MINTDALE ENGINEERING

CARBON FOOTPRINT REPORT 2024

www.mintdale.com

Prepared By

Eco Sourcing Hub
REDUCE COSTS, EMISSIONS & RISKS

MINTDALE ENGINEERING

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MINTDALE ENGINEERING

GENERAL INFORMATION
Company Overview

Mintdale Engineering is a fourth-generation, family-run business that has been a leader in precision engineering since our founding in 1976. Based in Chesterfield, England, we have been at the forefront of supplying high-quality, precision-engineered parts to various key industries across the UK and internationally. Over the years, we have evolved from producing bespoke, one-off items to high-volume automated production, consistently investing in the latest CNC (Computer Numerical Control) technology to maintain a competitive edge in the industry

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ISO 9001
ISO 14001
INTEGRATED MANAGEMENT
UKAS MANAGEMENT SYSTEMS
0015

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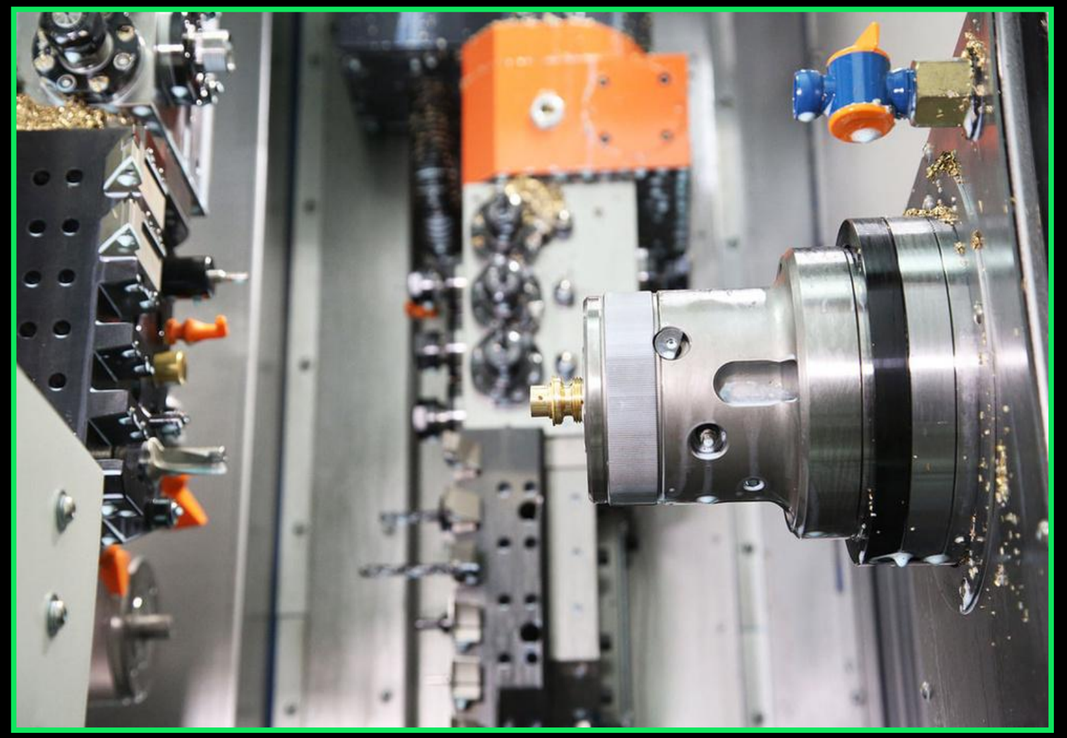
GENERAL INFORMATION
Company Overview

We specialise in a wide range of engineering services, including CNC turning, CNC milling, and mill/turn machining. With state-of-the-art machinery and highly skilled engineers, we are equipped to handle complex machining processes in one efficient step, reducing costs and lead times for our customers. Our machining capabilities range from very fine, 1mm diameter work to larger components with dimensions of up to 250mm, showcasing our flexibility and precision in serving diverse industry sectors



