

Environmental Management Report 2021–2022

BDP.

Foreword

Sustainability continues to be an integral part of our business operations in the 2021–22 financial year, and our commitment to environmental consideration is reinforced throughout our business.

Our environmental performance over the last year is communicated in this Environmental Management Report, alongside our objectives and plans for the future. We have identified a 20.8% reduction in our scope 1 and 2 emissions per capita, alongside a 42.7% increase in water consumption per capita, 31.3% increase in total waste emissions and 77% increase in business travel emissions per capita compared to the previous financial year. This increase was anticipated as our staff increased working from studios as opposed to working from home.

As we emerged from the peak of Covid-19 pandemic last year, our staff have adopted a hybrid working pattern, which presents opportunities and challenges. Our plans for the next year involve improving our monitoring processes and expanding our data collection in our international studios. We will be completing our Science Based Targets validation process and continuing to build a database of our project impacts.

Looking towards 2022-23, the next financial year is an opportunity to further progress towards our environmental goals and to reduce our environmental impact across our business. We would also like to apply the same rigour to our social impact, with a shift towards ESG reporting for the organisation.



Lucy Townsend
Head of Sustainability

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Summary of Performance

We have submitted our Science Based Target application which is currently undergoing validation by the SBTi to confirm our target of a **46.2% reduction in Scope 1, 2, and 3 emissions** by 2030 from a 2019–20 base year.

ISO 14001 and 50001 successfully maintained for another year demonstrating compliance with the Energy Savings Opportunity Scheme (ESOS).

- Scope 1 and 2 energy consumption per capita reduced by 10.7% compared to FY 2020–21
- Scope 1 and 2 energy emissions per capita reduced by 20.8% compared to FY 2020–21
- Total business travel miles increased by 347% compared to FY 2020–21
- Water consumption per capita increased by 42.7% compared to FY 2020–21
- Total waste increased by 149% compared to FY 2020–21

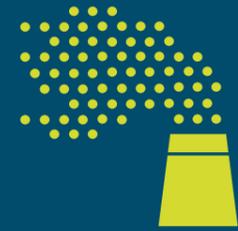
We recognise that comparing our performance to the previous financial year does not accurately represent our progress because of the changes seen during the Covid-19 pandemic. Therefore, we have included comparisons to FY 2018–19 throughout this report to show our performance when compared to a 'typical' year.



Scope 1 and 2 energy consumption per capita **reduced by**

10.7%

compared to FY 2020–21



Scope 1 and 2 energy emissions per capita **reduced by**

20.8%

compared to FY 2020–21



Total business travel miles **increased by**

347%

compared to FY 2020–21



Water consumption per capita **increased by**

42.7%

compared to FY 2020–21



Total non-electrical waste **increased by**

149%

compared to FY 2020–21

Studio Initiatives 2021–22

During this financial year, our staff were hybrid working, resulting in studio use increasing slightly compared to the previous financial year in which working from home due to Covid-19 was more prevalent. However, studio use this year was still lower than pre-covid levels when staff would generally be in the studio full time.

UK and Ireland:

- Sheffield has installed an energy-efficient zip tap in the kitchen, and disposed of a ticket printing machine, moving to fully electronic train tickets. Their landlord has replaced all columnal and stairwell lighting with energy saving LED lights with BDP's support.
- Birmingham has now introduced food composting to their studio.
- London replaced the lighting on the main stairs swapping out compact fluorescent fittings with LEDs. This had the benefit of lower maintenance costs and a reduction in energy consumption of approx. 1230 kWh/yr.
- Manchester studio has begun 'project scrunch' in which part of their studio will be let and the space occupied by BDP will be reduced. The reduced area will result in reduced emissions from studio consumption.

Commitments

- UKGBC Climate Commitment
- RIBA 2030 Climate Challenge
- Architects and Engineers Declare
- Science Based Targets

Headline Performance Figures

	Current reporting year 2021–2022 UK and Ireland	% change compared to 2020–21 'Covid-19 Year'	% change compared to 2018–19 'Typical Year'
Gas consumption (kWh)	636,939	-1.9%	-5.3%
Gas consumption per capita (kWh/capita)	600	-13.8%	-23.6%
Emissions from gas (kgCO ₂ e) (Scope 1)	125,848	-2.1%	+6.1%
Emissions from gas per capita (kgCO ₂ e/capita) (Scope 1)	119	-13.9%	-14.5%
Electricity consumption (kWh)	1,307,693	+3.4%	-13.6%
Electricity consumption per capita (kWh/capita)	1,233	-9.1%	-30.4%
Emissions from purchased electricity kgCO ₂ e (Scope 2)	261,046	-13.2%	-33.8%
Emissions from purchased electricity per capita kgCO ₂ e/capita (Scope 2)	246	-23.7%	-46.7%
Total energy consumption (kWh)	1,944,632	+1.6%	-11.0%
Total energy consumption per capita (kWh/capita)	1,833	-10.7%	-28.3%
Total emissions (kgCO ₂ e) (Scope 1 and 2)	386,894	-9.9%	-24.6%
Total emissions per capita (kgCO ₂ e/capita) (Scope 1 and 2)	365	-20.8%	-39.2%
Total emissions from business travel kgCO ₂ e	72,707	+102.0%	-89.1%
Emissions from business travel per capita kgCO ₂ e/capita	69	+77.0%	-91.2%
Total water usage m ³	3,630	+62.4%	-50.2%
Water usage per capita m ³ /capita	3	+42.7%	-59.8%
Total waste kgCO ₂	1,327	+31.3%	N/A
Waste emissions per capita kgCO ₂ e/capita	1	+25.1%	N/A



Gas consumption
(kWh)
-5.25%



Gas consumption per capita
(kWh/capita)
-23.6%



Emissions from gas
(kgCO₂e) (Scope 1)
+6.1%



Emissions from gas per capita
(kgCO₂e/capita) (Scope 1)
-14.5%



Electricity consumption
(kWh)
-13.6%



Electricity consumption per capita
(kWh/capita)
-30.4%



Emissions from purchased electricity
(kgCO₂e) (Scope 2)
-33.8%



Emissions from purchased electricity
per capita (kgCO₂e/capita) (Scope 2)
-46.7%



Total Energy consumption
(kWh)
-11.0%



Total energy consumption per capita
(kWh/capita)
-28.3%



Total Emissions
(kgCO₂e) (Scope 1 and 2)
-24.6%



Total Emissions per capita
(kgCO₂e/capita) (Scope 1 and 2)
-39.2%



Total emissions from business travel
(kgCO₂e)
-89.1%



Emissions from business travel
per capita (kgCO₂e/capita)
-91.2%



Total water usage
m³
-50.2%



Water usage per capita
m³/capita
-59.8%

Introduction

In our 61st year, BDP continues to shape the built environment as a leading multidisciplinary practice covering all major sectors, working on projects across the globe. We continue to expand on the work started in 1961 to improve everyday life through design.

Our unique position as a collective with experts spanning the spectrum of the built environment gives us a special status and capability in the design world. We respond to the demands of this dynamic and ever-changing planet with cross discipline design thinking which spans all of life's activities. Our union with Nippon Koei in 2016 has created a global architecture, engineering and design practice which fuses placemaking and user-centred design with large scale infrastructure skills.

BDP was built on a strong foundation of environmental and social responsibility - a commitment to building better communities whilst protecting the environment that we inhabit. We place sustainability at the heart of our business and a fundamental feature of our professional services offer is the delivery of good environmental performance. We continue this in our own studios where we strive to better the environmental performance of buildings we use, wherever possible.

We produce our annual Environmental Management Report to communicate the impacts of our business activities to all our stakeholders. This encompasses studio electricity and gas consumption, water use, waste and business travel, alongside our targets and objectives for the future. We also communicate the processes in place to manage our environmental impact, with information on our ISO 14001 certification which we have held since 2011, and our ISO 5001:2011 certification which was secured in 2016, and our Science Based Target journey.

This report marks our ninth year of public reporting and covers the financial year from July 2021 to June 2022 inclusive.



