

CARBON REDUCTION REPORT

MARCH 2023

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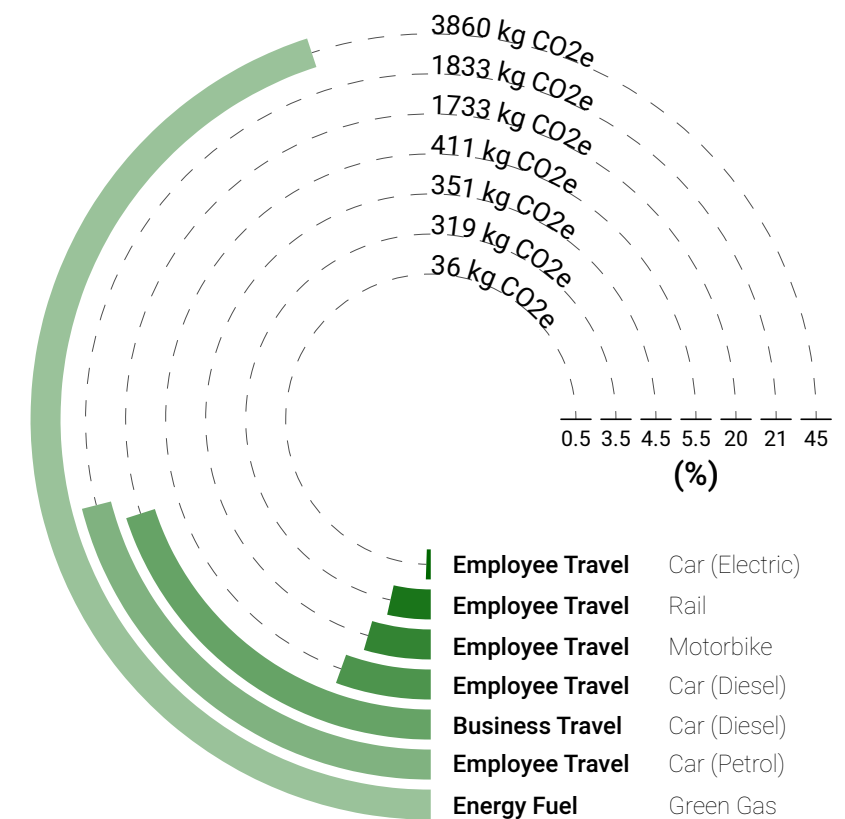
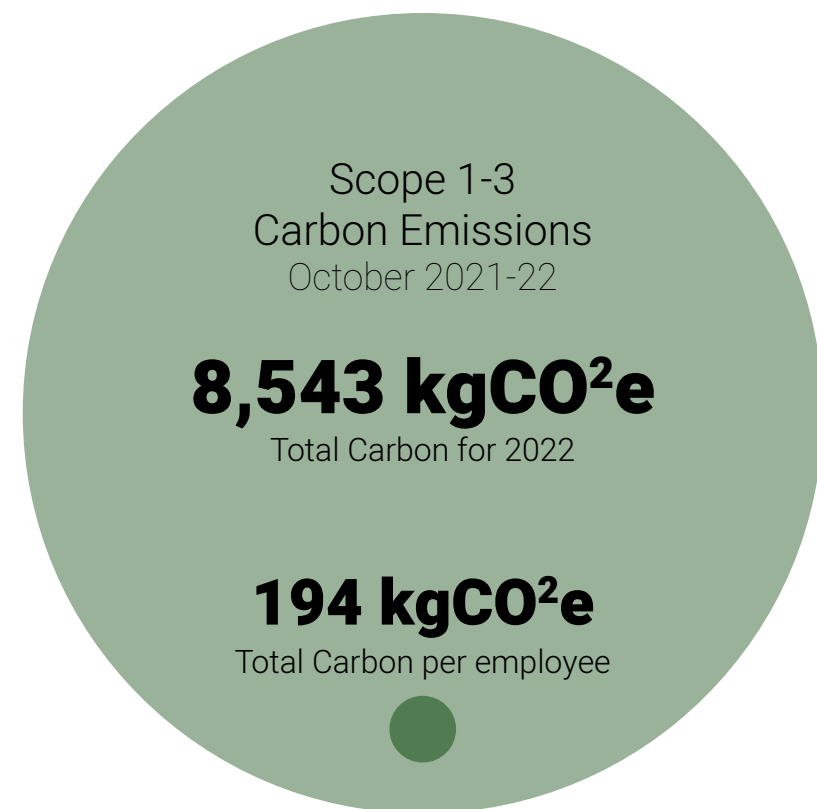
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CONTENTS

Introduction	4
Carbon Summary	5-6
Scope 1 Emissions	7
Scope 2 Emissions	8
Scope 3 Emissions	9
Carbon Offset	10
Conclusion	11
Appendices	12-13



INTRODUCTION

This document has been prepared by the **MAST Architects Carbon Reduction Team** to illustrate our internal carbon assessment and analysis process.

