paper.

The per capita CO₂e emissions associated with energy use in locations where our energy use can be measured fell by 9.6% compared to last year.

The per capita CO₂e emissions from our business travel fell by 19% compared to last year, despite an increase in miles travelled.

Overall, and per capita, our total business waste increased last year, but we did achieve a small increase in the weight per capita and the overall percentage of our business waste that is recycled.

We introduced a Sustainable Actions Log and encouraged staff to record their actions, both in work and at home. We continued to publish results from our Group-wide environmental monitoring.

We maintained our certification to ISO 14001:2015.

¹ Paper use measured at our UK, Ireland and Isle of Man offices

² Energy use measured at our UK, Ireland and Isle of Man offices

³ Business travel measured at all JBA Group offices



Objective – Improve the environmental management of our projects

We identified the following key actions to improve our environmental management of projects:

- improve environmental risk assessment in projects
- improve reporting of environmental incidents
- identify and mitigate potential environmental impacts
- identify good environmental design

We published environmental and sustainability training modules to raise staff awareness of environmental risks.

We expanded our site risk assessment template to include environmental and biosecurity risks and hazards.

We maintained our registration as an EIA Quality Mark organisation approved by IEMA.

We improved and promoted our process for reporting environmental incidents and observations. This resulted in a significant increase in the number of reports submitted.

We identified and mitigated potential environmental impacts and identified and encouraged good environmental design within our engineering design and feasibility projects and our environmental impact assessments.

Our project delivery teams in Yorkshire reduced carbon use in projects by 31% by choosing low carbon design practices.



Objective – Widen our influence on stakeholders to achieve better environmental outcomes

We identified the following key actions to widen our influence amongst stakeholders:

- record our wider contribution to environmental management good practices
- provide staff training in the application of environmental good management techniques and tools
- contribute to national environmental records

Our teams continued to support the promotion of good environmental management practices both within and outside of JBA.

We presented papers at the ICE Coastal Conference (Latham and Kenn) for two environmentally sensitive coastal schemes where we described an innovative approach for the appraisal and design / construction stages in a Marine Conservation Zone.

We held botanical lunches at Doncaster to discuss plant taxa, and bird identification training sessions at several locations including Southfield Reservoir, Humber South Bank and the Duddon Estuary.

Our staff presented at universities and schools promoting environmental management and design.

We shared our experience of embedding low carbon design practices with the wider industry at an Environment Agency Carbon Workshop.

Our Internal Drainage Board staff worked with clients to bring about planting of 1.6ha of woodland to increase biodiversity, offset carbon and reduce flood risk.

We launched our in-house environmental e-learning portfolio.

We continued to maintain the groundwater comprehensive flood map and contributed habitat and species data to regional record centres.

We installed a weather station at our new head office in Skipton.

Objectives for 2019-20

We have again set ourselves objectives and identified key actions to help us achieve our intended outcomes. We will continue to monitor our performance against these objectives.

Objective	Key actions	Intended outcome
Reduce the adverse environmental and sustainability impacts of the operational activities of the JBA Group.	<ul style="list-style-type: none"> Reduce our use of natural resources. Reduce our energy use and associated carbon emissions. Reduce our waste sent to landfill. Increase staff awareness of our environmental impacts. Monitor and report environmental performance within our operational activities. 	<ul style="list-style-type: none"> Recognition as an environmentally responsible business. Year on year reduction in carbon emissions.
Improved sustainability and environmental management of projects.	<ul style="list-style-type: none"> Improve environmental risk assessment in projects. Improve reporting of environmental incidents. Identification and mitigation of potential environmental impacts. Identification of good environmental design. 	<ul style="list-style-type: none"> Recognition as an environmentally responsible business. Certification to ISO 14001:2015 and IEMA EIA Quality Mark.
Wider influencing of stakeholders by our staff to achieve better environmental and sustainability outcomes.	<ul style="list-style-type: none"> Record our overall contribution to sustainability and environmental management good practices. Provide staff training in the application of sustainability and environmental good management techniques and tools. Contribute to national environmental records. 	<ul style="list-style-type: none"> Evidence of our professional expertise, innovation and value to the environment and sustainable development goals.

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1. Environmental performance indicator results - year to 31 October 2019

1.1 Key action: reduce our use of natural resources: per capita paper use⁴

Key action achieved



Per capita paper use fell by 23% last year

We used almost 300 reams of paper less than last year

Table 1-1: Paper use							
	Virgin paper used (kg)	Recycled paper used (kg)	Total paper used (kg)	Paper used per capita (kg)	Change in per capita paper use (kg)	Change in per capita paper use (%)	Recycled paper use (%)
2017-18	697	3,601	4,298	7.90	-1.04	-11.6%	83.8%
2018-19	559	3,021	3,581	6.05	-1.85	-23.4%	84.4%

Table 1-1 shows that we **achieved** our key action to reduce our use of natural resources by reducing our total and per capita paper use. In 2018-19 we **achieved a significant reduction, 23.4%**, with our paper use dropping from 7.90kg to 6.05kg per capita. This continues to build on reductions achieved in previous years: seven years ago, the equivalent figure was 14.0kg per capita.

Despite an increase in staff numbers, **2018-19 saw a significant decrease in the total volume of paper we used** – over 700kg less than the year before. This is equivalent to almost 300 reams of A4 paper.

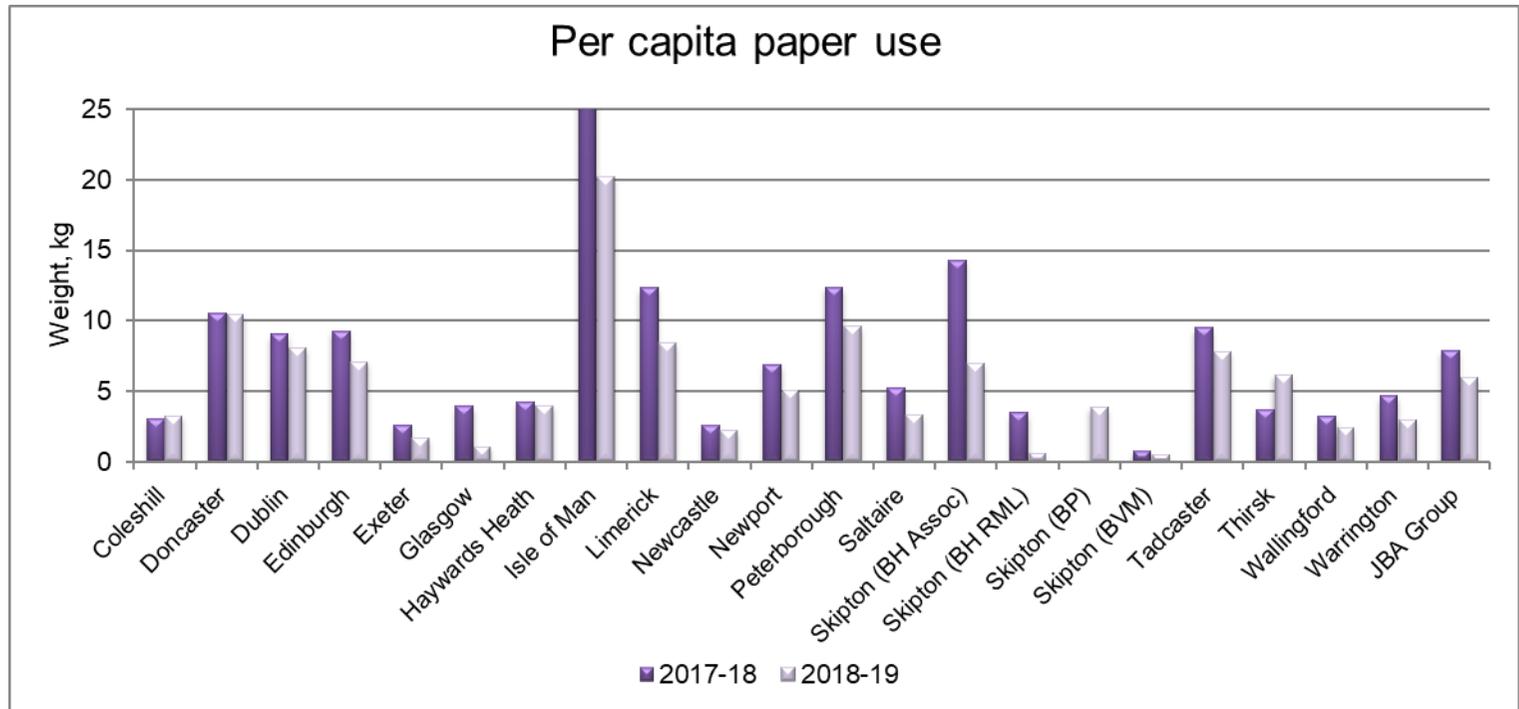
Figure 1-1 compares per capita paper use at each of our offices during 2018-19 and 2017-18. This demonstrates both the year-on-year decrease and the wide variation in paper use across our offices. Monitoring our paper use enables us to provide each office with a realistic annual target based on their paper use the previous year. Individual office monitoring allows us to focus our attention on those offices where per capita paper use is highest and where there is the greatest potential for future reductions.

