



CARBON FOOTPRINT OF OSTROJ a.s.

Inventory of Greenhouse Gases for the Year 2024



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GLOSSARY OF TERMS AND ABBREVIATIONS

TERMS:

Decarbonization

Reducing the company's carbon footprint according to the set strategy and goals.

Emissions

For the purposes of this report, these are substances polluting the air.

Emissions Offsets

Quantified reduction of greenhouse gas emissions used to compensate for greenhouse gas emissions emitted by another source.

SCOPE

Division of emissions related to the company's activities according to the GHG Protocol methodology.

GHG Protocol

A set of tools and standards developed to help companies measure, manage, and report greenhouse gas (GHG) emissions associated with their activities.

Greenhouse Gases

Gases that occur in the atmosphere and contribute to the greenhouse effect. The natural greenhouse effect is essential for life on Earth, but higher amounts of greenhouse gases, resulting from company activities, cause global warming.

Carbon Neutrality

A period when a company reports zero carbon dioxide emissions. It is a balance between emitted CO₂ and the natural absorption of carbon dioxide.

Company's Carbon Footprint

The sum of the company's emissions from its direct and indirect activities.

ABBREVIATIONS:

- WTT - Well-to-Tank (production and distribution of fuels)
- T&D - Transmission and Distribution (electricity losses in the grid)
- GHG - Greenhouse Gas
- CO₂e - Carbon Dioxide Equivalent
- LCI - Life Cycle Inventory Analysis
- IPCC - Intergovernmental Panel on Climate Change
- GWP - Global Warming Potential



1. INTRODUCTION

The company's carbon footprint determines the amount of greenhouse gases created and released into the atmosphere during the company's production activities over a certain period (year) and is typically expressed in CO₂e, which includes other emitted greenhouse gases.

For accurate greenhouse gas emission reporting, the GHG Protocol divides emissions related to the company's activities into three areas, known as SCOPE.

SCOPE 1 (direct emissions) – activities that release greenhouse gas emissions directly into the atmosphere and are controlled by the company.

SCOPE 2 (indirect emissions from purchased energy) – Emissions associated with the consumption of purchased energy (electricity, compressed air, heat, steam, or cooling generated from fossil fuel combustion), supplied to the company by its suppliers but resulting from the company's activities. These are indirect greenhouse gas emissions from sources not directly controlled by the company.

SCOPE 3 (other indirect emissions) – Purchased emissions resulting from the company's activities and originating from sources outside the company's control or ownership but not classified as SCOPE 2.

At OSTROJ a.s., we recognize that our environment is fragile, and both individuals and companies play a key role in taking responsibility for their activities that affect it.

We strive to be an environmentally responsible company aware of its activities' negative impact on the environment, continuously implementing measures and investments to increase the sustainability of our practices and processes to gradually minimize these impacts.

Significant measures include implementing solutions that reduce energy and water consumption, minimizing waste production, supporting recycling, and introducing environmentally friendly technologies.

We believe that together with our employees, we can achieve positive changes.



2. ABOUT THE COMPANY

2.1 Description of the Company

The company is one of the most stable firms in the Czech Republic and has been operating in the engineering market since 1948. It is a purely Czech joint-stock company based in Opava.

Table č. 2.1.a: Basic Indicators of OSTROJ a.s.

Indicator	2024	2023
Sales Revenue from Products	1,408,960,000 CZK	1,249,335,000 CZK
Number of Core Employees	731	750

2.2 Description of Main Activities and Technologies

The source of greenhouse gas emissions for OSTROJ a.s. is the product portfolio of five divisions, which includes a wide range of products and components from mining machines for deep coal and ore mining, special equipment for underground construction, automated conveyor systems, airport equipment, hydraulic cylinders, shafts, printing rollers, machined painted weldments, comprehensive tooling solutions, and precision machined parts to steel die forgings. The production activities also include galvanic zinc plating and chroming.

Production takes place at the company's headquarters. The entire production process begins with the delivery of input materials (mainly metallurgical materials), continues through the actual production, and ends with the product's dispatch to the customer.