Picture: University of London – Senate House Steps

Our Studios

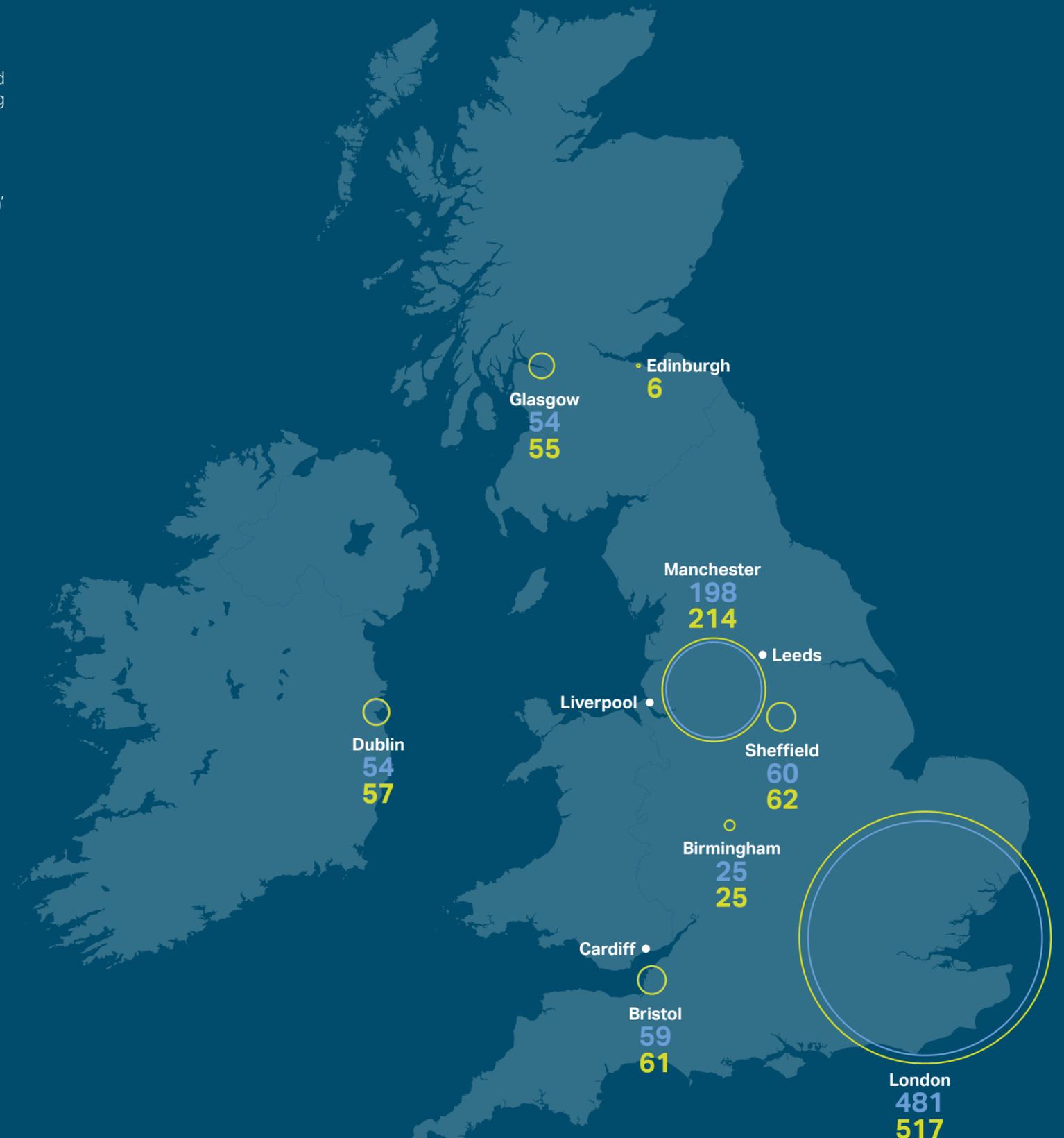
We now have **19** studios, comprising of **10** in the UK and **9** internationally. We currently measure and report detailed performance data for our UK and Ireland studios, which this environmental management report predominantly focuses on.

We also monitor and record detailed performance data for our Toronto Studio (BDP Quadrangle) and are in the process of expanding this to our China, India, MENA, Netherlands and Singapore studios. The current scope of international studio consumption monitoring can be found on pages 22–23.

Our most recently opened studio in New York is excluded from the FY 2021–2022 reporting period, due to opening in September 2022. We have included its location and staff number in our studio locations summary only.

Our headcount across these studios is shown below. These figures have been used to produce our 'per capita' performance figures.

Average Staff Number
2020–21
Average Staff Number
2021–22



ISO 14001 and 50001

In 2020–21 we maintained both ISO 14001 and 50001 certifications, evidencing our commitment to improving and maintaining our environmental and energy management systems, and compliance with the Energy Savings Opportunity Scheme (ESOS). The certification process for both standards involves an annual audit in which we demonstrate our activities are in compliance with the standards, whilst highlighting our successes and identifying opportunities for continual improvement.

The following key opportunities for improvement were identified:

- Increased staff awareness and refresher talks on energy performance
- Better utilisation of maintenance records system in particular studios
- Increased use of our legal and health and safety subscription service and associated register
- Update and development of interested parties process
- Increase and improve tracking of procurement decisions, investments and outcome of initiatives across studios
- Further identification of needs, expectations and influence of our international studios and their partners as we explore aligning with the standards

We have also implemented new controls as part of our design process for monitoring and recording environmental impacts of our projects. This project-focused tracking while in its early stages, will shortly enable us to set targets related to the wider impact on the environment of our projects outside the scope of our own studios and certification.

We are committed to continuous improvement, and this report serves as a tool to communicate and demonstrate the value we place on being an environmentally conscious and transparent organisation.



Science Based Targets

Science Based Targets (SBTs) show companies how much and how quickly they need to reduce their greenhouse gas (GHG) emissions in line with the goals of the 2015 Paris agreement.

BDP has submitted its application to the Science Based Targets Initiative (SBTi), with the validation process currently in progress. The near term targeted submitted for approval are:

- Reducing absolute Scope 1 and 2 GHG emissions 46.2% by 2030 from a 2019–20 base year
- Reducing absolute Scope 3 GHG emissions across Purchased Goods and Services and Capital Goods, by 46.2% by 2030 from a 2019–20 base year
- Increase annual sourcing of renewable electricity from 63% in 2019–2020 to 100% by 2025

These targets are embedded within our long-term objectives and will provide a clear and measurable goal for our organisation.

In parallel, BDP Quadrangle (our Toronto studio) submitted their SBTi application, which has now been validated by the SBTi. This encompasses Quadrangle's operations exclusively, and the same 46.2% target is proposed for Scope 1, 2 and 3 emissions across Purchased Goods and Services and Capital goods by 2030.

To achieve these reduction targets, BDP will focus on improving the energy efficiency of its supply chain, with a particular focus on increasing the stringency of procurement controls. We are looking to implement a rigorous process to validate procurement of energy consuming products e.g., IT.

UN Sustainable Development Goals

The United Nations Sustainable Development Goals (SDGs) are a framework for the major global challenges of economic, environmental and social sustainability, which every country in the world has agreed to deliver by 2030. They are a set of 17 interconnected goals, with 169 targets beneath them.

We have undertaken detailed mapping to determine which goals we contribute most effectively to, and those where there is opportunity to further our contribution. The 10 goals BDP aligns most closely to are: No Poverty, Good Health and Well-being, Quality Education, Gender Equality, Affordable and Clean Energy, Decent Work and Economic Growth, Industry, Innovation and Infrastructure, Sustainable Cities and Communities, Responsible Consumption and Production, and Climate Action.

BDP's group strategy and themes link to this framework to keep sustainable development at the heart of our thinking. There is social, environmental, and business incentive to do this as our clients want to work with like-minded designers.

These goals are highlighted below, with further detail on how we have contributed to each goal over the 2021-22 financial year, and our commitments against each goal for the 2022-23 financial year.