The variation reflects differing client requirements and types of projects our offices undertake: our Isle of Man clients require hard copy plans and reports, as do the Internal Drainage Boards served from our Doncaster office; and the design work undertaken at several offices often requires the production of paper drawings. In all offices we are encouraging our clients to reduce their need for hard copy documentation and our staff to review digital copies of draft documents. The results of this can be seen in substantial reductions in per capita paper use at our Edinburgh, Isle of Man, Peterborough and Tadcaster offices. Our head office in Skipton,

⁴ Paper use measured at our UK, Ireland and Isle of Man offices

and our Limerick office, host and provide materials throughout the year for workshops, stakeholder events and training courses where paper-based materials are required.

Figure 1-1: Per capita paper use at our offices and across the JBA Group



1.2 Key action: reduce our energy use and associated carbon emissions: per capita CO₂e emissions from our measured energy use⁵

Key action achieved



Our measured per capita CO₂e emissions fell by 9.6%

Our monitoring now includes T&D and CO₂e emissions

Table 1-2: Emissions from our energy use at offices and the data centre						
	Monitored locations, kg CO ₂ e			Extrapolated for all UK and Ireland locations, kg CO ₂ e		
	Total emissions	Per capita emissions	Change in per capita emissions	Total emissions	Per capita emissions	Change in per capita emissions
2017-18	216,673	458		271,019	498	
2018-19	206,632	414	-44kg -9.6%	269,124	454	-44kg -8.8%
Note:	Conversion factors used are Defra's UK Government GHG Conversion Factors for Company Reporting: Standard set 2019					

Table 1-2 shows that we **achieved** our key action to reduce our energy use and associated carbon emissions by reducing our total and per capita CO₂e emissions in locations where we can measure our energy use. Our total recorded CO₂e emissions fell by 44kg which equates to a 9.6% decrease in CO₂e emissions per capita. Extrapolating our recorded emissions to all UK, Ireland and IoM office and data centre locations suggests an 8.5% decrease in CO₂e emissions per capita.

Several factors contribute to these reductions: our policy of purchasing renewable energy where possible; an increase in full time equivalent staff numbers within the JBA Group; and revisions to the annual greenhouse gas conversion factors.

To ensure we include all greenhouse gas emissions, we have changed the way we calculate and report emissions this year. We are now reporting emissions as carbon dioxide equivalent (CO₂e); in previous years we have reported carbon dioxide (CO₂). Also new this year, we are including emissions due to electricity transmission and distribution losses for all our locations, including those that are supplied with energy from renewable sources.

We calculate our energy use from meter readings at office and data centre locations where JBA energy consumption is measured separately from that of other occupants. In 2018-19, we measured our energy consumption at the following 14 locations:

Doncaster	Edinburgh	Glasgow	Haywards Heath	Isle of Man	Limerick	Newcastle
Newport	Peterborough	Saltaire	Skipton, Broughton Park	Tadcaster	Wakefield data centre	Wallingford

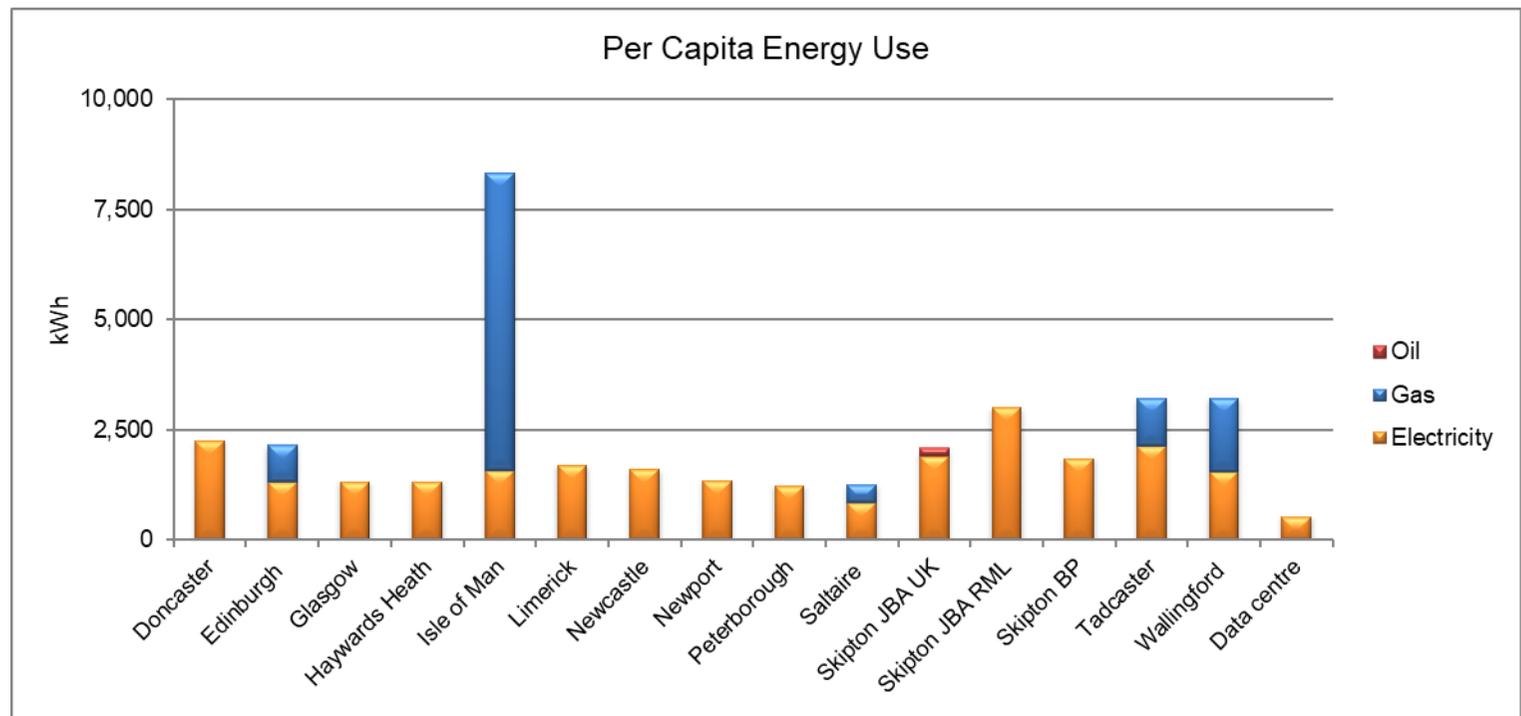
⁵ Energy use measured at our UK, Ireland and Isle of Man offices

We monitor the energy used by 76% of our staff

76% of our staff work in the monitored offices and all staff have access to processing machines in the data centre. This data, therefore, provides a good estimate of overall JBA energy use as the offices vary in terms of size, location and work type.

Figure 1-2 compares the energy used per capita at offices where JBA energy use is measured and Figure 1-3 shows the resulting CO₂e emissions. We have, this year, identified and corrected a reporting error in the Isle of Man gas meter readings. This has resulted in a significant increase in their calculated per capita energy use and emissions, but this will be normalised next year when we move to a new office location.

Figure 1-2: Measured per capita energy use



46% of the electricity we used came from renewable sources

Our most significant energy use is electricity and thus it is important that we concentrate our efforts on managing our electricity use. We purchase electricity from renewable sources for the following offices:

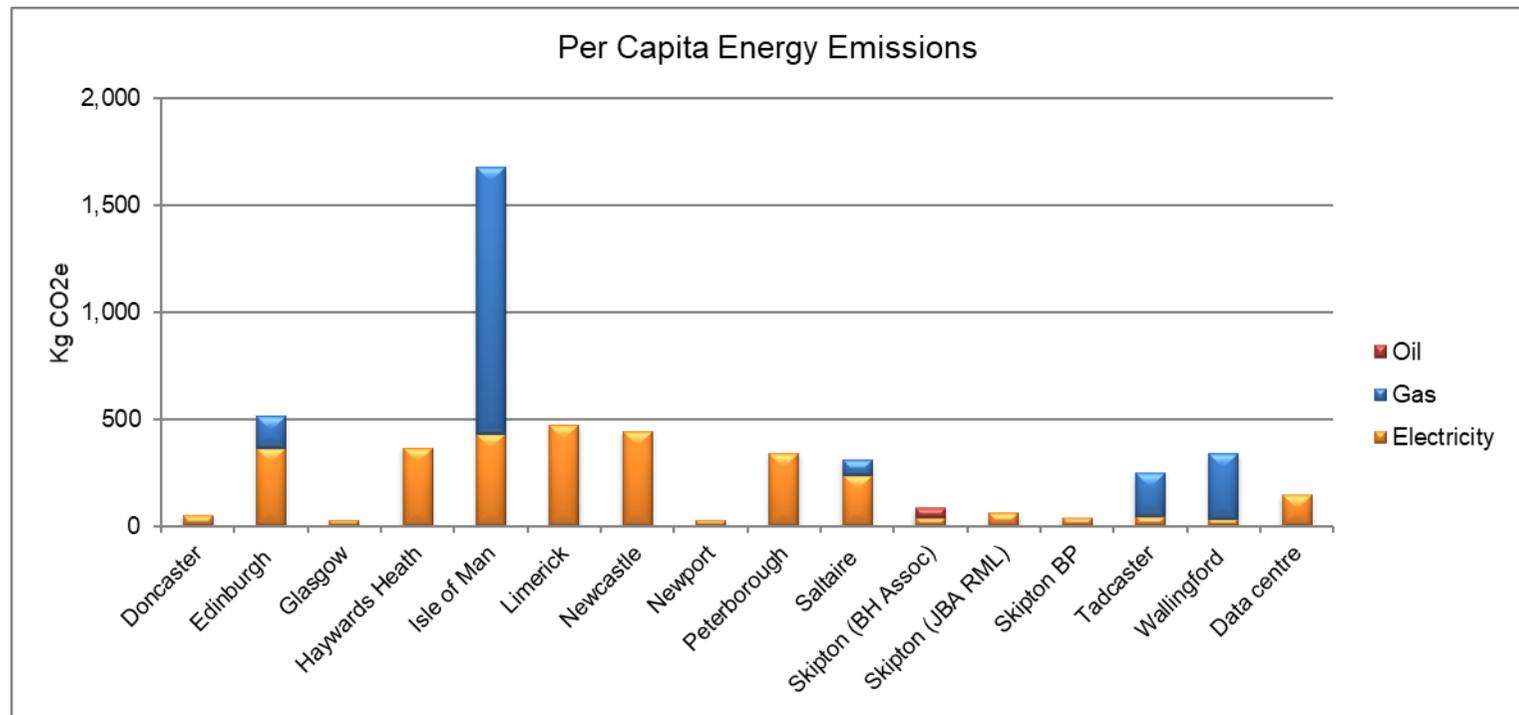
Doncaster
Skipton, Broughton Park

Glasgow
Tadcaster

Newport
Wallingford

In 2018-19, this accounted for 46% of the electricity used across the JBA Group.