2.3 Strategy and Regulations Related to the Carbon Footprint

In 2024, OSTROJ a.s. does not have a strategy or internal regulations related to the carbon footprint, but it is our ambition to continuously strive to reduce emissions in all three areas (SCOPE 1, 2, and 3) using the following principles:

- seeking solutions that lead to meaningful investments in reducing greenhouse gas emissions,
- maintaining a system for annual monitoring and reporting of greenhouse gas emissions,
- striving to foster a positive attitude towards the environment among our employees, business partners, and the public.



3. EMISSIONS REPORTING SYSTEM

3.1 Basic Information

The base year for measuring the company's carbon footprint was chosen as 2023, considering the accuracy and availability of the necessary data for the calculation.

The calculation of the company's carbon footprint was carried out in accordance with ČSN EN ISO 14064-1: 2019 – Greenhouse gases and the GHG Protocol.

All sources of direct and indirect emissions were included in the calculation.

The carbon footprint report of OSTROJ a.s. was not verified by an independent auditor due to the absence of this requirement.

3.1.1 Employee Responsibility for Data Accuracy

The responsibilities of OSTROJ a.s. employees are listed in [Appendix No. 1 - Overview of the methodology used for data collection and calculation](#).

3.1.2 Carbon Footprint Calculation Processor

For the calculation of the company's carbon footprint, a verified digital calculator developed by the company Impact Metrics s.r.o., located at Grafická 3365/1, Prague, was selected..

3.2 Data Collection Methodology

For data collection, the internal systems of OSTROJ a.s. were primarily used:

- the energy monitoring and control systém AYSIS,
- the Envita system for waste management,
- the Carnet vehicle monitoring system,
- the central planning system IFS,
- the attendance and personnel systém RON.
- Records from the company CHLAZENÍ servis s.r.o., located at Krnovská 380/214, 74707 Opava-Jaktar, Company ID: 253 86 198, and internal employee records were also used.



3.2.1 Unaccounted Emissions

The calculation of the company's carbon footprint does not include emissions from minor material suppliers who deliver in units of pieces or liters and represent less than 1% of the total annual value of input materials, including emissions from the transportation of these input materials. Additionally, emissions from the transportation of products to minor customers, who constitute less than 1% of the annual turnover, are not included.

Obtaining precise data from the above sources would be very challenging; therefore, we have increased these specific sources of emissions within SCOPE 3 by a deviation of 3% according to the permissible methodology.

The use of individual systems and the relevance of data according to individual emission sources are illustrated in [Appendix No. 1 - Overview of the methodology used for data collection and calculation](#).

3.2.2 Estimated Emissions

Accurate data on emissions generated by our employees commuting to work is currently not feasible to obtain; therefore, we have chosen an estimation method based on a representative sample.

The use of individual systems and the relevance of data according to individual emission sources are illustrated in [Appendix No. 1 - Overview of the methodology used for data collection and calculation](#).