Picture: University of London – Senate House Steps

BDP's ESG highlights 2021-22 (UK&I) in support of the UN Sustainable Development Goals

<p>SDG1 Opportunities for staff to support communities where we work, including:</p> <ul style="list-style-type: none"> Local fundraising and food raising activities Employee payroll giving Volunteering 	<p>SDG3 BDP Mind has been set up to offer safe spaces, and to normalise conversations around mental health.</p> <p>Each studio has trained Mental Health First Aiders, and Validium is available to all staff as an external confidential service.</p> <p>3 Mental Health related workshops for all staff.</p> <p>Global Wellness day celebration with inspiring Toolbox talk on resilience.</p>	<p>SDG5 322 hours EDI training for staff and supply chain:</p> <ul style="list-style-type: none"> Modules completed by all staff at BDP Exploring Unconscious Bias and Active Bystander Additional training for Leadership, Marketing and Communications, Human Resources 	<p>SDG7 71% of our sourced electricity is certified renewable electricity.</p>	<p>SDG 8 In the UK&I and Americas:</p> <p>146 graduates</p> <p>16 apprentices</p> <p>38 interns</p> <p>44 work experience</p>
<p>1 NO POVERTY</p> 	<p>3 GOOD HEALTH AND WELL-BEING</p> 	<p>5 GENDER EQUALITY</p> 	<p>7 AFFORDABLE AND CLEAN ENERGY</p> 	<p>8 DECENT WORK AND ECONOMIC GROWTH</p> 
<p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p> 	<p>11 SUSTAINABLE CITIES AND COMMUNITIES</p> 	<p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p> 	<p>13 CLIMATE ACTION</p> 	
<p>SDG9 Development of BDP's Carbon Counter Tool.</p>	<p>SDG 11 Charitable contributions of £60,720</p> <p>BDP supported Médecins Sans Frontières, an international, independent organisation who provides medical humanitarian assistance to save lives and ease the suffering of people in crisis situations.</p>	<p>SDG 12 Use of BDP's Decision Record to reduce energy consumption in our studios.</p> <p>54% reduction in total non-electrical waste compared to 2018-19.</p>	<p>SDG13 24.6% reduction in scope 1 and 2 emissions compared to 2018-19.</p> <p>74% reduction in total miles from business travel compared to FY2018-19.</p>	

BDP's global commitments in support of the UN Sustainable Development Goals

<p>SDG1 Opportunities for staff to support communities where we work, including:</p> <ul style="list-style-type: none"> Local fundraising and food raising activities Employee payroll giving Volunteering 	<p>SDG3 Provide continued support for our staff and a variety of Health and Physical, Mental, Nutritional, Social and Financial Wellbeing initiatives available for everyone at BDP including:</p> <ul style="list-style-type: none"> Mental Health First Aiders SMART Cycling Private Medical Insurance Health screening Sport clubs A range of social activities 	<p>SDG4 Ongoing commitment to provide development opportunities, including CPDs and Chartership to upskill our staff.</p>	<p>SDG 5 Improve shared parental leave.</p> <p>Improve maternity leave by at least 30%</p> <p>Improve paternity leave by at least 50%</p> <p>Create a number of policies to support gender balance.</p> <p>Create awareness amongst staff for gender equality and our actions to balance our gender pay gap.</p>	<p>SDG7 Increase annual sourcing of renewable electricity to 100% by 2025.</p> <p>Reach Net Zero carbon by 2025.</p>
<p>1 NO POVERTY</p> 	<p>3 GOOD HEALTH AND WELL-BEING</p> 	<p>4 QUALITY EDUCATION</p> 	<p>5 GENDER EQUALITY</p> 	<p>7 AFFORDABLE AND CLEAN ENERGY</p> 
<p>8 DECENT WORK AND ECONOMIC GROWTH</p> 	<p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p> 	<p>11 SUSTAINABLE CITIES AND COMMUNITIES</p> 	<p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p> 	<p>13 CLIMATE ACTION</p> 
<p>SDG 8 BDP Work Experience Programme for Summer 2023.</p> <p>Apprenticeship opportunities across the UK in multiple professions.</p> <p>Inclusive recruitment practice.</p> <p>Improve BDP's social impact through Social Mobility initiatives in our local communities.</p> <p>Double our Work Experience student intake across the UK compared to FY 2021-22.</p>	<p>SDG 9 Launch and develop a Scaling Sustainability initiative on BDP's innovative research platform, BDP Lab.</p>	<p>SDG 11 Partnership with charities, local communities and NGOs to reach our goals.</p> <p>Continue our partnership with Regeneration Brainary.</p>	<p>SDG 12 Minimise wasteful use of resources in architecture and urban planning, both in quantum and in detail.</p> <p>Collaborate with engineers, contractors and clients to further reduce construction waste.</p> <p>Our commitment to adaptive reuse and heritage regeneration is about providing a building with a new purpose whilst enhancing its social, physical and historic value and relevance to today's society.</p>	<p>SDG13 Reduce absolute Scope 1 and 2 GHG emissions, and Scope 3 GHG emissions across Purchased Goods and Services and Capital Goods by 46.2% by 2030. Global accreditation verified by Science Based Targets Initiative (SBTi).</p> <p>Raise awareness of the climate and biodiversity emergencies and the urgent need for action amongst our clients and supply chains.</p>

Hybrid Working / COVID-19

The 2021–22 financial year saw the reduction of Covid-19 related measures in the UK and the reopening of our studios. We continued to follow government guidance where necessary, moving to a hybrid working approach as we emerged from the pandemic.

We recognise the benefits of hybrid working to our staff, projects and environment. It is our belief that a return to pre-pandemic ways of working may never occur and as a progressive, flexible organisation we intend to work with our staff to ensure the ratio of office to home working is the right one for the current environment.

Temperature scanners and lateral flow testing kits were available in all our UK&I studios during the pandemic. We also implemented an allowance of 14 days to work abroad to account for quarantine restrictions in various countries that could change at short notice. This also enabled those who had been away from home and family for prolonged periods to extend their trips. With quarantine restrictions reduced, we no longer require these temporary initiatives.



Picture: BDP's Birmingham studio

Detailed Performance

The following section summarises our environmental performance during 2021–2022, based on comparison to our previous reporting year 2020–2021, and to the previous 'typical' year pre-Covid-19, 2018–19. We acknowledge that sub-metering is required to enable more effective reporting, interventions and utility cost savings, hence sub-metering is an important consideration when determining new studio leases. We are currently developing a sustainable studio specification as an ideal guidance to be used when determining suitability of new studios and alignment with our targets.

Table 1: UK carbon conversion factors (source: BEIS)

UK	Units	2020	2021	2022
Scope 1 (natural gas)	kgCO ₂ e/kWh	0.18387	0.20297	0.20227
Scope 2 (grid supplied electricity)	kgCO ₂ e/kWh	0.23314	0.21016	0.19388
Car emissions (average car)	kg CO ₂ e/pkm	0.16844	0.17147	0.17083
National rail	kg CO ₂ e/pkm	0.03694	0.03549	0.03549
Domestic flight	kg CO ₂ e/pkm	0.2443	0.24587	0.24587
Short-haul flight	kg CO ₂ e/pkm	0.15553	0.15353	0.15353
Long-haul flight	kg CO ₂ e/pkm	0.19085	0.19309	0.19309

Table 2: International carbon conversion factors (source: various)

kgCO ₂ e/kWh	2020	2021	2022
Canada (Ontario)	0.0300	0.0290	0.0300
China	0.5550	0.5374	0.5374
MENA	0.4258	0.4041	0.4041
Netherlands	0.4521	0.3743	0.3743

Carbon Conversion Factors

The emissions values were calculated using carbon conversion factors from The Department for Business, Energy and Industrial Strategy (BEIS). The carbon conversion factors are revised each year and vary due to the mix of energy sources generated in the UK, and internationally imported.

This year, the UK electricity (kgCO₂e/kWh) carbon conversion factor has decreased. This is due to the continued decarbonisation of the UK grid electricity as the UK increases the use of renewable energy sources.

Our Sheffield office is supplied by the local Veolia District Heat network with a carbon factor of approximately 0.12 kgCO₂e/kWh. It is also important to note that carbon factors for electricity and natural gas in Ireland are higher than those in the UK at 0.3458 and 0.2029 respectively.

For our international studios the emissions values were calculated using electricity carbon conversion factors from the Association of Issuing Bodies, the Dubai Electricity and Water Authority, and Climate Transparency, via the Carbon Footprint database. As in the UK, the carbon conversion factors are revised each year and vary depending on factors within each country such as energy sources.

