

Operational Carbon Footprint

Reporting company	M & J McGowans Limited
Company number	141718
Location(s)	IDA, Industrial Estate, Poppintree, Dublin 11, Ireland
Period covered	01 January 2023 – 31 December 2023
Project number	MCG01_004
Date	June 2024



McGowans

CARBONQUOTA®

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About this report

The data you have provided have been validated via a series of spot checks, utilising evidence such as utility bills where available. We also compared your results with those of the wider industry and determined that they are in line with expectations. Therefore, we believe that this report accurately depicts your operational carbon footprint.

Nevertheless, since you are more familiar with your business, please verify the data presented in this report carefully. This includes ensuring the data tables are accurate, and that the information we have collected from you is an accurate representation of what occurs within your organisation. Should any results not conform to your expectations, please inform us so we can investigate together.

This report aims to provide an overview of your operational carbon footprint, limited to the emissions associated with the energy and processes you directly control within your building(s) and your company vehicles, where applicable. If you have provided details, it also includes the carbon footprint of your staff when travelling to work, on business trips, or working from home.

The report does not cover the carbon footprint of activities that you do not directly control such as printing substrates, consumables, other goods and services you purchase, sub-contracting, capital goods, waste, external transport, or end-of-life of sold products.

Based on updates to scientific calculations, we have adjusted your 2022 results. This has affected the fuel for employee-owned cars (via expenses) category, which has caused a slight increase in the overall carbon footprint for 2022.

Terms & Definitions

	Definitions	Examples
Scope 1 (direct emissions) & Scope 2 (energy indirect)	Emissions falling under scope 1 or 2 are those that an organisation is directly (or closely) responsible for.	<ul style="list-style-type: none"> Scope 1 can include emissions from on-site combustion of gas and oil; fuel and electricity for company vehicles and so on; Scope 2 includes emissions from the consumption of purchased electricity (heat, steam, or cooling) that is generated by a third party (which you are responsible for but do not control).
Scope 3 (other indirect)	Emissions that are a consequence of your actions but from sources you do not own or control, and which are not classed as Scope 2. These make up 65–95% of most companies' carbon footprint.	<ul style="list-style-type: none"> Examples of scope 3 emissions are those generated from car travel by employee-owned vehicles, commuting, working from home and office management.
Location-based VS Market-based	<p>Location-based emissions are those caused by energy consumption at your facility. These are the tonnes of CO2e resulting from the use of grid electricity in your region, regardless of the tariff you pay.</p> <p>Market-based reflects purchasing choices, or the lack of them. This approach looks at the emissions of the company you purchase your energy from, and the sources of electricity they purchase (e.g., 100% renewable, natural gas or coal).</p> <p>Even when you purchase a lower carbon tariff you still consume average grid electricity, so a location-based approach looks at your true emissions.</p>	<ul style="list-style-type: none"> To reflect the good purchasing decisions, your results are displayed through the market-based approach throughout this report.
CO2e	Carbon dioxide equivalent is the standard international measurement of a carbon footprint. That is, the total amount of greenhouse gases, specifically carbon dioxide (CO2) and other equivalent emissions, that are directly or indirectly associated with an organisation's products or activities.	

Executive Summary

Your carbon footprint overview



Summary

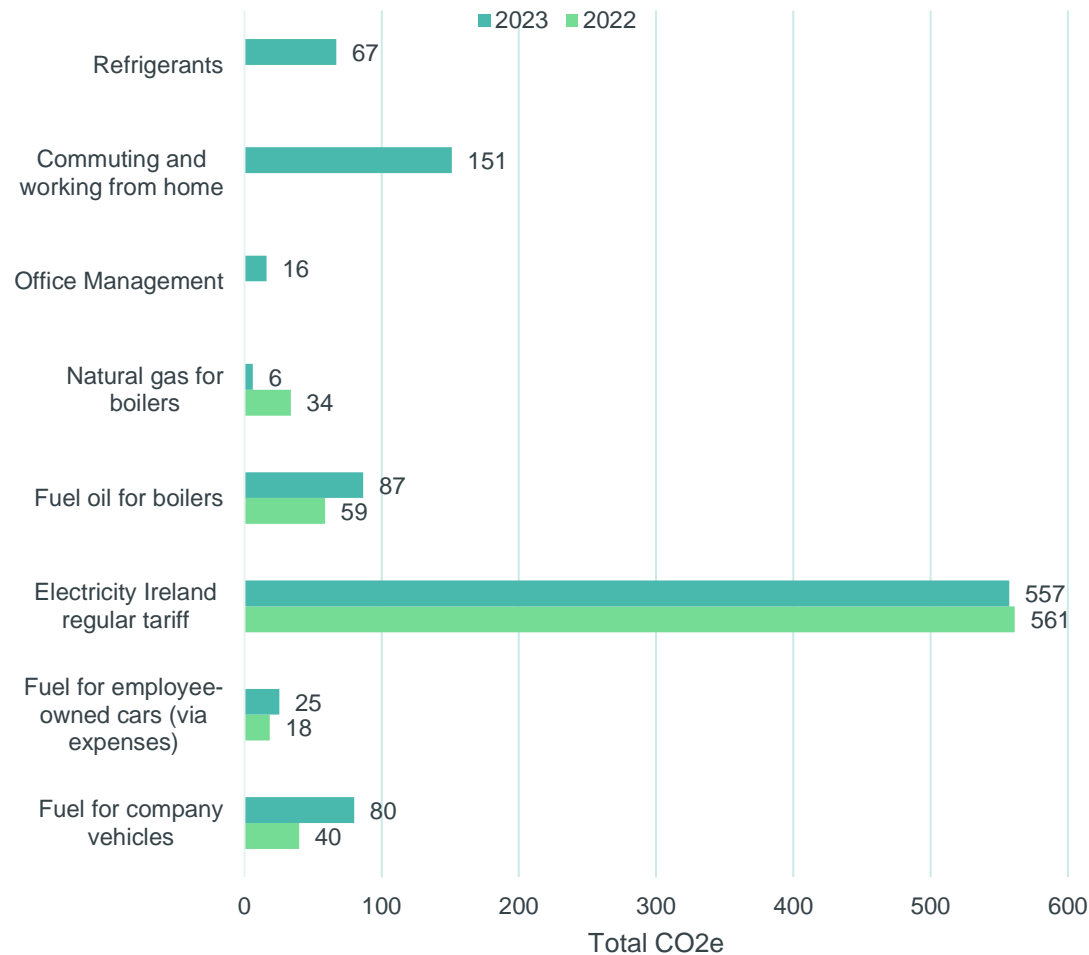
Your carbon footprint has increased by 278 tonnes of CO₂e since last year. With the broadened assessment of categories this year, an increase in your carbon footprint was anticipated.

