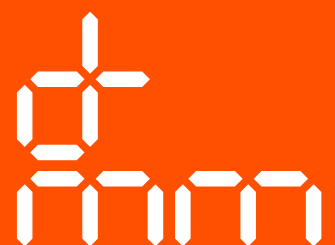


Carbon Reduction Plan

FY2022-23 annual report





This report summarises the carbon emission impacts arising from dRMM's operations as a business and group of people. It takes a retrospective view of impacts since 2019 and up until the end of financial year 2023 and is updated annually.

Revision 02
Date of publication: 11/01/2024

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Executive Summary

Financial year 2022-23 (FY23) is the fourth for which dRMM has assessed its operational and value chain carbon emissions according to Greenhouse Gas Protocol's methodology. This initiative is part of our commitment to reduce our absolute emissions by 50% by 2030, in line with UN's Race to Zero.

Our carbon emissions amounted to 53 tCO₂e this year. Despite being the first period to represent the 'new normal' post pandemic, FY23 shows a continued downward trend in emissions even when compared to the two previous abnormal years (57 tCO₂e in FY22, 56 tCO₂e in FY21).

When compared to our baseline year of FY20 (68 tCO₂e) we see an improvement of 14.7 tCO₂e (nearly a 22% reduction over three years, or just over 7% per year). To achieve our 2030 target while keeping to a constant yearly relative reduction requires a consistent 6% annually over this time, which is what we are actually achieving. The more significant reductions in FY21 and FY22, due to the Covid-19 pandemic, also provide a margin in cumulative carbon budget terms. This will hopefully be enough to absorb the impacts of our planned move to a new studio and the inevitable additional emissions.

Three important factors must also be considered in understanding our performance:

1. Assessment scope: As part of our continuing efforts to improve, this year's methodology is more detailed and comprehensive, taking newly precise account of some emissions categories, in particular, hired services and purchases, business travel and hotel stays, and commuting/WFH. We moved away from the Carbon Footprint assessment platform, which had been used to date, and started using the xTonnes calculator tool, allowing improved control and understanding about our data, along with robust estimates wherever this may be missing.

2. Team growth: Headcount at both studios has also grown significantly. Relative to practice size, FY23's emissions are about a third lower than FY20's (1.18 vs. 1.78 tCO₂e per FTE (full-time equivalent), respectively). This is more than 11% reduction per year and per FTE (significantly surpassing the progress needed to meet our 2030 targets).

3. IT Infrastructure: Aiming for more long-term improvements, we are in the process of shifting to cloud computing coupled with efficient, light laptop/tablet terminals. As part of this initiative, we have invested in new IT hardware and services in FY23, which show as significant emissions increases in scope 3 categories 1 and 2.

Moving forward, the biggest anticipated change is the London studio's relocation to new premises, seeking to have more agency over multiple aspects that the current space does not allow. Studio growth, and our second studio in Berlin, with frequent travel for senior management between both locations put pressure on the already challenging decarbonisation pathway, which we will aim to integrate and compensate for within our initiatives.

dRMM remains committed to its decarbonisation objectives, with planned actions and initiatives fully supporting and enabling that in the long term.



Glossary

Carbon Dioxide equivalent (CO₂e)

Is a unit of measurement representing the atmospheric warming potential of greenhouse gases. This is done in relative terms to the equivalent amount of carbon dioxide needed to produce that same effect, generally over a 100-year time window. For instance, one tonne of methane (CH₄) has a global warming potential equivalent to that of 28 tonnes of carbon dioxide. Thus, the emission of one tonne CH₄ into the atmosphere is equivalent to that of 28 tonnes of CO₂ (28 tCO₂e).

F-gas (fluorinated gas, aka. fugitive emissions)

Fluorinated gases are used as refrigerant fluids within air conditioning units, heat pumps, and refrigerators. When released into the atmosphere, these gases have a much stronger greenhouse effect than carbon dioxide (CO₂). That is why their use is strictly regulated and any equipment F-gas leaks, known as fugitive emissions, are monitored and reported (in Scope 1).

Full time equivalent (FTE)

Unit used to measure team size in terms of annual worked hours. One FTE equals one team member working 40 hours a week over the whole financial year. For instance, one part-time worker doing 20 hours of work per week equals 0.5 FTE. One person working full-time for 9 months equals 0.75 FTE.

Greenhouse gas (GHG)

Any gas that when released into the atmosphere contributes to the accumulation of heat, typically by absorbing longwave infrared radiation while being transparent to the visible spectrum of light.

Greenhouse Gas Protocol (GHG Protocol)

Is a globally recognised set of standards and tools used to calculate greenhouse gas emissions (also known as **carbon emissions**) of companies and organisations across their operations and value chain.

Emissions Scopes (see Fig.1)

Within the GHG Protocol, emissions are split into three main scopes:

Scope 1 (Direct emissions)

Considers the direct release of greenhouse gases within the reporting entity's premises or vehicle fleet. This encompasses combustion of fossil fuels (e.g., gas boilers or hobs), internal combustion engines (e.g. fuel burned in cars or trucks), or fugitive emissions of refrigerant gases (e.g. within air conditioning units or refrigerators).

Scope 2 (Energy-related emissions)

Account for the carbon emissions associated with the production of the energy purchased and used by the reporting entity, typically electricity, heat, or cold (e.g. in district heat networks).

Scope 3 (Indirect emissions)

Also known as **value chain emissions**, this scope accounts for indirect emissions resulting from our decisions to buy/hire/use products and services (upstream) as well as emissions resulting from the use and disposal of products/services provided by us (downstream). Scope 3 emissions are split into 15 categories, encompassing a wide range of emissions sources from purchased goods, to business travel.

Market-based, location-based

These are the two distinct ways to account for the carbon content of purchased electricity (Scope 2). Location-based considers that purchased electricity's carbon content is that of the local/national grid's annual average. Conversely, market-based accounts for the lower embodied carbon in the purchasing of REGO-backed electricity produced from renewable energy sources.

Net-zero carbon/emissions

We take the definition of net-zero to mean that, first, all efforts to reducing emissions have been effectively put into practice and that, then, any residual emissions are offset by high-quality programmes for avoidance of emissions or for long-term removal of CO₂ from the atmosphere.

Value chain emissions

See Emissions Scopes (Scope 3)