Carbon and Energy

The tables and graphs below provide a summary of our 2021–2022 energy consumption and carbon emissions against the previous year (2020–2021).

Table 3: Total energy consumption (UK&I)

	2021–22	% change against 2020–21 'Covid-19 Year'	% change against 2018–19 'Typical Year'
Scope 1 – Gas (kWh)	636,939	-1.9%	-5.3%
Scope 2 – Electricity (kWh)	1,307,693	+3.4%	-13.6%
Total kWh	1,944,632	+1.6%	-11.0%
Scope 1 (kWh)/capita	600	-13.8%	-23.6%
Scope 2 (kWh)/capita	1233	-9.1%	-30.4%
Total (kWh)/capita	1833	-10.7%	-28.3%

Table 4: Total Scope emissions (UK&I)

	2021–22	% change against 2020–21 'Covid-19 Year'	% change against 2018–19 'Typical Year'
Scope 1 (kgCO ₂ e)	125,848	-2.1%	+6.1%
Scope 2 (kgCO ₂ e)	261,046	-13.2%	-33.8%
Total (kgCO₂e)	386,894	-9.9%	-24.6%
Scope 1 (kgCO ₂ e)/capita	119	-13.9%	-14.5%
Scope 2 (kgCO ₂ e)/capita	246	-23.7%	-46.7%
Total (kgCO₂e)/capita	365	-20.8%	-39.2%

International Studios

Across our international studios, we have collected data on environmental impacts wherever possible. Electricity consumption data is the most available metric which can be compared across studios and converted into emissions. As stated in our long-term goals and action plan for next year, we will be expanding the scope of the metrics we monitor and intend to incorporate regular and detailed

monitoring of these international studios into our annual reporting.

The electricity consumption and emissions data is shown below in *Table 5*. The carbon intensity of each countries electricity varies as shown in the difference between the consumption (kWh) and the associated emissions (kgCO₂).

Table 5: Electricity Consumption and Emissions (2021–22)

		Canada	China	MENA	NL
Electricity	kWh	197,732	46,569	73,216	16,107
Electricity per capita	kWh/capita	879	1,194	4,576	1,239
Electricity emissions	(kgCO ₂)	29,050	25,026	29,580	6,029
Electricity emissions per capita	(kgCO ₂ /capita)	129	642	1,849	464

The data shows that our MENA studio has the highest emissions and consumption per capita - likely due to air conditioning requirements and high carbon energy mix. Canada has the lowest emissions and consumption per capita which is attributed to their grid electricity predominantly comprising renewable sources.

In China, the relatively lower consumption results in higher emissions because much of China's energy comes from non-renewable source.

The extent to which the environmental performance of our international studios is currently monitored is shown in the table below.

Table 6: Breakdown of environmental performance and associated emissions across BDP's international studios 2021-22

	Unit	Canada	China	India	MENA	NL	Singapore
Average Personnel		225	39	28	16	13	8
Electricity	kWh	197,732	46,569	N/A	73,216	16,107	N/A
	kWh/capita	879	1,194	N/A	4,576	1,239	N/A
Electricity Emissions	kgCO ₂	29,050	25,026	N/A	29,580	6,029	N/A
	kgCO ₂ /capita	129	642	N/A	1,849	464	N/A
Gas	kWh	274,005	N/A	N/A	N/A	N/A	N/A
	kWh/capita	1,218	N/A	N/A	N/A	N/A	N/A
Gas Emissions	kgCO ₂	49,889	N/A	N/A	N/A	N/A	N/A
	kgCO ₂ /capita	222	N/A	N/A	N/A	N/A	N/A
Water	m ³	1059	N/A	N/A	N/A	N/A	N/A
	m ³ /capita	4.7	N/A	N/A	N/A	N/A	N/A
Waste							
	Total kg of non-electrical waste	6,268	6.6	N/A	161	171	N/A

Figure 1: Electricity consumption per capita (kWh/capita) compared to the previous financial year

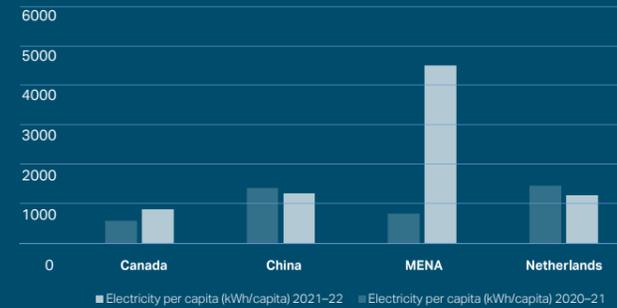
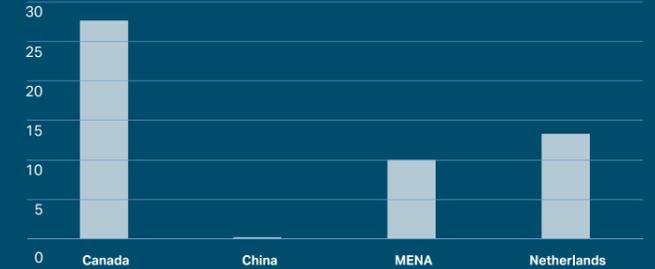


Figure 2: Non-electrical waste per capita (kg/capita)



Weather Normalisation

Heating Degree Days (HDDs) are a measurement designed to quantify the demand for energy needed to heat a building based on outside air temperature. The HDD value represents the length of time outside air temperature was below 15.5 degrees centigrade. A lower HDD value would show the temperature was higher and therefore gas use for heating would be expected to be lower. In addition, if the HDD is increased then gas consumption is likely to increase.

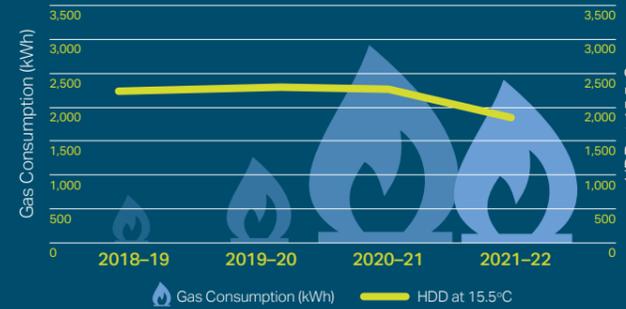
However, over the last 3 years this pattern has become less clear as the Covid-19 pandemic resulted in periods of working from home and hybrid working in which gas usage was reduced. We have therefore included 2018-19 as a reference of a 'typical year' to compare against the current reporting year.

Longer term we expect this correlation to return, and may also expect to see the HDD reducing each year as global temperatures rise.

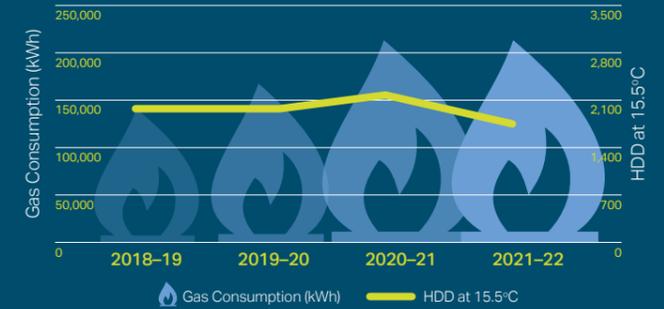
The Heating Degree Day's data for the UK and Ireland for the FY 2021-22 was obtained from <https://www.degreedays.net/>. The weather stations were selected based on their proximity to each studio and quality of data.

This shows the importance of measuring our performance in greater granularity to understand which areas we can make improvements.

