

Sustainability & Environmental Management Report 2022-23

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www.jbagroup.co.uk

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Carbon Footprint

JBA is committed to championing sustainability and has made The Ten Principles of the UN Global Compact part of its culture and operations. We have a Group-wide objective to be a Net Zero carbon emissions business.

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Contents

1	About JBA Group	2
1.1	Who we are	2
1.2	What we do	3
1.3	Our culture	3
1.4	Our policies	4
2	Our contribution to the UN Sustainable Development Goals	5
2.1	Sustainable Development Goals	5
2.2	How we contribute	5
3	Performance against our environmental management objectives	8
3.1	EMS Key Action: Assess and report JBA Group carbon emissions and emissions reduction measures	8
3.2	EMS Key Action: Improve the environmental and sustainability performance of our work for clients	19
3.3	EMS Key Action: Influence our stakeholders to deliver best practices and outcomes for the environment and sustainability	26
4	Sustainability achievements beyond our EMS Key Actions	31
4.1	Sustainable operations	31
4.2	JBA community	34
5	Environmental objectives and actions for the year ahead	37

List of Figures

Figure 1: Core services provided by JBA Group companies	3
Figure 2: JBA Group carbon footprint 2022-23	9
Figure 3: JBA Group science-based net zero emissions reduction target versus per capita progress to date	11
Figure 4: Per capita paper consumption at our offices and across the JBA Group	14
Figure 5: Per capita business waste at each JBA office and across the JBA Group	15
Figure 6: Per capita energy use at each monitored office and across the JBA Group	17

15-002 Sustainability and Environmental Management Report 2023

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Figure 9: JSat user interface showing map view with high detection scores (red) in a Source Protection Zone (green).	24
Figure 10: JBA Consulting e-learning portal	25
Figure 11: Eurasian beaver	26
Figure 12: Outline design concept for biodiversity wall	27
Figure 13: 3D concrete printing in action (left); the finished product (right)	28
Figure 14: The River Lochy, Embankment and Flood Wall	29
Figure 15: Nature-based Fish Friendly Seawall in Queensland, Australia	30

List of Tables

Table 1: Summary of the performance of the JBA Group in 2022-23	1
Table 2: JBA Group core business objectives	4
Table 3: Central aims of our Sustainability & Environmental Management policy	4
Table 4: UN SDGs of most relevance to the work undertaken by the JBA Group	6
Table 5: JBA Group GHG emissions (tCO ₂ e) 2022-23	10
Table 6: JBA Carbon Cutting Priorities to meet our net zero objective	12
Table 7: Paper use (in kg) at our offices in 2022-23	14
Table 8: Waste generation and disposal at our offices in 2022-23	15
Table 9: Water consumption at our offices in 2022-23	16
Table 10: Energy consumption at our offices in 2022-23	16
Table 11: Environmental objectives, key actions and intended outcomes for 2023-24	37

Abbreviations

BNG	Biodiversity Net Gain
CEEQUAL	Sustainability rating scheme for infrastructure projects
CIEEM.....	Chartered Institute of Ecology and Environmental Management
CO ₂ e.....	Carbon dioxide (CO ₂) equivalent
CSR.....	Corporate Social Responsibility
Defra	Department for Environment, Food and Rural Affairs
EA	Environment Agency
EDI	Equality, Diversity, and Inclusion
EIA	Environmental Impact Assessment
EMS	Environmental Management System
FCERM	Flood & Coastal Erosion Risk Management
FTE	Full time equivalent
GHG	Greenhouse gas
IEMA	Institute of Environmental Management and Assessment
ISO.....	International Standards Organisation
JBA.....	JBA Group Limited
JBAB	JBA Bentley
JBP.....	Jeremy Benn Pacific
KWh	Kilowatt hours
MMA.....	Mekong Modelling Associates
NFM	Natural Flood Management
QMS.....	Quality Management System
SBTi	Science Based Targets initiative
SDG	Sustainable Development Goal
STEM	Science, Technology, Engineering, and Maths
UN	United Nations
WFD.....	Water Framework Directive
WWNP	Working With Natural Processes

JBA sustainability in 2022-23 at a glance

Table 1: Summary of the performance of the JBA Group in 2022-23

People and culture	Environmental performance	Services
Average no. of employees* 905 (+106)	Business miles travelled 1,706,013 (+18%)	No. of new external projects 1,557 (+53)
Average no. of permanent employees* 799 (+45)	Measured energy consumed in our offices 918,778 (+8%)	No. of clients commissioning new external projects** 845 (+15)
No. of new graduates 49 (+5)	Measured office energy from renewable sources 88% (+13%)	No. of internal project quality audits undertaken 82 (-)
Employee gender split* 60 / 40 (% male / female) (+2.1 / -2.1)	Paper consumption 889kg (-2%)	No. of approved suppliers 543 (+59)
Gender split (Associate Director level & above)* 76.7 / 23.3 (% male / female)	% waste recycled 49% (+3%)	% approved sole trader and SME suppliers 71% (-14.6%)
Gender split (technical roles)* 61.4 / 38.6 (% male / female)	No. of environmental incidents, near misses or observations reported 16 (-21)	% suppliers given Good or Exceptional scores for environmental performance 98% (-)
Hours of formal training completed 24,275 hours (+6,935 hours)	Carbon footprint 4,082 tCO ₂ e	No. of industry environmental awards 1 (-3)
No. of chartered professionals 201 (+28)	Per capita carbon footprint (market-based) 4.50 tCO ₂ e	No. of live internal R&D projects 49 (+28)
No. of employees qualifying for low carbon commuting environmental reward 502 (+288)	No. of internal office environmental audits conducted 19 (-5)	No. of permanent apprenticeships 43 (+14)

Comparison with 2021-22 year shown in brackets where applicable; *as of 31 October 2023; **different regions within national public sector clients counted as separate clients.

1 About JBA Group

1.1 Who we are

JBA is an environmental, engineering, and risk management group focused on helping improve the environment, business, and infrastructure. We started operating in 1995 with the purpose of creating a specialist consultancy offering an inter-disciplinary approach to our clients. In 2011, JBA restructured to form a new group of companies, the **JBA Group**, enabling us to focus on our specialist skills and expertise. Since then, the JBA Group has continued to expand and thrive, and today consists of 10 businesses employing over 900 staff in 24 offices in the UK, Ireland, Romania, Australia, Singapore, and Cambodia.



JBA Consulting is the original multi-disciplinary consulting business established by Jeremy Benn in 1995. It has grown to be one of Europe's leading specialists in environmental engineering and management, delivering major studies for national governments and international and national bodies including the European Investment Bank, European Commission, Defra, Environment Agency (EA), and Network Rail. JBA Consulting has formed several subsidiary companies, including JBA Isle of Man, JBA Pacific, located in Brisbane, Australia, and **JBA Bentley** (JBAB), a joint venture with the contractor JN Bentley providing integrated engineering design and build services to the EA as a framework supplier on its Flood and Coastal Erosion Risk Management (FCERM) Central Hub frameworks.



Established in 2011, **JBA Risk Management** is a global leader in flood risk management. Known as The Flood People®, their flood maps, catastrophe models and analytics are used by some of the world's largest insurers, reinsurers, financial institutions, property companies, and governments. They're experts in translating complex, scientific data to provide cutting-edge flood risk intelligence. JBA Risk Management has formed several subsidiary companies in Singapore and California, USA, enabling it to offer services at a global scale and deliver projects in Europe, Central and South-East Asia, Africa, and South America.



JBA Consulting Engineers & Scientists (Ireland) was established in 2007 and is a leading flood management, environmental, water, and engineering consultancy. Operating nationwide from its offices in Limerick and Dublin, as well as in Northern Ireland, the rest of the UK and internationally, the company has a growing presence in Eastern Europe, through its subsidiary company **JBA Consult Europe**, based in Bucharest, Romania.



Jeremy Benn Pacific (JBP) was formed in 2016 with a focus on increasing community resilience to natural disasters – floods, cyclones, typhoons, storm tides, and erosion. The company works throughout Australia, the Pacific, and world-wide, delivering projects for local authorities, government departments, and international agencies including the World Bank and Asian Development Bank.



Mekong Modelling Associates (MMA) is JBA Group's operating company in Cambodia. Based in Phnom Penh, MMA delivers a range of climate change adaptation and transboundary flood risk and water management projects for public and private sector clients throughout SE Asia.



In 2011, JBA Group created the independent charity, **JBA Trust**, with the purpose to support research and the development of knowledge and skills in environmental risk management, and in the water environment in particular.

Working with leading academic researchers, NGOs, other charities, and the JBA Group companies, the Trust provides training and education in schools and supports post-graduate education through placements, internships, and financial bursaries

1.2 What we do

JBA Group is a family of companies, respected by our clients for providing expertise in flood risk management and modelling, engineering, and environmental and water management. We are scientists, engineers, hydrologists, environmental and risk managers, surveyors, ecologists, archaeologists, landscape architects, project managers, software developers, mathematicians, modellers, economists, and more.



Figure 1: Core services provided by JBA Group companies

1.3 Our culture

Our culture drives our business objectives, our behaviours, and the quality of the services we deliver. It's our core aim to have a positive impact on our staff, client, suppliers, and the local communities and environments in which we work. To achieve this, we've set Group-wide objectives and we continually measure our progress against these objectives.

Table 2: JBA Group core business objectives

✓	We are committed to providing high quality services that meet or exceed the expectations of our clients.
✓	We proactively manage the health, safety, and welfare of JBA employees, suppliers, and visitors across all areas of our business activities, and we require our suppliers and partners to do the same.
✓	We comply with the highest relevant and ethical standards and maintain our systems to minimise the occurrence and impact of any security incidents.
✓	We continuously strive to improve our environmental performance and reduce the environmental impacts of our business.
✓	We use our consumer power to reward suppliers who support our objectives, share our business values, and deliver excellence.

1.4 Our policies

Our policies define how we operate, our aims, and how we apply our business values, objectives, and behaviours. Our policies set our expectations, help ensure legal compliance, demonstrate our responsibilities, and keep us accountable. Our [Sustainability and Environmental Management](#) policy sets out our commitment to integrate the principles of sustainability in our practices, operations, and business planning. It commits us to applying a principles-based approach to business, incorporating [The Ten Principles of the UN Global Compact](#) and promoting the [UN Sustainable Development Goals](#) (SDGs).