It provides an overview of our assessment method and carbon footprint as well as identifying areas of current and potential future improvement.

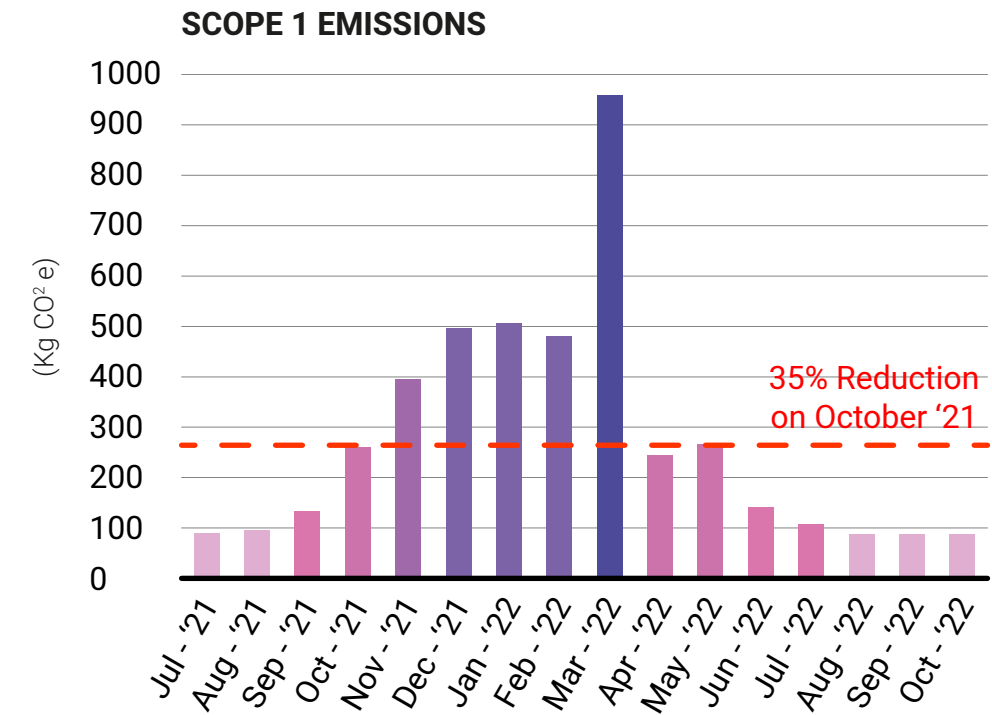
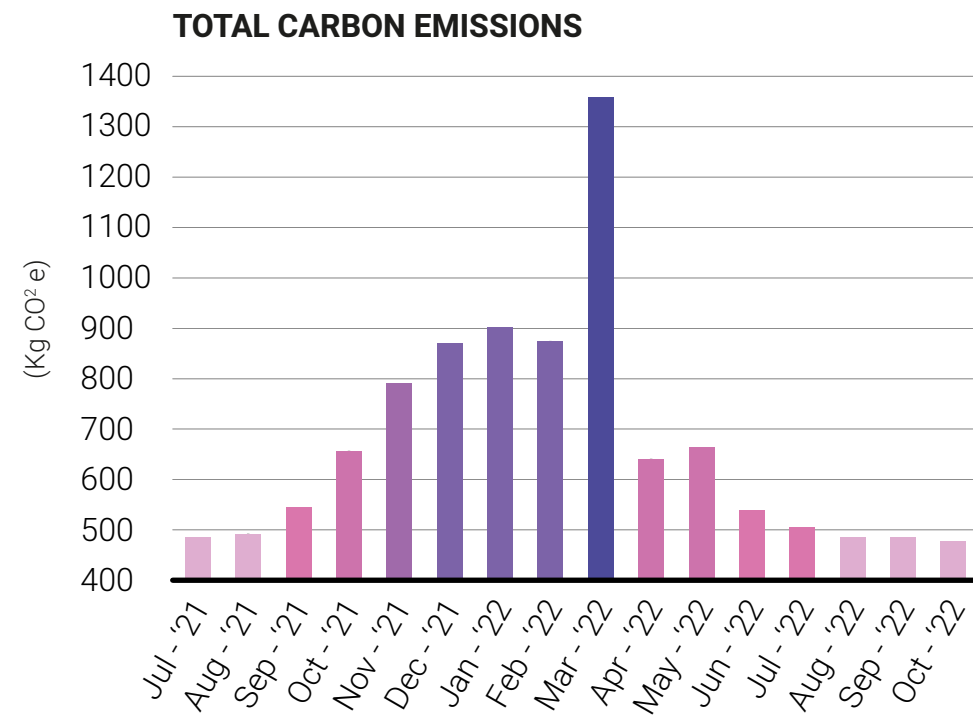
Our approach is guided by our commitment to support and adopt the aims and objectives of **Architects Declare**, a network of Architectural practices committed to addressing the climate and biodiversity emergency.