Your well-organised data allows us to see that your biggest win was reduced natural gas use for boilers, but this was counteracted by use of fuel oil instead.

Three urgent things to do

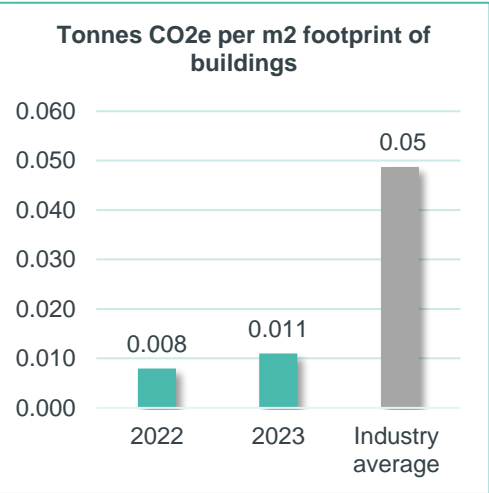
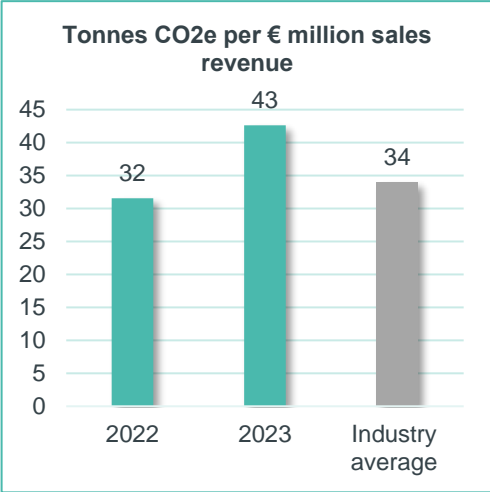
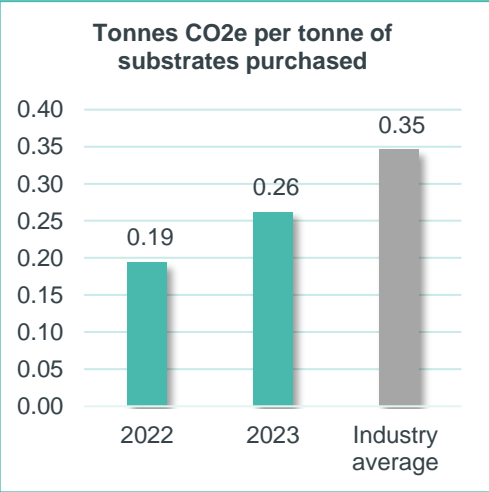
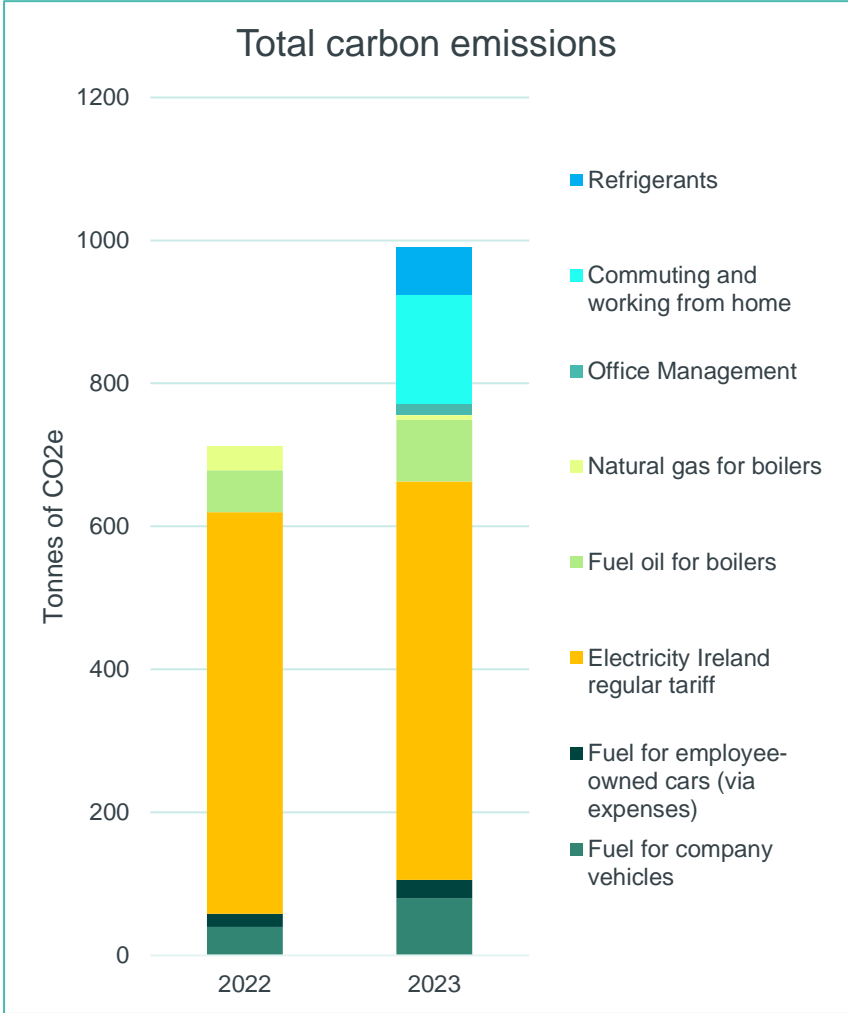
1. Continue your transition to a 100% renewable energy tariff.
2. Sign up to a cycle to work scheme or encourage car sharing and install EV chargers in the company car park to incentivise an EV switch.
3. Plan to replace oil and natural gas boilers with electric alternatives.