Figure 1-3: Per capita emissions from measured energy use



1.3 Key action: reduce our energy use and associated carbon emissions: per capita CO₂e emissions from our business travel⁶

Key action achieved



We reduced our per capita CO₂e emissions from business travel by 19%

Our monitoring now reports CO₂e emissions

Table 1-3: Travel emissions						
	Total miles	Total emissions, kg CO ₂ e	Emissions per mile, kg CO ₂ e	Emissions per capita, kg CO ₂ e	Change in emissions per capita, kg CO ₂ e	Change in emissions per capita, %
2017-18	2,056,887	424,194	206	803		
2018-19	2,081,955	394,496	189	648	-155	-19%

Note: Conversion factors used are Defra's UK Government GHG Conversion Factors for Company Reporting: Standard set 2019

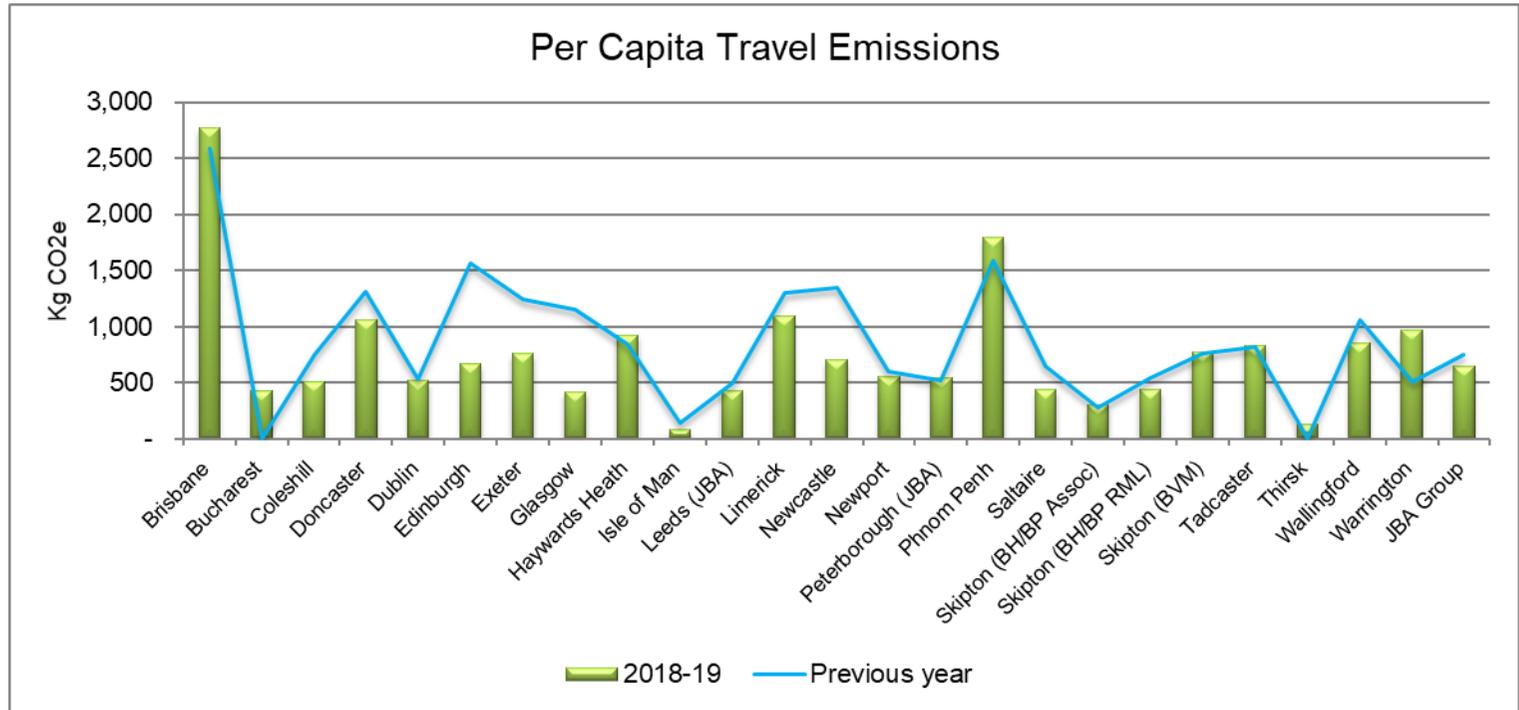
Table 1-3 shows that we **achieved** our key action to reduce per capita CO₂e emissions from our business travel in 2018-19 by reducing our total and per capita CO₂e travel emissions. Even though our total business mileage increased by 1.2%, our total emissions fell by 7% and our per capita travel emissions were 19% less than the previous year. Our average travel emissions per mile are 8.2% lower than last year at 189.5 gCO₂e/mile. This demonstrates the positive effect of our staff following the JBA Travel Hierarchy and using lower carbon methods of travel.

To ensure we include all greenhouse gas emissions, we have changed the way we calculate and report emissions this year. We are now reporting emissions as carbon dioxide equivalent (CO₂e) instead of carbon dioxide (CO₂).

We record our business travel emissions through our pool car, purchase order and expense systems and we report the results to staff on a quarterly basis. Figure 1-4 compares the per capita travel emissions recorded for each of our offices in 2018-19. The variation in emissions between offices, and compared to the previous year, reflects the differing requirements of the projects undertaken at particular offices. Our international offices tend to have a higher amount of business travel related to them, due to the necessity for supporting staff to visit the offices.

⁶ Business travel measured at all JBA Group offices

Figure 1-4: Per capita emissions from our business travel



1.4 Key action: reduce our business waste

Key action not achieved



Table 1-4: Business waste					
	Total waste, kg	Total waste per capita, kg	Waste per capita sent to landfill, kg	Waste per capita sent for recycling or energy generation, kg	Total waste sent for recycling or energy generation, %
2017-18	13,365	24.76	9.3	15.51	62%
2018-19	15,508	26.17	9.6	16.57	63%

We recycle 63% of our waste

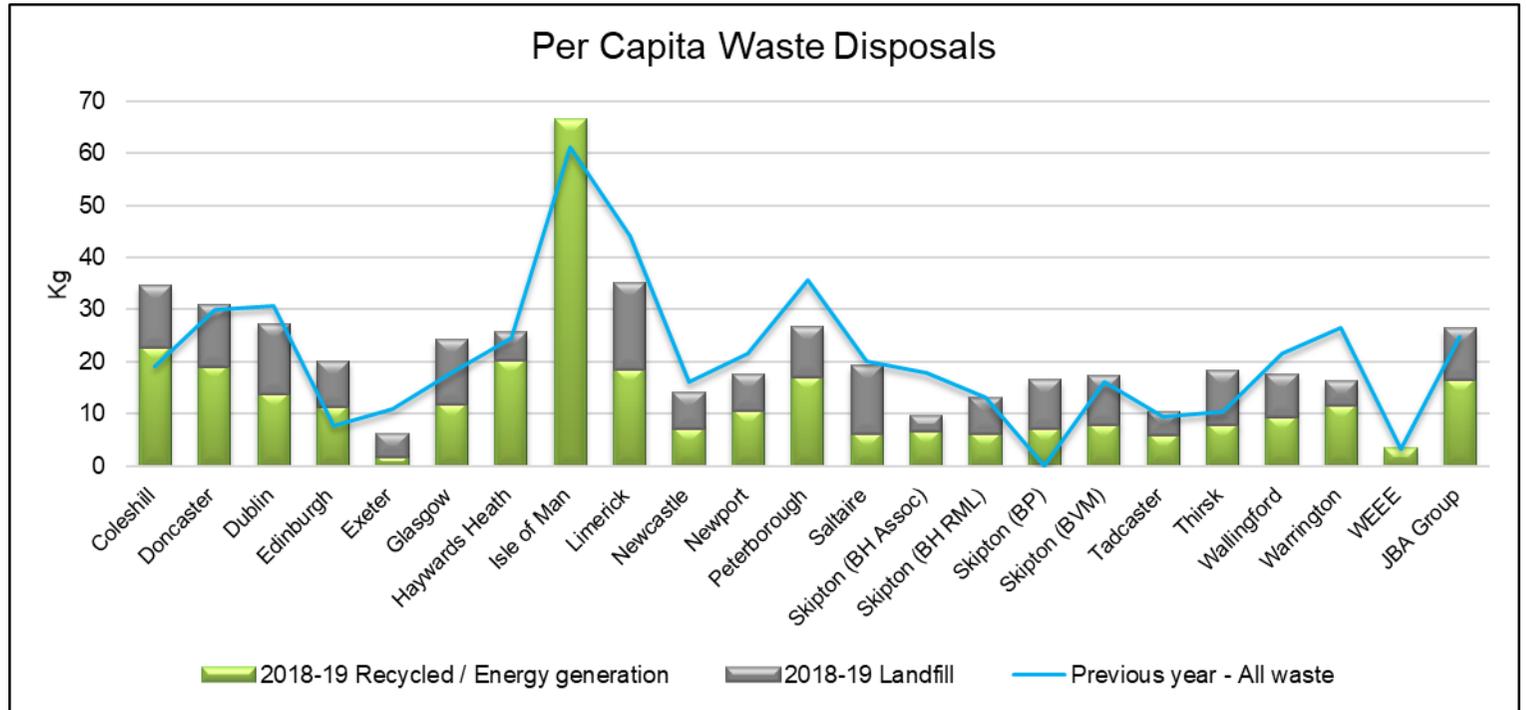
We monitor and report business waste from all UK, Ireland and IoM offices