For further details, refer to Appendix A.

CARBON SUMMARY

Through this process we have gained an understanding of our carbon footprint and in turn our environmental impact.

By understanding the impact of our practice, we are able to consider actions and take steps to reduce our carbon footprint going forward.



CARBON SUMMARY

In September 2021 we began assessing our carbon footprint, initially utilising the *Carbon Trust SME Carbon Footprint Calculator*. This gave us a high-level insight into our **Scope 1 and 2 Carbon Emissions** and allowed us to establish our biggest contributors.

However, as we began to further analyse this information we established that this software does not provide a detailed enough picture.

At the start of 2022 we invested in the *CBN Expert Software* which has allowed us to more accurately calculate our carbon footprint, including the following;

- Energy Usage – Electric and Gas
- Business Travel
- Employee Travel
- Carbon Offsetting

Assessing each of these areas within the software has allowed us to establish a carbon benchmark for **2021/2022**.

This has also allowed us to establish which areas of our business are the largest contributors to our carbon footprint and thus are the most important to target.

SCOPE 1 EMISSIONS

Our **Scope 1 Emissions** (those created by heating our office) are the largest contributor to our footprint, and due to the Grade A listing of our office are the hardest to tackle. As expected, we see a significant increase in our **Scope 1 Emissions** during winter months.

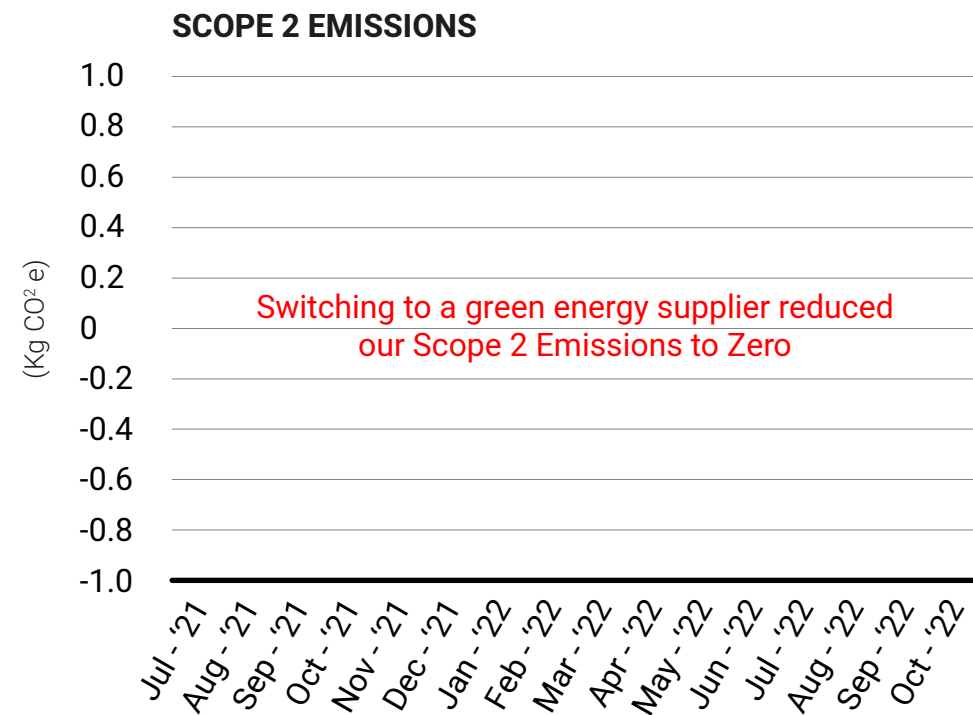
We have taken some initial steps to reduce our **Scope 1 Emissions**, including:

- Trial closure of our office to technical staff on Mondays to reduce heating demand. This has not had the impact on our demand as was anticipated, with the number of staff working in the office on Mondays remaining relatively high. Over the course of 2023 the office will be fully open for the entire week to allow us to determine whether there is a significant detrimental impact.
- Installing Hive technology to allow smart programming of boilers and radiators to optimise use in accordance with actual demand.