Your carbon hotspots



*CO₂e = carbon dioxide equivalent, the standard international measurement of carbon footprint.

Your Carbon Emissions | Intensity ratios

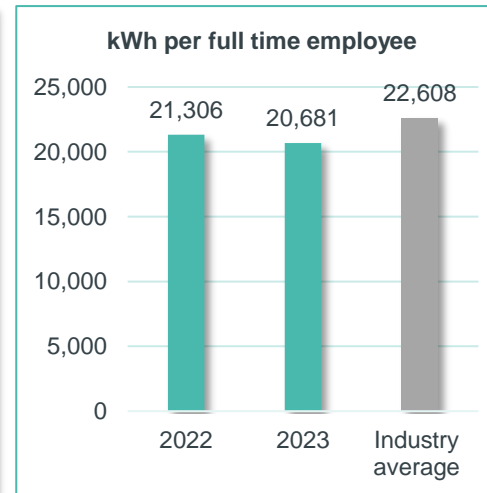
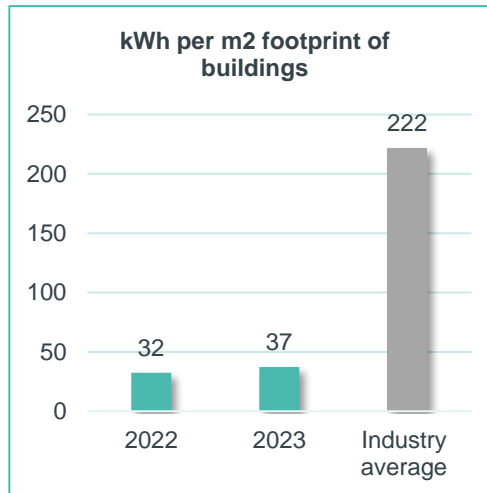
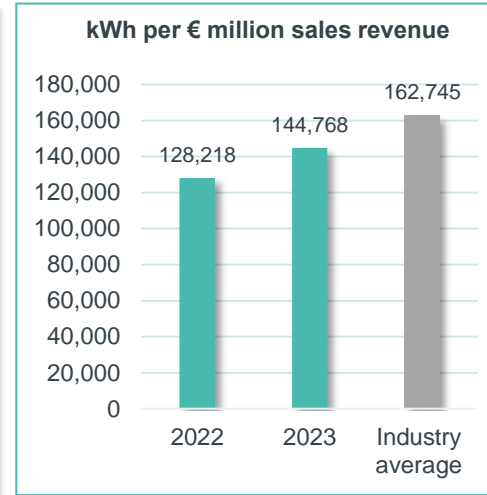
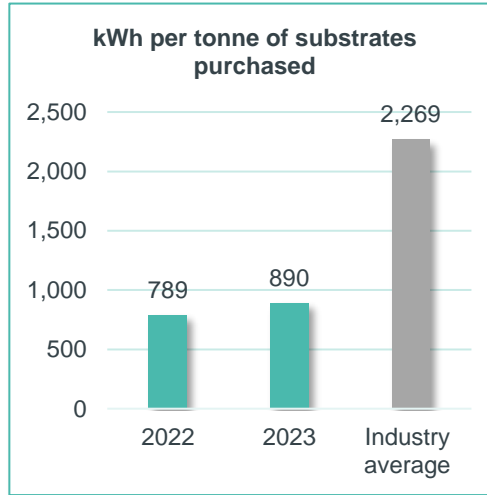
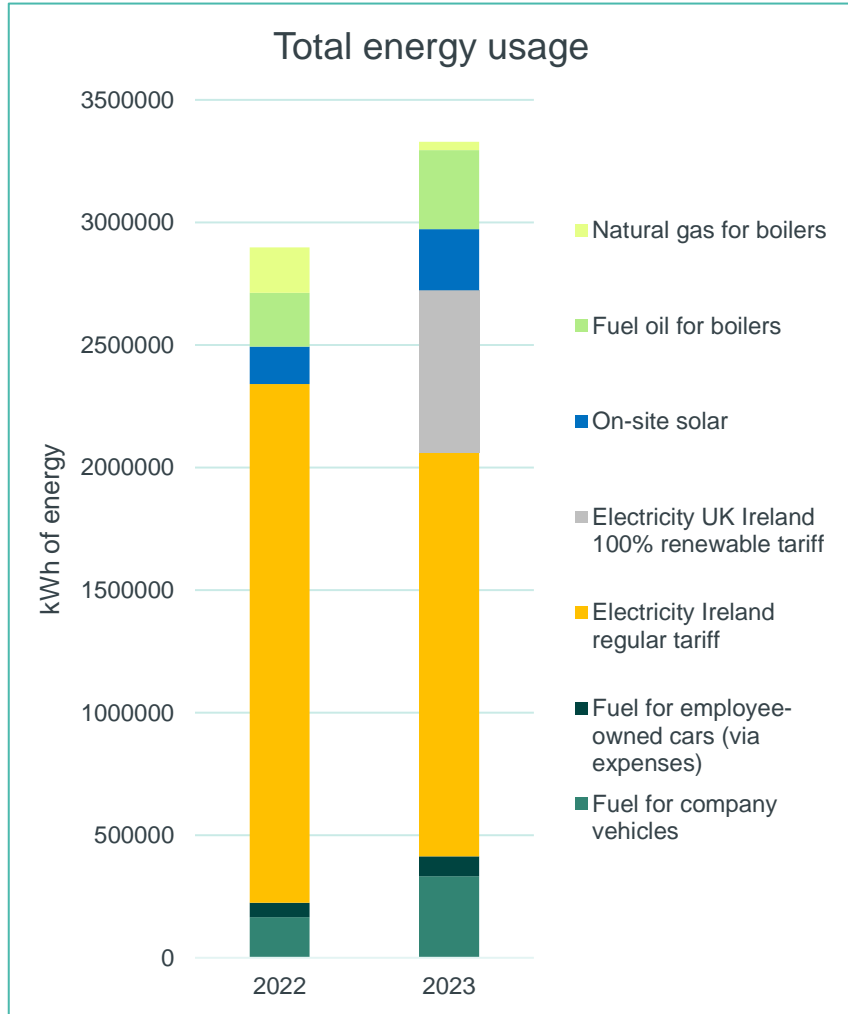


Intensity ratios compare emissions data with an appropriate business metric or financial indicator. Intensity ratios are useful to assess your organisation's progress over time, or to compare it with other similar organisations.