Table 1-4 shows that although we **did not achieve** our key action to reduce our business waste in 2018-19, we did increase the overall percentage and per capita weight of the waste we sent for recycling or energy generation. In 2018-19 we recycled 63% of our waste. Waste disposed of by our Skipton, Isle of Man and Coleshill offices was higher than usual due to office move and refurbishment projects undertaken last year.

Our business waste monitoring processes cover all of our UK, Ireland and Isle of Man offices. We monitor the amount of business waste each of our offices disposes of and identify how much is sent to landfill and how much is recycled or sent for energy generation. This data is reported to management and staff on a quarterly basis and is shown in Figure 1-5. We record the volume of waste disposed of and convert this to weight using a set of conversion factors devised several years ago. Whilst this is not the most accurate method of monitoring our waste it does allow for comparisons between offices and years. We will look to review and update the conversion factors to improve the accuracy of our waste monitoring and have already started this at our Skipton head office.

In addition to business waste, we collect and recycle a wide range of personal waste streams in our offices. Further details are provided in the Waste section of this report.

Figure 1-5: Per capita business waste



2. Environmental achievements beyond our EPIs

2.1 Certifications

ISO 14001:2015

Our environmental management system has been certified to ISO 14001:2015 and its predecessor Standards since 2008.

This certification is subject to regular external audit and confirms that our environmental management system enables us to:

Our EMS is certified to ISO 14001:2015

-  enhance our environmental performance;
-  fulfil our compliance obligations; and
-  achieve our environmental objectives.

Figure 2-1: ISO 14001:2015 certificate





IEMA Environmental Impact Assessment Quality Mark

JBA Consulting has been approved as an Environmental Impact Assessment (EIA) Quality Mark organisation by the Institute of Environmental Management and Assessment (IEMA) since 2018.

The EIA Quality Mark is a voluntary scheme, operated by IEMA, that allows organisations that lead the co-ordination of statutory EIAs in the UK to make a voluntary commitment to excellence in their EIA activities. Every year, EIA activity is independently reviewed to ensure it delivers excellence in a range of areas, such as EIA management, regulatory compliance and team capabilities.

As part of this accreditation, we have demonstrated commitment to sharing and improving EIA practice.

Figure 2-2: IEMA EIA Quality Mark certificate



2.2 Environmental services provided by JBA

As an environmental consultant, concern for, and protection of, the environment is integral to our professional activities. This section provides just a few examples of the ways our work interacts with, and benefits, the environment.

Environmental Impact Assessments

We are committed to providing excellence in Environmental Impact Assessment (EIA) activities. EIA is a statutory process required as part of planning consent or marine licence application for infrastructure development projects where there are likely to be significant effects on the environment. These may be on human health, biodiversity, land, water, climate, or an interaction between such factors. For projects deemed EIA Development there is a legal requirement that significant environmental effects are reported by competent experts. Our Register of EIA Competent Experts lists EIA Co-ordinators and EIA Topic Specialists within JBA who have authority to technically review and approve EIA deliverables.

Fish pass design and dewatering

This year our staff provided design services for the creation of many new fish passes in the UK. JBA staff in Saltaire and Edinburgh designed a pool and traverse fish pass for the Tyne Rivers Trust on the River Tyne Derwent at Shotley, which has seen migratory Seatrout spawning upstream of the weir for the first time in over 100 years.



We designed a series of fish passes for Yorkshire Water; at Tophill on the River Hull, Lobwood on the River Wharfe and Eastwood on the River Calder, and our joint venture JBA Bentley designed and constructed a pass on the River Allen at West Allen in the North Pennines. We offer advice on dewatering activities and fish rescue for undertaking instream works, including consents needed to comply with relevant legislation.

JBA Consulting is approved by IEMA as an EIA Quality Mark organisation

Fish passes enable upstream spawning

We provided emergency assistance

Emergency assistance during flood events

We provided emergency assistance when properties and land near Wainfleet in Lincolnshire flooded in June. An extreme rainfall event occurred with two months' worth of typical June rainfall falling in two days. The River Steeping overtopped flood defences and a 12m section collapsed, flooding over 100 homes and a large area of farmland. We assisted the Environment Agency in devising temporary and permanent solutions to restore flood protection.



Our Reservoir Inundation Mapping and Modelling Team in Warrington assisted COBR (the UK Government's incident response meetings) with the potential dam breach situation at Whaley Bridge in Derbyshire. Using their modelling and mapping skills in a real-time environment, our team provided predictions of the risk to downstream residents and properties.

We provided ground support, modelling predictions and strategic advice during an extreme rainfall event in South Yorkshire in the Autumn that caused flooding to many properties and land around Doncaster. The village of Fishlake was significantly affected. Teams from our Doncaster and Leeds offices supported the Environment Agency in managing the situation: our Internal Drainage Board (IDB) teams in Doncaster monitored pumping station systems in the area; staff from our Leeds office were working on the refurbishment of a pumping station in the flooded area and so were able to assist the military by pumping water away from the threatened town of Bentley and bolstering flood defences.

We developed a model to evaluate water quality changes due to farming practices

Water quality and farming practices

Our Warrington team developed a new national scale model to evaluate the effectiveness of changes in farming measures on water quality in England. The model considers land cover and soils as well as hydrological travel times. The model is calibrated for nitrogen, phosphorus, suspended sediments and Faecal Indicator Organisms. It evaluates spatial and temporal changes to water quality in a river catchment as a result of changes in farming measures. Details of the model were published in [this paper](#) and the results informed [Defra's evidence review for the effectiveness of catchment sensitive farming 2006-2018](#). In conjunction with the Environment Agency we are developing the model further to look at more complex catchments.

Our ecological teams support a range of environmental projects

Ecological services



This year we were involved in a project in Ballyvourney to re-develop an historic school building which has been derelict for over 30 years. The building will become a digital hub and shared working space. Our staff conducted an ecological impact assessment which found many species of bat in residence, including several rare ones. We developed a construction and environmental management plan to consider and protect these species throughout the development.



Our ecology teams surveyed and mapped invasive plant species in the River Bride valley, the first step in the development of an eradication programme for invasive species, working with organisations towards improving biodiversity in Ireland. On the Howth Peninsula we undertook appropriate ecological assessments on a project working towards re-instating 40km of footpaths where drainage and coastal erosion have damaged the network.

Our staff protected a sand martin colony, rescued bee-orchids, discovered an historic well with direct groundwater connection to a Special Area of Conservation (SAC) and rescued crayfish, eel and fish from dredging spoil.

Stakeholder engagement



Following extreme flooding in 2017 we looked at development of a flood relief scheme in Mountmellick in the Irish Midlands for the Office of Public Works (OPW). As part of this scheme we held a public engagement day attended by over 90 residents and business owners. The scheme will manage existing flood risk and plan for future increases due to climate change and is a follow on to the CFRAM studies - a good example of how we widen our influence on stakeholders to achieve better environmental outcomes.