Table 3: Central aims of our Sustainability & Environmental Management policy

✓	Taking all reasonable measures to minimise the environmental impacts of our operations and activities and ensuring our use of natural resources is sustainable and environmentally responsible.
✓	Working progressively to improve the sustainability of our business practices and being fully accountable for the environmental impacts of our operations.
✓	Effectively engaging with our staff, clients, and suppliers to promote environmental sustainability and proactively sharing good practices.
✓	Taking meaningful action to minimise our climate impacts, with the objective of being a net zero GHG emissions business.
✓	Adopting a circular economy model and promoting the principles of a circular economy in our services and in the goods and services we use.
✓	Applying sustainability as a positive choice and prioritising suppliers who support our sustainability objectives.
✓	Complying with all legislation, standards, statutory and other obligations, and best practices relevant to our activities in the jurisdictions in which we operate.
✓	Continually improving our Environmental Management System (EMS) so that, as a minimum, it satisfies the requirements of the ISO-14001 standard.

2 Our contribution to the UN Sustainable Development Goals



2.1 Sustainable Development Goals

Launched by the United Nations (UN) in 2015, the 17 [Sustainable Development Goals](#) (SDGs) and 169 associated targets form a framework through which society can achieve a “*better and more sustainable future for all*”. These inter-linked goals include a breadth of social, economic, and environmental themes, including water, energy, climate, poverty, equality, education, industry, and health and wellbeing, and define the global sustainable development priorities and aspirations for 2030.

Our Sustainability and Environmental Management Policy sets out our commitment to integrate the principles of sustainability in our practices, operations, and business planning. It commits us to applying a principles-based approach to business, incorporating The Ten Principles of the UN Global Compact, and actively promoting the SDGs.

The SDGs define a common framework of action and encourage businesses to “*reduce their negative impacts while enhancing their positive contribution to the sustainable development agenda*.” The UN recognises that not all 17 SDGs are equally relevant to a company and the extent that a company can contribute to each goal depends on a wide range of factors. Whilst we support all of the SDGs and seek ways to contribute to as many as possible, several of the goals are more directly relevant to the work we do. We focus on these goals more often because we can most directly influence the positive and negative impacts our business activities have on these SDGs.

2.2 How we contribute

Through our operations and project-related activities that we deliver on behalf of clients, we contribute directly to several typically of the UN goals as summarised in Table 4. Section 3.3 showcases a small selection of the projects we’ve delivered during the past year and highlights how these projects have contributed to the SDGs.

Table 4: UN SDGs of most relevance to the work undertaken by the JBA Group

	<p>Good health and wellbeing – The principal aim of this goal, to “<i>ensure healthy lives and promote well-being for all</i>”, is central to how we operate. We aim to create “<i>a safe and healthy working environment</i>” and we measure our progress against this objective through our ISO-45001 certified Health & Safety Management standard. We understand that work can have a big impact on staff wellbeing and this can affect their health. We take a proactive approach so that working with JBA is a positive influence on the wellbeing of all staff, and we help staff achieve a healthy work/life balance.</p>
	<p>Gender equality – Providing equal opportunities to all is important to us. We want all of our staff members to be able to contribute to the best of their capacity, and we believe we can achieve this if everyone is included, respected, valued, and supported. Over the past few years, we’ve made important changes to strengthen our policies and practices to promote gender equality and the empowerment of women. We’ve sought to improve our understanding of the obstacles to progression for women and to take action to address any such obstacles in JBA. We promote female innovators and we actively support initiatives such as International Women's Day and Women in FCERM.</p>
	<p>Clean water and sanitation – Much of the work we do is directly related to sustainable water management. We are experts in flood risk, water supply and resources, reservoir management, and river and wetland habitat restoration, with the quality of our work recognised internationally. We work extensively for the EA, local flood risk authorities, water supply companies, and Internal Drainage Boards (IDBs), supporting their flood risk and water management programmes through our integrated engineering, modelling, and environmental project teams. Our work focuses on increasing resilience, promoting sustainable water supply and management, reducing pollution, and protecting and enhancing water-related ecosystems.</p>
	<p>Industry, innovation and infrastructure – We contribute to the delivery of major public flood management, water management, and transportation projects in the UK and internationally. We’ve been a national framework consultant to the EA since 1999 and the only consultant appointed to national flood management frameworks in each of the UK devolved administrations, Isle of Man, and Republic of Ireland. Our work helps improve quality of life by reducing flood risk and improving water management and quality.</p>
	<p>Sustainable cities and communities – As a specialist in flood risk, water resources, and environmental management, the goal to “<i>Make cities and human settlements inclusive, safe, resilient and sustainable</i>” is embedded across our business. Our project teams support clients to develop sustainable solutions that increase community and environmental resilience, promote inclusivity and safety, and protect cultural and natural heritage.</p>



Climate action – We recognise that we’re in a climate and ecological emergency and the need to take meaningful action to minimise our climate impacts. We published our first carbon emissions reduction plan in 2007 and have held ISO-14001 certification since 2009, with the aim to continually reduce our carbon emissions. We’ve a Group-wide objective to achieve net zero GHG emissions and have committed to setting science-based emissions reduction targets through the [Science Based Targets initiative](#) (SBTi), aligned with what is needed to limit global warming to 1.5°C. We published our [Net Zero Route Map](#) in Spring 2022, setting out the actions we will take to achieve this objective.



Life below water – the health of marine ecosystems is fundamental to human society and achieving sustainable marine resource use is a key target of the SDGs. Coastal risk management is a core service we provide, and our multi-disciplinary teams of specialist coastal engineers and environmental scientists deliver high-profile coastal and maritime projects both nationally and internationally. We’re increasingly applying nature-based solutions to increase community resilience to climate change and flood risk, which work with nature and natural processes to achieve both societal and environmental benefits.



Life on land – Natural capital constitutes the various elements of the natural world, including soils, water, and all living things. When viewing the world through a natural capital lens, nature is seen as an asset that delivers benefits to society. The natural capital lens helps us identify our fundamental dependencies on the natural world and also helps us to see nature as a benefit rather than an obstacle to development. Our work helps our clients understand the value of natural assets and the dependencies and impacts they have on natural capital, and we actively promote ways they can work with nature to maximise the benefits.

Within our operations, we take all reasonable measures to minimise our environmental impacts and we aim to ensure our use of natural resources is sustainable and environmentally responsible. We work progressively to improve the sustainability of our business practices and are fully accountable for the impacts of our operations.

3 Performance against our environmental management objectives

3.1 EMS Key Action: Assess and report JBA Group carbon emissions and emissions reduction measures

It's our ambition to achieve net zero greenhouse gas (GHG) emissions across the JBA Group by 2040 (see Section 3.1.3 for more information on our net zero objective). We're committed to measuring and publicly disclosing our emissions. This includes all relevant emissions, including our direct and indirect (within JBA's 'value chain') emissions.

We've calculated the full JBA Group carbon footprint for our 2022-23 year. We apply the operational control approach to our footprint assessment, meaning that we account for 100% of the emissions from operations over which we have operational control. The assessment includes emissions from all companies within the JBA Group.

For measuring and reporting on our GHGs, we follow best practice methodologies set out by the [Greenhouse Gas Protocol](#). Our assessment utilises available data and applies published methodologies where estimation has been required. Data limitations influenced many aspects of the assessment, requiring estimations with varying confidence levels. Substantial estimation was required for several significant emissions sources, including emissions from the goods and services we purchased and emissions from employee commuting and homeworking.

In-line with good practice, the 2022-23 footprint assessment is not considered to be 'final' and we'll continually review and refine the assessment as required in the future to take account of improved data quality and better assessment tools and methodologies.

3.1.1 Assessment method

Wherever possible, the assessment has followed recognised good practice guidance – [GHG Protocol Corporate Standard](#) and [GHG Protocol Corporate Value Chain \(Scope 3\) Standard](#). The assessment considered a wide range of emissions sources organised under three groups or 'scopes':

-
- ✓ Scope 1: Emissions from the consumption of office gas and pool car fuel

 - ✓ Scope 2: Emissions from the generation of electricity consumed in our offices

 - ✓ Scope 3: All other emissions not directly controlled by JBA

Scope 2 emissions were assessed using both the 'market-based' and 'location-based' methods. The 'market-based' method takes account of the lower GHG emissions from the renewable electricity supply to several JBA offices, whilst the 'location-based' method

applies UK grid-average emissions to all office electricity consumed. Both footprint estimates are reported here.

All relevant Scope 3 categories were assessed, including emissions from use of sub-consultants, purchased office supplies, company assets, business travel, overnight accommodation and subsistence, waste disposal, and staff commuting and homeworking.

UK emissions conversion factors were typically used to assess emissions from non-UK JBA operations due to lack of readily available overseas conversion factors.

3.1.2 Results summary

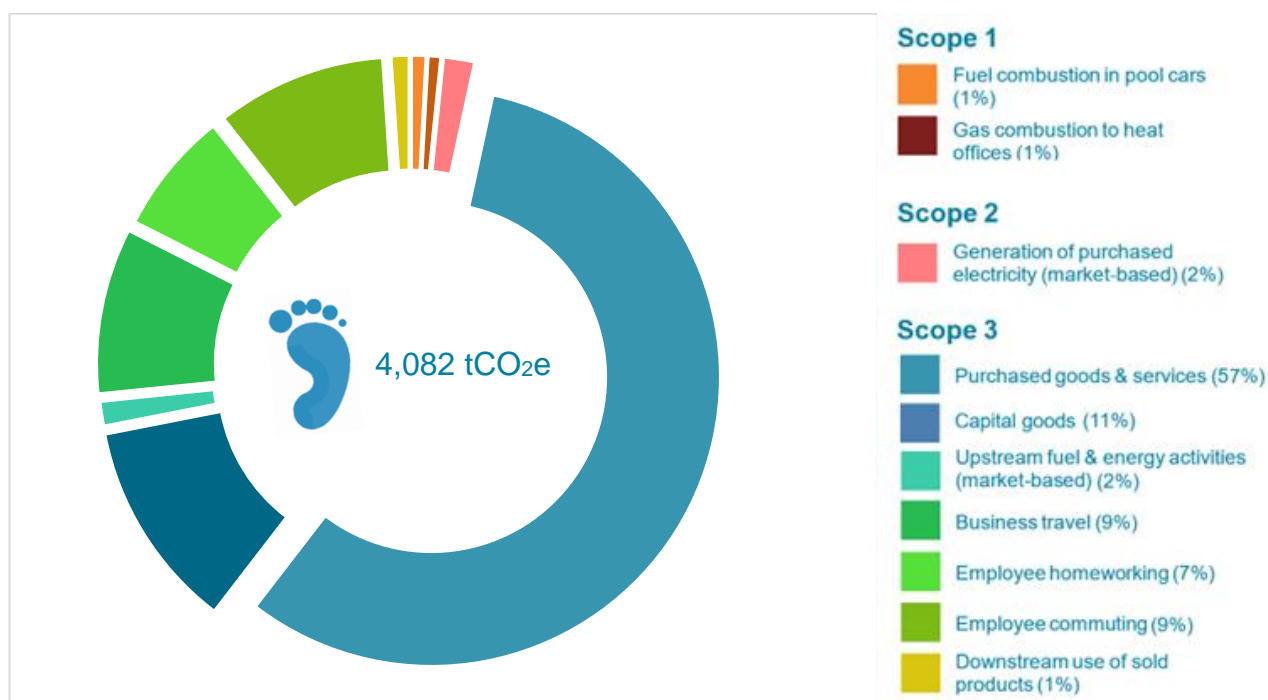


Figure 2: JBA Group carbon footprint 2022-23

Scope 1 emissions from the combustion of diesel in our pool cars and gas in our offices for heating accounted for 1.6% of our carbon footprint in 2022-23. Scope 2 emissions from the generation of electricity consumed at our offices represented approximately 1.8% of our footprint using the market-based method and 2.2% using the location-based method.