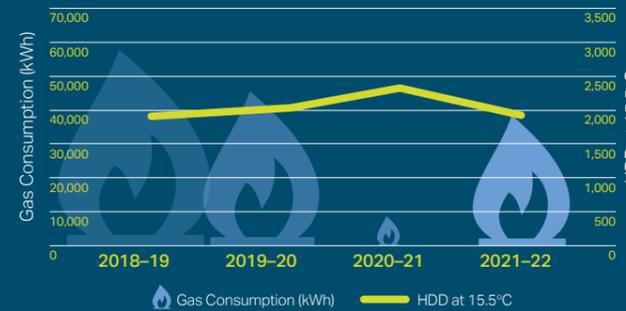
Birmingham 2018-2022



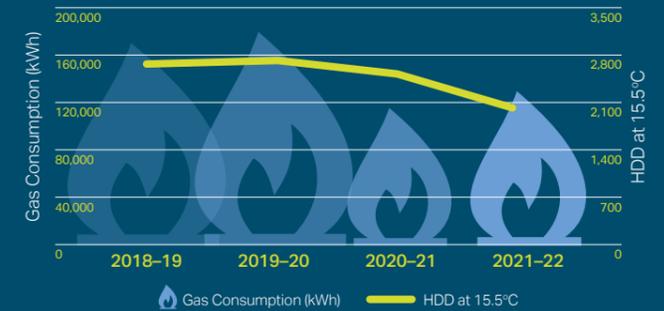
Bristol 2018-2022



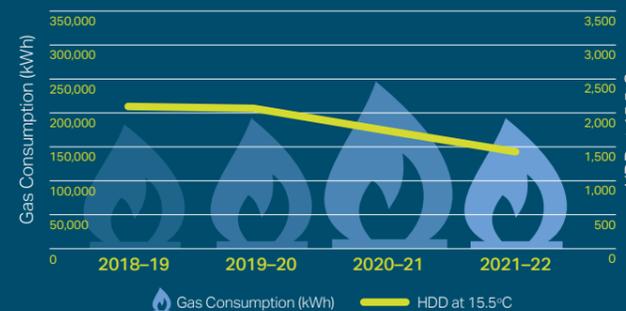
Dublin 2018-2022



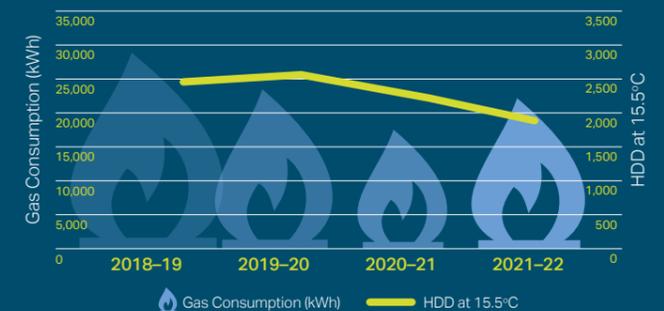
Glasgow 2018-2022



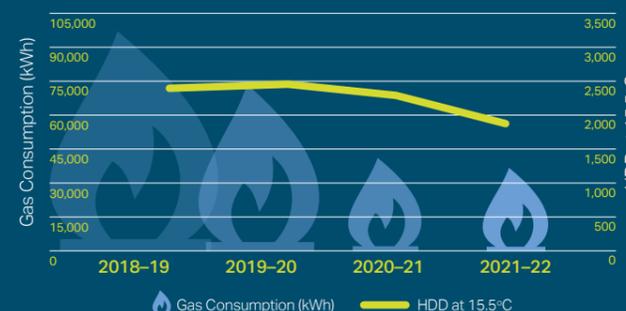
London 2018-2022



Manchester 2018-2022



Sheffield 2018-2022



Heating Demand

There has been a 13.8% decrease in gas consumption (Scope 1) per capita for our UK&I studios compared to 2020–21. This decrease was unexpected as increased gas consumption was anticipated as we emerged from the Covid-19 pandemic and moved into a hybrid working pattern. We intend to continue to reduce our gas consumption each year in line with our proposed Science Based Targets through studio interventions and use management. The carbon conversion factors for calculating emissions have decreased slightly in FY 2021–22 compared to FY 2020–21, putting our gas (Scope 1) emissions per capita at a 13.9% reduction.

While our overall consumption and emissions have reduced compared to the last financial year, each studio can vary. The Dublin, Glasgow, Manchester and Sheffield studios have seen their gas consumption increase this year, while the Birmingham, Bristol, and London have reduced their gas consumption. Size of studio and number of staff varies which means for example our London studio consumption has a greater impact on our overall consumption as it accounts for around half of our total UK&I staff numbers.

Studios which saw increased gas consumption alongside decreased HDDs are attributed to the return of staff to our studios. We anticipate that next year will provide a clearer picture as to how our gas consumption is trending.

Table 7: Electricity Consumption (kWh)

	2021–22	% change 2020–21 'Covid-19 Year'	% change 2018–19 'Typical Year'
Birmingham	37,602	+34.0%	+3.5%
Bristol	63,964	+7.6%	+17.7%
Dublin	52,789	+3.3%	-4.3%
Glasgow	67,921	+9.1%	-26.1%
London	653,902	+4.2%	-9.7%
Manchester	373,469	-2.3%	-20.9%
Sheffield	58,046	+7.1%	-26.5%

Electricity Demand

The UK&I electricity consumption (Scope 2) for FY 2021–22 has increased by 3.41% compared to FY 2020–21. It is therefore clear that, as expected, the move to hybrid working and increased use of studios after the Covid-19 pandemic has increased our electricity consumption.

Due to the continued decarbonisation of the UK grid electricity as the UK increases use of renewable energy sources, the carbon conversion factor decreased in FY 2021–22 compared to FY 2020–21. This resulted in our electricity (scope 2) emissions per capita reducing by 23.7%. However, we will not rely on the grid decarbonisation to account for our emissions reductions and we are committed to reducing consumption, alongside emissions, through studio interventions.

71.4% of our UK&I electricity contracts are REGO backed renewable energy. This is based on the proportion of renewable electricity confirmed relative to the total electricity consumed in UK&I. The London, Birmingham, Bristol, Glasgow, Sheffield, and Dublin studios are all powered by REGO backed renewable electricity. This is compared to 60.2% reported last year, and shows our commitment to procuring 100% renewable energy by 2025.

Table 8: Electricity Consumption per capita (kWh/capita)

	2021–22	% change 2020–21 'Covid-19 Year'	% change 2018–19 'Typical Year'
Birmingham	1485	31.2%	4.7%
Bristol	1044	4.2%	23.5%
Dublin	921	-0.3%	-10.0%
Glasgow	1237	7.7%	-11.0%
London	1265	-3.0%	-30.6%
Manchester	1742	-9.7%	-27.2%
Sheffield	936	2.9%	-40.5%

Interventions

The improvements in emissions can in part be attributed to our studio initiatives which demonstrate our commitment to continual improvement:

- Sheffield has installed an energy-efficient zip tap in the kitchen, and disposed of a ticket printing machine, moving to fully electronic train tickets. Their landlord has replaced all columnal and stairwell lighting with energy saving LED lights with BDP's support.
- Birmingham has now introduced food composting into their studio.
- London replaced the lighting on the main stairs swapping out compact fluorescent fittings with LEDs. This had the benefit of lower maintenance costs and a reduction in energy consumption of approximately 1230 kWh PA.
- The Manchester studio has begun 'project scrunch' in which part of their studio will be sub-let. The reduced area occupied by BDP will result in reduced emissions associated with increased space efficiency.