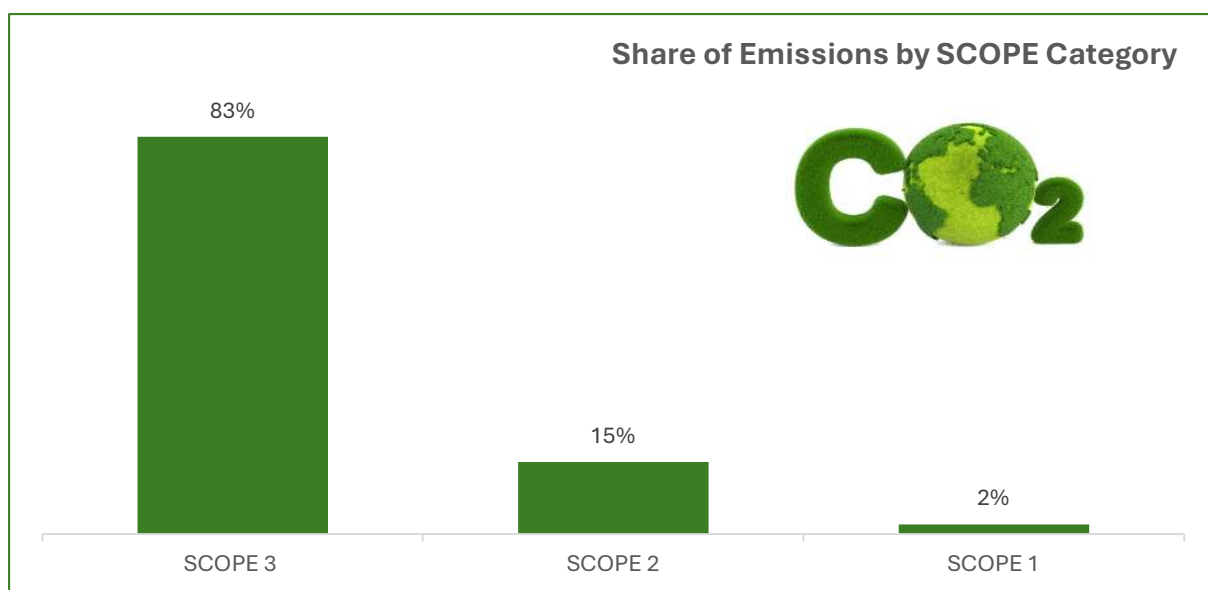


4. COMPANY CARBON FOOTPRINT RESULT

4.1 Company Carbon Footprint Result

Greenhouse gas emissions for the period of 2024.

Total Emissions	68 091 t CO ₂ e	TOP 5 Emission Sources	
SCOPE 1	1 323 t CO ₂ e	Materials	55 509 t CO ₂ e
SCOPE 2	8 853 t CO ₂ e	Electricity	8 853 t CO ₂ e
SCOPE 3	57 915 t CO ₂ e	WTT and T&D	1 952 t CO ₂ e
		Natural Gas	1 232 t CO ₂ e
		Employee Commuting	329 t CO ₂ e



For the conversion to declared units, indicators from [Table No. 2.1.a: Basic Indicators of OSTROJ a.s.](#) were used.

Carbon Footprint per Employee	Carbon Footprint per 1 million CZK
93,1 t CO ₂ e	48,3 t CO ₂ e



4.2 Analysis of the Company's Carbon Footprint Result

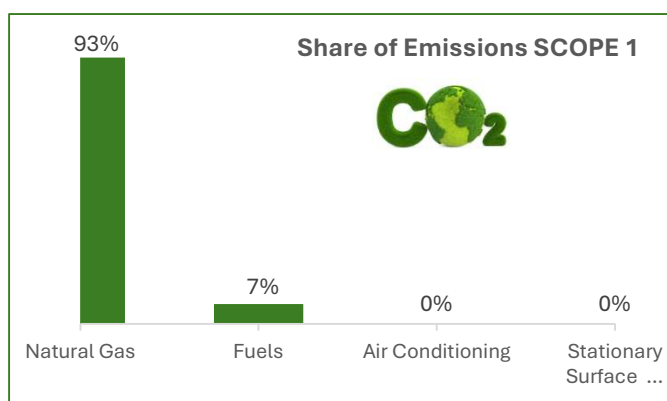
The GHG Protocol methodology divides emissions into three categories (SCOPE).

4.2.1 SCOPE 1 Emissions

In the SCOPE 1 emissions category, emissions from the consumption of natural gas in heat production facilities, most commonly condensing gas boilers or so-called dark radiators, dominate. The second place is occupied by emissions from diesel consumption in company vehicles.

For emissions from stationary air pollution sources (emissions of volatile organic compounds (VOC)) that arise during the application of coatings in the paint shop and for emissions from stationary air pollution sources (emissions of nitrogen oxides (NO_x) and emissions of hydrogen chloride (HCl)) that arise from the operation of the galvanizing line, an emission factor of 0 was used due to the fact that it is not possible to determine the share of nitrous oxide (N₂O) as a greenhouse gas for these specified types.