In line with your increase in total carbon footprint this year, there have been increases in all intensity ratio measures for CO2e this year.

*Industry averages are sourced from CarbonQuota's database of 'Printing' companies for 2022.

Your Energy Usage | Intensity ratios



Energy intensity ratios give you an idea of the impact that energy use has on your overall carbon footprint.

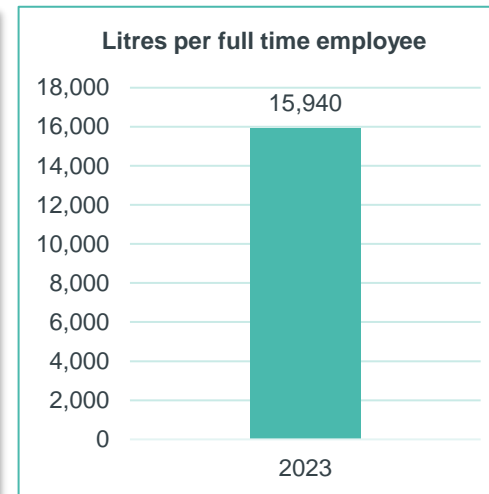
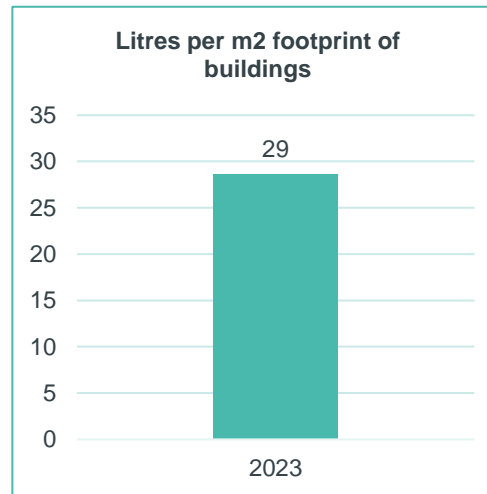
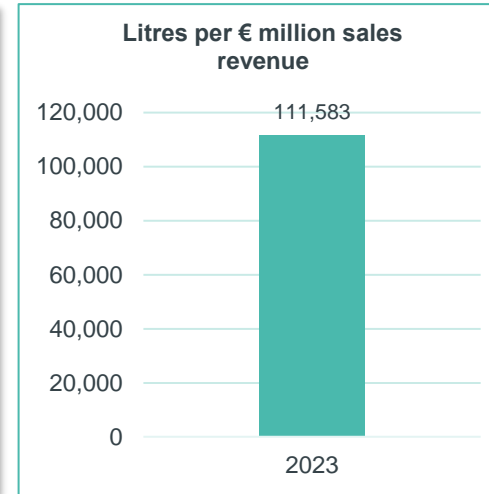
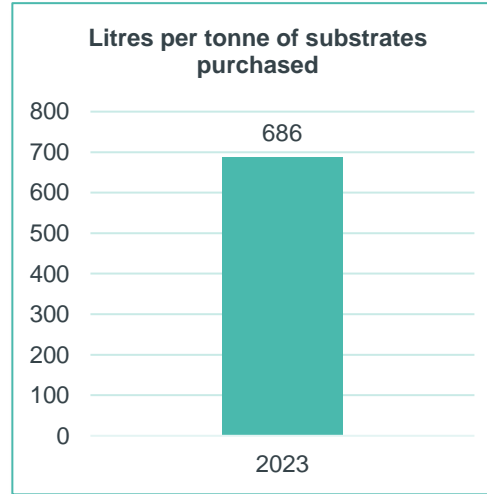
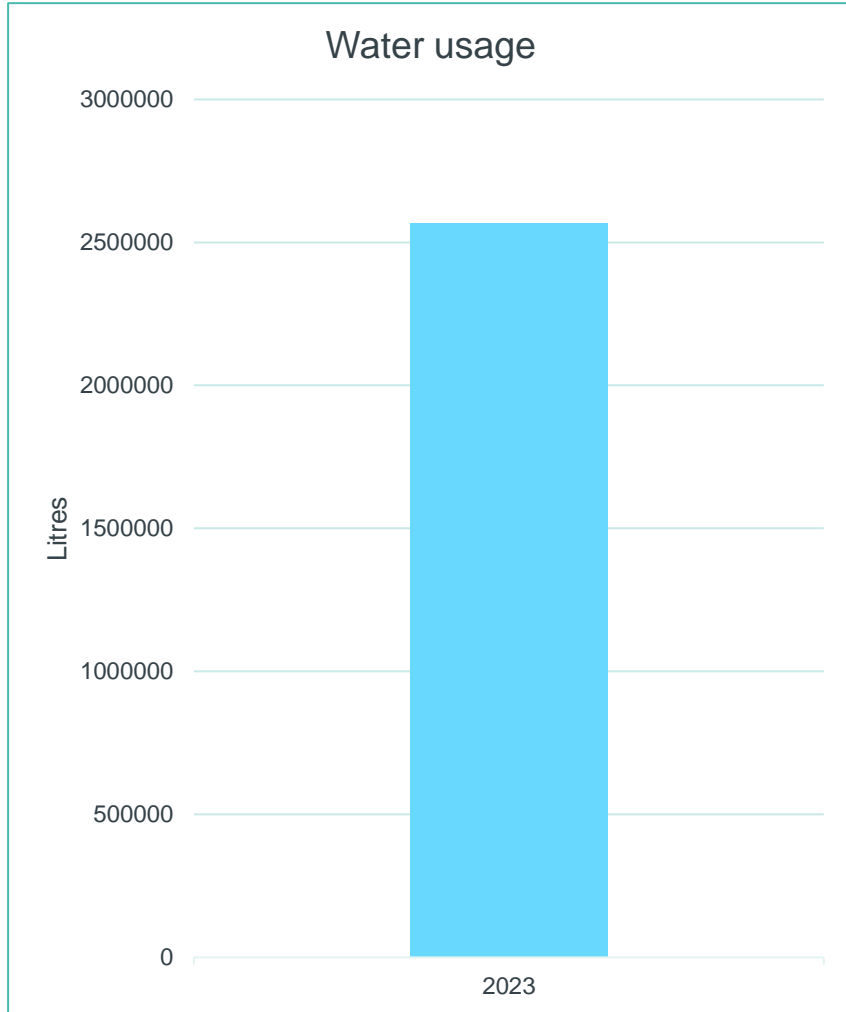
Energy intensity is measured by the amount of energy required per business activity or service, so using less energy for a given service reduces the intensity.