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GENERAL INFORMATION
Company Overview

Our clients span across industries such as medical devices, automotive, heavy plant, and the beverage sector, all of which rely on our high-quality, reliable components. We adhere to the ISO 9001:2015 quality management system, ensuring our products consistently meet stringent standards. This accreditation has been in place for almost 30 years, underscoring our commitment to quality and continuous improvement

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GENERAL INFORMATION
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One of our standout capabilities is our clean assembly service, which is particularly important for sectors such as medical and beverage dispensing, where stringent hygiene standards are critical. Our clean room facility ensures that components are assembled in a controlled environment that meets medical standards, with processes such as ultrasonic degreasing to ensure cleanliness

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Company Overview

In addition to our technical expertise, we place a strong emphasis on sustainability and environmental responsibility. We are committed to reducing our environmental footprint, which is reflected in our ongoing efforts to achieve and maintain ISO 14001 certification for environmental management. We have taken significant steps toward integrating renewable energy into our operations by installing solar panels at our headquarters.

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GENERAL INFORMATION
Company Overview

This year, we have decided to go a step further by calculating our carbon footprint to fully understand our environmental impact and work on reducing it. This report serves as the foundation for our dedication to tracking and reducing our environmental impact, laying the groundwork for more informed decisions and future sustainability efforts. The reporting period for this calculation is from 1 April 2023 to 31 March 2024. Future reports will continue to follow this same time frame unless otherwise stated at the time of publication.

This report does not include specific targets or details on greenhouse gas removals.
Additional details on the activities of Mintdale Engineering Ltd can be found on our company's website.

ORGANISATIONAL BOUNDARIES

The organisational boundaries were drawn using the consolidation based on operational control approach. This approach considers all emissions that the organisation has operational control over, but not necessarily financial control.

No allocation percentage is used in the calculation of the emissions share of each subunit.

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REPORTING BOUNDARIES

In this report 14 different sources of carbon emissions are considered, grouped in 4 blocks:

A- DIRECT

Direct emissions from operations that are owned or controlled by the reporting company.

B- ELECTRICITY

Indirect emissions from the generation of purchased electricity, steam, heating, or cooling consumed by the reporting company.

C- UPSTREAM

Indirect emissions that occur in the value chain related to purchased goods & services.

D- DOWNSTREAM

Indirect emissions that occur in the value chain related to sold goods & services

4 Blocks

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A- DIRECT

Direct emissions from operations that are
owned or controlled by the reporting company.

1. Stationary Combustion - Emissions resulting from combustion of fuels in stationary sources.
2. Mobile Combustion - Emissions resulting from the combustion of fuels in company owned/controlled mobile combustion sources
3. Process Emissions - Emissions resulting from the release of greenhouse gasses in production processes

DIRECT

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B- ELECTRICITY

Indirect emissions from the generation of purchased electricity,
steam, heating, or cooling consumed by the reporting company.

4- Emissions resulting from the generation of electricity, purchased by the company.

ELECTRICITY

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UPSTREAM

C- UPSTREAM

Indirect emissions that occur in the value chain related to purchased goods & services.

5- Production Goods & Services - Embedded emissions in purchased goods and services
6- Others Goods & Services - Embedded emissions in purchased goods and services
7- Capital Goods - Embedded emissions in capital goods like buildings, cars, ICT and machinery
8- Energy Supply - Embedded emissions in the purchase of fuels and energy in other activity categories
9- Transport Upstream - Emissions related to the transport of goods upstream of the production process or any transport purchased by the company
10- Waste - Emissions related to the disposal and processing of waste generated in operations
11- Business Travel - Emissions related to transportation of employees for business-related activities
12- Commuting - Emissions related to commutes of employees in vehicles not under control of the company

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D- DOWNSTREAM

Indirect emissions that occur in the value chain related to sold goods & services.