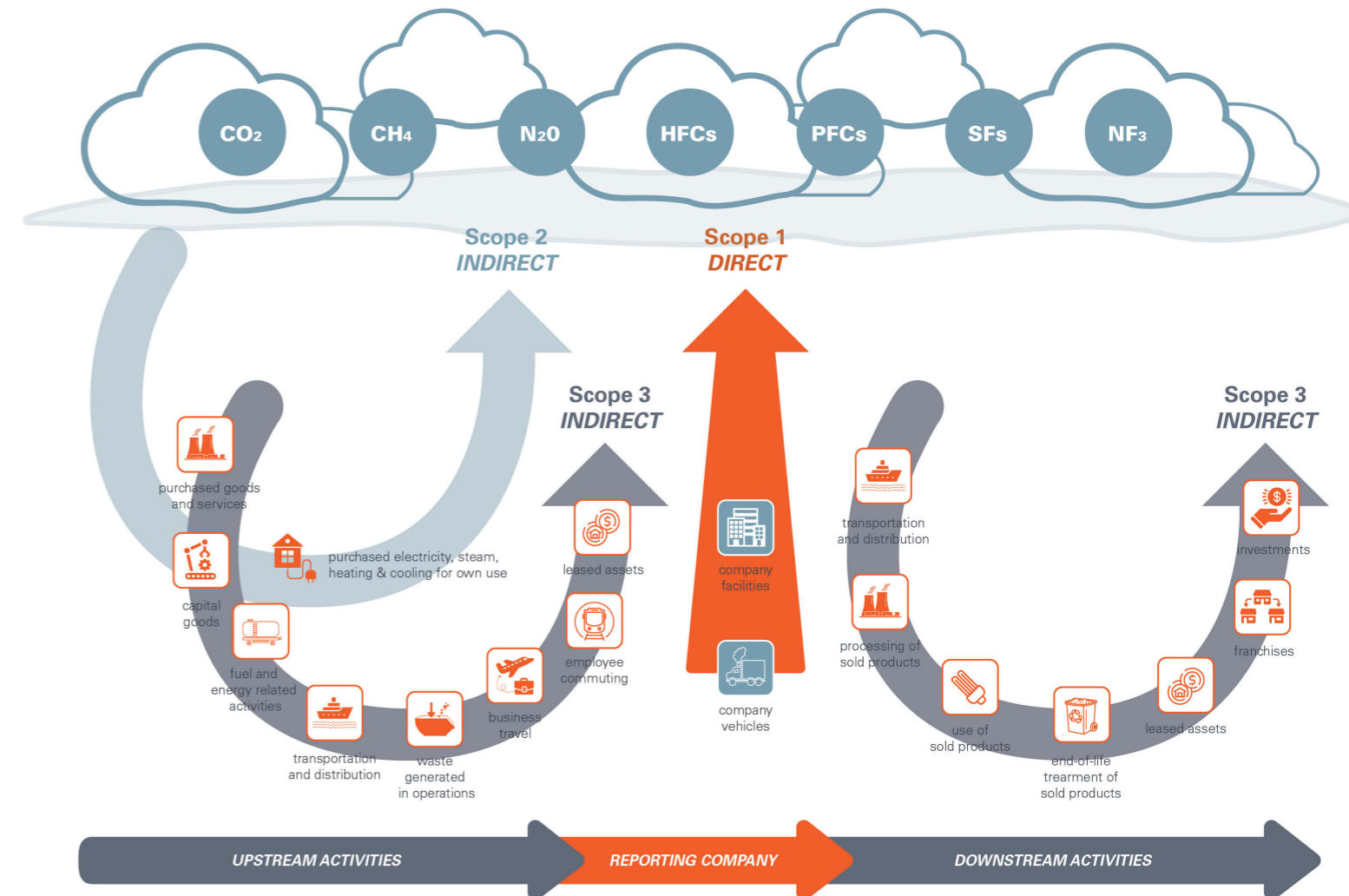


Fig.1 - Overview of GHG Protocol scopes and emissions across the value chain

1. Introduction

dRMM are radical makers of environmentally responsible, socially useful architecture. These values have been firmly embedded in our DNA since dRMM's foundation. It is increasingly important to address sustainability with even greater focus and critical appraisal, in view of the twin climate and biodiversity crises we face and the deepening social inequality worldwide.

dRMM are committed to doing our part in the necessary decarbonisation effort, alongside supporting a just transition and biodiversity restoration in all that we do. As architects and makers we know our impact is significant, with our role in the built environment contributing to substantial use of resources, and carbon emissions, both now and long into the future.

We are founding signatories of Architects Declare, initially via our UK studio and more recently joining as signatories of Architects Declare Deutschland, making this commitment for our Berlin studio. We signed up to the RIBA 2030 Climate Challenge in 2020, targeting these metrics in our current work pipeline. While our impacts as a business are relatively small compared to the impacts of construction, we still believe it is important to monitor and reduce these, fostering a culture at work where we challenge ourselves to do better in even the seemingly smallest decisions we make day to day.

We believe it is vital to share our journey towards these goals on a regular basis, with transparency and humility. We update this report on an annual basis and keep expanding its scope, in line with industry best practice and priorities. We hope that it may be useful to others, wherever they are on their journey.

We recognise that, as knowledge around the climate crisis is constantly evolving, our sustainability ambitions must grow and adapt accordingly.



Context

As an architecture studio, dRMM has a hugely influential role in shaping the future of the built environment. Given the significant impact our sector has on the planet, we have the power and responsibility to make a real difference by designing better buildings. This is achieved by ever-improving design practices, supported by continuous performance assessment of project outcomes.

In addition to our projects' impacts, we are also responsible for all direct and indirect emissions in our value chain and throughout all our daily operations. In line with the UN's Race to Zero, of which we are signatories through the SME Climate Hub initiative, we are committed to reducing our business operational emissions by 50% before 2030, and achieving net zero carbon emissions by 2050.

This report is an important element in critically assessing our impacts, and leveraging knowledge to implement gradual improvements towards full decarbonisation of our operations.

It encompasses two technically independent businesses, namely, dRMM Studio London, registered in the UK in 1995 as dRMM Ltd., and dRMM Studio Berlin, registered in Germany in 2021 as dRMM GmbH. This is because their ownership is shared and operations are so connected.

Compiled data and accounting rules follow the recommendations and best practices set by the Greenhouse Gas (GHG) Protocol and encompass Scopes 1 and 2, as well as all materially relevant Scope 3 categories (namely, 1 to 3 and 5 to 7). All calculations were performed within the xTonnes platform*, assigning levels of confidence to all input data. The platform uses these to calculate the ranges of uncertainty, and provides estimates for any missing data based on general business indicators and facilities descriptors.

* Available at www.xtonnes.com

About Us

dRMM is an international studio of architects and designers founded in 1995 and led by directors Alex de Rijke, Philip Marsh, Sadie Morgan, Jonas Lencer, Saskia Lencer, and Judith Stichtenoth.

We are a medium-sized studio with two premises, one in central London (in a Victorian-era building near London Bridge Station) and one in Berlin (occupying a co-working space). During the period assessed, we had a global team of 45 people.

Our studio is known for creating architecture that is innovative, high-quality, and socially useful and has won numerous awards for our buildings, including the RIBA Stirling Prize in 2017 for Hastings Pier. Our projects range from urban design scale to individual buildings for private clients. We work diversely with local authorities, charities, schools, and developers, and have been prolific in housing and education sectors. In recent years, our portfolio has increasingly included light industrial, co-location and mixed-use projects.

dRMM's design is concept-led and does not follow a house style. We collaborate with clients to define briefs and develop design responses, understanding the essence of a place, cultural influences, and the local community whilst always keeping environmental considerations at the forefront of our work. Our close-knit team offers conceptual clarity and originality, with design that is consistently informed by sustainable construction methods and associated research.