Consuming less energy reduces the amount of greenhouse gases your organisation produces and therefore your carbon footprint.

Your increase in total energy usage this year has led to increases in all energy intensity ratios, besides kWh per FTE. This is due to a significant increase in the number of FTE.

*Industry averages are sourced from CarbonQuota's database of 'Printing' companies for 2022.

Your Water Usage | Intensity ratios



Your water footprint is a measure of the total water consumed to produce your products and services.

While not having a direct impact on your carbon footprint, using less water not only reduces your environmental impact, it also helps your business cut costs by reducing your water bill. Keeping this in mind is therefore very important.

Reduction Strategy

What is your carbon reduction plan?

You have already begun the transition to 100% renewable electricity, which has positively impacted your carbon footprint. To fully realise the benefits, it's essential to continue this transition entirely. Completing the switch will significantly reduce your carbon footprint from electricity use, allowing us to further emphasise the positive impact of your sustainable purchasing choices. Many of our partner manufacturers have successfully made this transition or are actively working towards it, demonstrating its feasibility and effectiveness.

Moreover, to further diminish emissions from commuting, engaging with your property management to install electric vehicle (EV) charging stations could greatly encourage EV adoption among your workforce. Additionally, promoting alternative transportation methods through incentives such as a cycle-to-work programme or carpooling rewards can lead to substantial emission reductions.

The third largest contributor to your carbon footprint is your fuel oil and natural gas boilers. This area is particularly challenging due to the age and specific purposes of the boilers. You should aim to phase out these boilers over the next few years by switching to electric boilers, which have a significantly lower carbon footprint. Additionally, consider alternative technologies and processes, such as targeted heating solutions (heating people rather than entire spaces). As a short-term measure, transitioning to biofuels can also help reduce emissions while you work towards a more sustainable long-term solution.

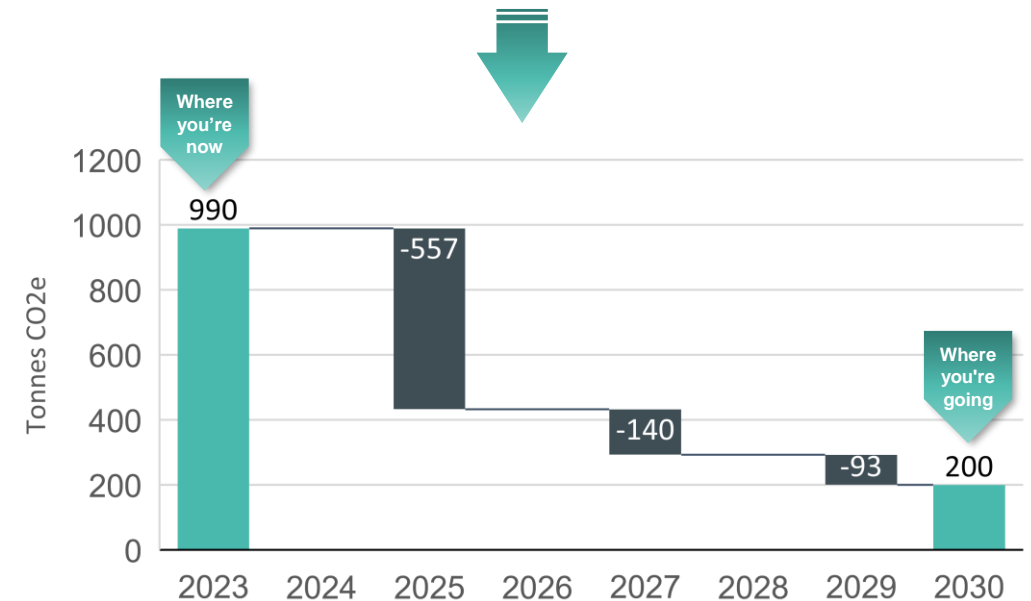
An operational carbon reduction plan will provide focus to this area, as well as demonstrate to your customers that you are in control of your carbon footprint in this area.

With this being your second year of assessments, it is commendable that you have begun to take steps to reduce your operational carbon footprint. To build on this progress, it is now time to consider broadening your reduction efforts. Conducting a comprehensive Scope 3 assessment will provide a holistic view of your indirect emissions, including those within your supply chain. Engaging with your suppliers to encourage and support their own emission reductions is a critical next step.

CarbonQuota is eager to assist you in these advanced measures, ensuring that your carbon reduction initiatives are comprehensive and impactful. By extending your focus to include the entire value chain, you're not only minimising your environmental impact but also fostering a culture of responsibility and innovation among your business partners. This collaborative approach is key to achieving long-term, industry-wide carbon consciousness.