13- Transport Downstream - Emissions related to the transport of goods downstream of the production process not paid for by the company
14- End-of-life of Product - Emissions related to the disposal of the sold product at the end of its planned lifetime

This includes all relevant sources of greenhouse gas emissions. These were selected based on their relevance to the organisation's operations and/or their relative size in the total footprint.

DOWNSTREAM

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EXCLUDED EMISSION CATEGORIES

The following emission categories are excluded from this report,
as they are identified as not applicable or insignificant for the current reporting objectives:

- Fugitive Emissions
- Purchased Steam Heat Cooling
- Upstream Leased Assets
- Processing Of Sold Products
- Use Of Sold Products
- Downstream Leased Assets
- Franchises
- Investments

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QUANTIFIED GHG INVENTORY

In the reporting period Y-2023/2024 the total emissions for the reporting organisation add up to 547 tCO2e

The greenhouse gas emissions are expressed as tonnes of CO2-equivalent.

METHODOLOGIES FOR THE COLLECTION AND QUANTIFICATION OF DATA

The emissions summary reflects the consolidation of emissions data according to the Greenhouse Gas Protocol reporting standards. These being the Corporate Accounting and Reporting Standard (2004) and the Corporate Value Chain Accounting and Reporting Standard (2011).

Carbon offsets are not reported in this report, nor have they been subtracted from the total.

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GHG GWP

REPORTED GHG AND GWP

The following greenhouse gases are included in the analysis: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), sulphur hexafluoride (SF6), nitrogen trifluoride (NF3), hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs).

Emissions from these greenhouse gases are expressed in CO2-equivalent (CO2e) based on their global warming potential over a time horizon of 100 years (GWP100). The Greenhouse Warming Potential (GWP) values are based on the Intergovernmental Panel on Climate Change (IPCC) Fourth, Fifth or Sixth Assessment Report (AR4, AR5 or AR6), in accordance with the methodological choices of the emission factor publishers used in this report.

The emission factors for aviation were extended to include the additional effects of radiative forcing through the emission of gases and aerosols and changing cloud abundance. For this a central estimate for a multiplier to the GWP100 figure is used. This estimate tries to reflect the additional effect based on the best available scientific evidence, while being consistent with UNFCCC reporting convention. The total emissions in this report include electricity emissions using the market-based method. Travel emissions in this report include the effects of radiative forcing for aviation.

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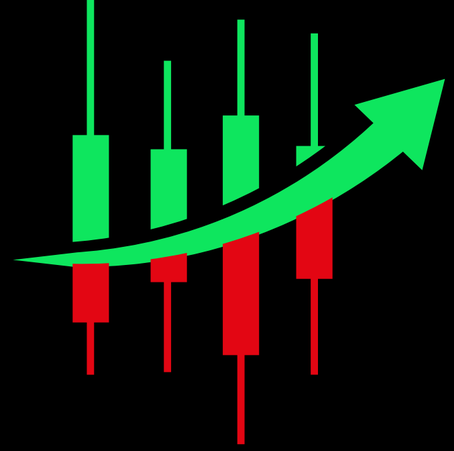

APPROACH TO EMISSION FACTORS

For each activity the most relevant and localised emission factor possible has been selected, at the discretion of the reporter. Apart from locality and relevancy, other considerations were the availability of emission factors and consistency in the selection of emission factor publications throughout the document.

A full list of emission factor publications used in this report can be found in the table below:

Publisher	Publication Version	Publication Date	URL
Exiobase	3.8.2	21/10/2021	link
UK.gov	v2023 1.0	15/05/2023	link
Association of Issuing Bodies	2022 v1.0	26/05/2023	link

Each emission factor used in the calculation has an assigned validity period overlapping or partially overlapping with the application period of the reported activity. The validity period of emission factors is determined by its publication document[1].

APPROACH TO BASE YEAR REPORTING

The reporting period Y-2023 is the first GHG reporting period for **Mintdale Engineering Ltd** and counts as the base year for the current and future reporting cycles.