In relation to our Scope 3 emissions, emissions from goods and services we purchased accounted for around 57% of our total carbon footprint. Other significant Scope 3 emissions sources included employee commuting (9.6%), purchased capital goods (11.4%), business travel (9.1%), and employee homeworking (6.9%).

The main emissions sources within the purchased goods and services category were from use of sub-consultants (68%), office supplies (6.9%), IT software (6.8%), accommodation and food (4.8%), and insurance (1.9%). The main sources of emissions from Scope 3

business travel comprised air travel (43.1%), hire cars (26.5%), private cars (19.7%), and public transport (10.7%).

Our overall carbon footprint has increased by 6% on the baseline year. However, our per capita emissions have decreased by 5%. There is still much work to be done and over the course of the next few years, we will rapidly scale up the implementation of our Net Zero Route Map to help us achieve our targets.

Table 5: JBA Group GHG emissions (tCO₂e) 2022-23

Scope	Emissions category	Emissions source	Emissions (tCO ₂ e)
Scope 1	Direct GHG emissions	Fuel combustion in JBA vehicles	35.0
Scope 1	Direct GHG emissions	Gas combustion in JBA offices	30.55
Scope 2	Electricity GHG emissions	Purchased electricity (market-based)	72.84
Scope 2	<i>Electricity GHG emissions</i>	<i>Purchased electricity (location-based)</i>	<i>225.87</i>
Scope 3	Other indirect emissions	Purchased goods & services	2,325.2
Scope 3	Other indirect emissions	Purchased capital goods	467.5
Scope 3	Other indirect emissions	Fuel & energy activities (market-based)	58.1
Scope 3	Other indirect emissions	<i>Fuel & energy activities (location-based)</i>	<i>91.9</i>
Scope 3	Other indirect emissions	Waste and water treatment & disposal	2.75
Scope 3	Other indirect emissions	<i>Business travel: hire car</i>	<i>97.8</i>
Scope 3	Other indirect emissions	<i>Business travel: private car</i>	<i>72.9</i>
Scope 3	Other indirect emissions	<i>Business travel: taxi</i>	<i>3.7</i>
Scope 3	Other indirect emissions	<i>Business travel: train</i>	<i>34.0</i>
Scope 3	Other indirect emissions	<i>Business travel: bus/coach</i>	<i>0.3</i>
Scope 3	Other indirect emissions	<i>Business travel: aeroplane</i>	<i>158.9</i>
Scope 3	Other indirect emissions	<i>Business travel: ferry</i>	<i>1.3</i>
Scope 3	Other indirect emissions	Business travel (combined)	368.9
Scope 3	Other indirect emissions	Employee homeworking	282.2
Scope 3	Other indirect emissions	Employee commuting	389.8
Scope 3	Other indirect emissions	Downstream use of sold products	42.9
Scope 3	Other indirect emissions	Removal of emissions double-counting*	-258.3
Total	Total emissions	Market-based	4,082
<i>Total</i>	<i>Total emissions</i>	<i>Location-based</i>	<i>4,273</i>
Total	Total per capita emissions	Per capita emissions	4.50

* These emissions are from work undertaken by one JBA operating company for another JBA operating company and have already been accounted for in the footprint assessment.

3.1.3 JBA Group Net Zero Objective

We're committed to taking meaningful action to minimise our climate impacts and have a group-wide objective to be a net zero greenhouse gas emissions business by 2040 at the latest. Our goal now is to reduce our emissions as far and as fast as we reasonably can and get as close to zero emissions as possible.

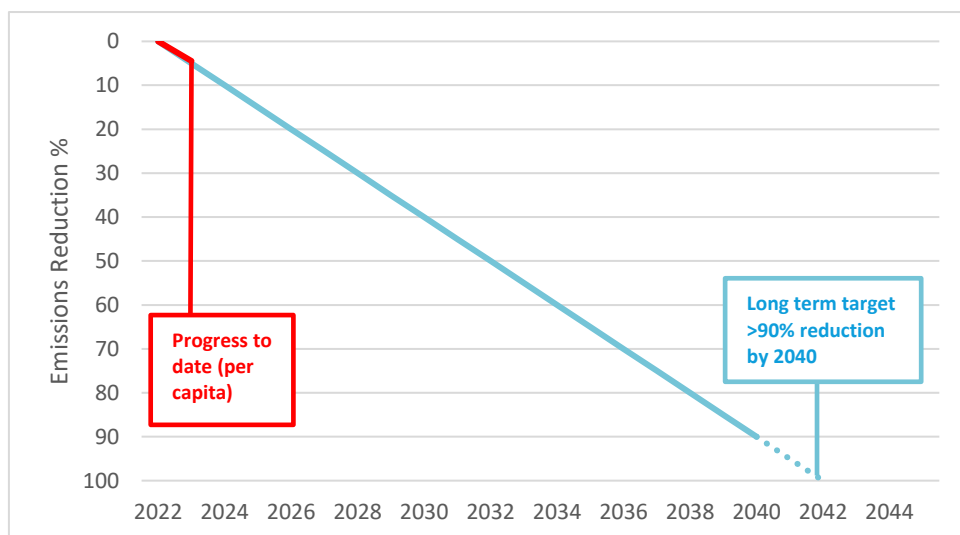


Figure 3: JBA Group science-based net zero emissions reduction target versus per capita progress to date

To ensure our approach is robust, we've committed to establishing a science-based net zero emissions reduction target with the SBTi. Joining the SBTi helps ensure that our approach to reducing our emissions is aligned with what climate science says is needed to keep global warming below 1.5°C.

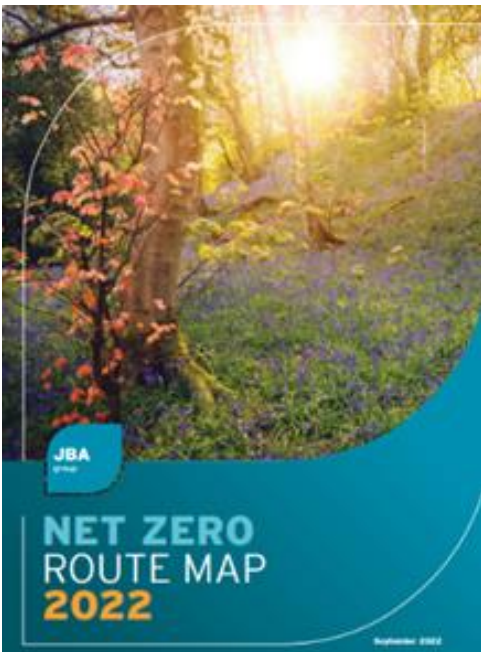
To meet the SBTi criteria, we need to cut our emissions by at least 90% by 2050 compared to our 2021-22 baseline year. However, we've set ourselves a more ambitious target: to reduce emissions by at least 90% by 2040 at the latest. Our net zero target is:

“JBA Group is committed to achieving its science-based GHG emissions reduction target aligned with limiting global warming to 1.5°C and will achieve Net Zero GHG emissions no later than 2040.”

To help us achieve it, we've developed a set of near-term science-based targets, aimed at making deep cuts in our emissions by 2030. Our near-term targets are:

- JBA commits to reduce absolute scope 1 and 2 GHG emissions 90% by 2030 from a 2021-22 base year.
- JBA commits to reduce absolute scope 3 emissions from business travel 65% by 2030 from a 2021-22 base year.
- JBA commits to reduce absolute scope 3 emissions from employee commuting 50% by 2030 from a 2021-22 base year.
- JBA commits that 75% of its suppliers by spend covering purchased goods and services and capital goods will have science-based targets by 2027.

3.1.4 Net Zero Route Map



In September 2022, we published our JBA Group Net Zero Route Map, which sets out the actions we'll take to help achieve our ambitious objective to become a net zero GHG emissions business.



The Route Map and supporting Action Plan include a broad, integrated suite of actions – new procedures, initiatives, and investigations – that target all aspects of our business and operations, focussing on 10 key 'Carbon Cutting Priorities' that represent the key steps we need to take to reach net zero.

Cutting our emissions to zero will require everyone at JBA to work differently, making low carbon a positive choice that informs everything we do. This will include actions focused on supporting our staff to adopt low-carbon thinking and behaviours, embedding carbon reduction in our business planning and decision-

making, reducing waste and emissions from our offices, business travel, and staff homeworking and commuting, cutting emissions from the goods and services we buy, encouraging and supporting our suppliers to decarbonise, and embedding low carbon in the projects we deliver for our clients.

Our Route Map and Action Plan are important steps on our journey to net zero. However, we know we don't yet have all the solutions, so our Route Map is flexible. We'll continuously refine and expand our Action Plan as needed to ensure our efforts stay on track. We also want to learn from what others are doing, tapping into good ideas and new practices, whilst communicating what we're doing so others can learn from us.

Table 6: JBA Carbon Cutting Priorities to meet our net zero objective

	<p>Cultivate a carbon conscious culture</p>	<p>We will provide new information, guidance, tools, and procedures to help staff embed low carbon thinking in their daily decision-making and will make low carbon a top priority for all our operations and business planning.</p>
	<p>Powered by renewable energy</p>	<p>We will collaborate with our landlords to agree 100% renewable energy contracts for all of our offices.</p>



Energy efficient offices

We will minimise our energy use, increase the energy efficiency of our office spaces, and seek opportunities to generate our own energy.



Buy less and buy better

We will minimise what we buy and ensure that what we do buy is more sustainable, prioritising products with a low environmental and climate impact and products that meet circular economy principles, minimising waste and the use of raw materials, energy, and other resources.



Cut carbon from our supply chains

We will encourage and support our suppliers to set their own science-based emissions reduction targets and will prioritise suppliers who are committed to taking meaningful action to minimise their climate impacts.