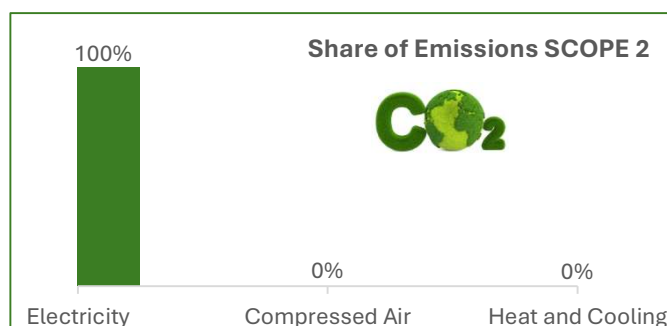
SCOPE 1	1 323 t CO₂e
Natural Gas	1 232 t CO ₂ e
Fuel	91 t CO ₂ e
Air Conditioning	0 t CO ₂ e
Stationary Surface Treatment Sources	0 t CO ₂ e



4.2.2 SCOPE 2 Emissions

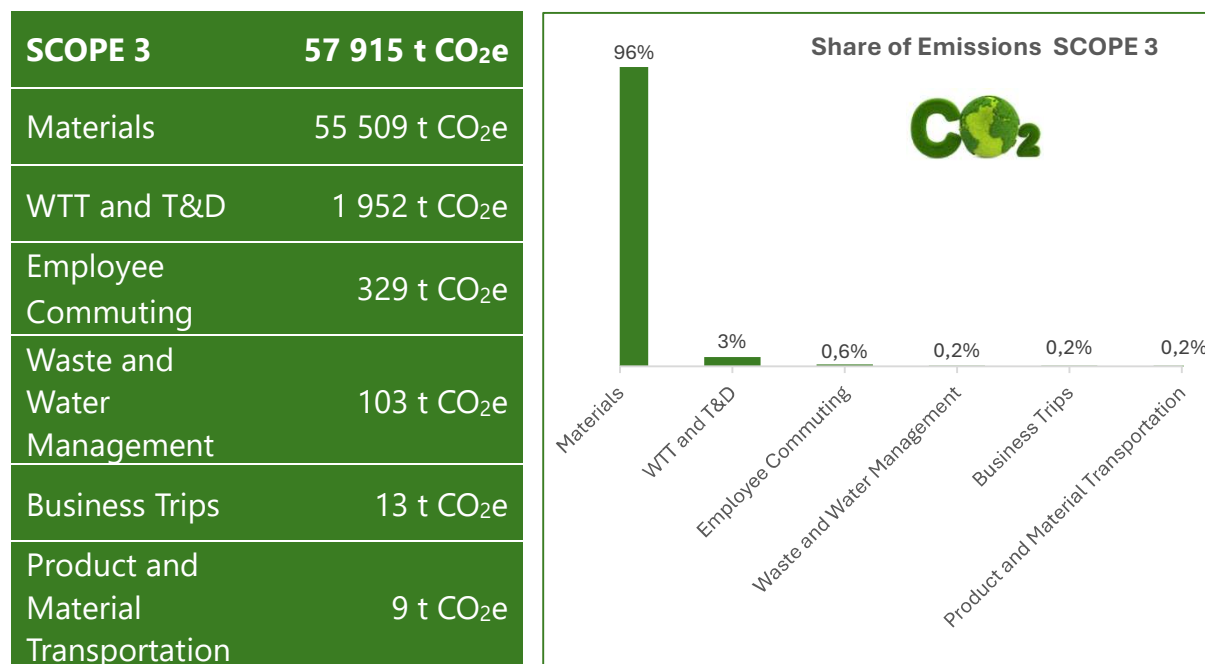
In this emissions category, OSTROJ a.s. only monitors emissions from the purchase of electricity. OSTROJ a.s. does not purchase commodities such as compressed air, heat, or cooling.