Improved reporting of environmental incidents, near misses and observations

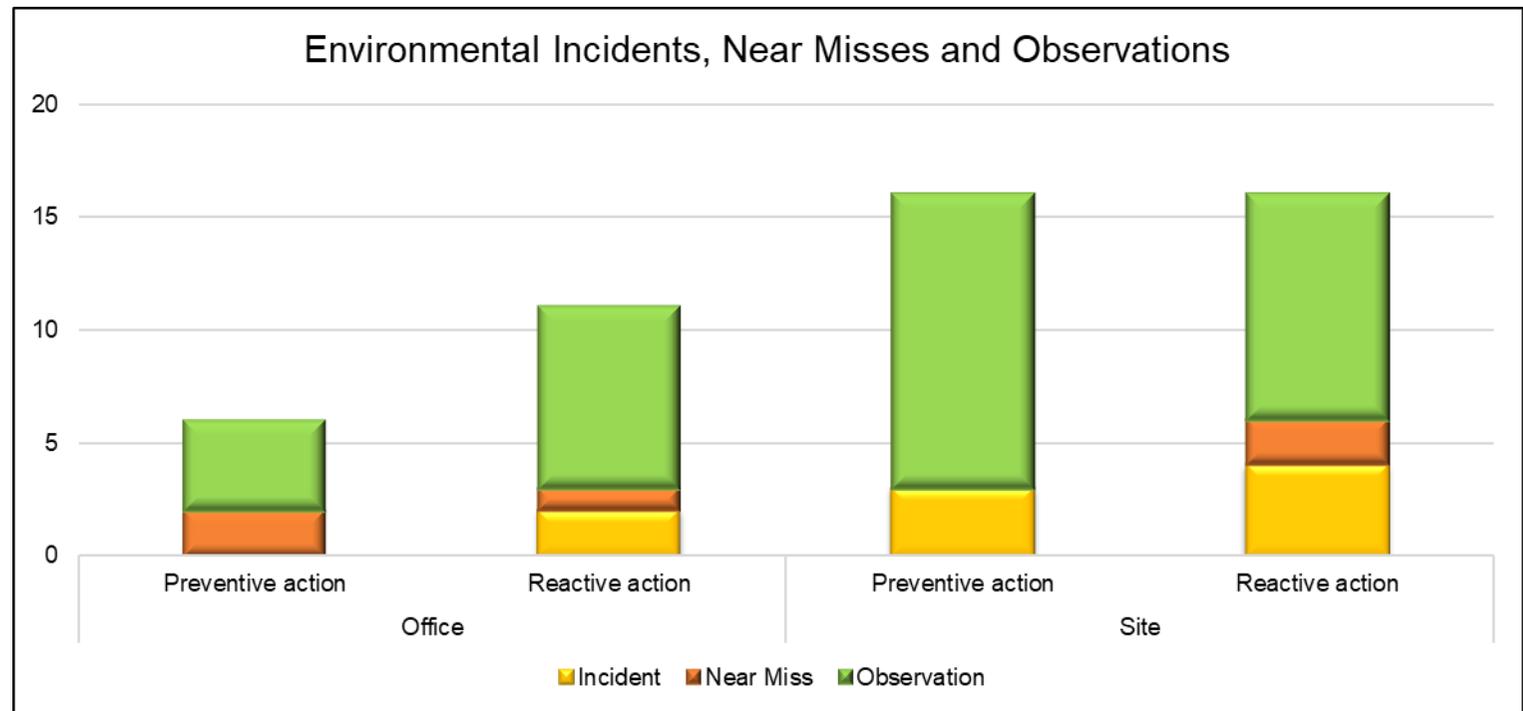
2.3 Environmental incidents, near misses and observations

We improved awareness amongst our staff of the need to report environmental incidents, near misses and observations.

As a result of this, we received 49 reports of environmental incidents, near misses or observations in 2018-19. 35% of the reports related to office activities, 65% were site based. The majority of the reports, 71%, were observations and 45% were positive interventions or preventive actions.

All incidents were followed up in accordance with our incident investigation process.

Figure 2-3: Environmental incidents, near misses and observations



2.4 Sustainability

Increasing awareness

In 2018-19 we published a Sustainability page on our intranet to raise awareness and encourage action amongst our staff. We combined our Environmental Management and Sustainability Policies and aligned them to the UN Sustainable Development Goals. We introduced a set of e-learning modules covering a range of sustainability related issues and invited all staff to attend a webinar.

Our staff took part in an Environment Agency workshop encouraging collaboration and sharing best practice on tackling capital carbon. We shared our experiences and those of our partners who have achieved a 31% carbon reduction in delivering programmes in Yorkshire and embedded low carbon design practices through collaboration and improved reporting processes. Our Internal Drainage Board staff worked with their clients to bring about planting of 1.6ha of woodland to increase biodiversity, offset carbon and reduce flood risk.

Sustainable Actions Log

This year we introduced a Sustainable Actions Log on our intranet for staff to record relevant activities and share ideas. We held an office sustainability challenge to encourage open recording. This has been enthusiastically received, with over 60 actions entered for our offices, and staff also sharing their sustainable actions carried out at home. Here are some examples of the broad range of actions we have been carrying out.

- Ethical toilet roll
- Car sharing planner
- Hedge planting
- Litter picking
- Carbon offsetting
- Educating landlords
- Influencing other companies
- Sustainable purchasing

Our Saltaire office staff are using toilet roll made from 100% post-consumer recycled waste, such as office paper and textbooks, which contains no ink or dyes. This product donates 50% of the profits to help build toilets and improve sanitation in the developing world.

Our Exeter office have made plans to offset their carbon by planting six trees with a company called Mossy Earth.

At our new head office in Skipton, our staff are educating landlords on the harmful effects of peat extraction and discouraging use of this natural resource on site. They set up a planner to co-ordinate and encourage car sharing for commuting.

This year we purchased a new low emissions pool car, which was built in Britain, supporting local suppliers.

Increased awareness of our sustainability goals

We share ideas via our Sustainable Actions Log



New e-learning modules

Sustainability e-learning modules

We introduced a suite of environmental e-learning modules which cover many roles within the environmental discipline, including, amongst others, catchment management, ecology, sustainability and waste management.



Environmental

Our new in-house modules provide background information and insights into environmental and ecological topics relevant to JBA's business.

The modules cover seven topics.

-  Catchment management
-  Climate resilience
-  Consenting
-  Ecology
-  Natural capital
-  Sustainability
-  Waste management

Sustainability modules

Focusing on sustainability enables you to improve efficiency, reduce risks, enhance the environment, people and economy.

-  Introduction and origins of Sustainability
-  Current applications of Sustainability
-  Sustainability in JBA
-  Introduction to CEEQUAL

2.5 Paper and printing

Recycled paper

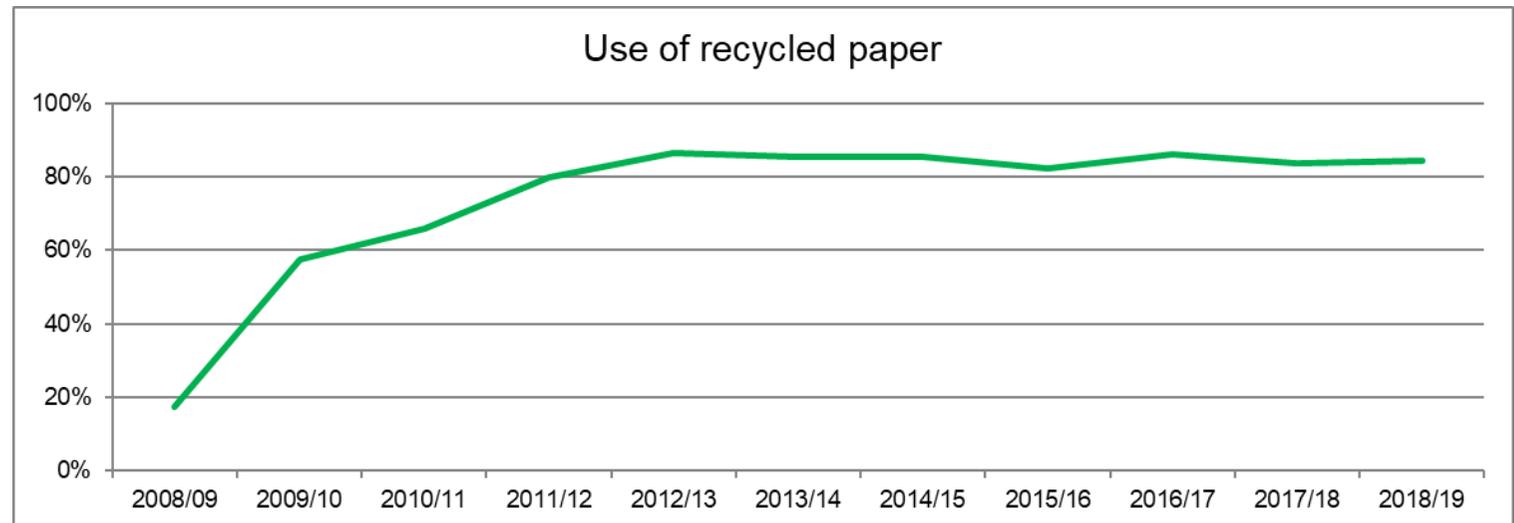
By using recycled paper instead of 100% virgin paper we have avoided almost 500kg of CO₂e emissions. This is approximately equivalent to the emissions produced by driving 1,650 miles in an average car, boiling a kettle 32,250 times, or using an LCD TV continuously for 121 days.

84% of the paper we used in 2018-19 came from recycled sources. As Figure 2-4 shows, we have significantly increased the proportion of recycled paper we use from 17% to 84%.

We prevented 500kg of CO₂e emissions by using recycled paper

Over 84% of the paper we use comes from recycled sources

Figure 2-4: Trend in use of recycled paper



We use Design Review software to reduce printing requirements

Digital documentation

We use electronic documentation wherever possible, continue to decrease our use of paper documents and encourage our clients to do the same. We encourage our staff to carry out digital reviews of draft project documentation.

Internally, we use digital purchase orders, the majority of our HR records are digital, and we store supplier invoices electronically. Our IMS documentation is all digital, as is the vast majority of our project documentation, and we distribute newsletters, bulletins and learning and development documentation via our intranet.

Design review software

We use Autodesk Design Review software to review CAD drawings digitally. This allows comment boxes and approval stamps to be added to drawings and has significantly reduced the number of drawings we need to print.

Scrap paper

Each office has a repository to collect scrap paper, which we reuse as note pads and for draft prints.