Prioritise low carbon business services

We will choose business service providers – including insurance, financial, telecoms, IT equipment, and couriers – who have robust science-based emission reduction targets.



Zero waste offices

We will take steps to minimise the waste we produce, by buying less and buying better, and will recycle everything that remains so that we achieve zero waste to landfill at all of our offices.



Ultra-low emissions travel

We will put in place a range of new initiatives so that our land-based business travel is by public transport or ultra-low emissions vehicles and will take steps to further discourage air travel.



Cut carbon from commuting and agile working

We will provide practical advice, guidance, and other support to help staff to reduce emissions from commuting and agile working.



Deliver low carbon projects

We will further embed low carbon thinking in our projects, prioritising local delivery, promoting low carbon and circular economy design principles, and encouraging low carbon innovation.

3.1.5 Monitor and report paper use, business waste, water use, metered energy use, and business travel

Office paper consumption

Table 7: Paper use (in kg) at our offices in 2018-23

JBA year	Virgin paper	Recycled paper	Total paper	Paper per capita	Change per capita	Recycled paper
2018-19	559	3,021	3,581	6.05	-23.4%	84.4%
2019-20	235	1,366	1,600	2.67	-55.9%	85.3%
2020-21	133	751	884	1.45	-45.7%	85.0%
2021-22	173	733	906	1.23	-15.2%	81.0%
2022-23	77	811	889	1.17	-4.9%	91.2%



In 2022-23, paper use decreased slightly (1.8%) compared to our previous year, however we are using a greater proportion of recycled paper and overall paper use remains substantially lower than earlier years. For example, paper use in 2022-23 was 75% lower than in 2018-19, representing a decrease of almost 2,700kg of paper. Our per capita paper use fell from 1.23kg per person in 2021-22 to 1.17kg last year, a reduction of almost 5%. This builds on reductions achieved in previous years.

Per Capita Paper Use (2022-23)

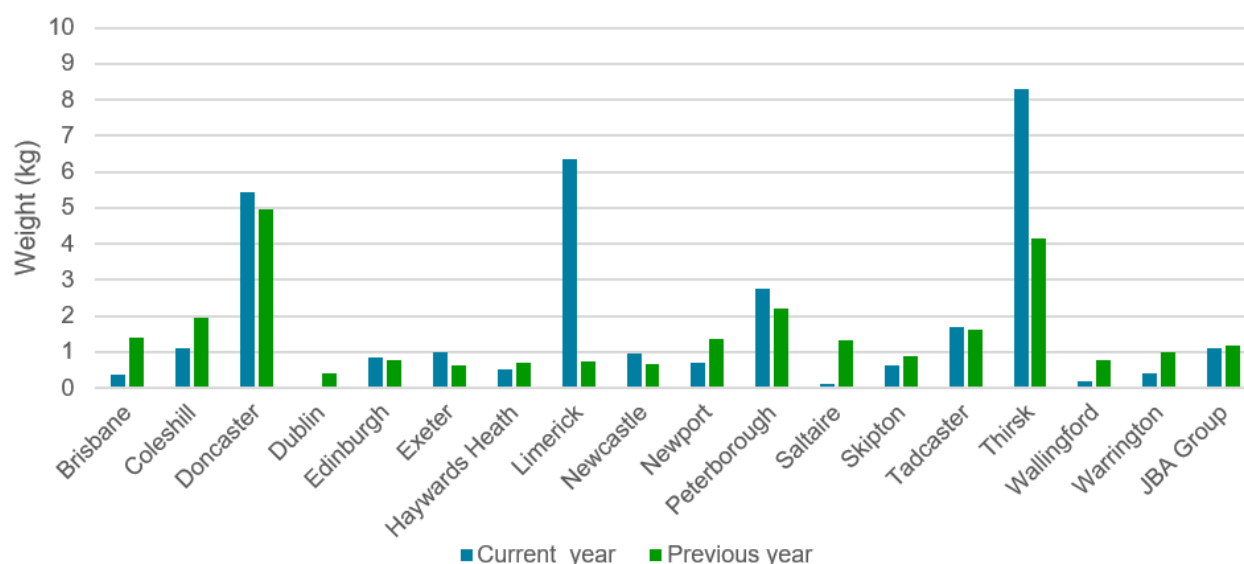


Figure 4: Per capita paper consumption at our offices and across the JBA Group

Figure 4 shows per capita paper use for the last two years at the offices where we can measure this. This shows the wide variation in paper use at our offices, reflecting different client requirements, staff numbers and the types of projects we undertake. We encourage our clients to consider electronic documents only.

Business waste

Table 8: Waste generation and disposal at our offices in 2018-23

	Total	Total	Landfill	Landfill	Recycle	Recycle	Recycle
Year	Total (kg)	Per capita (kg)	Total (kg)	Per capita (kg)	Total (kg)	Per capita (kg)	Total (%)
2018-19	15,508	26.17	5,687	9.60	9,821	16.57	63%
2019-20	8,202	13.70	2,903	4.85	5,300	8.85	65%
2020-21	9,786	15.33	2,245	3.51	7,541	11.81	77%
2021-22	6,648	9.41	3,565	5.05	3,082	4.36	46%
2022-23	7,289	9.61	3,586	4.73	3,702	4.88	49%



We're able to monitor and record the waste we produce at most of our offices. We estimate our waste using a set of conversion factors devised several years ago based on the average weight of different waste types and different waste containers. This allows for comparisons between offices and years.

In 2022-23, our offices produced around 9% more waste than the previous year. This increase is also reflected in our per capita value, which rose by 2%. This is due to increased staff numbers and a rise in office use after the pandemic. However in spite of an increase in overall waste, the amount of waste we sent to landfill remained level in 2022-23, and the proportion of recycled waste has increased.

Per Capita All Waste Disposals, 2022-23

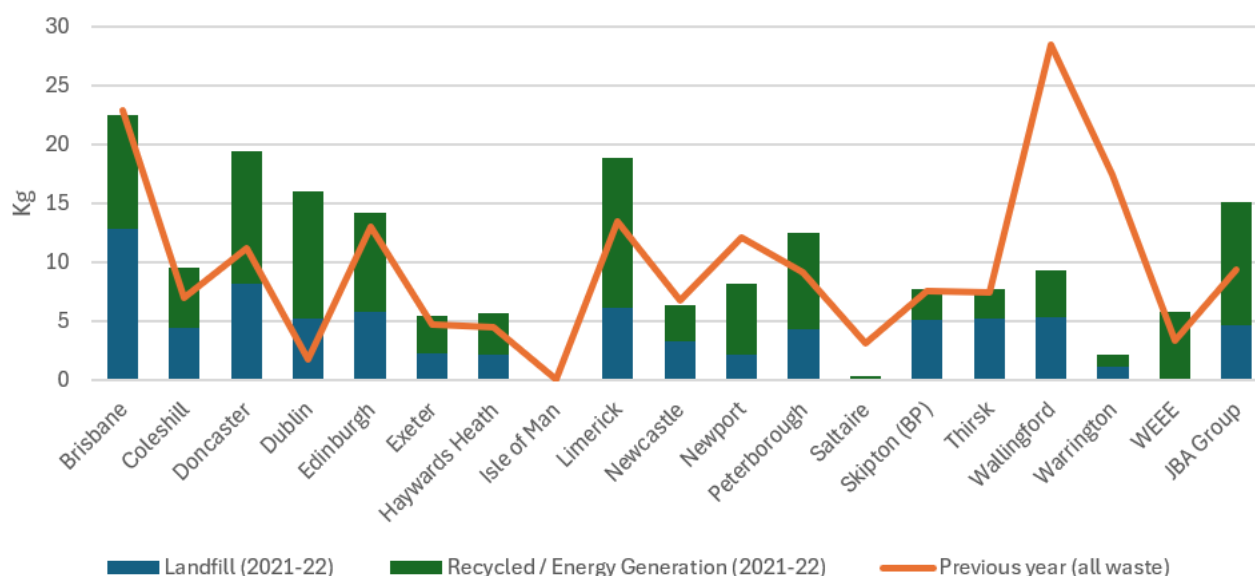


Figure 5: Per capita business waste at each JBA office and across the JBA Group

Water consumption

Table 9: Water consumption at our offices in 2018-23

	2022-23	2021-22	2020-21	2019-20	2018-19
Total water consumption (litres)	280,000	240,000	541,000	400,000	557,000
Per capita water consumption (litres)	2,082	1,880	4,412	4,530	6,202



We monitor water consumption at our offices where our water use is separately metered. Currently, this is only possible at our Doncaster, Edinburgh, Newport, and Tadcaster offices. The amount of water consumed in 2022-23 was higher than that used in 2021-22, with per capita water use also increasing. This rise tracks with an increase in staff numbers as well as adjusting for the significant fall in water consumption in 2021-22 due to abnormally high meter readings at one of our offices, which was due to a long-term leakage issue.

Energy consumption

Table 10: Energy consumption at our offices in 2018-23

	2022-23	2021-22	2020-21	2019-20	2018-19
No. offices directly monitored	11	11	11	14	14
No. offices with renewable electricity	7	7	6	7	7
Renewable electricity used (kWh)	748,758	635,235	568,667	525,089	779,751
Non-renewable electricity used (kWh)	102,367	165,617	186,618	247,941	310,492
Total electricity used (kWh)	851,125	784,008	755,285	773,029	1,090,243
Per capita electricity used (kWh)	1,257	1,266	1,381	1,718	2,434
Total gas used (kWh)	67,653	64,189	66,407	94,025	134,465
Per capita gas used (kWh)	856	809	874	930	1,293



We calculate our energy use at locations where JBA energy consumption is metered separately to that of other occupants. In 2022-23, we were able to directly monitor our energy consumption at 11 JBA offices. Seven of these

offices benefit from a renewable electricity tariff and around 87% of our staff are based in these monitored offices.

In 2022-23, total electricity consumption at these monitored offices increased by 8% compared to the previous year. This is largely due to the number of Electric Vehicles in our company fleet increasing. However, in spite of the rise in consumption per capita electricity consumption fell slightly (0.7%).

Total gas consumption at these offices increased by 5% in 2022-23 compared to our previous year and this increase was also reflected in our per capita figures, which showed a similar increase compared to the previous year (6%).

By far the largest form of office energy is electricity and so it is important that we concentrate our efforts on managing our electricity consumption. Where we control the electricity contract for our office, we purchase electricity from certified 100% renewable sources. In 2022-23, this accounted for 88% of the electricity used at our monitored offices, an increase of 7% compared with the previous year.

Figure 6 compares the per capita energy consumption for both our 2022-23 and 2022-22 years at offices where JBA energy consumption can be directly monitored. The installation of a smart meter in our Edinburgh office allowed for over-estimated meter reads to be corrected. This is reflected in Figure 6 below. We expect Edinburgh's consumption figures to increase over the next year, reflecting actual usage.