Reducing your carbon emissions requires consistent annual reductions. If you complete these objectives over the next 7 years you will see a consistent carbon reduction. You should be targeting an annual reduction of 113 tonnes of CO₂e.

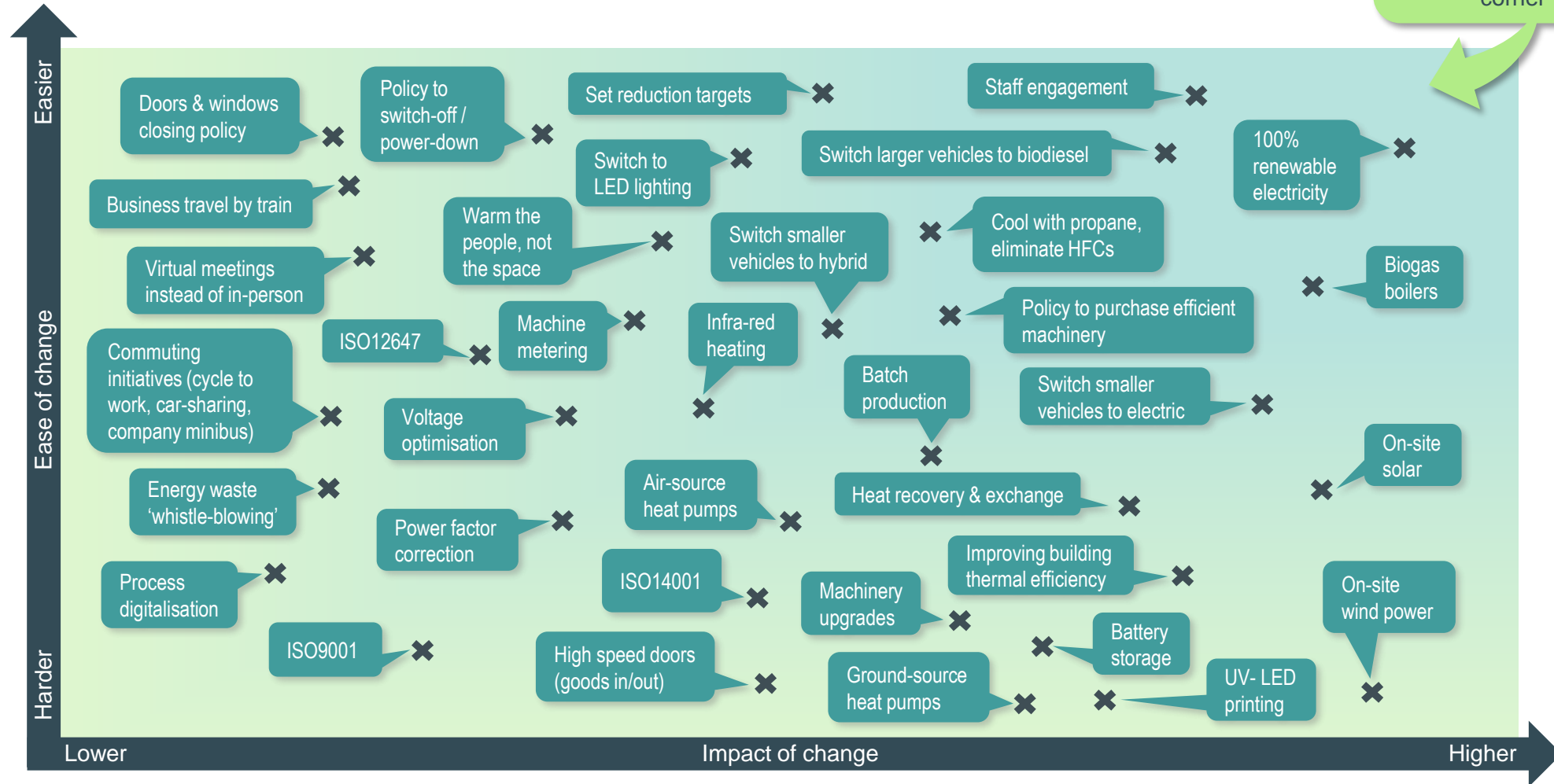
Reduction target	Possible carbon reduction
Switch to a 100% renewable energy tariff.	557 tCO ₂ e
Sign up to a cycle to work scheme or encourage car sharing and install EV chargers in the company car park to incentivise an EV switch.	140 tCO ₂ e
Plan to replace oil and natural gas boilers with electric alternatives.	93 tCO ₂ e



Carbon Reduction Ideas

We have ranked the top thirty initiatives across the print industry that are improving energy efficiency and reducing carbon footprints. How do you compare?

The easiest and most impactful changes for the print sector are towards the top right corner



Carbon Disclosure | When your customers ask

It is becoming normal to disclose your carbon footprint to your customers. This can be in statutory reports, in responses to enquiries, and on public directories.

Carbon emissions category	tCO2e	
	2022	2023
Scope 1	132.70	239.92
Scope 2 (market based)	561.31	557.28
Scope 2 (location based)	561.31	781.41
Scope 3*	18.45	192.90
Total (market based)	712.45	990.10
Total (location based)	712.45	1214.23

*Scope 3 only includes car travel by employee-owned vehicles, commuting, working from home, IT purchases and office management.

External Assessment – what to say about this process:

We have appointed CarbonQuota to independently assess the accuracy, completeness, and consistency of energy use and carbon footprint calculations, within the operations under our direct control.



Being asked about your Scope 3 emissions, or need more help? Contact info @carbonquota.co.uk

CarbonQuota can help you with



Creating a reputable, in depth, and market leading carbon reduction plan that will help you to:

- Disclose to organisations such as
 - CDP
 - Ecovadis
 - SECR
- Enhance your ESG reporting;
- Ensure yearly carbon reductions;
- Help financially plan to achieve carbon reduction targets.



ecovadis



Marketing Toolkit | Certification & label

Shout about it on your website



Company	M & J McGowans Limited
Location	IDA, Industrial Estate, Poppintree, Dublin 11, Ireland
Latest greenhouse gas emissions (2023)	990.10 tonnes CO ₂ e
Date	June 2024

Add this to your email signature



What you can say



We are working with CarbonQuota to measure and reduce our carbon footprint (certified: CarbonQuota 2024).