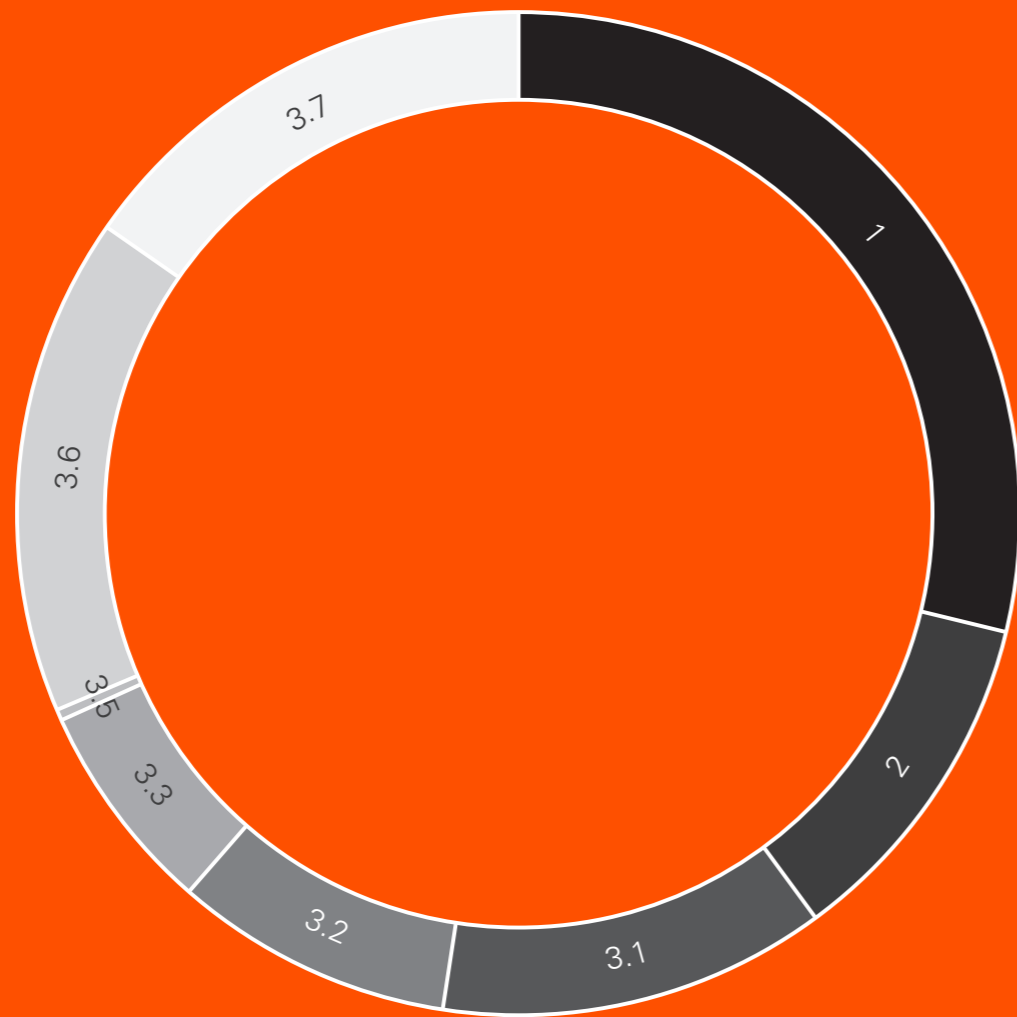
Since its formation, dRMM has been a pioneer of engineered timber construction and has always championed research and application of sustainable construction materials. As the studio has matured, our research focus has broadened to cover national forestry management and timber products, measuring mass timber, and the development assessment methods for determining quality of life.

In May 2019, dRMM joined 16 other RIBA Stirling Prize winners as Architects Declare signatories, signing an open declaration in the wake of a global climate and biodiversity emergency. In doing so, the studio announced a commitment to positive action against the twin crises of climate breakdown and biodiversity loss. As such, dRMM works in pursuit of regenerative design and strives to calibrate our technical reviews, design crits, quality assurance processes, BIM and computational design toolkits in line with our sustainability targets. The studio promotes both the RIBA 2030 Challenge objectives, as well as the LETI Climate Emergency Design Guide as targets for all new projects. In 2023, dRMM became B-Corp certified.



dRMM demonstrating in the Global Climate Strike

2. FY23 Emissions



1	Burned gas (heat) & f-gases	28.8%
2	Consumed electricity	11.1%
3.1	Purchased goods and services	12.5%
3.2	Capital goods (computers)	9.0%
3.3	Energy losses (transm. & distrib.)	6.8%
3.5	Solid wastes and wastewater	0.4%
3.6	Business travel & hospitality	16.1%
3.7	Commuting and WFH	15.3%



Project sustainability review

Fig.2 - Split of dRMM's FY23 emissions by scope and category

Analysis and Discussion

dRMM's value chain emissions were 53 tonnes of CO₂-equivalent in FY23 (Fig.3)*. Most of these emissions (around 60%) came from indirect sources in our value chain (Scope 3), while the rest (about 40%) came from direct sources (Scopes 1 and 2) (Fig.3). In the baseline year (FY20), those proportions were slightly more balanced, 56% indirect and 44% direct emissions. This suggests a gradual change in our emissions profile as part of our decarbonisation initiatives, showing relatively more substantial reductions in direct emissions (scopes 1 and 2) than indirect (scope 3).

The effects of the 2020-2022 global pandemic are evidently impacting our emissions during that period. Even our baseline FY20 is likely to be an underestimate compared to pre-2019 "normal" emissions. As expected, the biggest impact is seen in FY21 with a year-on-year reduction of 17%. While our office was partially operational during this period, the absence of business travel and significant reductions in purchased goods and commuting was only partly compensated by extra emissions from remote work. Building-related emissions (electricity, gas and fugitives) didn't see substantial reductions.

As 2020-2022 did not reflect normal business operation for dRMM it is more prudent to take 2019-2020 (FY20) as the baseline year, it being the first and last year of regular operations for which data is available. The period of 2022-2023 (FY23) thus constitutes the first year of returning to full scale regular operations. When compared to the baseline year, total emissions were 21.6% lower. This equates to an absolute reduction rate of 7.2% per year. Were this to remain at the same level in the future, it would lead to over 79% in absolute emissions reduction by 2030, surpassing our UN Race to Zero reduction goal of 50%.

In 2021 the Berlin studio was established, further adding emissions from both set up and operations. It also contributed to the observed 18% growth in global team size over the past three years (or 6%/year). Normalising to full-time equivalent (FTE), our emissions were 1.78 and 1.18 tCO₂e/FTE, for FY20 and FY23, respectively. This represents an improvement of about 38%/FTE (or 11.3%/FTE per year), showing great progress in our operational decarbonisation efforts.

We have also made progress in enhancing the quality of our collected data, which reduces the uncertainty in our analysis. Previous estimates had an average uncertainty of +/-40% for the first three reporting years, but we have

improved our data collection methods and achieved an estimated uncertainty of +/-15% for FY23 (as determined by xTonnes platform algorithms)†. This greatly increases confidence in the accuracy of our impact measurements, and will improve future assessments and comparisons. Our aim is to continue improving data quality as well as streamlining data gathering.

Scope 1 - Direct emissions

dRMM's direct emissions come from two main sources, both in the London Studio: fluorinated-gas leaks from refrigeration equipment, and natural gas burning for heating (Fig.5). Cumulatively, they represent 29% of our emissions. There are no air conditioning machines in the Berlin studio and heating is provided by a wood biomass boiler. So, with the exception of emissions from transporting that biomass, Berlin's Scope 1 is near zero.

According to xTonnes, F-gas leaks (fugitive emissions) are estimated at 12% of FY23's total. This estimate is derived from generic information about the number and size of fridges and air conditioners we have, and, as such, is inherently imprecise. The estimated +/- 99% uncertainty range means that actual emissions could be anywhere between near zero and near double. We believe our emissions are likelier to be lower, since the equipment we have is factory-sealed and maintenance has not found any leaks recently. However, until we have more robust data, we are conservatively reporting the average estimate to follow industry standard practice.

Space heating (around 17% of our estimated emissions in FY23) is another area for which we have poor data. There is only a single gas meter for the whole building, so our estimate is proportional to our occupied area. This inherently assumes our consumption is about average for the whole building, which is questionable. Furthermore, we have little control over the system we use, other than adjusting set-points, and little agency to make improvements to the thermal performance of our studio, which includes large single-glazed panes and no thermal insulation.

Both of these emissions sources are contributors to our wish to relocate to new premises in the near future, where we can finally tackle them effectively.

† While we appreciate the usefulness in having a representation of the inherent uncertainty to these calculations, it must also be acknowledged that we have no idea how xTonnes' algorithms work, thus suggesting some caution and healthy scepticism. We may revise this in the future.