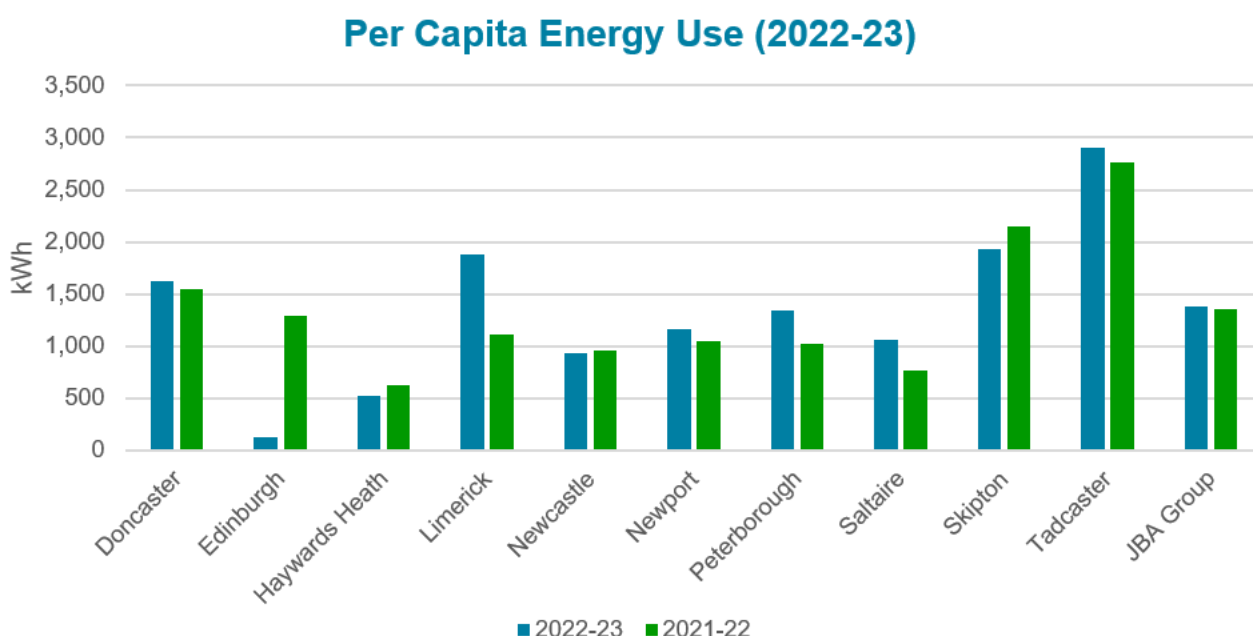


Figure 6: Per capita energy use at each monitored office and across the JBA Group

Business travel



Table 11 provides a summary of annual business travel for the 2022-23 year and the previous three years using all relevant modes of transport. It shows that the overall number of miles travelled increased over the past year. In 2022-23, JBA staff travelled approximately 18% more miles than in 2021-22; however, the number of miles travelled remained significantly lower (-18%) than in our 2018-19 year (the last full pre-Covid year and our peak year in terms of mileage travelled).

Table 11: Business travel across all relevant modes of transport in 2019-23

Transport mode	Miles 2022-23	Miles 2021-22	Miles 2020-21	Miles 2019-20	Miles 2018-19
Hire Car	322,290	303,948	257,143	163,624	145,309
Rail	475,796	251,772	64,709	261,872	614,027
Bus/Coach	3,525	3,048	1,384	1,362	8,962
Taxi	8,853	4,517	1,264	5,138	12,060
Aeroplane	384,046	258,031	15,328	285,039	740,843
Company car (elec)	126,393	26,966	1,161	167	0
Company car (diesel)	148,069	206,360	143,728	155,096	226,246
Private car	230,879	385,023	368,927	275,799	330,046
Bicycle	405	20	168	62	127
Motorbike	802	0	20	65	194
Ferry	4,955	3,911	1,287	1,096	4,141
Total	1,706,013	1,443,596	855,119	1,149,320	2,081,955

Key points to note within these figures:

- For the second year in a row, use of public transport (rail and bus/coach) has increased significantly on the previous year (+88%).
- On a per capita basis, the number of miles travelled increased from 1,863 miles per person in 2021-22 to 1,882 miles per person in 2021-22, which represents a small increase of 1%; however, this figure remains substantially lower than the 3,510 miles per person travelled in 2018-19.
- The number of miles travelled in all forms of car transport increased last year except private car use which saw a 40% decrease. Total car mileage in 2022-23 was 827,631 miles, 94,000 miles fewer than the previous year.
- Air travel has also increased significantly (+48%) in the last year, although air miles remain substantially below the miles travelled in 2018-19.

- Hire car mileage exceeded both private car and pool car mileage and is the largest hire car mileage value recorded since we started monitoring in 2009.
- The miles travelled by our pool car fleet also increased (+17%) in the last year and now exceed pre-Covid values. However, the proportion of miles travelled in EV is approaching parity with our diesel fleet and the majority of those miles were powered by renewable electricity.

We're committed to:

- Rigorously promoting our Travel Hierarchy guidance to minimise business travel and encourage the use of more sustainable modes of transport for essential travel;
- Making maximum use of virtual meetings and methods of communication;
- Supporting agile and flexible working;
- Replacing our diesel pool cars with electric vehicles; and
- Encouraging our clients to minimise project travel requirements.

3.2 EMS Key Action: Improve the environmental and sustainability performance of our work for clients

We work with many prominent clients across a wide range of service areas. We think and act like partners, not simply advisors, and we share our clients' aspirations and objectives. We have a responsibility to support our clients and help them improve their sustainability performance and we do this through the quality of the services and solutions we deliver.

This section provides a selection of examples of how we ensure we deliver high quality and help our clients to protect and enhance the environment.

3.2.1 Quality service delivery



The number and breadth of clients we work with continues to grow. In 2022-23, we delivered project work on behalf of over 840 clients across the JBA Group. This figure considers different regions or departments within national public sector organisations, such as the Environment Agency, as separate clients because their work is often independent and is commissioned through differing means. The number of new external projects we were commissioned to deliver again exceeded over 1,550 across the JBA Group.

To ensure we deliver consistent high-quality work for our clients, we maintain a Quality Management System (QMS) certified to the ISO 9001:2015 standard. Our QMS supports continual improvement in the efficiency and effectiveness of our operations to help us provide a service that meets or exceeds the expectations of our clients and interested parties and conforms to applicable statutory or regulatory requirements.

Our QMS is supported by a range of objectives and actions and we measure, monitor, and report on our performance against these objectives and actions each year. Our overarching quality objective is *“Consistent provision of high quality services, satisfied clients and a profitable, sustainable business.”*

We monitor our performance using a variety of means and we request client feedback each month against a range of key performance indicators (KPIs) and analyse responses received. We also regularly undertake internal project audits to review the operation and implementation of our QMS processes, and in 2022-23 we undertook 95 internal audits, 26 more than the previous year. Any non-conformities or improvement opportunities were translated into actions that were then monitored to ensure corrections were made, where necessary, or lessons learned for the future.

3.2.2 Environmental management accreditations

ISO-14001



We have been certified to ISO-14001 and its predecessor standards since 2008. This certification was renewed in 2023 following a successful external recertification audit. It confirms that our Environmental Management System (EMS) helps to enhance our environmental performance, fulfil our compliance obligations, and achieve our environmental objectives.

To help us ensure our EMS is achieving its intended outcomes and meeting our requirements, we undertook 19 internal EMS audits during 2022-23, 5 fewer than the previous year. These audits focused on the environmental performance of our offices and sought to test whether our EMS is effectively implemented, compliant with the ISO standard and other requirements, and is readily understood and applied throughout JBA.

The audit process is particularly important for identifying new opportunities to improve the environmental performance of our offices and contribute to our sustainability objectives. Many of these are recorded on our ‘Sustainable Actions and Good Ideas Log’, with priority actions then implemented across JBA.

Environmental Impact Assessments



Since 2018, JBA Consulting has been accredited with the Institute of Environmental Management and Assessment (IEMA) as an EIA Quality Mark organisation. The EIA Quality Mark is a scheme that enables organisations that lead the coordination of statutory EIAs in the UK to make a commitment to excellence in their EIA activities and have this independently reviewed. Our EIA teams support IEMA with best practice case studies and provide training to the wider profession, as well as develop a suite of internal courses.

For projects requiring a statutory EIA, there is a legal requirement that the 'likely significant environmental effects' are reported by competent experts. Our Register of EIA Competent Experts identifies our EIA Coordinators and EIA Topic Specialists who have the depth of knowledge and experience required to produce and technically review EIA assessments.

2022-2023 was an interesting and varied year for our EIA team, who have worked on several high-profile EIA's, Strategic Environmental Assessments (SEAs) and Sustainability Appraisals (SAs) on behalf of local authorities and the Environment Agency. This included work on the Tadcaster Flood Alleviation Scheme with the Environment Agency considering a range of environmental sensitivities and consent requirements, and SEA's for Lead Local Flood Authorities (LLFA) alongside the production of Local Flood Risk Management Strategies (LFRMS).

Ecological Services



JBA Consulting has held Registered Practice accreditation with the Chartered Institute of Ecology and Environmental Management (CIEEM) since April 2020. CIEEM is the leading professional body representing ecologists and environmental managers across the UK and Ireland. It seeks to promote the highest standards of professional practice within the industry.

Registered Practices are champions of high professional standards and deliver the best outcomes for biodiversity. They're ambassadors in their field, helping to raise the profile of the profession by sharing expertise and supporting others to do more for our natural world.

Registered Practices are at the forefront of the environmental management profession. This is reflected in the busy and successful year our ecology teams had providing ecological survey and assessment advice to a wide range of clients.

CEEQUAL



CEEQUAL is an evidence-based sustainability assessment, rating and awards scheme delivered by the Building Research Institute (BRE). Applying CEEQUAL improves the quality and sustainable design and construction of civil engineering, infrastructure, landscaping, and public realm projects.

In 2022-23, the Star Inn Gates, an asset replacement project, was the first for JBA assessors to complete a BREEAM Infrastructure (formerly CEEQUAL) verification at the end of Gateway 3 and the first nationally for a whole project assessment. Based on the evidence provided and the verifiers' comments, BRE confirmed that the Southeast Hub has achieved an Excellent rating for Gateway 3 with a score of 80 % following the external verification and ratification process. This has highlighted the continued collaborative teamwork between EA staff, our assessors and other delivery partners to improve the sustainability of a range of large-scale coastal and fluvial flood risk management projects in the Southeast Hub on the Collaborative Development Framework.