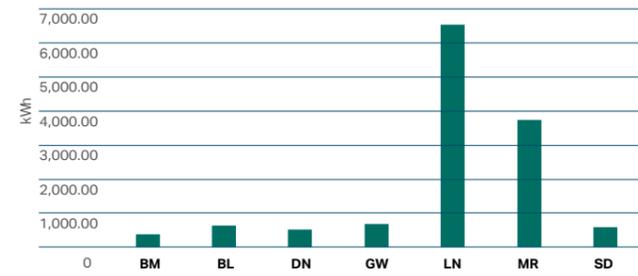


Figure 3: UK&I electricity consumption per studio 2021-22 (kWh)

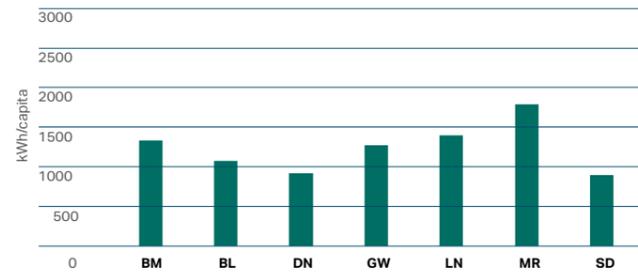


Figure 4: UK&I electricity consumption per capita per studio 2021-22 (kWh/capita)

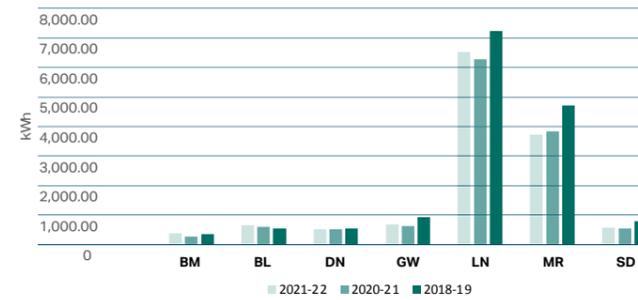


Figure 5: UK&I electricity consumption per studio compared across previous years (kWh)

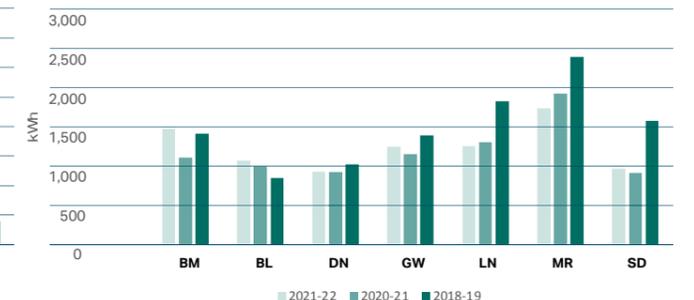


Figure 6: UK&I electricity consumption per capita per studio compared across previous years (kWh/capita)

Water

All of our UK&I studios have increased water consumption compared to last year, as would be expected with the increased return to office and adoption of hybrid working patterns. This is shown in table 9 in which the current reporting year is compared to FY 2020-21 (Covid-19) and 2018-19 (our last 'typical' reporting year).

While water usage has increased since last year, most of our studios have decreased water use compared to 2018-19 as displayed in the graphs below. This gives us confidence that we are heading in the right direction, and we recognise that global events can dramatically reduce consumption as we saw during the Covid-19 pandemic last year. We are committed to ensuring our water consumption will decrease year on year and intend to review opportunities for improvement and encourage efficiency wherever possible.

We have identified that our Bristol studio's water meter is faulty and have therefore reported the readings but removed the Bristol water consumption (4.4 m3) and Bristol staff number (51) from our overall total and per capita total. The Bristol studio manager has recognised the issue and the landlord is repairing the meter.

Table 9: Total water consumption (m³) (UK&I)

	2021-2022	% change compared to 2020-21 'Covid-19 Year'	% change compared to 2018-19 'Typical Year'
Total (m ³)	3,630	62.4%	-50.2%
Per capita (m ³)	3.4	42.7%	-59.8%

Table 10: Water consumption per studio (m³) (UK&I)

	2021-2022	% change compared to 2020-21 'Covid-19 Year'	% change compared to 2018-19 'Typical Year'
Birmingham	438	+60.2%	+186.0%
Bristol	4	-99.6%	-99.6%
Dublin	88	+128.0%	-77.8%
Glasgow	78	+1850.0%	-62.0%
London	1,441	+297.0%	-61.7%
Manchester	1,431	+327.2%	-6.1%
Sheffield	150	245.3%	-33.2%

Table 11: Water consumption per studio per capita (m³) (UK&I)

	2021-2022	% change compared to 2020-21 'Covid-19 Year'	% change compared to 2018-19 'Typical Year'
Birmingham	17.3	56.8%	189.2%
Bristol	0.1	-99.6%	-99.6%
Dublin	1.5	119.9%	-79.1%
Glasgow	1.4	1824.4%	-54.2%
London	2.8	269.5%	-70.5%
Manchester	6.7	294.8%	-13.5%
Sheffield	2.4	231.9%	-45.9%

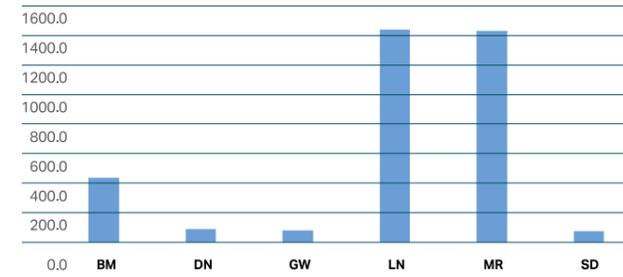


Figure 7: UK&I water consumption per studio 2021-22 (m³)

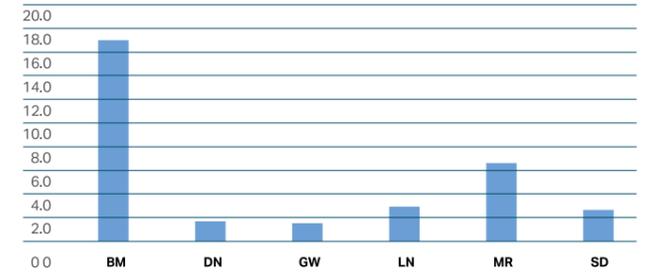


Figure 8: UK&I water consumption per capita per studio 2021-22 (m³/capita)

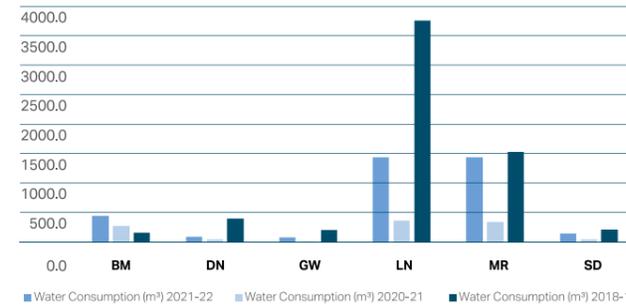


Figure 9: UK&I water consumption per studio compared across previous years (m³)

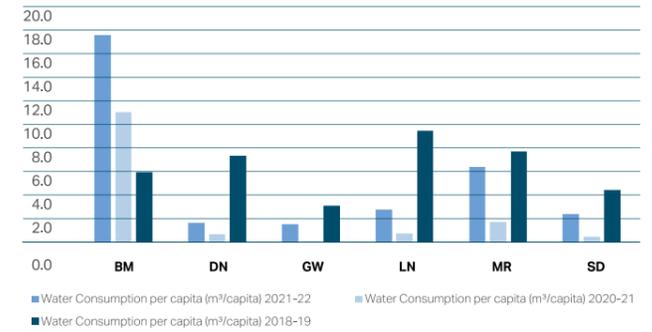


Figure 10: UK&I water consumption per capita per studio compared across previous years (m³/capita)

Business Travel

Choosing the most sustainable mode of transport for business travel is one way we reduce our impact on the environment. During the Covid-19 pandemic, travel (especially international travel) was reduced. This year we have seen an overall increase in travel to levels that would be expected pre-pandemic. The huge reduction in emissions during Covid has taught us that it is possible to reduce some travel and we are encouraging the use of Microsoft Teams for meetings wherever possible and appropriate. This will ensure we continue to reduce our impact on the environment.

As we have increased the monitoring of our travel data over recent years, some is collected in cost as opposed to distance. For taxi journeys we have applied an assumption of £2.68 per mile as taken from the UK Taxi Price Index, and for bus journeys an average

of £0.93 per mile as taken from the UK GOV website. We intend to improve and expand our monitoring of business travel over next few years as part of our goal to reduce emissions. Conversion factors for emissions reporting have been taken from the UK Government GHG Conversion Factors for Company Reporting document.

Our data shows that car use has decreased since last year, which suggests that as cases of Covid-19 decreased, our staff began making increasing use of public transport such as trains. We encourage the use of public transport as opposed to private cars or taxis wherever possible as part of our environmental commitments. We expect car use to decrease and train use to increase further into the next financial year. All modes of travel have reduced when compared to the last 'typical' year of 2018–19 and we intend to continue these reductions despite returning to studios and a new normal post-pandemic.