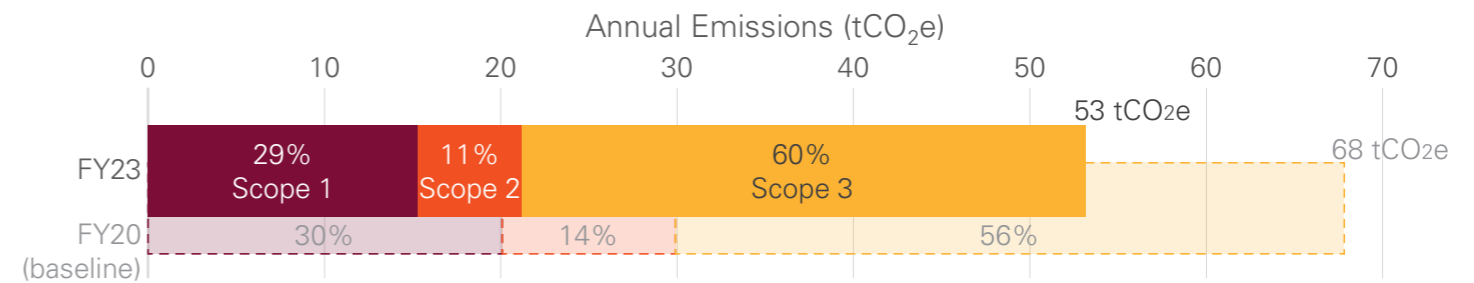
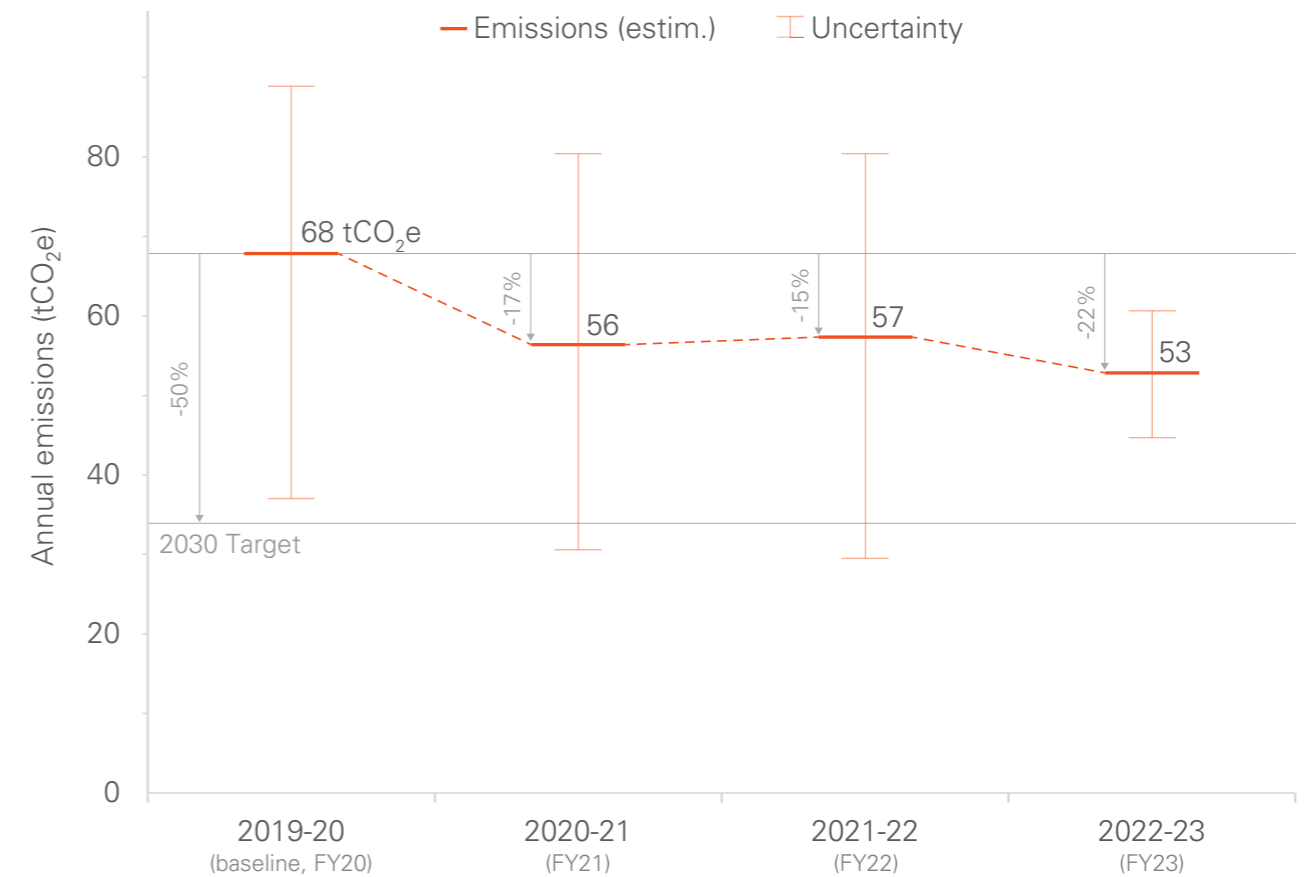


Fig.3 - (Top) dRMM's annual emissions since 2019 and respective estimated uncertainty ranges (as determined by the xTonnes calculator)

Fig.4 - (Bottom) Annual emissions by GHG Protocol scope, comparing 2022-23 (FY23) to the baseline year (FY20)

* Further data and details available under methodology and detailed results sections, in Appendix.

Scope 2 - Electricity consumption

Despite having no smart metering in our London studio, monthly readings and records provide a high level of confidence. In FY23, electricity consumption was responsible for 10.7% of our total emissions. This is a reduction of 42% compared to FY20. This figure is composed of two parts: 22% is from actual consumption reduction (as measured by the meter), while the other 20% comes from the UK grid's decarbonisation between 2019 and 2023.

Three main actions helped reduce electricity consumption:

1. Shifting computation to Microsoft's Azure virtual machines and replacing local, inefficient workstations with low-power, energy-efficient mobile devices;
2. Gradually phasing out the use of in-house server (replaced with a more efficient cloud-hosted server.)
3. Hybrid work policies, allowing team members to work from home for up to two days a week;

We buy all our electricity from Ecotricity, who guarantee that their whole production comes from REGO-backed renewable energy sources, that they are constantly expanding their renewable capacity, and that they are actively campaigning for the end of fossil fuel use. However, we are taking a conservative approach in our reporting and still using the national grid's carbon factor to calculate our electricity emissions (i.e., location-based reporting).

The Berlin studio has substantial photovoltaic production capacity which was able to cover over 90% of electricity use over the year, resulting in the very low emission of 21.5 kg of CO₂e for Scope 2 in FY23. This is all the more impressive considering that Germany grid's carbon intensity was more than double the UK's in 2022.

Emissions from energy transportation losses (scope 3.3)

Transportation and distribution of both natural gas and electricity have inherent losses and these corresponding emissions are accounted for in Scope 3 Category 3, according to the GHG Protocol framework. In FY23, these indirect energy-related emissions amounted to 3.6 tCO₂e (6.7% of the total).

Overall, estimated emissions associated with heating, cooling and powering both our studios are very close to 25 tCO₂e/year, or about 46.4% of the total.*

* This encompasses Scopes 1, 2 and 3.3.

Scope 3 - Value chain indirect emissions

GHG Protocol indirect emissions (Scope 3) represent the impacts of our operational decisions and consumption of products and services resulting in carbon emissions through other entities. As a small/medium services enterprise, only a subset of Scope 3 categories are material to our carbon assessment. These include: purchases (categories 1 and 2), energy-related losses (category 3, discussed previously), waste streams (category 5), business travel (category 6), commuting and remote work (category 7).†

The main source of Scope 3 emissions in FY23 was business travel (category 6). With international travel resuming after the pandemic, and the opening of the Berlin studio, this is again a significant part of our emissions, at over 16% of FY23's total. The biggest component (70%) is flying, with most of it (over 83%) related to travel between London and Berlin. On the positive side, emissions from flights are about half what they were in FY20, with some of that travel shifting to rail with lower carbon emissions overall. This resulted in a net reduction of just over 31% in emissions from business travel.

Purchased goods and hired services (category 1), account for another 12.6% of FY23's total emissions, with a large majority of this (87%) coming from hired services, namely, cloud computing and storage, insurance, ICT, accountancy, cleaning, health & safety, legal, and professional consultants.

Emissions for the Azure virtual machine service have been calculated using Microsoft's specific calculator, providing a highly precise estimate. It shows that our use of the service in FY23 accounted for 1.05 tCO₂e. It can be argued, that this has enabled the saving of 4.15 tCO₂e in electricity, thus tentatively confirming the net benefit from moving to this cloud infrastructure.