3.2.3 Recognising good practice

British Construction Industry Awards



Figure 7: Mill Fleam Pumping Station, Derby

JBA Bentley took home the Environmental Project of the Year Award at the prestigious British Construction Industry Awards 2023 for their work on Mill Fleam Pumping Station in Derby. This project, posed a number of unique challenges due to limited space, tight deadlines and precious fauna and flora to consider; innovation, collaboration and sustainability were key to the successful delivery of improved flood defences for Derby city centre.

This required close collaboration across JBA Bentley and JBA Consulting with our teams providing expertise on planning and development, landscape and arboriculture and ecology, in order to minimise the environmental impact of the works.

Achieving this required the adoption of new ways of working and innovations to protect the site's precious fauna and flora. This included planning works with a licensed bat worker and changing pile installation methods to minimise noise and vibration. During in-channel construction works a 'bubble curtain' was also utilised to mitigate silt disturbance and manage fish passage.

Institution of Civil Engineers Yorkshire & Humber Awards and British Construction Industry Awards

Niagara Weir stabilisation and fish pass on the River Don in Yorkshire was shortlisted for two awards this year. This multi-disciplinary project contributed to a wider initiative by the Great Yorkshire Rivers partnership to support barrier removal and reverse the 83% reduction in fish in the River Don that has occurred since the industrial revolution. We were initially appointed to investigate the nature and extent of damage at the upper Niagara Weir and propose options for a permanent repair. Subsequently we were engaged to develop a detailed design for the structural repairs of the weir and new fish pass.

Historically, the site comprises two weirs forming a large and complex structure. This project involved strengthening the downstream weir face and channel bed, reconstruction of the left bank wall, creating a new fish pass and implementing measures to provide safe canoe portage around the weir. With limited site information, a risk-based approach was needed to understand the problem and develop a solution. This identified an efficient balance between site surveys, conservative assumptions and verification during site works. Resolving the complexity of the fish pass structure, the depth of scour and size of structural repair walls were significant challenges.

The project was delivered by our multidisciplinary teams including hydraulic modelling, civil engineering, geomorphology and fisheries services. Many other stakeholders were also involved and were required to work as an integrated team. Throughout all project stages, carbon monitoring was carried out to identify key contributors and opportunities for carbon reduction and sustainability improvements. By remediating the existing weir instead of entirely replacing the structure, as well as using reclaimed Yorkshire stone to rebuild the left bank wall, we achieved a 40% saving in reduced volumes of concrete and steel.



Figure 8: Niagara Weir stabilisation and fish pass on the River Don

Utility Week Awards 2023

JSat – A New Spectral Analysis Tool from JBA Consulting and Affinity Water – was shortlisted for the Digital Transformation Award at the Utility Week Awards 2023. This powerful digital tool transforms water companies' monitoring of ground water assets from reactive to proactive, significantly reducing the risk of pollution incidents. The system employs a series of proprietary innovations to detect changes in land use through analysing satellite images, allowing users to proactively manage emerging pollution risks. Proactive monitoring and detection of land use changes not only helps protect drinking water from pollution but also reduces costs, resources and carbon emissions. The system is customisable to meet the varying needs of water companies.

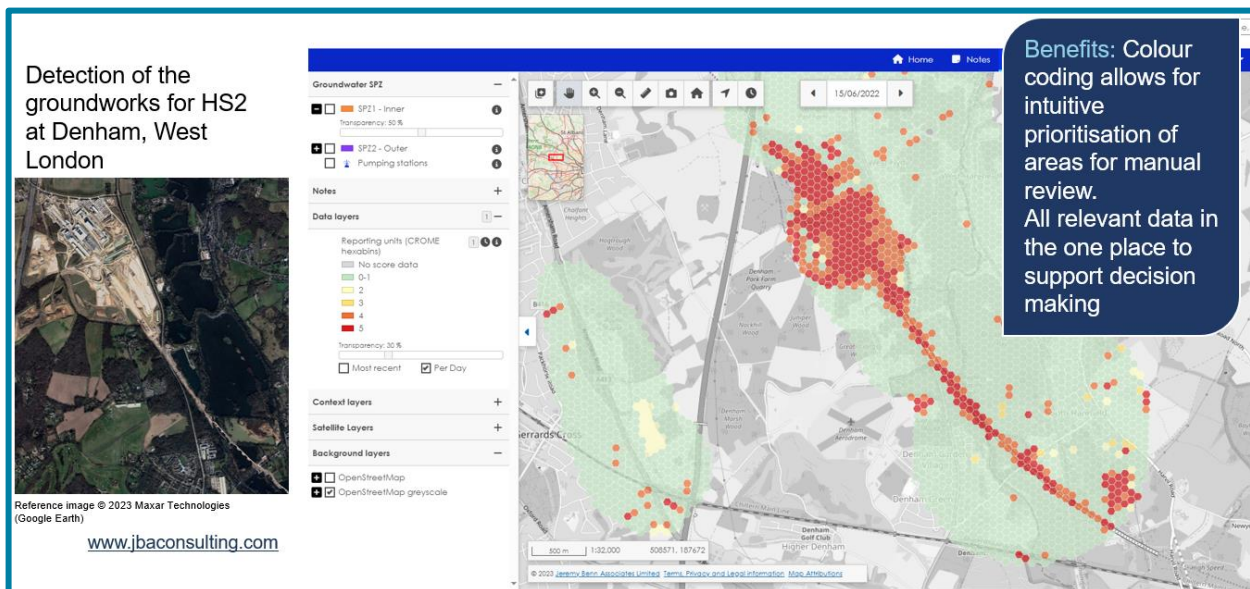


Figure 9: JSat user interface showing map view with high detection scores (red) in a Source Protection Zone (green).

The technology can rapidly and reliably detect small changes in land use over large areas, with a dashboard that allows users to interrogate and prioritise changes as they arise. The JSat capability dramatically reduces the chance of a pollution incident occurring and this subsequently reduces potential outlay of costs associated with a pollution incident. The technology also includes a carbon saving as site visits are no longer always necessary. Affinity Water have also identified a health and safety benefit as staff conducting a site survey can be better prepared with up-to-date information on land use from JSat.

3.2.4 Environmental training

Throughout 2022-23, we continued to maintain, expand, and develop our suite of environmental e-learning modules. These are available to all JBA employees and are designed to raise awareness of environmental management risks and techniques, covering a broad range of sustainability and environmental topics including climate resilience, natural capital, catchment management, ecology, and waste management.

Staff learning was further supported through our programme of lunchtime training webinars, led by technical specialists in JBA, covering diverse topics including biodiversity net gain, remote sensing, biosecurity, stakeholder engagement, climate change modelling, invertebrate identification, natural capital assessment, and tree protection.

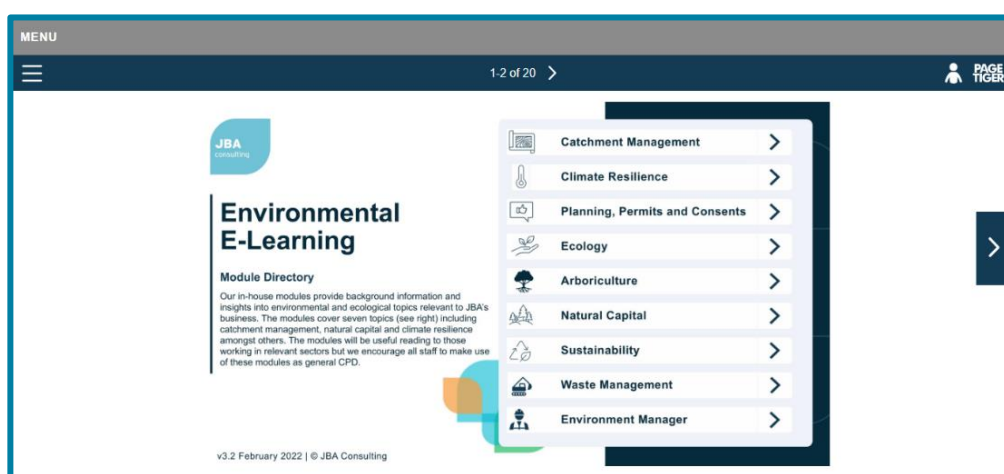


Figure 10:
JBA
Consulting e-
learning portal

3.2.5 Reporting environmental incidents, near misses and observations, and disseminating lessons learnt

Our EMS includes formal procedures for recording environmental incidents, near misses, and reporting lessons learnt. It is also part of our IEMA accredited EIA process. We have designated reporting responsibilities for environmental incidents and mechanisms to investigate incidents, capture lessons, disseminate actions, and monitor improvements. We disseminate Key Learning Points from improvement notes to all staff across JBA and feed back into staff training and appraisal requirements, setting aims for new projects and improvement notices to suppliers.

In 2022-23, JBA staff reported 16 environmental incidents, near misses, or observations relating to our offices, service provision, and onsite activities. All reports were reviewed and, where appropriate, investigated further in accordance with our incident investigation process. Ten of the reports were observations, which often led to corrective actions to reduce any risk of a future adverse impact, whilst others led to improved outcomes. In addition, two reports were following a near-miss event, where adverse impacts could have occurred. Eight of the observations related to our office-based activities, whilst 11 were focused on site-based or travel-related activities.