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UNCERTAINTY ASSESSMENT

For this report a qualitative assessment of uncertainty has been applied. Seen that the effectiveness of a quantitative assessment would be limited due to a general lack of accurate uncertainty data. The applicability of these quantitative assessments will be reviewed in each subsequent reporting period.

Activity Group	Emissions (tCO_2e)	Uncertainty	Share of total emissions
Stationary Combustion	29.26	-5% to +5%	5.3%
Mobile Combustion	2.80	-5% to +5%	0.5%
Process Emissions	0.20	-56% to +125%	0.0%
Electricity	29.08	-20% to +24%	5.3%
Production Goods & Services	242.39	-28% to +39%	44.3%
Others Goods & Services	64.48	-32% to +47%	11.8%
Capital Goods	120.61	-57% to +134%	22.0%
Energy Supply	17.14	-11% to +12%	3.1%
Transport Upstream	4.77	-18% to +23%	0.9%
Waste	0.93	-24% to +32%	0.2%
Commuting	10.67	-37% to +60%	2.0%
Transport Downstream	7.02	-27% to +37%	1.3%
End-of-life of Product	17.73	-53% to +115%	3.2%
Total GHG emissions	547.08	-22% to +28%	100.0%

In assessing the uncertainty associated with our carbon footprint calculations, we considered various activity groups, each contributing differently to the overall emissions profile. The uncertainty values are presented with a 95% confidence interval, indicating the potential variability in our emissions estimates.

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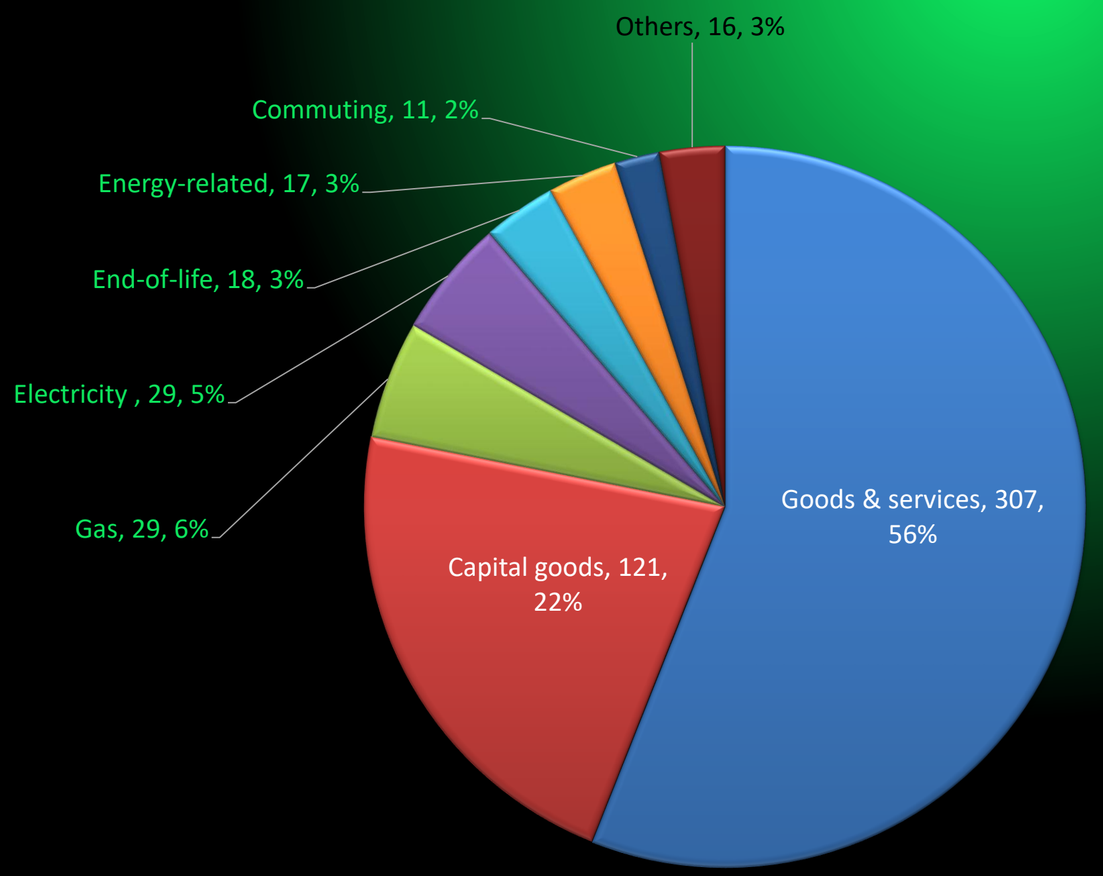
Our total carbon emissions for the reporting period amounted to 547 tCO2e.