Conversely, replacing inefficient hardware with more efficient mobile devices required significant investment, with corresponding emissions that result in the observed 2.4x increase in emissions for capital goods (category 2).

† The reporting of operational and embodied carbon metrics for completed projects, as part of Category 11 has recently been an evolving topic of discussion in the industry. The most recent UK GBC draft publications suggest not including this as part of our value chain emissions, but disclosing it separately. dRMM are keenly aware of the vastly larger carbon emissions related to the construction and operation of the buildings we design, and we endeavour to reduce their environmental impact.

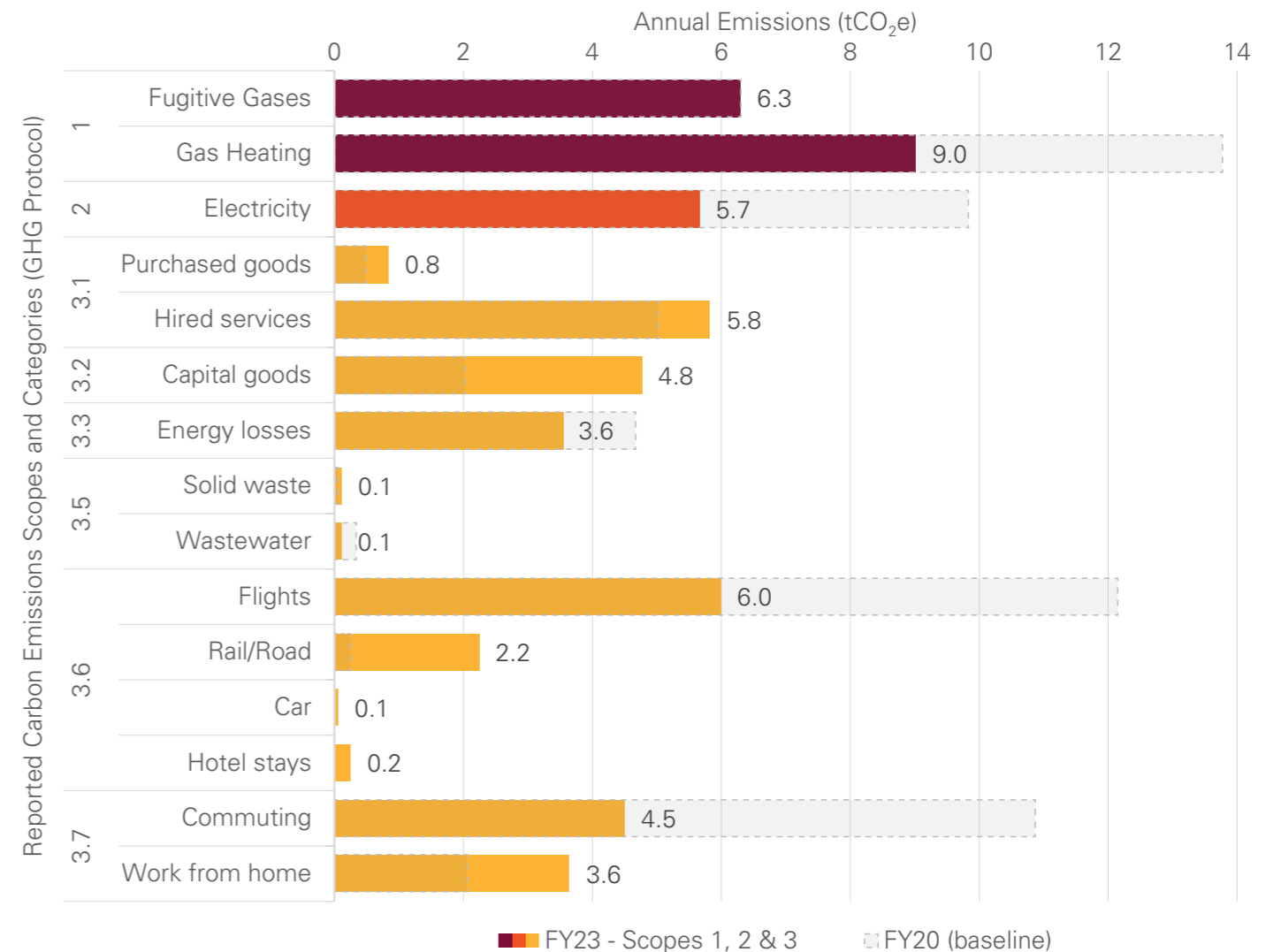


Fig.5 - FY23 annual emissions (compared to FY20, in light grey), by GHG Protocol scope and category of emissions

Yet, all these extra emissions have already been mostly offset by the savings in electricity in FY23 alone. Further benefits, such as increased flexibility in working location, less material resources and e-waste in the machines and lower energy demand when working remotely are also likely, even if not strictly measurable.

Another major change retained post-pandemic is a degree of remote working, with a typical team member now working two out of five days remotely. This helped reduce commuting emissions by more than half when compared to pre-pandemic FY20, but almost doubled working from home emissions. These two sources of emissions account for about 15% of the total in FY23, which is comparable to the entire emissions for business travel. Our offices are located in dense urban areas with easy and plentiful access to public transport. Internal survey results reflect exactly this, showing that over 75% of commuting distance is done on public transportation (rail, tube and bus). The remaining 25% is either cycling or walking.

Other items, like solid waste, wastewater treatment, car travel, and hotel stays are marginal, cumulatively adding up to less than 1% of our total emissions.

London and Berlin studios

dRMM's Berlin studio has been growing since its inception in 2021. During FY23, it accounted for close to 9% of dRMM's workforce.

By a very wide margin business travel, in particular flights between London and Berlin, accounted for the largest portion of emissions at close to two thirds of the total (Fig.6). This is unsurprising, as during this period senior management had to be physically present for project and management tasks in both studios. With the Directors of both studios living in London, frequent travel for business operation and project reasons is currently inevitable.

Flying has been preferable on many occasions, due to speed and cost compared to rail alternatives. Hopefully, as the Berlin studio becomes more established, the need for travelling will reduce. Furthermore, convenient and cheaper options for lower-impact travel, such as overnight sleeper trains, are becoming more available, opening the potential to travel by rail without impacting people's schedules to the same extent as an all-day train journey.

All emissions related to travel between our two studios have been attributed to Berlin because they are a direct result of having established that studio and for the purpose of administering Berlin's projects. This means

business travel accounts for nearly 72% of all this studio's emissions. It further shows why we prioritise assessing our overall emissions across studios, as discussed in the previous pages, to make it a more balanced review of our environmental performance.

The Berlin studio occupies fairly modern co-working spaces which helps explain why some of the emissions categories are so low, in particular energy use, representing only 1% of emissions. It should also be noted that the studio moved premises at the end of the FY23 assessment period, with different conditions and energy systems, the carbon efficiency of which will become apparent in the next report update.

With low emissions from energy use, Berlin's other major emissions result from purchases of goods, services and equipment, particularly IT/cloud services and work terminals (Microsoft Surface devices). These two categories account for about 22% of the studio's emissions. This is a result of the team size doubling in the last year, and it is expected that these will be investments, minimising emissions in the long term.

Commuting and remote work account for the final 5% of emissions.

As the Berlin studio has become more established this year, we are looking to make FY23 the baseline year for assessing its future reductions strategies. This allows better comparability and assessment of targeted initiatives, avoiding muddling results within the overall practice.

Representing 86% of total emissions, the analysis for the London studio is not significantly dissimilar from the one done for dRMM as a whole. Heating and energy used in the studio take a higher proportion (47% vs 41%), purchases stay essentially the same (30% vs 29%), and business travel and commuting/WFH take a lower percentage of the whole (25% vs 30%). Overall, the analysis and discussion presented above is applicable to both studios.