Input Table

Activity	Scope	Unit	2022	2023
Revenue		Euro	22,599,117	23,000,000
FTE			136	161
Building area		m2	89500	89500
Substrate purchased		tonnes	3674.32	3739.5
Water usage		m3	-	2566.40966
Diesel purchased for company vehicles	1	litre	14,795	30,213
Unleaded for company vehicles	1	litre	1031	1,407
Diesel distance for employee-owned cars (via expenses)	3	km	88,070	121,492
Electricity UK Ireland regular tariff	2	kWh	2,114,956	1,646,331
Electricity UK Ireland 100% renewable tariff	2	kWh	-	662,109
On-site solar - no FIT to generate electricity	1	kWh	152,933	249,072
Fuel Oil for boilers	1	litre	18,513	27,213
Natural Gas for boilers	1	kWh	184,162	34,002
R-407C (refrigerant) (fugitive emissions)	1	kg	-	8
R-410A (refrigerant) (fugitive emissions)	1	kg	-	20
R-134A (refrigerant) (fugitive emissions)	1	kg	-	8
Working from home	3	Days	-	1,915
Walking & Cycling for commuting	3	km	-	32,186
Tube/metro for commuting	3	km	-	4,593
Bus travel for commuting	3	km	-	39,870
Car travel for commuting	3	km	-	669,625
Reams of A4 Paper purchased goods	3	Euro	-	3,096
Other Office stationery purchased goods	3	Euro	-	31,972
Office food & drink purchased goods	3	Euro	-	11,014
Office cleaning & hygiene purchased goods	3	Euro	-	2,823
Staff uniform purchased goods	3	Euro	-	1,903
Tablets & Laptops purchased goods	3	number of items	-	4
Display Screens purchased goods	3	number of items	-	7
Office waste – General	3	kg	-	10,465
Office waste - Recycling	3	kg	-	111,991

Results Table | Carbon footprint

Activity	Scope	Unit	2022	2023
Diesel purchased for company vehicles	1	tCO2e	37.66	76.92
Unleaded for company vehicles	1	tCO2e	2.23	3.05
On-site solar - no FIT to generate electricity	1	tCO2e	0.00	0.00
Fuel Oil for boilers	1	tCO2e	58.93	86.62
Natural Gas for boilers	1	tCO2e	33.86	6.25
R-407C (refrigerant) (fugitive emissions)	1	tCO2e	0.00	14.83
R-410A (refrigerant) (fugitive emissions)	1	tCO2e	0.00	40.72
R-134A (refrigerant) (fugitive emissions)	1	tCO2e	0.00	11.53
Electricity UK Ireland regular tariff	2	tCO2e	561.31	557.28
Electricity UK Ireland 100% renewable tariff	2	tCO2e	0.00	224.12
Diesel distance for employee-owned cars (via expenses)	3	tCO2e	18.45	25.45
Working from home	3	tCO2e	0.00	4.89
Walking & Cycling for commuting	3	tCO2e	0.00	0.00
Tube/metro for commuting	3	tCO2e	0.00	0.15
Bus travel for commuting	3	tCO2e	0.00	5.84
Car travel for commuting	3	tCO2e	0.00	140.27
Reams of A4 Paper purchased goods	3	tCO2e	0.00	5.15
Other Office stationery purchased goods	3	tCO2e	0.00	0.37
Office food & drink purchased goods	3	tCO2e	0.00	0.93
Office cleaning & hygiene purchased goods	3	tCO2e	0.00	0.02
Staff uniform purchased goods	3	tCO2e	0.00	0.02
Tablets & Laptops purchased goods	3	tCO2e	0.00	1.26
Display Screens purchased goods	3	tCO2e	0.00	2.50
Office waste – General	3	tCO2e	0.00	3.67
Office waste - Recycling	3	tCO2e	0.00	2.39
Total (Location-Based)			712.45	1214.23
Total (Market-Based)			712.45	990.10

Results Table | Energy usage

Activity	Scope	Unit	2022	2023
Diesel purchased for company vehicles	1	kWh	156,534.27	319,655.02
Unleaded for company vehicles	1	kWh	9,749.76	13,305.49
On-site solar - no FIT to generate electricity	1	kWh	152,933.41	249,072.00
Fuel Oil for boilers	1	kWh	220,119.57	323,562.57
Natural Gas for boilers	1	kWh	184,162.00	34,002.00
Electricity UK Ireland regular tariff	2	kWh	2,114,956.00	1,646,331.00
Electricity UK Ireland 100% renewable tariff	2	kWh	-	662,109.26
Diesel distance for employee-owned cars (via expenses)	3	kWh	59,165.03	81,617.77
Total		kWh	2,897,620.04	3,329,655.12

Results Tables | Intensity ratios

Carbon intensity ratios

Activity	2022	2023	Industry average	% Change
Tonnes CO2e per tonne of substrates purchased	0.19	0.26	0.35	37
Tonnes CO2e per € million sales revenue	31.53	43.05	33.97	37
Tonnes CO2e per m ² footprint of buildings	0.008	0.011	0.05	39
Tonnes CO2e per full time employee	5.24	7.54	3.63	44

Energy intensity ratios

Activity	2022	2023	Industry average	% Change
kWh per tonne of substrates purchased	788.61	890.40	2,269.01	13
kWh per € million sales revenue	128,218	144,768	162,745.40	13
kWh per m ² footprint of buildings	32.38	37.20	222.03	15
kWh per full time employee	21,306	20,681	22,608.16	-3

Water intensity ratios

Activity	2023
Litres per tonne of substrates purchased	686.30
Litres per € million sales revenue	111,583
Litres per m ² footprint of buildings	28.67
Litres per full time employee	15,940

*Carbon intensity ratio industry averages are based on a market-based assessment, where the electricity for organisations that pay a premium for 100% renewable tariff are reported as zero carbon footprint. Industry averages are sourced from CarbonQuota's database of 'Printing' companies for 2022.