The next steps we can take to reduce our **Scope 1 Emissions** will be to review the building fabric and heating system, options currently under review include the following;

- Improving the loft insulation
- Insulated blinds or curtains
- Replacement of the existing gas boiler with either a hydrogen ready boiler or boiler with integrated heat pump.

These items are significantly more costly than the steps currently taken, as such they will be reviewed and if agreed their implementation will likely take place over a number of years.



SCOPE 2 EMISSIONS

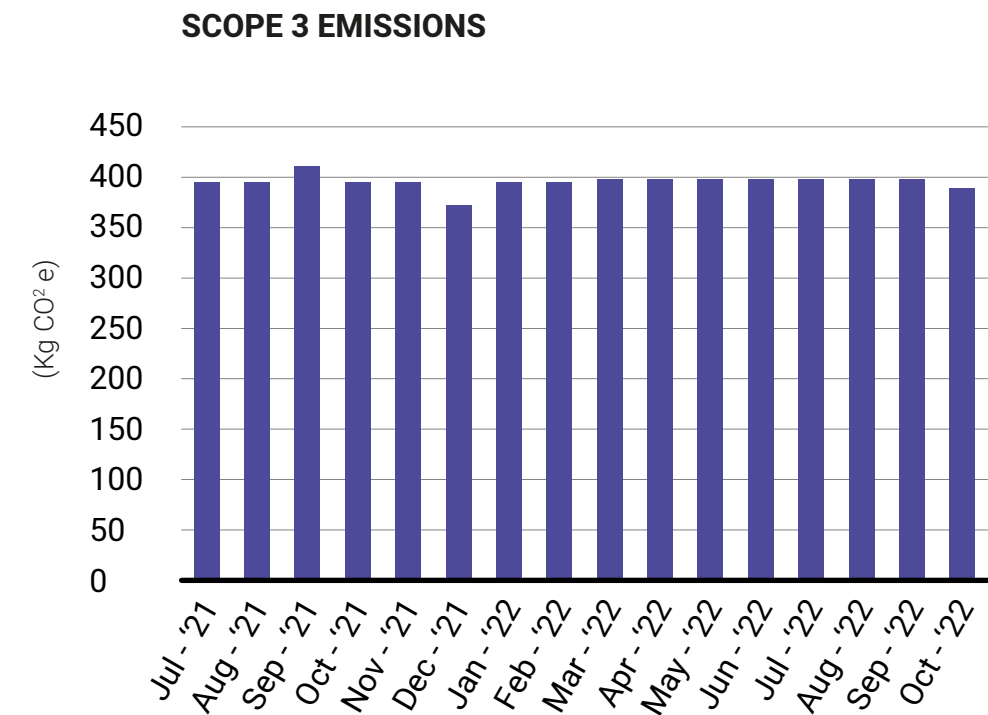
Our assessment established that our **Scope 2 Emissions** - electrical energy usage - were almost as high as those for **Scope 1**, albeit these could be addressed more easily. At the end of 2021 we switched to a carbon-neutral energy supplier (*Octopus Energy*) which has effectively reduced our **Scope 2 Emissions** to zero.

We recognised however that a reduction in our electrical demand would be beneficial, and have sought to address this through a package of measures:

- Installation of motion activated light sensors to ancillary rooms (kitchens, WCs and print rooms)
- Implementation of power-saving software to workstations, shutting down all computers automatically between 8pm and 7am
- Reducing the amount of powered office equipment.

A number of further steps remain under consideration, including:

- Installation of photovoltaic panels on the office roof
- Introducing a policy to stipulate the purchase of energy efficient computer equipment in future
- Introducing a paperless office



SCOPE 3 EMISSIONS

Although our business travel has dropped significantly as a result of the pandemic, the related **Scope 3 Emissions** remain under review. We have considered a number of steps to reduce these further, including:

- The adoption of an online meeting policy, encouraging the use of virtual platforms when possible
- Replacing existing office pool cars with electric models. However, this would rely on the current owner of our office car park installing an EV charging point. They are not willing to do so at the present time and as such this option is not being taken further.
- Utilising a car club facility to replace the current dedicated pool cars, using hybrid/electric vehicles only.