SCOPE 2	8 853 t CO₂e
Electricity	8 853 t CO ₂ e
Compressed Air	0 t CO ₂ e
Heat and Cooling	0 t CO ₂ e



4.2.3 SCOPE 3 Emissions

For emission sources that do not have a primary calculation, a 3% increase in CO₂e emissions was added. In the SCOPE 3 emissions category, emissions from the purchase of input materials, specifically metallurgical materials, dominate. Additionally, emissions from electricity losses in the network (T&D) are included.



In the following periods, the company's carbon footprint will be compared annually to the base year, i.e., 2023.

	2024	Difference	2023
SCOPE 1	1 323 t CO ₂ e	-200 t CO ₂ e	1 523 t CO ₂ e
SCOPE 2	8 853 t CO ₂ e	-419 t CO ₂ e	9 272 t CO ₂ e
SCOPE 3	57 915 t CO ₂ e	+5 570 t CO ₂ e	52 345 t CO ₂ e
Total Emissions	68 091 t CO₂e	+4 951 t CO₂e	63 140 t CO₂e
Carbon Footprint per Employee	93,1 t CO₂e	+8,9 t CO₂e	84,2 t CO₂e
Carbon Footprint per million CZK	48,3 t CO₂e	-2,2 t CO₂e	50,5 t CO₂e



5. DECARBONIZATION STRATEGY

At OSTROJ a.s., we continuously strive to reduce greenhouse gas emissions by planning and implementing investments that impact energy savings, investments in the modernization of machinery and vehicle fleets, or investments in software that help improve and refine data collection. These investments are discussed and approved annually as part of the three-year strategic business plan by the board of directors of OSTROJ a.s.

However, these investments represent only one of many steps on the path to the company's carbon neutrality. OSTROJ a.s. supports the international commitment arising from the Paris Agreement on climate change, but in the field of the engineering industry in which the company operates, we currently have limited options to achieve our own carbon neutrality in the short term.

At OSTROJ a.s., we understand the significance and necessity of a decarbonization strategy, which enables company management to better adapt to future mandatory requirements and regulations, reduce business risks associated with climate challenges, and, last but not least, achieve cost savings. Therefore, the company management has decided to incorporate the decarbonization strategy into the three-year strategic business plan, effective from 2025.

5.1 Demonstrated Reduction of the Company's Carbon Footprint

In 2023–2024, projects aimed at energy savings were completed::

- ☑ Photovoltaic power plant 500 kWp
- ☑ Installation of frequency converters on the pumps of the galvanizing line

[More information can be found in the press release.](#)

5.2 Emissions Offsets

At OSTROJ a.s., we perceive emission offsets as one of the ways to achieve the company's carbon neutrality. However, we are currently not considering their use due to the absence of offsetting rules. Our primary effort will be to reduce the company's carbon footprint through energy savings, investments in new technologies, or improving the accuracy of reported data.



5.3 Company Carbon Footprint Reduction Goals

The carbon footprint reduction goals are set with regard to the areas that OSTROJ a.s. can influence.

1. Energy Savings
2. Purchase of So-Called Green Energy
3. Reduction of Emission Estimates and Calculations

5.4 Action Plan for Reducing the Company's Carbon Footprint

The action plan for reducing the company's carbon footprint is based on the goals set out in section 5.3 and takes into account the feasible options for the company.

Activity	Time Horizon
1. Modification of Transformer Stations	2025-2029
2. Procurement of Part of the Electricity from Certified Green Energy	2030
3. Refinement of SCOPE 3 Emission Data	ongoing



6. EVALUATION

Not only in the engineering industry, but the question often arises whether it is possible to combine business success and company growth with success in reducing the environmental impact of the company's activities.

At OSTROJ a.s., we believe that where there is a will, there is a way to achieve the set goals. Therefore, we are publishing the OSTROJ a.s. Carbon Footprint Report for the first time this year, with the aim of providing the public and business partners with an overview of the environmental impact of our activities in the form of direct and indirect greenhouse gas emissions, and declaring our approach to managing them.