The highest contributor to our emissions came from Scope 3 - Upstream, which accounted for 84.3% of total emissions, or 461 tCO2e. Within this Scope, purchased goods and services dominated, making up 56.1% of total emissions (307 tCO2e), followed by capital goods, which contributed 22.1% (121 tCO2e). Smaller contributions came from fuel- and energy-related activities at 3.1% (17 tCO2e), employee commuting at 2.0% (11 tCO2e), and upstream transportation and distribution at 0.9% (5 tCO2e). Waste generated in operations had a minimal impact at 0.2% (1 tCO2e), and business travel was negligible.



2023/2024 CARBON EMISSIONS

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Our total carbon emissions for the reporting period amounted to 547 tCO2e.

Next, Scope 2 emissions related to purchased electricity amounted to 29 tCO2e, representing 5.3% of total emissions. These emissions were consistent across both market-based and location-based methods, with purchased electricity - location-based showing a slightly higher value of 34 tCO2e, contributing 6.2%

Scope 1 emissions totalled 32 tCO2e, contributing 5.9% to the overall footprint, primarily driven by stationary combustion, which accounted for 5.3% (29 tCO2e). Mobile combustion contributed 0.5% (3 tCO2e), and process emissions were negligible.

Finally, Scope 3 - Downstream emissions contributed 4.6% (25 tCO2e), primarily from end-of-life treatment of sold products at 3.3% (18 tCO2e), and downstream transportation and distribution, which added 1.3% (7 tCO2e).

This breakdown highlights the significant impact of upstream supply chain activities on our carbon footprint, particularly from the purchasing of goods and services.

2023/2024 CARBON EMISSIONS

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Emission Category	All GHG (tCO2e)
Scope 1	**32**
Stationary Combustion	29
Mobile Combustion	3
Process Emissions	<1
Scope 2	**29**
Purchased electricity - market based	29
Purchased electricity - location based	34
Scope 3 - Upstream	**461**
Purchased goods and services	307
Capital goods	121
Fuel- and energy-related activities	17
Upstream transportation and distribution	5
Waste generated in operations	1
Business travel	-
Employee commuting	11
Scope 3 - Downstream	**25**
Downstream transportation and distribution	7
End-of-life treatment of sold products	18
Total GHG emissions	**547**

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Emission Category	Stationary Combustion	Mobile Combustion	Process Emissions	Goods and services	Capital goods	Energy-related activities	Upstream transportation	Waste	Business travel	Employee commuting	Downstream transportation	End-of-life
CO2	29	3	-	54	101	12	4	-	-	8	6	-
CH4	<1	<1	-	11	15	-	<1	-	-	<1	<1	-
N2O	<1	<1	-	1	2	-	<1	-	-	<1	<1	-
SF6	-	-	-	1	<1	-	-	-	-	-	-	-
NF3	-	-	-	-	-	-	-	-	-	-	-	-
HFCs	-	-	<1	2	1	-	-	-	-	-	-	-
PFCs	-	-	-	1	<1	-	-	-	-	-	-	-
CO2e*	-	-	-	238	-	6	1	1	-	2	1	18

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