Calculation Approach | Operational carbon footprint

Operational and organisational boundaries

The operational boundaries of this study comprise the scope 1 GHG emissions associated with fuel for company vehicles and boilers, and fugitive emissions, scope 2 GHG emissions associated with purchased electricity, and scope 3 GHG emissions associated with car travel by employee-owned vehicles, commuting, working from home, IT purchases and office management. All other scope 1, 2 & 3 GHG categories were excluded.

The organisational boundaries of this study comprise the facilities noted on the cover sheet. The consolidation of facility level GHG emissions was undertaken using the operational control approach.

There are no GHG removals and reservoirs within operational and organisational boundaries.

Methodology

In carrying out carbon footprint calculations and preparing this document, CarbonQuota has followed the general principles of the Greenhouse Gas Protocol (Corporate Standard), with further guidance from the Greenhouse Gas Protocol (Corporate Value Chain Accounting and Reporting Standard).

Within the organisational boundaries, a consistent approach was used to quantify and to document GHG emissions and removals by completing, as applicable, the following steps: (1) Identification of GHG sources and sinks was carried out using CarbonQuota's industry expertise and previous experience, and guidance from international publications such as the GHG Protocol; (2) The selected quantification

method is based on the multiplication of GHG activity data by GHG emission or removal factors, which was thought to be the most appropriate approach for this study; (3) The GHG activity data were collected from activity data used consistent with the quantification methods; (4) Selection or development of GHG emission or removal factors - the most appropriate and current GHG emission factors have been selected from the European Environment Agency's Dataset up to 2020, IEA Emissions Factors 2021, Defra/DECC 2021 greenhouse gas conversion factor repository (previous years databases used for previous years reporting year); (5) the calculations of the GHG emissions and removals have been carried out by multiplying the GHG activity data by GHG emission or removal factors. These calculations have been undertaken in a Microsoft Excel model.

The following underlying primary data were used to provide summarised data to CarbonQuota for calculating the carbon footprint and energy footprint: utility company bills; supplier invoices; expense claims.

All IPCC 2007 GHGs were considered in the calculation of this organisational carbon footprint, which were converted to carbon dioxide equivalents (CO₂e) using the 2007 IPCC Global Warming Potentials (GWPs). Whilst more recent IPCC GWPs are available, the latest version of the main source of secondary data used in this study (i.e. EEA, IEA, Defra) currently uses IPCC 2007 GWPs.

The calculations were assured on behalf of CarbonQuota by Dr Matt Fishwick who found no evidence to suggest that they were not materially correct and were not a fair representation of the GHG data and information.

CarbonQuota Essentials

Instant carbon footprints on every quote!

- ✓ Automated
- ✓ Compliant to international standards
- ✓ Low-cost (£299 pm)
- ✓ No integration fees
- ✓ No set-up
- ✓ No training required



Online OCF measurement!

- ✓ Complete the same survey online with instant results

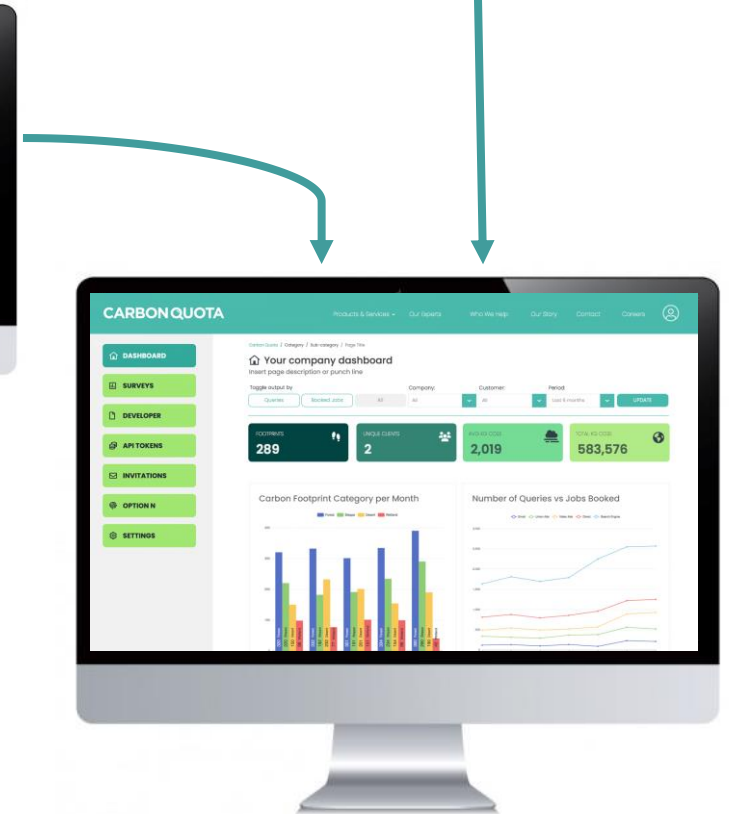
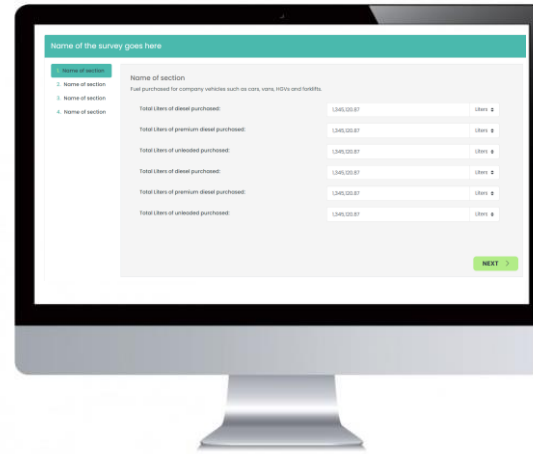
Detailed Supply chain assessments!

- ✓ Measure your entire scope 3 emissions
- ✓ Cover all spend categories

A CSV / Excel reports

B Survey via Portal

C API



[Click here to learn more about Essentials](#)

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