3.3 EMS Key Action: Influence our stakeholders to deliver best practices and outcomes for the environment and sustainability



RiverEye Beaver Burrow Detection and Risk Assessment Tool, Scotland

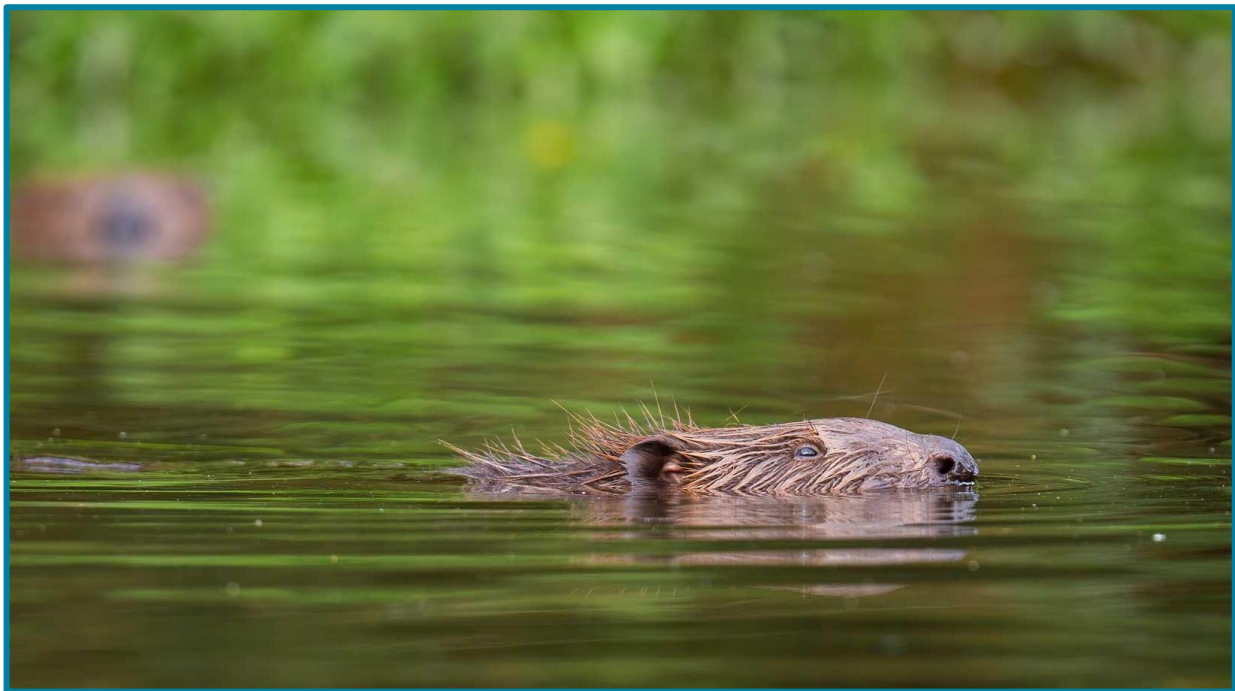


Figure 11: Eurasian beaver

Beavers are a protected species. However, while they can positively contribute to flood management, their burrowing activities can sometimes cause problems. Burrows have been linked to breaching of flood banking and water impoundments, undermining of infrastructure and collapse of sections of riverbank, impacting on businesses and livelihoods. Entrances to burrows are usually dug below water, which can impede detection. A non-invasive method was needed to both reliably detect potentially problematic burrows and assess the risk they presented to infrastructure and people.

In response to this issue, JBA Consulting created RiverEye, a habitat management system designed to aid in anticipating the risk of problems arising from burrows allowing for targeted mitigation measures when required. RiverEye utilises above-water image capture and evidence capture field app along with boat-mounted, below-water sonar technology. This combination allows for the mapping and visualisation of the riverbed and feature identification. The data is then integrated into a web-based platform for evidence storage, risk assessment and informed decision-making. This innovative technology helps us coexist sustainably with beavers.



Brighton Biodiversity Wall, Sussex

The open coast frontage between the River Adur and Brighton Marina is at risk of flooding from wave overtopping. The residual life of existing defences along the Shoreham frontage is inadequate, necessitating the Brighton Marina to River Adur Flood and Coastal Erosion Risk Management Strategy. This scheme aims to manage the risks associated with flooding and coastal erosion by implementing new defences to achieve a consistent standard of protection along the frontage.

Under the Environment Act 2021, all planning permissions granted in England (with a few exemptions) must deliver at least 10% biodiversity net gain (BNG). Delivering BNG in coastal locations is challenging due to the requirement for habitats to be secured and safeguarded for 30 years, alongside threats from coastal squeeze.

An existing concrete wall along Basin Road South currently provides no opportunities for biodiversity and is located in an urban coastal setting dominated by commercial buildings and sealed surfaces. By creating a biodiversity wall targeting an assemblage of species including rare invertebrates, breeding birds, and semi-aquatic crustaceans, this new habitat will provide ecologically valuable biodiversity net gain.

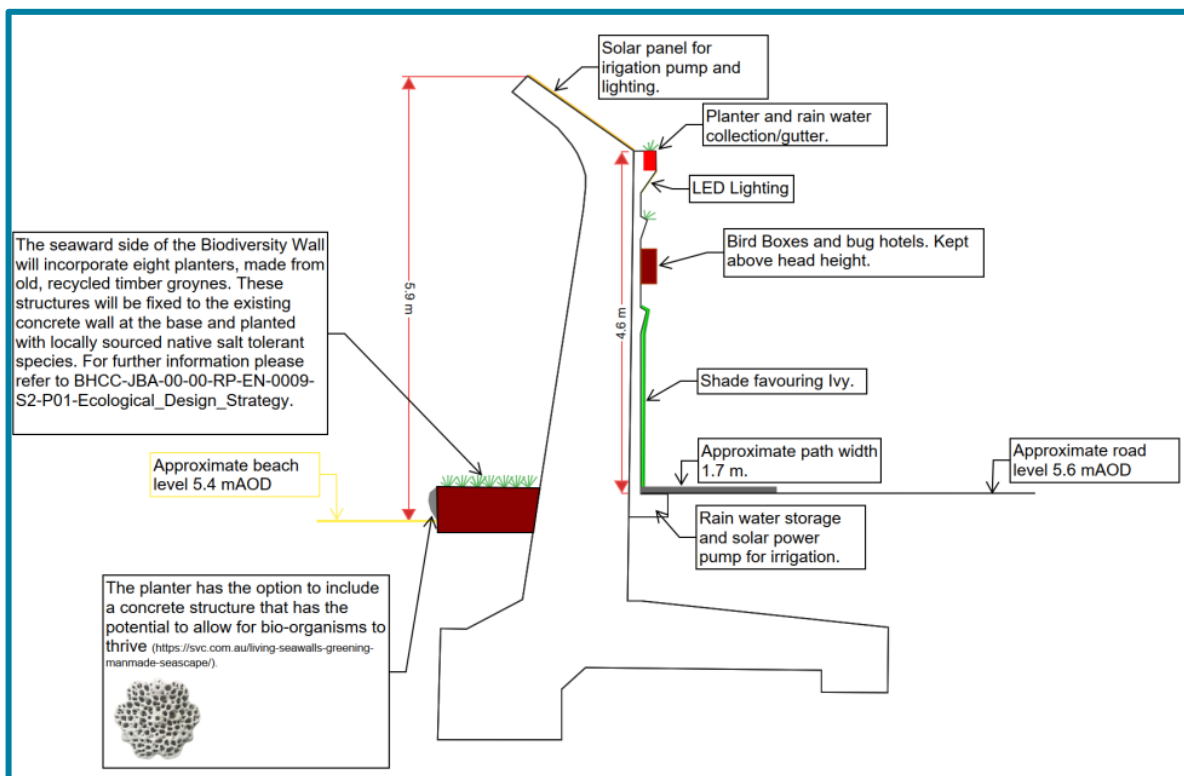


Figure 12: Outline design concept for biodiversity wall

The existing wall measures 200m in length and approximately 4m in height. Proposed planting on the landward side will incorporate four planted cassettes, comprising native shade-tolerant species and a range of bird boxes and bug hotels, acting as stepping stone habitats and improving connectivity and functionality of the site's habitats. The provision of nest boxes for birds will benefit House Sparrows (*Passer domesticus*) and other birds in the area. Bug hotels will target rare terrestrial invertebrates recorded on or adjacent to the scheme through larval food plants, also attracting pollinators.

The seaward side of the wall will feature the creation of eight planters made from old, recycled timber groynes. These structures will be fixed to the base of the existing concrete wall. Experimental artificial habitats (e.g., biobricks) will be created on the seaward side of the wall to enable the collection of sediment, seaweeds, and potentially bivalves and shellfish. The provision of these natural features and habitats at this location will provide an important net gain for biodiversity.



Project MUNIO – 3D concrete printing, Derbyshire



Figure 13: 3D concrete printing in action (left); the finished product (right)

This initiative involved the construction of a new pumping station, along with the installation of two hydraulic lock gates and sheet piled river walls in Derby City Centre. The project explored the potential of using 3D concrete printing technology in construction and included a visit to a 3D printed concrete manufacturer. The supplier was enthusiastic about utilising their manufacturing process to create a new product, thereby opening up a new business sector.

Using a 3D concrete printer allowed for the integration of voids into the concrete pile caps, cladding panels, and access stairs. This innovation resulted in less concrete being used during the manufacturing process compared to traditional methods. The units were manufactured in a factory environment, providing quality control to ensure a consistent product and reducing waste.



Caol and Lochside Flood Protection Scheme, Scotland



Figure 14: The River Lochy, Embankment and Flood Wall

This flood protection scheme, which consists of a 1.2 km embankment and an 800 m flood wall, was constructed by RJ McLeod and formally opened in August 2023. The development provides enhanced environmental benefits to the wider community, including improved access to the towpath at the Caledonian Canal and enhanced walking and cycling routes along the length of the scheme with planting, seating, paths, and a play area. JBA was integral to the initial appraisal and concept design for the scheme. During the opening, we demonstrated our wave tank to illustrate the impacts of waves on the coastline and the reduced overtopping rates achieved with a combination of different coastal defence designs.



Nature-based Seawall, Australia

A new nature-based seawall has been designed and constructed at a pilot site in Moreton Bay, Queensland. Located within the North Pine River estuary, the site is experiencing a long-term recession rate of around 0.5m/year. The estuary banks, composed of cohesive sediments, are being undercut due to wind-generated waves, boat wash, and periods of high-velocity river flow.

Nature-based coastal resilience measures are increasingly recommended as a substitute for, or in conjunction with, standard engineering designs due to their co-benefits in habitat creation, social amenity enhancement, flood mitigation, and climate change adaptation.

The design employs shallow, near-bank rock fillets to create a low-energy zone that attracts mangrove growth, forming the primary bank protection mechanism. The design process included in-situ field measurements of boat wake-waves, analysis of wind/wave/current loads, geotechnical analysis, and stakeholder workshops. Although the rock sizing for the project met engineering certification standards, by minimising the role of 'hard' engineering, the project used around half the volume of rock typically required for a revetment, thus reducing costs.



Figure 15: Nature-based Fish Friendly Seawall in Queensland, Australia

4 Sustainability achievements beyond our EMS Key Actions

4.1 Sustainable operations

The sustainability of our operations is central to our business philosophy and we're committed to minimising the environmental impacts of our operations and activities – including reducing our GHG emissions to net zero. We've successfully developed a reputation as a leading supplier of sustainability advice, and sustainability considerations inform our decision-making across all of our operations, services, and business activities.

In this section we highlight some of the sustainability-related improvements and initiatives we've put in place over the past year.



Office energy supplies

We've monitored our office energy consumption since we first gained ISO-14001 certification in 2009 and have sought to put in place measures to reduce the energy we use and the environmental impacts of our energy use. A key way to reduce our impacts is to purchase energy from renewable sources. Where we have control of the electricity contracts for our offices, we purchase certified 100% renewable electricity, whilst at our other offices, we've actively sought to influence the building management company to switch to renewable electricity. Seven of our offices – comprising our offices in Doncaster, Limerick, Newport, Peterborough, Saltaire, Skipton, and Tadcaster – benefited from renewable electricity in 2022-23.