Among other activities that are not directly measurable but are perceived as part of our contribution to environmental protection is the establishment of meadow lawns on land owned by our company. Mowing is carried out only twice a year with regard to biodiversity protection, and because insects and plants undoubtedly belong together, the company management decided in 2023 to establish a company beekeeping operation.

We are firmly convinced that a lasting contribution to environmental protection is primarily the spread of awareness about responsible behavior among our employees. Therefore, the company management has committed to including the sharing of information about sustainability and ecology with our employees as a regular topic in internal communication.

Any questions, ideas, and insights regarding the sustainability of our business and our approach to environmental protection are welcome at the email address esg@ostroj.cz, which is also listed on our website.



Appendix 1 - Overview of the Methodology Used for Data Collection and Calculation

Emissions Source	SCOPE	Explanation	Data Collection Methodology	Data Calculation Methodology	Responsibility
Natural Gas	1	Emissions from fuel consumption in heat production facilities.	AISYS system	primary (accurate)	Energy Manager
Fuels	1	Emissions from fuel consumption in company vehicles that the company owns directly or leases.	Carnet system	primary (accurate)	Fleet Manager
Air Conditioning	1	Emissions from the consumption of fluids in air conditioning systems in buildings, production facilities, or vehicles.	records from the company CHLAZENÍ a servis s.r.o.	primary (accurate)	Head of Property Management
Stacionary sources	1	Emissions from the application of coatings in the paint shop (VOC), emissions from the operation of the galvanizing line (NOx, HCl).	internal employee record	primary (accurate)	Environmental Manager
Electricity	2	Emissions from purchased electricity consumed by the company.	AISYS system	primary (accurate)	Energy Manager
Heat and Cooling	2	Emissions from the production of heat and cooling that the company purchases.	OSTROJ a.s. does not implement	x	x
Compressed Air	2	Emissions from compressed air that the company purchases.	OSTROJ a.s. does not implement	x	x
Materials	3	Emissions associated with the input materials that the company purchases.	IFS system	secondary (calculated) ¹	Head of Procurement
Material Transportation	3	Emissions associated with the transportation of input materials to the company, which the company purchases.	IFS system	secondary (calculated) ²	Head of Warehouse Management and Cutting Department
Product Transportation	3	Emissions associated with the transportation of products to customers, which the company purchases.	IFS system	secondary (calculated) ³	Head of Warehouse Management and Cutting Department



Business Trips	3	Emissions associated with employee business trips, including overnight stays in hotels.	RON system	primary (accurate)	Process Manager
Employee Commuting	3	Emissions associated with employees commuting to OSTROJ a.s.	RON system	secondary (calculated) ⁴	HR Manager
Waste	3	Emissions associated with transportation for processing and emissions associated with the actual processing/disposal process (landfilling/recycling/incineration).	Envi system	primary (accurate)	Environmental Manager
Water	3	Emissions from the consumption of drinking water and emissions from wastewater management.	AISYS system	primary (accurate)	Energy Manager
WTT and T&D	3	Emissions associated with fuel and energy losses.	AISYS system	primary (accurate)	Energy Manager

Notes:

- 1) Suppliers of input materials were chosen based on significance, i.e., 1% of the total annual value of input materials. For the year 2023, service providers and suppliers delivering in units of "pieces" and "liters" are not included in the calculation due to their minor representation.
- 2) The number of deliveries was optimized according to the actual weight of the load and the most commonly used truck (25t). For the route length calculation, only the route from the most significant suppliers (i.e., over 1% of the annual value of input materials) was chosen.
- 3) The number of shipments was optimized according to the actual weight of the load and the most commonly used truck (25t). For the route length calculation, only the route to the most significant customers (i.e., over 1% of annual turnover) was chosen.
- 4) The representative sample included employees who have a personal vehicle registered in the RON system.





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For more information about sustainability at OSTROJ a.s, visit: www.ostroj.cz/sustainability

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