CARBON OFFSET

Although we can take meaningful steps to reduce our carbon footprint, it is not possible to reduce our emissions to zero. As an additional measure we have signed up as a **Silver Partner of Trees for Life**, a conservation charity who have planted nearly **two million trees** in the Caledonia Forest over the past 25 years.

We have made an initial donation to plant **200 trees** over the next year, offsetting some **4000kg of CO²** emissions.



Carbon offsetting can work alongside direct measures although we do not believe this is a suitable substitute on its own, and as a practice we will continue to examine practical routes to reduce our emissions further.

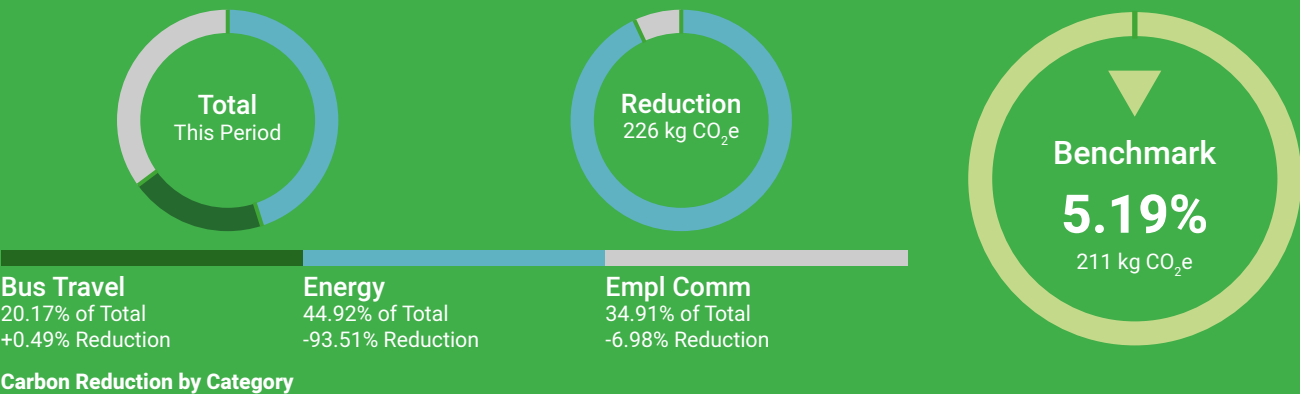


CONCLUSION

Since using the *CBN Expert Software* to establish a carbon benchmark for the office in *September 2021*, our emissions have reduced by 5.19%. However, we believe that our true reduction is greater than this in practice, with a number of measures already in use not being included within the benchmarking calculation.

We will agree a target for reducing the emissions of the practice over one, five and ten year periods as we aim to become a net zero business ahead of the *Scottish Government's 2045 target*.

Our emissions will be calculated and reported annually to quantify the impacts of our carbon reduction processes over time.



APPENDIX A

Architects Declare is a network of architectural practices committed to addressing the climate and biodiversity emergency.

MAST Architects are committed to and support **Architects Declare** and will seek to:

- Raise awareness of the climate and biodiversity emergencies and the urgent need for action amongst our clients and supply chains.
- Advocate for faster change in our industry towards regenerative design practices and a higher Governmental funding priority to support this.
- Establish climate and biodiversity mitigation principles as the key measure of our industry's success: demonstrated through awards, prizes and listings.
- Share knowledge and research to that end on an open source basis.
- Evaluate all new projects against the aspiration to contribute positively to mitigating climate breakdown, and encourage our clients to adopt this approach.
- Upgrade existing buildings for extended use as a more carbon efficient alternative to demolition and new build whenever there is a viable choice.
- Include life cycle costing, whole life carbon modelling and post occupancy evaluation as part of our basic scope of work, to reduce both embodied and operational resource use.
- Adopt more regenerative design principles in our studios, with the aim of designing architecture and urbanism that goes beyond the standard of net zero carbon in use.
- Collaborate with engineers, contractors and clients to further reduce construction waste.
- Accelerate the shift to low embodied carbon materials in all our work.
- Minimise wasteful use of resources in architecture and urban planning, both in quantum and in detail.
- Support those who are working for climate justice and strive to ensure equity and an improved quality of life for all.

<https://www.architectsdeclare.com>



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