Printer settings

We minimise ink and paper usage by using duplex, 2 pages per sheet and draft print as the default settings for our printers.

Awareness

We encourage staff to keep their printing requirements to a minimum by reminding staff of the environmental and financial costs of printing.

2.6 Business travel and low carbon commuting

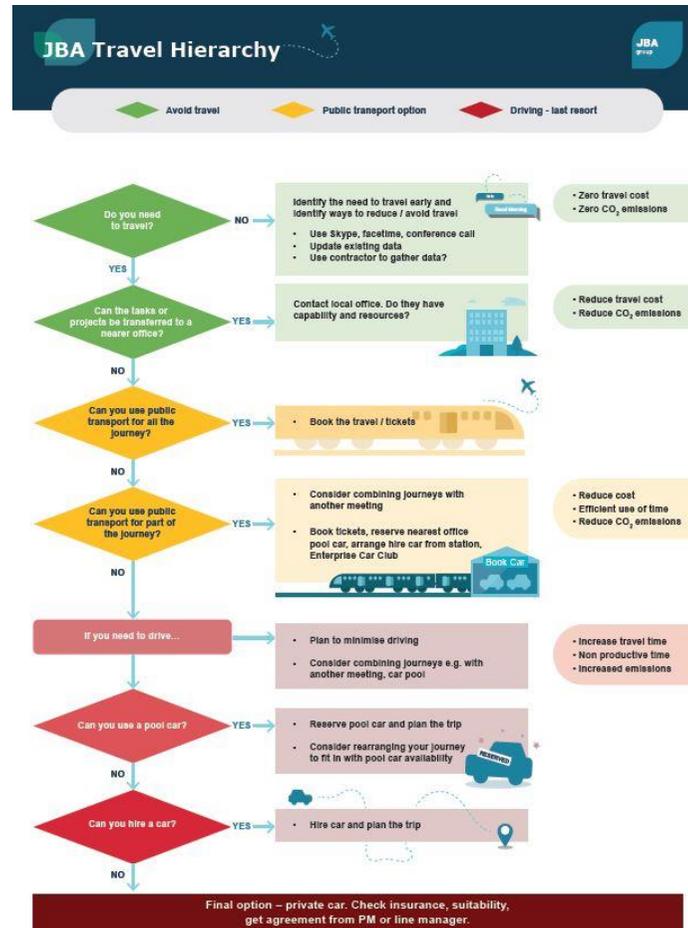
We encourage our staff to adopt low carbon business travel and commuting through a variety of actions.

The JBA Travel Hierarchy

Figure 2-5: JBA travel hierarchy

We updated and republished the JBA Travel Hierarchy

We used public transport for 31% of our business travel



To raise awareness of the JBA Travel Hierarchy we revised and re-published it this year.

It encourages staff to avoid travel where possible and to minimise the environmental impact of any essential travel by using a low carbon means of transport.

We remind staff about our Travel Hierarchy at office and team meetings, in internal news items and during internal audits.

In accordance with the JBA Travel Hierarchy, we used public transport for 31% of our business mileage in 2018-19; this equated to over 635,000 miles.

Taking the train
avoided
138,000kg of
carbon emissions

Our staff saved
4,000 air miles by
taking the ferry

We reward low
carbon commutes

Electric car
charging points

Public transport

In 2018-19, we travelled over 600,000 miles by train. Taking the train in preference to making a journey by car reduced our carbon emissions by over 138,000 kg.

We encourage regular travel by train for business mileage by offering staff an interest free loan for the purchase of corporate season tickets and by reimbursing the cost of railcards when they are used to purchase tickets for business travel.

Where practical, we use trains and ferries in preference to planes for journeys from the UK to Ireland. In 2018-19 our staff travelled over 4,000 miles by ferry.

Car hire and cycling

If public transport is not a viable option and company vehicles are not available, we use low emission hire cars for essential business travel.

For very local travel, we pay a generous expenses rate to staff who use a bicycle for business travel.

We are a member of the Enterprise Car Club that enables us to combine public transport with car hire by providing access to short term hire vehicles at rail stations. This makes it possible for us to travel by rail even if our destination is not close to a station.

Encouraging low carbon commutes

In 2018-19, the JBA Environmental Reward Scheme paid over £33,000 to staff as reward for regularly using low carbon methods of commuting. Under this scheme, staff who walk, cycle, car-share or use public transport to travel to work for a significant proportion of their journeys are entitled to receive a financial bonus. 235 members of staff qualified for this reward in 2018-19, a 4% increase on the previous year.

Our new head office has electric car charging points and most offices provide cycle storage and shower facilities to support cycling as a method of low carbon commuting.

This year staff at our two Skipton offices took part in an initiative called Open Skipton, a scheme run via local councils and funded by the Department of Transport. The aim of the initiative was to help local business implement sustainable travel methods in order to encourage employees in Skipton to make informed travel decisions. Open Skipton helped carry out a travel survey for staff and produced bespoke travel plans for individuals, outlining alternative commuting methods available to them. Our Skipton staff also set up a car sharing planner.

Average CO₂ emissions of our fleet decreased and average fuel economy increased

The JBA vehicle fleet

We maintain a fleet of company vehicles for essential business travel that cannot be undertaken by public transport. The majority are low emission, fuel efficient vehicles apart from two utility vehicles that are required to meet our off-road access needs; their use is restricted to such purposes. In 2018-19 we replaced several vehicles, including one high emissions utility vehicle, choosing alternatives with lower emissions and higher fuel economy made in Britain, helping us work towards our sustainability goals.

Table 2-1 shows the average CO₂ emissions and fuel economy of our fleet. Although we increased our fleet, the changes we made resulted in average CO₂ emissions decreasing by 3 gCO₂/km and average fuel economy increasing by 4 mpg.

Table 2-1: JBA vehicle fleet					
Vehicle	CO ₂ (g/km)	Fuel (mpg)	Vehicle	CO ₂ (g/km)	Fuel (mpg)
Grey Corsa Exc AC CDTi Ec	88	86	Silver Astra CDTi Exclusive	104	72
Silver Astra 1.6 CDTi	89	83	Silver Focus 1.6 TDCi	115	64
Blue Astra 1.6 CDTi Ecofl	91	83	Blue Astra 1.7 CDTi 16v Ecoflex	119	63
Silver Astra 1.6 CDTi Ecofl	94	79	Dark Grey Astra SRI CDTi	119	63
Red Astra Design CDTi	95	79	White Combo Van 1.3 CDTi	130	57
White Astra 1.6 CDTi	97	76	White Combo Van 1.3 CDTi	130	57
Silver Astra 1.6 CDTi Excite	97	76	White Astra Van Club CDTi	132	57
Black Qashqai 1.5 dCi	99	74	White Doblo Van	148	55
Black Qashqai 1.5 dCi N-Connecta 5d	99	74	White Boxer 335 L3 HDi	195	41
Black Qashqai	99	74	White Ranger XL D/Cab 4x4	192	35
Black S60 R-Design D2	103	72			
Average across the fleet				114	64

We purchased fleet vehicles made in Britain to help us work towards our sustainability goals

2.7 Waste

Waste minimisation

We manage our waste in accordance with the waste hierarchy and minimise the waste that we produce by reducing, re-using and recycling resources. This year we introduced a Sustainable Actions Log on our intranet to record and promote our actions and encourage improvements across the company. This has recorded a large number of waste minimisation actions, including recycling of crisp packets, contact lenses and pens.

Plastic

In 2018-19 more of our offices made changes to reduce their use of plastic. Several more offices are buying cleaning and hygiene products in bulk and refilling containers to reduce their use of plastic bottles and dispensers. Some offices have replaced plastic washing up sponges with more environmentally friendly alternatives, such as reusable microfibre cloths or 100% natural and biodegradable sponges. A number of offices have also switched to using eco-friendly products, with some provided in recycled plastic bottles.

Some offices are able to obtain milk from local suppliers in returnable, reusable glass bottles, minimising single-use plastic containers. This year more of our offices have adopted this.

Electrical equipment

Wherever possible we re-use our electrical and IT equipment within the Group but if an item reaches the end of its useful life within JBA we dispose of it via a central contract managed by our IT department. Our current contract is with Data Managed Disposals who provide a service to re-use or recycle redundant electrical equipment in a secure, certified and auditable fashion using techniques recommended by Defra. Data Managed Disposals is a licensed upper tier waste carrier and complies with all relevant legislation, including the UK WEEE Regulations and the UK Data Protection Act. Items are collected from a few central JBA offices to minimise the mileage associated with disposing of our electrical equipment.

Batteries

We try to minimise our use of batteries and, where possible, use rechargeable batteries in our equipment. We return waste batteries to the supplier for recycling.

Many offices refill and re-use plastic containers

Our redundant electrical items are re-used or recycled

We now recycle a much wider range of waste streams

Recycling

Wherever possible, our offices recycle their waste. This year many of our offices now recycle more waste types than last year. We recycle the following items at the majority of our offices:

- batteries
- card
- cans
- CDs/DVDs
- electrical equipment
- glass
- organic waste
- paper
- plastic bottles
- print consumables
- tetra-pak cartons

In 2018-19 we introduced recycling for a wider range of waste streams at more of our offices. We use TerraCycle recycling schemes to avoid sending waste to landfill. These encourage recycling of products thought hard-to-recycle and all waste sent will be recycled and turned into new products. Their schemes offer points for items recycled, which can be redeemed for non-profit organisations, schools or charitable gifts. Our Wallingford office are recycling all waste streams accepted by TerraCycle.