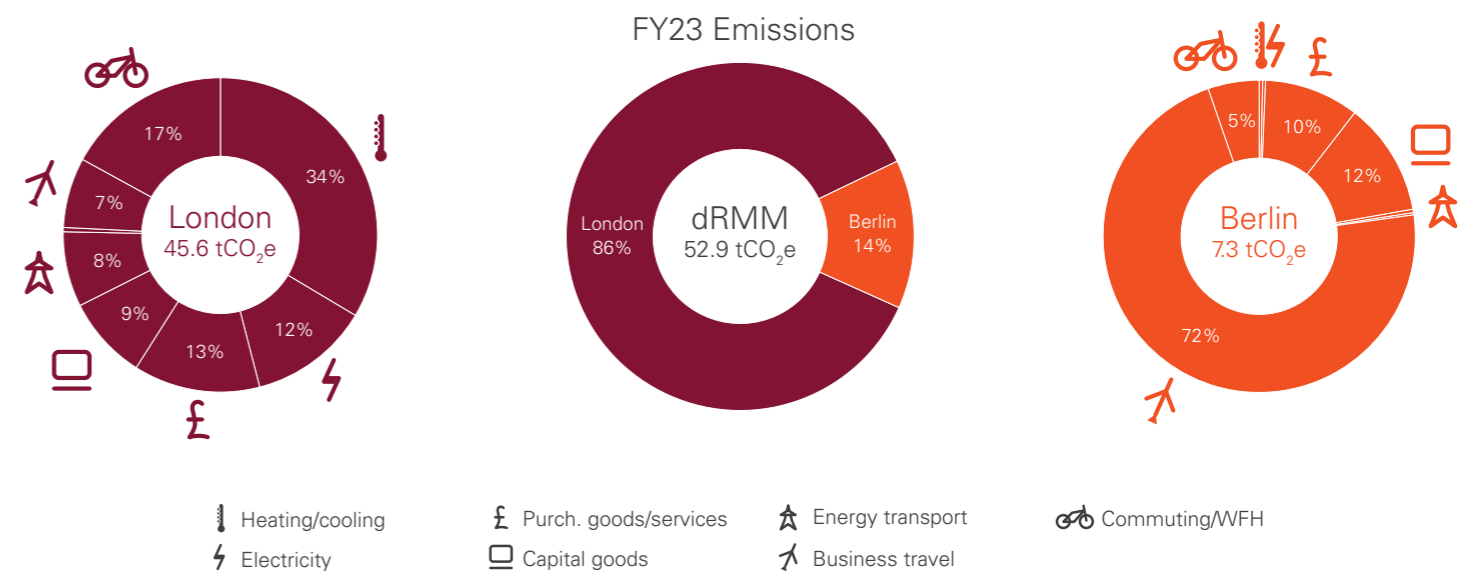


Fig.6 - FY23 emissions for our London and Berlin studios

3. Action Planning

○ START

WE ARE HERE! ○

○ INTERIM TARGET



Target setting

dRMM signed up to the SME Climate Hub in 2019 and, consequently, have pledged to achieve UN's Race to Zero decarbonisation targets. We are still committed to these objectives, namely:

1. By 2030 - reduce overall emissions by half from a baseline year of 2019;
2. Before 2050 - achieve net-zero carbon.

In previous years, dRMM's carbon audits (conducted with Carbon Footprint's help) considered a smaller scope, and thus did not capture all our emissions. For instance, for 2019-20, dRMM's emissions estimate was 40.7 tCO₂e, and ignored Scope 1 fugitive gases, and Scope 3 purchased goods, hired services and capital goods. Having since then transitioned to the xTonnes calculator and having taken ownership of the accounting process, a full revision of past estimates was made possible. This sets a more robust, comprehensive and faithful methodology and understanding of our operations' environmental impacts. So, the emissions' baseline for FY20 has been revised to 67.8 tCO₂e, consistent and in alignment with the most recent methodology. The 2030 commitment for 50% reduction still stands, at 33.9 tCO₂e.

The simplest way to reach these targets would be to reduce overall emissions by a set amount each year. This means following a linear trajectory reducing emissions by a fixed 3.4 tCO₂e annually. We believe this not to be the best approach initially.

Instead, we are committing to a fixed effort strategy, reducing yearly emissions by a fixed rate (Fig.7). To achieve 50% reduction by FY30, emissions need to be reduced by approximately 6.7% every year. For instance, this strategy requires a reduction of 4.5 tCO₂e in the first year, significantly more than the linear trajectory. This puts emphasis on upfront improvement, where most "low-hanging fruit" options can be explored, while also ensuring a constant and reasonable effort throughout. We call this the period of consistent effort.

Past the 50% mark, this strategy starts bringing diminishing results and would not lead us to a near-zero carbon overall emissions by 2050. We thus switch to a strategy of constant reduction of 1.6 tCO₂e per year, until 2050. This means that, percentage-wise, every year becomes harder and harder. We feel this is feasible mainly due to the help from external market drivers and technology developments, such as grid decarbonisation, full electrification of our operations, lower carbon emissions for purchased products, services and capital goods, low-carbon transportation, etc.

We are also leveraging Science-Based Targets Initiative (SBTi) best practice, in setting a reference reduction trajectory for Scopes 1 & 2. This is modelled using their Buildings Target-Setting Tool and defines the path our studios' Scope 1 and 2 emissions must follow to keep in line with 1.5°C global warming limits. We take the remaining budget (below our target curve) to cover the entirety of our value-chain indirect emissions (Scope 3). We are considering setting out validated Science-based targets in the future, to ensure we are not only achieving UN's Race to Zero targets but also following a trajectory consistent with keeping global warming below 1.5°C.