Table 12:

Mode of travel (UK&I)	Miles/capita 2021–22	% change over 2020–21 'Covid-19 Year'	% change over 2018–19 'Typical Year'
Train	368.5	+398%	-74%
Bus	0.01	-94%	N/A
Taxi	5.9	+67%	N/A
Car	89.9	-23%	-63%
International/Long-haul flight	234.0	Increase from zero	-77%
Short haul flight	35.3	+2839%	-92%
Domestic flight	31.8	+189%	-88%
Total miles per capita	765.3	+292%	-79%

Figure 11: Total business travel by mode (miles) UK&I compared across previous years

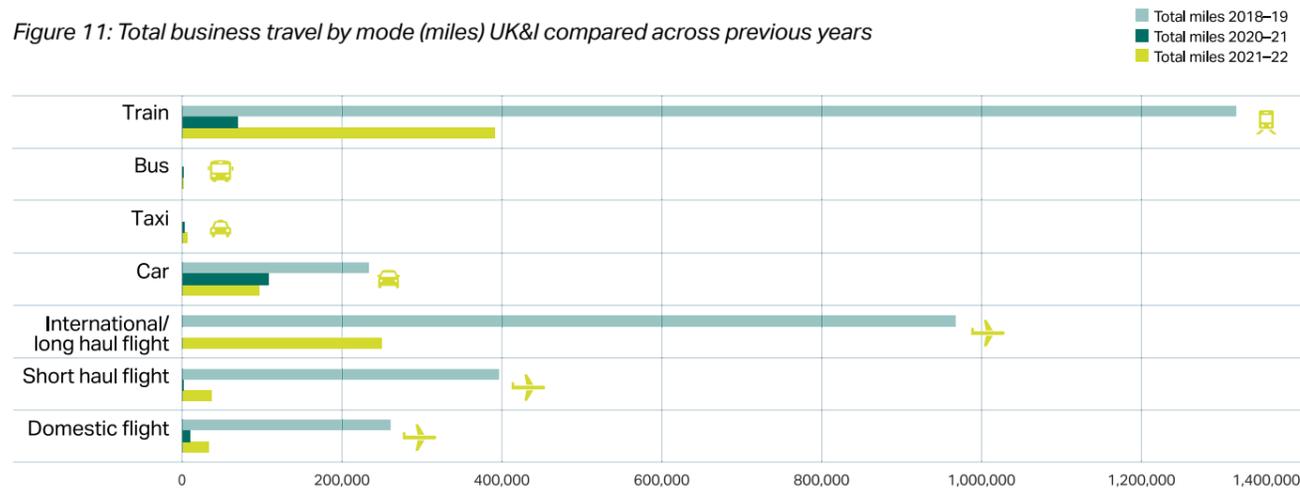


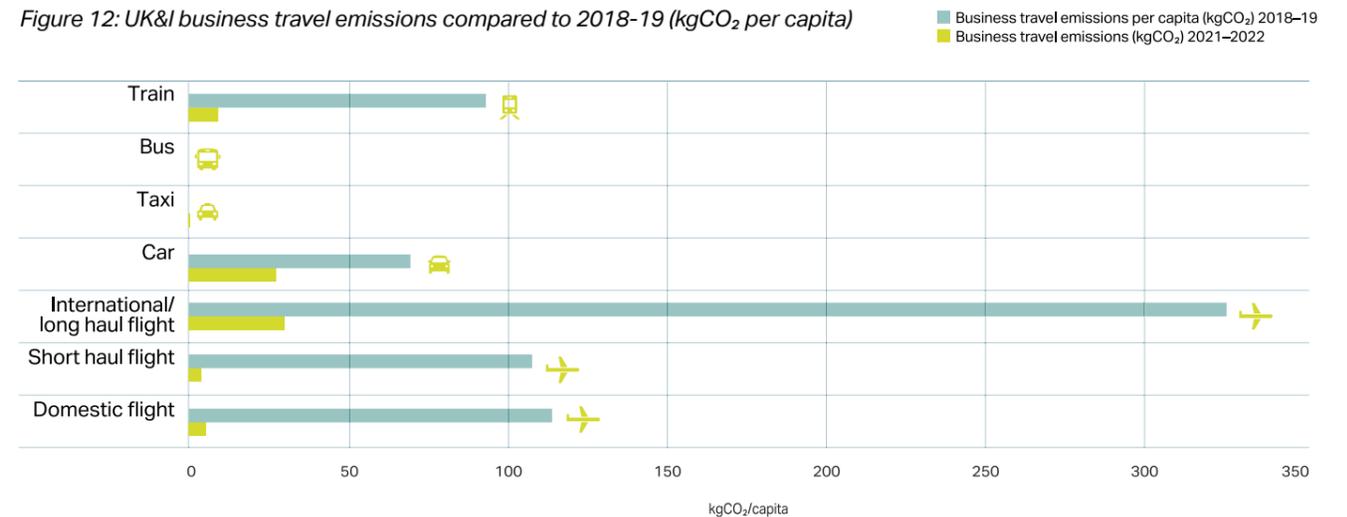
Table 13: Business travel by mode of transport (miles) (UK&I)

Mode of travel (UK&I)	Total miles 2021–22	% change over 2020–21 'Covid-19 Year'	% change over 2018–19 'Typical Year'
Train	390949	+467%	-70%
Bus	7	-94%	N/A
Taxi	6249	+90%	N/A
Car	95398	-12%	-59%
International/Long-haul flight	248238	Increase from zero	-74%
Short haul flight	37418	+3253%	-91%
Domestic flight	33754	+229%	-87%
Total	812012	+347%	-74%

Table 14:

Mode of travel (UK&I)	Business travel emissions per capita (kgCO ₂) 2021–22	% change over 2020–21 'Covid-19 Year'	% change over 2018–19 'Typical Year'
Train	8.1	+92.5%	-91.2%
Bus	0.0	N/A	N/A
Taxi	0.8	N/A	N/A
Car	24.7	+69.0%	-64.2%
International/Long-haul flight	26.7	+322.7%	-91.7%
Short haul flight	3.4	+107.9%	-96.9%
Domestic flight	4.9	+112.9%	-95.7%

Figure 12: UK&I business travel emissions compared to 2018-19 (kgCO₂ per capita)



Materials and Waste

All of our UK&I studios have in place robust waste management procedures to ensure that we are accountable for the waste we produce and make every effort to maximise waste diversion from landfill. Waste management procedures vary considerably between each studio depending on the waste management available in the area. For example, in some studios comingled waste is collected for sorting and recycling off site, whilst in other studios waste is separated at source.

In our Sheffield studio, un-recyclable waste feeds into the local Veolia district heat system that supplies our building with heat, and in London our chosen waste contractor First Mile collects waste and converts it to energy to power London homes.

As would be expected with the increase in staff using our studios, the overall volume of waste we produce has increased compared to last financial year. The one type of waste which has decreased since the return to studios has been printer cartridges. This may be due to our staff developing a behaviour change in which documents are only printed when necessary, in line with our environmental responsibility to consider the environment before printing.

While we have seen increased waste compared to last year, our data shows that all waste streams saw a decrease when compared to 2018–19, our last 'typical year' pre-Covid-19, as shown in the graph. We hope to encourage reduction of waste streams over the next financial year.