We operate EV pool cars at several of these offices, which already benefit from EV car chargers, meaning that business travel using these cars has the potential to be zero emissions. Over half of our pool car fleet is now comprised of EVs. We'll work hard during 2023-24 to increase the number of offices that benefit from a renewable energy supply – this includes both electricity and gas supplies – with the aim that all of our offices are powered with renewable energy within the next few years.



Low carbon business travel

The JBA Travel Hierarchy guides our staff to think carefully about the environmental impacts of any business travel they undertake. We've used this tool to guide our business travel decisions for many years. During the period between mid-2020 and late 2021 we established a temporary Travel Hierarchy to respond to the needs of the Covid-19 pandemic. This meant we prioritised the use of cars over public transport to enable Covid-secure essential travel. However, in October 2021 we were able to remove many of these restrictions and published a refreshed Travel Hierarchy. The

lowest carbon and safest option is no travel at all and this is reflected in the core message of our new Travel Hierarchy: *“Only travel when absolutely necessary”*.

For essential travel, the hierarchy is clear that active travel – walking and cycling – must be considered first. Public transport is first choice for longer journeys. However, if public transport is not feasible and driving is the only option, the Travel Hierarchy promotes EV use over other forms of car travel. EVs have zero tailpipe emissions and their environmental footprint is much lower than a petrol/diesel car.



Emissions from our business travel represent a sizeable chunk of the JBA carbon footprint and reducing our travel-related emissions is an important step towards reaching net zero. To help us meet our goal, we have invested in expanding our EV pool car fleet to replace several of our diesel pool cars, taking our number of EV pool cars to sixteen. The new cars can all travel well over 200 miles on a single charge, meaning most car journeys we make should be readily achievable in an EV. To support the adoption of EVs,

we continued our programme of EV charger installation at our offices, with new chargers installed at Warrington, Saltaire, Newport, Tadcaster and Skipton offices, bringing our total to six offices with EV charging facilities, with installations planned for a further four offices.



Encouraging low carbon commuting

To support our net zero ambition, we encourage JBA staff to use low carbon transport when commuting. We’ve had an Environmental Reward Scheme since 2007, which rewards staff who regularly use low carbon means to commute to work. Under the new scheme, staff can gain a daily reward each day that they travel to/from their normal place of work using one of a defined set of low carbon modes of transport. Every journey could contribute towards our carbon footprint and so our new reward scheme makes every journey count. In 2022-23, 502 colleagues from across JBA gained a reward under the scheme, an increase of 288 on last year.

As a significant component of our carbon footprint, we recognise that other measures are needed to support our objective to reduce GHG emissions from private car use, from both commuting and business travel. To help cut emissions, we introduced an EV salary sacrifice scheme in partnership with Octopus EV Ltd, open to all permanent employees.



Enhancing the sustainability of our supply chain

We take all reasonable measures to minimise the environmental impacts of our business and ensure our use of natural resources is sustainable and environmentally responsible. This extends to our supply chain and we recognise the important contribution our suppliers make to the success of JBA.

We aim to develop positive and lasting relationships with our suppliers and support our suppliers to achieve the highest legal, ethical, and environmental standards. We champion use of micro-businesses, small and medium-sized suppliers (SMEs), and local suppliers as appropriate, recognising the benefits this provides to the communities in which we operate. In 2022-23, 543 suppliers had 'Approved Supplier' status, of which 71% were SMEs or sole trader businesses.

We continued to strengthen our supplier approval process, to better align it with our net zero ambition and wider sustainability objectives. Our new process provides more detailed information on the sustainability credentials and performance of our suppliers, including information on sustainability accreditations, carbon emissions reduction targets, and wider actions to reduce their resource use and the environmental impacts of their resource use.

We also established a 'Premium Supplier' status, which recognises suppliers with the strongest credentials in relation to sustainability and other important aspects including health and safety, information security, and quality of service. These changes support our project managers to make more informed choices when commissioning a supplier to work on our behalf. This in turn directly contributes to our EMS objectives and net zero carbon targets, promoting suppliers whose sustainability objectives align with our own.



IMS Sustainability Hub

We've continued to develop and expand the Sustainability Hub on our IMS intranet site to provide a helpful source of information and guidance that all our staff can use to explore individual, project, and corporate sustainability matters.



Sustainability Champions

Our office Sustainability Champions group work with colleagues to make our offices and everyday working practices more sustainable. The Sustainability Champions also help us to promote good practices more widely, so a positive initiative in one office can be readily applied elsewhere. In 2022-23, we expanded the number of Sustainability Champions across the JBA Group, with an aim to have one for every office where it is practical.



Agile working

Our Agile Working framework continues to provide employees with more choice over how and when they work, helping to enhance work-life balance and wellbeing. Our investment in IT systems and hardware, continued focus on health and safety, and enhanced IMS processes has allowed JBA to rapidly change from a largely

office-based business model to blended working, with working from home in part or in full the way of choice for many JBA colleagues.

Agile working has enabled us to continually improve the way we work and to increase flexibility. It has also created opportunities to attract new staff from a wide and diverse pool and has helped us to reduce the impacts of our business and operations, contributing to our net zero target and wider sustainability objectives.

4.2 JBA community



JBA staff numbers

The number of permanent staff employed at JBA has steadily increased year-on-year for the past 10 years. In 2022-23, the average number of employees increased to 905 – this included both full time and part-time staff – whilst the average number of permanent employees across the JBA Group was 799 in 2022-23, an increase in 45 FTE employees compared with the previous year.



Gender balance within JBA

The overall gender split within the JBA Group as of 31 October 2022 was 60 / 40 (% male / female), which showed a small increase (2%) in the proportion of male employees compared with the previous year. We recognise the need to further promote gender equality within JBA and over the past several years we've made a range of important changes to strengthen our policies and practices to promote gender equality and the empowerment of women.



JBA graduate scheme

JBA operates a flourishing Graduate Scheme across several of its operating companies. Our scheme is a two-year programme aimed at providing our graduates with a comprehensive foundation for their future career with us. It provides them with the opportunity to learn about different facets of our business, to work with a wide range of staff, and to try different disciplines first-hand.

The experiences they gain during these graduate years support them to develop, focus, and build a successful career. On successful completion of the scheme, staff then follow our Development and Training Programme, tailored towards their specialist disciplines and future ambitions, which is also designed to directly support them to achieve membership of a chartered institution.

About 80 employees are on the Graduate Scheme at any one time. The intake is roughly 40-45 per year.



Apprenticeships with JBA

JBA Consulting offers a wide array of apprenticeship opportunities across the company. Our apprentices include people joining as new recruits or existing

employees wanting to upskill, and the company offers apprenticeships from Level 3 (advanced) up to Level 7 (higher/degree) in a variety of disciplines including flood risk management, software development, business administration, IT, and civil engineering. We consider our apprenticeship programme as a valuable and effective way to grow the talent across JBA and develop motivated and skilled staff members that make an important contribution to the JBA community.

In 2022-23, we increased the number of apprenticeship places available, employing 43 permanent apprentices, an increase of 14 places from the previous year.



Research and development

Innovation is part of JBA's culture; it enables us to use the latest technical knowledge to develop new products and services for our clients, setting us apart from other consultancies and diversifying what we offer. For many years, we've made a significant investment in R&D and business innovation, implementing a variety of initiatives to stimulate innovation across the business. This includes partnership projects with the JBA Trust and independent projects undertaken across a broad range of topics.

In 2022-23, we accelerated the pace and scale at which we innovate through the launch of our accelerator programme JBA Labs. With a dedicated team of specialists, JBA Labs is supporting innovators across the business – from scoping out ideas right through to commercialisation. Helping deliver projects at any scale, from creating more efficient processes to developing game-changing innovations.

During 2022-23, JBA Labs supported 49 innovation projects. This included the development of a Carbon Calculator Tool, which is used to calculate carbon savings and provide a quantified, project-specific evidence log to help track JBA's progress to Net Zero. The outputs from the tool will help to initiate discussions around carbon savings and motivate positive interventions.

Charitable grants and in-kind contributions



In 2022-23, we continued to support a wide range of events to raise awareness and promote knowledge and learning about risks in the water environment, particularly through the JBA Trust.

The JBA Trust supports and promotes scientific research, education, and training in the fields of environmental risk and resource management, with a particular focus on water. It works with leading academic researchers and other charities to create opportunities for research-based placements and to support students and courses in higher education.

The JBA Group works closely with JBA Trust, providing opportunities for staff across JBA to contribute to the Trust's projects and initiatives. In 2022-23, we supported the 'Diversity in Science' exhibition at the London Science Museum with the Environment Agency to raise awareness of the diversity of science and scientists in the environment sector. The museum welcomed over a total of 227,354 visitors over the four weeks of the exhibition,

and our augmented reality sandbox was a big hit. It enabled people to learn about how water moves through a catchment, how we can manage flood risk and climate change adaptation.

Over 90 staff from the Environment Agency and JBA Trust volunteered their time to support the event and had over 6,400 conversations with visitors about the climate emergency, flood risk and diversity in the environment sector. Feedback demonstrates that 78% of visitors would now take action on flood risk or climate change based on what they saw and heard at the event.

5 Environmental objectives and actions for the year ahead

For 2023-24, we've again set ourselves objectives and actions to help us achieve our sustainability and environmental management goals. We will continue to monitor our performance against these objectives and will report our progress in on annual Sustainability and Environmental Management Report, which we will publish on our websites.

Our overriding environmental objective has been refined to make it more ambitious and more directly aligned with the core aim of our Sustainability and Environmental Management policy. This objective is supported by a range of key actions and for 2023-24, these actions have been expanded to make them more holistic

Table 12: Environmental objectives, key actions and intended outcomes for 2023-24

Objective	Key actions	Outcome
Reduce our environmental and climate impacts and have a positive impact on local communities and environments.	<p>Assess and report JBA Group carbon emissions and emissions reduction measures.</p> <p>Measure and report our social value and our contribution to the UN Sustainable Development Goals (SDGs).</p> <p>Improve the environmental and sustainability performance of our work for clients.</p> <p>Influence our stakeholders to deliver best practices and outcomes for the environment and sustainability.</p>	<p>Recognition as a sustainable and environmentally and socially responsible business.</p> <p>Reduction in carbon emissions in-line with our science-based targets.</p> <p>Legal compliance.</p> <p>Certification to ISO-14001:2015 and EIA Quality Mark.</p>

Operating Companies registered in:

Australia
Cambodia
Ireland
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