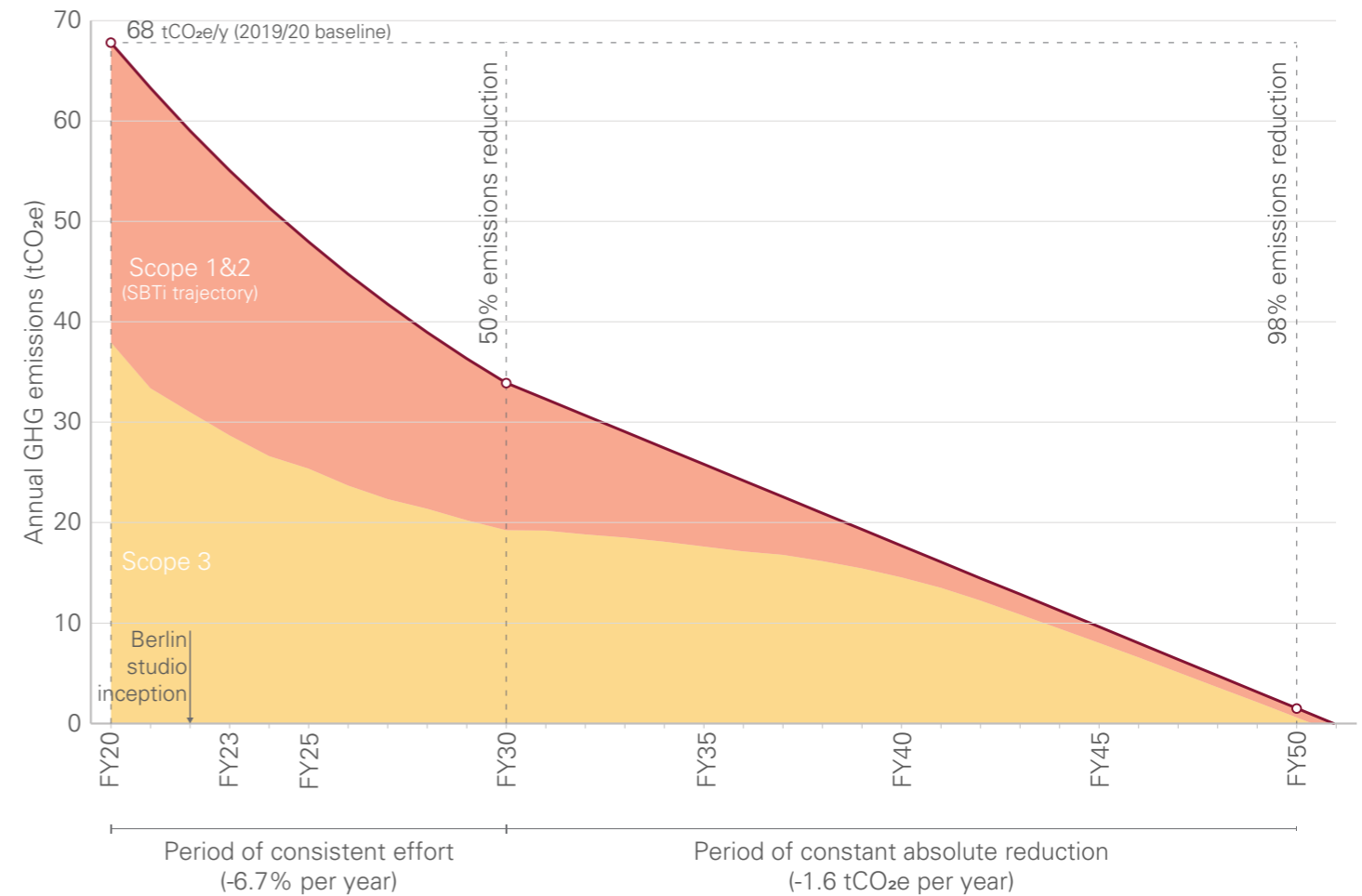


Fig.7 - Long-term carbon emissions reduction curve for dRMM, setting the path to achieving 2030's and 2050's targets.

Performance tracking

dRMM have actively pursued and implemented actions to enable substantial emissions reductions since our baseline set in FY20. Comparing how we're performing against the long-term target curve shows how successful these have been (Fig.8). Despite Scope 3 emissions being 11% above target, total annual FY23 emissions still overperformed by 4%.

Over the past couple of years, long term business goals have been set for the next decade, aiming to create flexible, mixed-mode ways of working, establishing an international presence, and generally growing our team and capacity. We made one-off investments in hardware upgrading, enabling cloud-centred work with the use of upgraded laptops allowing flexible and efficient ways of working. This increased capital goods emissions in FY23 (Scope 3, category 2), but is expected to bring enduring benefits and lower emissions over the longer term.

Furthermore, international presence and team growth, actioned by establishing the Berlin studio in 2021 and increasing overall headcount by over 18% since FY20, brought added pressure on emissions. Until the Berlin studio is more autonomous, senior management covering both studios will keep requiring a high level of business travel (Scope 3, category 6). And while marginal emissions' cost per additional team member does not stack up linearly, it still creates more demand for energy, goods, services, travel, commuting, etc.

Despite all these challenges making Scope 3 emissions overshoot their target in FY23, total emissions have been consistently below the target curve, and have cumulatively overperformed by 10.8 tCO₂e against our carbon budget (or 4.6% better than our target trajectory). Over 85% of these cumulative savings in emissions came from Scopes 1 and 2 (direct emissions and electricity use). The >30% reduction in electricity use, in particular, has been identified as a case study and recognised as an exemplar to other businesses within the Team London Bridge Business Improvement District.

Relative to team size, emissions went from 1.78 tCO₂e/y per FTE in the baseline year, to 1.18 tCO₂e/y per FTE in FY23. This represents an absolute reduction of 34.2%/FTE since FY20, or about 11.4%/FTE per year.

While this performance is great to see, particularly in light of the added strain created by operational expansion and required one-off investments, we also recognise this is only the beginning of a challenging journey. Most of the management decisions recently made take a long-term perspective, setting a robust vision and set of goals that are aligned with a fully decarbonised future dRMM. This also means FY23 presents a more realistic representation

of where dRMM wants to be as a business in 10 years, making it a particularly crucial point for assessment and setting renewed goals and strategies for future improvement, as discussed in the next section.

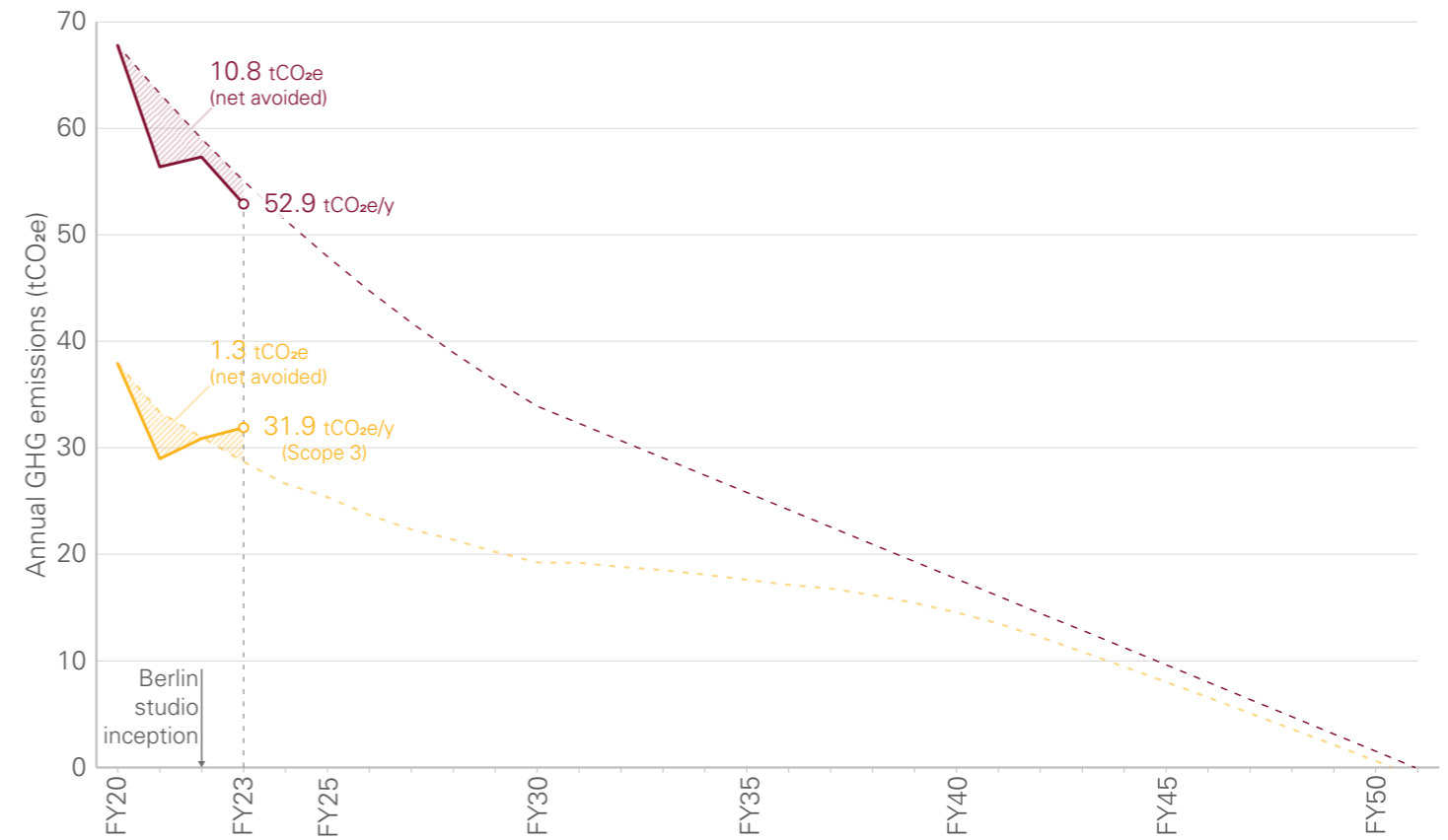


Fig.8 - dRMM's effective decarbonisation path since FY20 compared against our long-term commitment curve.