Table 15: Breakdown of waste (UK&I)

		2021–2022	% Change over 2020–21 'Covid-19 Year'	% Change over 2018–19 'Typical Year'
White paper Cardboard	Kg	1,502	+166%	-85%
Co-mingled recyclables (plastic)	Kg	24,972	+119%	-62%
Glass	Kg	10	+100%	-95%
Organic waste	Kg	23,967	+238%	-18%
General waste	Kg	6,658	+70%	-63%
Printer cartridges	Units	10	-77%	-95%
Mobile phones	Units	9	Increase from zero	+13%
Computers	Units	321	+5250%	+328%
Printers	Units	3	Increase from zero	0%
Batteries	Kg	31	Increase from zero	-84%
Other WEEE	Units	5,482	+5991%	+346%
Total non-electrical waste	Kg	57,109	+149%	-54%

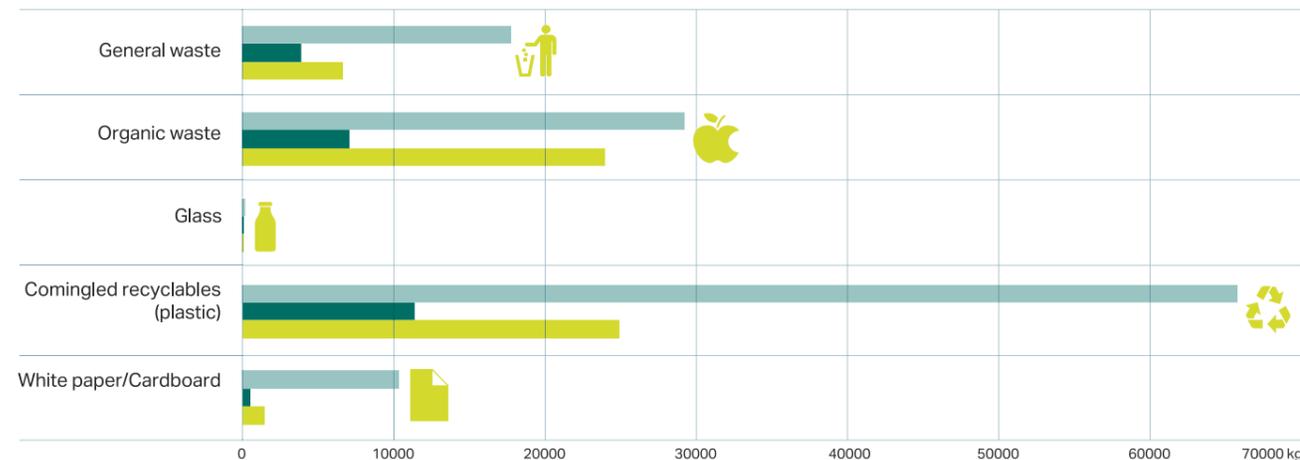


Figure 13: UK&I total non-electrical waste by waste stream compared to previous years (kg)

2018–19 2020–21 2021–22

Procurement and Environmental Improvements

BDP and its employees have renewed their commitment to a responsible procurement policy which requires consideration of the following when making procurement decisions:

- The environmental impact of goods or services in their manufacture
- The energy performance of any new electrical or mechanical item
- The life cycle cost of the item, factoring capital cost, maintenance implications, replacement cost and end of life disposal
- Ethical sourcing of products and services, to ensure that employees are treated fairly and that materials are obtained legally
- Supply-chain management to ensure that value is maximised through purchasing power
- Legal compliance

BDP has put a strategy in place so that for the procurement of individual energy consuming office items purchased in multiples, over the value of £200, or any other high electricity consuming items such as kettles, toasters and fans, at least 3 models are compared. Where there is an energy saving > 10% available, the more energy efficient model is selected, unless there are other significant reasons for selecting an alternative (e.g. dimensions / availability of space).

Although our IT infrastructure has increased significantly to accommodate staff working from home in response to the COVID-19 pandemic, we are working hard to reduce this impact and expect it to reduce year on year as we continue our hybrid working patterns.

We intend to develop our own system for collecting and analysing procurement data over the next year and continue to monitor spending on purchased good and services. We have used the Quantis tool to estimate our scope 3 emissions for our Science Based Targets application, but would like to work with our suppliers to develop more precise monitoring of emissions that lie outside our sphere of influence.

Summary

Over the FY 2021–22 we have seen a decrease in our scope 1 and 2 emissions relative to FY 2020–21. However, there has been an increase in our water consumption, waste and travel which is attributed to the return to studios and the adoption of a hybrid working pattern as we emerged from the Covid-19 pandemic. We have continued to reduce our impact on the environment through studio-based interventions and will continue to do so across the next financial year.

We are aware that comparison to Covid-19 years may not be the most appropriate reflection of our environmental performance, and hence have included comparisons to the last 'typical' year, 2018–19 in this report to put our performance into context. We will be working towards our Science Based Targets over the next financial year and implementing enhanced processes and systems for monitoring and managing our impact on the environment, including reviewing the impact of our design projects.

Carbon Emissions

Our Scope 1 and 2 emissions reduced by 9.9% overall, and 20.8% per capita.

Energy

Our total energy consumption increased by 1.6% overall, and reduced by 10.7% per capita.

Water

Our water consumption has increased by 62.4% overall, and by 47.2% per capita.

Waste

Our total waste (in kg) has increased by 149%, with the largest waste stream being comingled recyclables.

Travel

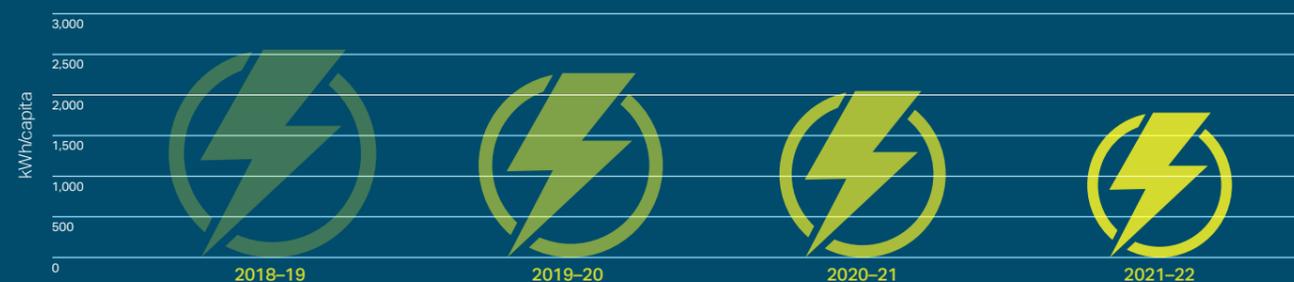
Our total business travel (in miles per capita) has increased by 292%, although miles per capita travelled using a car has decreased by 23%.

The following graphs summarise our performance throughout the FY 2021–22, compared to the previous 3 years.

Carbon
Scope 1 and 2 emissions per capita (kgCO₂e)



Energy
Scope 1 and 2 energy consumption per capita (kWh)



Water
Water consumption per capita (m³ per capita)



Waste
Total non-electrical waste (kg)



Future Projections

Our aim is to meet our Science Based Target of a 46.2% reduction across scopes 1,2, and 3 by 2030. Scopes 1 and 2 are shown below with figures.

Figure 14: Future Scope 1 and 2 projections in line with BDP's Science Based Target (tCO₂)



2021–2022 Action Plan

Studio-based Action Plan

Studio	Action Plan for the forthcoming year
Birmingham	<ul style="list-style-type: none"> Switch plastic milk bottles in the studio Improve accuracy of measuring recyclable waste
Bristol	<ul style="list-style-type: none"> Investigate EV charging and wider redevelopment of sustainable transport options LED lighting replacement within the studio
Dublin	<ul style="list-style-type: none"> Investigate the potential to utilise compost recycling waste Replace current pool car with a fully electric pool car
Glasgow	<ul style="list-style-type: none"> Reduce lighting levels on each floor Investigate the potential to reduce staff space to one floor of the studio
London	<ul style="list-style-type: none"> Abolish plastic-wrapped washroom supplies Investigate procurement of recyclable stationary and zero-water toilets
Manchester	<ul style="list-style-type: none"> Undertake 'project scrunch' reducing the number of floors used in the studio to make better use of space Reduce lighting levels by implementation of new controls
Sheffield	<ul style="list-style-type: none"> Combine plotter and scanner to reduce paper and ink waste Investigate potential for a roof garden or worm bin

BDP Action Plan

We have set broader targets for our environmental management at BDP and have identified some targets we aim to make progress towards within the next financial year:

- Complete our SBT validation to set a 46.2% reduction in Scope 1, 2, and 3 emissions by 2030 from a 2019–20 base year
- Increase our monitoring across international studios
- Overhaul our system for monitoring and measuring waste
- Develop our policy on social value and develop monitoring and processes around social value metrics
- Increase the percentage of our international studios on renewable energy tariffs
- Further evaluate offsetting approaches
- Expand training and involvement of Sustainability Champions and Advocates within projects and internal sustainability
- Share knowledge on environmental issues across the business. We aim to contribute and aid the development of a 'Carbon Conversations' forum.

BDP.

sustainability@bdp.com