- pens
- crisp packets
- contact lenses



WE RECYCLE WITH TERRACYCLE !

JBA Group is registered as a lower tier waste carrier

Our used ink cartridges are re-used or recycled

Paper and card

All offices have arrangements in place with licensed waste management companies to recycle waste paper; these include for the secure disposal of confidential waste paper, where required, and in some offices, paper towels.

The JBA Group is registered as a lower tier waste carrier. This allows staff to take excess cardboard from new IT and other equipment to their local recycling centre and to transport waste between offices to central collection points.

Organic waste

Some of our offices collect and dispose of their organic waste via compost bins to avoid sending it to landfill. This year several more of our offices implemented this and our Coleshill office encouraged other offices at their site to take part too.

Print consumables

We return used print consumables to the manufacturer for re-use or recycling. Used cartridges from our offices are collated at a few central collection points when staff are travelling for other purposes, to be collected when a target amount is reached.

We hold virtual meetings and webinars to help reduce our business mileage

2.8 Virtual communications

Office 365

We have migrated our systems to Microsoft's Office 365 environment which gives all staff access to Skype for Business.

It is standard practice for staff to use Skype as the go-to means of communication instead of travelling to face-to-face meetings. Skype gives all staff increased functionality during teleconferences and phone calls; remote file sharing and viewing is now routine.

Skype also supports our overseas communications, with both clients and staff. By doing so, it reduces the need for overseas travel.

Teleconferences

All staff have access to teleconference facilities provided by Arkadin. Where Skype is not appropriate, we use Arkadin throughout the Group and with external parties as a normal method of hosting internal and external meetings. This helps to reduce our environmental impact by removing the need for business travel.

Webinars

In addition to meetings, we use our virtual conferencing facilities for broadcasting webinars, training courses and presentations to all offices. This avoids the need for the presenters to travel to each JBA office thus reducing the mileage, carbon emissions and staff time. These webinars are also recorded so staff can watch them a second time or for those not available to watch the first presentation.

2.9 Office management

Office improvements

The big change this year was our head office move from South Barn to Broughton Park. Both locations are on the Broughton Hall Estate in Skipton but our new, purpose-built and eco-friendly office is a significant contrast to the historic barn conversion we occupied before. We had significant influence and input into the design of the building and its features.



Our new head office is a purpose-built, eco-friendly building

Energy saving lighting

Heating powered by air source heat pumps

Natural ventilation

The building fabric both internal and external is predominantly timber, from sustainable sources, creating a building in harmony with its surroundings. A significant proportion of the building is glazing, maximising natural light and reducing the need for lighting. The LED lighting system has many energy-saving features. It is arranged in banks, which are motion sensitive and adjusted to suit levels required by staff. The light sensing control reduces the level of artificial lighting when sufficient daylight exists.

The building is highly insulated reducing the need for extensive heating. When heating is required, an underfloor heating system powered by air source heat pumps provides an effective, efficient, and low carbon heat source. A digital building energy management system regulates the internal temperature in zones based on external conditions and internal expectations.

The office space is designed to be ventilated naturally, reducing the need for air conditioning. It has extensive opening glazing in the majority of areas and utilises the natural buoyancy of air to create circulation around the building. The server and processor rooms located at Broughton Park are cooled using external ambient air for up to 80% of the operational hours, with additional cooling from chilled water-cooling systems if necessary. This offers huge operational efficiencies and reduces the need for refrigerant-based technologies.

Office facilities to encourage low carbon commuting

The office has facilities to encourage low carbon commuting and business travel, with storage facilities for bikes, showers for staff and electric car charging points for use by staff as well as clients.

We installed an automatic weather station on site that measures air temperature, humidity, wind speed and direction as well as rainfall and pressure. We also have a manual rain gauge which is read daily by staff for calibration purposes. The data observed at this station is freely available for use by schools, universities and communities. Real time weather information for this site is available from several sources; the met office online, the JBA Trust on twitter and on site through a display console.



Energy efficiency improvements in our offices

In addition to Skipton, other offices have continued to make improvements. In our Tadcaster office we installed new hot water boilers, made changes to pipework and installed a new heating boiler and control panel that offers settings to run at reduced capacity. Staff now have more control over office temperatures, and these can be more easily maintained, improving the energy efficiency of the office. Our Newcastle office applied draught-proofing tape to windows to reduce the need for heating, and in our Coleshill office we switched to LED lighting to reduce the electricity used.

We have a Carbon and Resource Use Management Plan

Carbon and Resource Use Management Plan

In 2018-19 we developed a Carbon and Resource Use Management Plan (CRUMP). This is a three-year plan of business-wide actions that aims to establish working practices to minimise resource use. Running from 2019 to 2021, it will support our existing environmental management system by driving reductions in the carbon emissions and resource consumption associated with our activities. As part of the CRUMP, we will analyse our resource use and emissions and set long term targets. These will include reductions in our consumption of water, electricity and gas, continuing our switch to the use of renewable energy, and reductions in our business travel emissions and business waste. The overall aim of our CRUMP is to achieve carbon neutrality by 2030.

Office representatives raise awareness

Offices near to clients and public transport

We purchase renewable energy

We use energy efficient lighting and install accessible power switches

Environmental management system representatives

We have a designated Environmental Management System Representative (EMS Rep) at each of our offices. EMS Reps play a key role in monitoring our environmental performance, driving improvements and raising awareness of our environmental processes and procedures such as our travel hierarchy, switch off when not in use policy and waste management procedures.

Office location and size

Environmental issues are a key consideration when we select locations for our offices. These include commuting distances for staff, proximity to client offices and accessibility by public transport.

Our Exeter, Isle of Man, Newcastle and Wallingford offices, for example, are located very close to key clients; our Haywards Heath, Newcastle, Newport, Saltaire, Skipton BVM and Warrington offices are all within walking distance of train stations and offices including Edinburgh, Newcastle, Saltaire, Skipton Broughton Park, Skipton BVM, Tadcaster and Warrington have facilities for bike storage and showers to encourage staff to cycle to work. Our head office at Skipton Broughton Park has charging points for electric vehicles to encourage low carbon travel by staff and clients.

We manage our office space to ensure each office is an appropriate size for its current population. This helps us to run energy efficient offices by avoiding empty space.

Electricity

Where we can select the energy provider for our offices, we choose suppliers who provide electricity generated from renewable sources. Currently, we purchase electricity from renewable sources for our Doncaster, Glasgow, Newport, Skipton Broughton Park, Tadcaster and Wallingford offices.

Lighting and equipment

To minimise unnecessary energy consumption, our Doncaster, Warrington and Skipton offices have motion sensitive lights; the lights in our Haywards Heath office are on a timer; many offices, such as Coleshill, Exeter and Newcastle have lighting in banks that can be switched on and off as appropriate and our Warrington and Coleshill offices have LED lighting.

Our Wakefield data centre has state of the art environmental controls and efficiencies within the building.

We fit desktop power supplies to desks to make it easier for equipment to be switched off when not in use.

We restrict the purchase of wireless keyboards and mice to minimise our use of batteries.

We monitor our use of processing machines and remind staff that, in line with our *switch off when not in use* policy, they should be turned off if not being used.

We monitor our water use

Water monitoring

We monitor water use at any of our offices where JBA water use is separately metered. Currently this is possible at our Tadcaster, Wallingford and Doncaster offices.

Local suppliers

Where possible we support the local economies around our offices by using local suppliers.

Our head office uses locally based HR advisers, pension administrators, financial auditors and solicitors. All our offices use local cleaning and maintenance companies and, where possible, we use surveyors located close to our projects. Some offices obtain milk from local suppliers. We use AirBnB rooms and small independent providers for some business accommodation.

We support local communities and social enterprises

Social enterprise

We support Newground LUS by subscribing to its environmental and health and safety legislation update service and attending its training events. Newground LUS is a social enterprise that distributes its profits in the form of grants to environmental and community projects to help regenerate local communities.

2.10 Connecting with the environment

Sharing ideas about flood risk management

In 2018-19, JBA Trust and staff volunteers from across the JBA Group ran a series of events sharing ideas and engaging organisations within the wider community. They hosted a number of events raising awareness of natural processes and flood risk amongst the next generation. At secondary schools in Skipton, our staff held an Interactive Geography Day and a Risk and Environmental Engineering event, using physical models to demonstrate natural processes and interactions and discuss climate. At a Flood Forum at the University of Cumbria they discussed flood response and flood preparedness with 400 primary school children and visited local primary schools to engage children in thinking about the natural environment.

We have been sharing ideas on Natural Flood Management (NFM) with a young farmers group near Skipton and at a community-focussed event 'Slow the Flow' near Hebden Bridge. NFM involves using natural processes to reduce the risk of flooding and coastal erosion, such as restoring bends in rivers, changes to land management to allow absorption of water into the soil for example tree planting, and creation of saltmarshes in coastal environments to absorb wave energy.

We share ideas and information with local schools and organisations



JBA have contributed to many studies looking at NFM and we recently shared our experiences at the annual Chartered Institute of Ecology and Environmental Management (CIEEM) Irish Conference for all people working in the water environment. Our Holnicote river restoration project, a Somerset Case Study on NFM, achieved restoration of not just local processes and impacts but also those at a larger catchment scale of both hydromorphology and ecology.