Initiatives and actions

One of the most impactful initiatives dRMM implemented last year was the shift of our computational power to cloud services, while simultaneously moving from old workstations to energy-efficient laptops. The purchasing of this hardware has also had an impact on emissions in the last year for both Berlin and London but we are already starting to see positive impacts, as demonstrated by the substantial reduction in electricity use. The move to cloud further reduced the need for a local server, which is being gradually decommissioned. This should add a sizable contribution to reducing our electricity consumption.

We do not have much control over the systems at our leased London studio, in addition to which there is limited access to data which is also of poor quality. There is minimal incentive to improving the energy and environmental performance of the premises. Not only does this Victorian building in a conservation area present challenging conditions but, as tenants, the return on investment would be hard to justify. With all this in mind we have sought to find premises where we have control and ownership of the environment, and therefore more incentive to make a long term investment into the space. This opens an array of possibilities that we are now assessing as regards the retrofitting of the new studio. Improvements we are targeting are:

- No fossil fuels in the new premises, electrifying our heating systems;
- Smart metering for electricity and actual metering of the water we use;
- Initially reusing HVAC systems in the building in case these are still within their useful service life, but considering replacing to lower GWP systems in the future (e.g., using CO₂ refrigerant);
- Considerate energy efficiency retrofit of the space, prioritising reuse and repurposing of materials found on site or in proximity, and balancing embodied carbon with performance improvements for any new materials used;
- Create flexible and adaptable work spaces favouring hot-desking and enabling layout changes to better meet operational needs in efficient ways;
- More and safer parking for light modes of transportation (not only bicycles but also mopeds and scooters, electrical or otherwise);
- Energy savings from improved building thermal performance and daylighting.

It is unclear how this move will impact business travel, commuting, access to good waste management companies, or low-carbon transportation/delivery services. We aim to reassess our progress as we revise this document every year, ideally supported by increased answer rates to the annual commuting survey.

The Berlin studio has also recently moved to new sublet premises (subsequent to this assessment period of this report). This may pose a challenge in terms of agency over the environment and its operations. The new studio is more centrally located, which should help reduce commuting emissions. Realistically, though, the large majority of Berlin studio's impact is related to business travel. Because of a lack of practical and economic low-emissions alternatives, travel is mostly through carbon-intensive flights. Recent developments suggest this situation may soon change with improved connections becoming available, making more regular train travel an effective option.

Working within a limited carbon budget, set for a specific size business, business growth may become a significant challenge. We aim to balance this by overperforming in other areas, delivering further reductions, and finding a balance that enables the business to grow while keeping within our decarbonisation commitment.

dRMM have recently become a certified B-Corp. Along many other positive social and economic drivers, it also sets out a useful framework for reducing carbon emissions, both in our operations and in our projects, while also rewarding initiatives such as collaborating with landlords to implement improvements to premises.

We are active members of the Team London Bridge Business Improvement District and Better Bankside, two initiatives aiming to bring collective action towards business decarbonisation within the Southwark borough. We actively engage with this eclectic group, composed of many different types of enterprises; sharing knowledge and experiences; providing support and resources; and demonstrating what the possibilities are to make effective change. As part of these initiatives, we also participate in the Mayor of London's Business Climate Challenge, sharing our energy reduction journey, and where we recently have been identified as a case study and exemplar to other businesses. Upon moving to the new premises next year, we aim to find similar local initiatives.

We have long been directly and indirectly engaged with industry groups and initiatives for built environment decarbonisation, from Architects Declare's inception, to LETI, UKGBC, IStructE, etc. We see this as an important part of our advocacy mission and responsibility.



The new London Studio space, being stripped out and materials being stored on site for potential reuse

4. Declaration & Sign-off

This Carbon Reduction Plan has been completed in accordance with PPN 06/21 and associated guidance and reporting standard for Carbon Reduction Plans.

Emissions have been reported and recorded in accordance with the published reporting standard for Carbon Reduction Plans and the GHG Reporting Protocol corporate standard and uses the appropriate Government emission conversion factors for greenhouse gas company reporting.

Scope 1 and Scope 2 emissions have been reported in accordance with SECR requirements, and the required subset of Scope 3 emissions have been reported in accordance with the published reporting standard for Carbon Reduction Plans and the Corporate Value Chain (Scope 3) Standard.

This Carbon Reduction Plan has been reviewed and signed off by the board of directors.

Signed on behalf of dRMM:

Jonas Lencer (Director)

13/Dec/2023



5. Appendix



Methodology

dRMM uses the xTonnes platform and calculation tool to evaluate all our emissions. This provides an initial simplified estimate for each emissions scope and category, with wide margins of error, and based on general questions about the business, for instance, number of full-time employees, floor area, number and type of vehicles, facilities, refrigeration equipment sizes, typical days per week commuting or working remotely etc.

From this very broad basis, more specific information can be provided to refine the estimates and reduce their margin of error. The more specific and good quality data one provides, the better the estimates. We do all our data gathering in-house, using the following methods and assumptions:

- Gas consumption (London only): is metered but there is only one meter for the whole building of six floors with spaces rented to multiple businesses. We assumed heating needs are approximately dictated by building fabric and should be reasonably comparable across all spaces. As such, we estimated our fraction of the consumption as being correlated to the ratio of internal office area of our studio versus all the building's rented floor area.

- Electricity: the London studio has multiple non-smart meters in use for our premises. These are checked on a monthly basis and the annual consumption estimated by the difference of all meter readings totalled at the end and beginning of each financial year. For the Berlin studio, there is detailed smart-metered data, and we assign energy consumption relative to the percent-area occupied in the co-working space.

- Purchase of goods and services (both studios): annual detailed accounts checked for all relevant transactions, including weekly groceries, cleaning supplies, paper, printer cartridges, electrical and electronic devices. Hired services have also been assessed as expenses, encompassing insurance, accounting, legal, cleaning, health & safety, and ICT support. Emissions for remote desktop and its ancillary services, provided by Microsoft's Azure platform, have been accurately accounted for using Microsoft's PowerBI tool specifically developed for this purpose.

- Capital goods (both studios): the only significant purchases in this category were laptops bought to replace workstations. These have been assessed as expenses, instead of the better option that would have been counting devices and converting those to emissions estimates.

- Solid waste (both studios): multiple waste streams are quantified by their respective collecting companies and reports have been provided.

- Water consumption: London is reported as billed, but consumption is unmetered, with the supplier company providing a monthly estimate that is always the same across the year. Berlin's metered water consumption is assumed proportional to co-working rented area. Wastewater is assumed the same volume as supplied in both studios.

- Business travel (both studios): specific travel distances, in passenger.km, calculated through detailed accounting of all airplane and rail travel. Other modes of transportation might require some estimation, e.g. bus and tube rides, assuming average travel distances per trip.

- Commuting (both studios): company-wide survey to all employees, with an answer rate of 60% (to be improved in the future). Results are estimated as passenger.km, per transportation mode, and extrapolated to all FTE. London and Berlin commuting is assessed independently but using same methodology.

- Remote work (both studios): same survey as the one used for commuting (see above), but xTonnes platform still does not allow for more precise data input. Estimate is done by the platform, based on number of employees and average days worked from home, per week.

Detailed results

Scope	Description	FY20 (baseline) (tCO ₂ e)	FY23 (tCO ₂ e)	Change FY23 vs FY20
1	Fugitive Gases	6.30	6.30	0%
	Gas Heating	13.8	9.02	-35%
2	Electricity	9.83	5.68	-42%
3.1	Purchased goods	0.48	0.83	73%
	Hired services	5.02	5.82	16%
3.2	Capital goods	2.02	4.77	136%
3.3	Energy losses	4.67	3.55	-24%
3.5	Solid waste	0.051	0.111	117%
	Wastewater	0.340	0.105	-69%
3.6	Flights	12.1	5.99	-51%
	Rail/Road	0.245	2.25	815%
	Car	-	0.056	-
	Hotel stays	-	0.249	-
3.7	Commuting	10.9	4.50	-59%
	Work from home	2.06	3.64	77%
Total		67.8	52.9	-22%

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