Our *Just Be Active* initiative encouraged staff to interact with their local environment

We contribute to our local environment

Just Be Active

In July we once again ran our Just Be Active initiative, designed to encourage staff to increase their physical activity for a month. We encouraged staff to make pledges that specified how they intended to increase their activity.

Many of the pledges staff made, such as walking, running or cycling, involved engaging with the natural environment and so this health and wellbeing led initiative also had environmental benefits in that it encouraged staff to get out and about and enjoy their local environment.

Contributing to our local environment

Our Saltaire office staff supported a local angling association planting 250 hedge saplings on the banks of the River Aire near Skipton. This was part of a wider programme of habitat improvement works aiming to reduce cattle poaching, improve biodiversity and boost the fish population.

Our staff have been enjoying the outdoors on their lunchtime walks and have been litter picking along the way to improve their local environments, recycling the waste collected.



We support environmental activities and fund-raising events

Kayaking, mountain walking and football

As part of the Just be Active initiative our Wallingford office enjoyed an evening of kayaking on the River Thames. Our Limerick staff took a guided kayak tour of the River Shannon and Lough Derg, taking in a large hydropower scheme. A team of staff from our Haywards Heath office took part in the Great South Run raising funds for the Portsmouth Down Syndrome Association.



JBA staff regularly take part in the Yorkshire Three Peaks Challenge, taking in the peaks of Phen-y-Ghent, Wharfedale and Ingleborough. This year staff from seven of our offices braved the very wet Yorkshire weather to complete the challenge enjoying the natural environment together.

This year we held a Football and Walking Day where staff from across our offices came together for an inter-office football tournament and moorland walk in the Yorkshire Dales National Park. This event was a great success, with our staff making the most of the beautiful local environment and we plan to make it an annual event.



2.11 Carbon sequestration

Catgill Wood

We established
and maintain
new woodland

In 2007, we established a new woodland, Catgill Wood, on land within the Broughton Hall Estate in North Yorkshire under an agreed management scheme. We planted over 5,000 mixed native broadleaf trees on a 1.62 hectare area of land. Based on research by the Forestry Commission⁷, Catgill Wood is expected to sequester 8.75 tonnes of CO₂ each year.

Although the CO₂ sequestered by Catgill Wood represents a small proportion of our carbon footprint, Catgill Wood is a very tangible sign of the importance we attach to our environmental performance. Establishing and maintaining the wood clearly demonstrates our commitment to the environment and has enthused and involved staff – in its original creation, its ongoing maintenance and as a recreational resource.

Figure 2-6: Catgill Wood



⁷ Forestry Commission Publications. Climate Change Information Pack, Sheet 6 Mitigation: Planting More Trees.

3. Carbon footprint

Total CO₂e energy use emissions down by 0.7%

Per capita energy use emissions reduced by 8.8% last year

Our monitoring now includes T&D and CO₂e emissions

We measure our carbon footprint as the CO₂e emissions related to energy use in our offices and data centre and our business travel.

3.1 Emissions from our energy use

Table 3-1: CO ₂ e emissions from energy use								
Year	Total energy used ¹ (kWh)	Total green energy used (kWh)	Total non-green energy used (kWh)	Equivalent emissions ² (kg)	Emissions per capita ¹ (kg)	Change in total emissions (kg)	Change in total emissions (%)	Change in per capita emissions (%)
2017-18	1,837,084	866,987	970,097	271,019	498			
2018-19	1,898,701	779,751	1,098,950	269,124	454	-1,895	-0.7%	-8.8%

Notes: 1 Data recorded at offices where JBA energy use can be monitored extrapolated to estimate usage at unmonitored offices.
 2 Carbon emissions calculated using formulae from UK Government GHG Conversion Factors for Carbon Reporting 2019.

We calculate our total energy use and emissions from a combination of recorded and estimated data. We use recorded data for offices where JBA energy use is metered but, for multi-occupant offices where JBA energy use is not separately metered, energy use and emissions are estimated using a per capita average from our monitored offices.

To ensure we include all greenhouse gas emissions, we have changed the way we calculate and report emissions this year. We are reporting emissions as carbon dioxide equivalent (CO₂e) instead of carbon dioxide (CO₂). We are including emissions due to electricity transmission and distribution losses for all locations, including those supplied with energy from renewable sources.

Despite an increase in staff numbers during 2018-19, our total CO₂e emissions from energy use in our UK, Ireland and IoM offices and data centre fell by 0.7%. Our per capita emissions decreased by 8.8%.

Total CO₂e travel emissions fell by 7%

CO₂e emissions per mile fell by 8.2%

Per capita CO₂e travel emissions fell by 19%

3.2 Emissions from our business travel

Table 3-2: CO ₂ e emissions from all business travel							
Year	Total miles	Change in miles	Total emissions kg CO ₂ e	Change in emissions kg CO ₂ e	Emissions per capita kg CO ₂ e	Emissions per mile kg CO ₂ e	
2017-18	2,056,887	+295,441	424,194		803	206	
2018-19	2,081,955	+25,068	394,496	-29,698	648	189	
Note: Conversion factors used are Defra's UK Government GHG Conversion Factors for Company Reporting: Standard set 2019:							
Train	0.066	Bus/coach	0.044	Plane	0.222	Ferry	0.181
Hire car	0.250	Pool car (petrol)	0.290	Pool car (diesel)	0.236	Personal car	0.291
Motorbike	0.186	Bicycle	0	Taxi	0.240		

Table 3-2 shows that although our total business travel mileage increased slightly in 2018-19 (by 1.2%), the associated total CO₂e emissions decreased by 7%, our per capita emissions decreased by 19% and our emissions per mile decreased by 8.2%.

These results demonstrate the positive impact of our staff following the JBA Travel Hierarchy and choosing lower carbon methods of travel.

3.3 Overall Group emissions

Overall CO₂e emissions decreased by 4.5%

Table 3-3: Total JBA Group emissions

	Energy use emissions (kg)	Travel emissions (kg)	Total emissions (kg)	Total emissions per capita (kg)	Change in emissions (kg)	Change in emissions (%)	Change in per capita emissions (%)
2017-18 (CO ₂ e)	271,019	424,194	695,213	1,301			
2018-19 (CO ₂ e)	269,124	394,496	663,620	1,102	-31,593	-4.5%	-15.3%

Note: Conversion factors used are Defra's UK Government GHG Conversion Factors for Company Reporting: Standard set 2019

Table 3-3 shows our overall carbon footprint calculated by combining the CO₂e emissions from energy use at our UK, Ireland and IoM offices and data centre and our business travel.

In 2018-19, our overall carbon footprint decreased by 4.5% and our per capita carbon footprint decreased by 15.3%, compared to the previous year.

Several factors contribute to these reductions: our policy of purchasing renewable energy where possible; an increase in full time equivalent staff numbers within the JBA Group; the annual revisions to greenhouse gas conversion factors; and our staff following the JBA Travel Hierarchy.

Per capita CO₂e emissions decreased by 15.3%

4. Summary of our performance for the financial year 2018-19

Table 4-1: Environmental performance summary

	Key action: 2018-19	Results: 2018-19	Results: 2017-18	Year on year change	Percentage difference	Key action achieved in 2018-19
Paper use						
Per capita (kg)	per capita reduction paper use	6.05	7.90	-1.85	-23%	yes
Energy emissions						
Per capita (kg CO ₂ e)	per capita reduction in emissions from energy use at metered offices	414	458	-44	-9.6%	yes
Travel emissions						
Per capita (kg CO ₂ e)	per capita reduction in emissions from business travel	648	803	-155	-19%	yes
EPI 4 Business waste						
Business waste	per capita reduction in business waste	26.2	24.8	+1.41	+5.7%	no
Carbon footprint (tonnes)		663	695	-32	-4.5%	
Carbon footprint per capita (tonnes)		1.1	1.3	-0.2	-15.3 %	

5. Environmental objectives and actions for the year ahead

For 2019-20, we have again set ourselves objectives and identified key actions to help us achieve our intended outcomes. We will continue to monitor our performance against these objectives.

Objective	Key actions	Outcome
Reduce the adverse environmental and sustainability impacts of the operational activities of the JBA Group.	<ul style="list-style-type: none"> Reduce our use of natural resources. Reduce our energy use and associated carbon emissions. Reduce our waste sent to landfill. Increase staff awareness of our environmental impacts. Monitor and report environmental performance within our operational activities. 	<ul style="list-style-type: none"> Recognition as an environmentally responsible business. Year on year reduction in carbon emissions.
Improved sustainability and environmental management of projects.	<ul style="list-style-type: none"> Improve environmental risk assessment in projects. Improve reporting of environmental incidents. Identification and mitigation of potential environmental impacts. Identification of good environmental design. 	<ul style="list-style-type: none"> Recognition as an environmentally responsible business. Certification to ISO 14001:2015 and IEMA's EIA Quality Mark.
Wider influencing of stakeholders by our staff to achieve better environmental and sustainability outcomes.	<ul style="list-style-type: none"> Record our overall contribution to sustainability and environmental management good practices. Provide staff training in the application of sustainability and environmental good management techniques and tools. Contribute to national environmental records. 	<ul style="list-style-type: none"> Evidence of our professional expertise, innovation and value to the environment and sustainable development goals.



Offices at:

Coleshill
Doncaster
Dublin
Edinburgh
Exeter
Glasgow
Haywards Heath
Isle of Man
Leeds
Limerick
Newcastle upon Tyne
Newport
Peterborough
Saltaire
Skipton
Tadcaster
Thirsk
Wallingford
Warrington

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