

GREENHOUSE GASES EMISSIONS REPORT
Organizational carbon footprint

EP-Belt DOO Loznica

YEAR 2023



May 2024

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1. OBJECTIVES

EP-Belt doo Loznica is aware of the importance of the impact of greenhouse gases (GHG) on climate change, which is why it decided to quantify its carbon footprint of the organization for the year 2023, which will be chosen as the base year of quantification. An organization's carbon footprint estimates and monitors a set of greenhouse gases that are emitted directly or indirectly as a consequence of the organization's work and activities.

The organization, as part of its policy to reduce the impact of its activities on the environment, especially in relation to GHG emissions, would like to present to all interested parties an inventory of its GHG emissions resulting from the organization's activities at two locations:

1. PLANT I, Prvog maja bb Loznica, Republic of Serbia
2. PLANT II "BOP", Vojvodina (Žike Popovića), Loznica, Republic of Serbia

The GHG inventory was prepared in accordance with GHG Protocol (A Corporate Accounting and Reporting Standard).

This report is the main communication tool of the organization's GHG inventory, and aims to define the GHG emissions of EP-Belt doo Loznica.

The report was prepared by SGS Belgrade, Industries and Environment, ENVI/Auditing & Compliance and contains information on the methodology used, the activities carried out by the organization, the emission factors applied and the results obtained.

1.1. INFORMATION ABOUT THE ORGANIZATION

- Company name: EP-Belt doo Loznica
- Main activity: Production of technical fabrics based on polyester and polyamide
- Address: First of May bb, 15300 Loznica
- Country: Republic of Serbia
- E-mail address: info@epbelt.com
- Website: <https://www.epbelt.com/>

2. SCOPE

2.1. ORGANIZATIONAL BOUNDARIES

The company EP-Belt doo Loznica was founded in October 1999 as a one-member company with limited liability. The main activity is the production of technical fabrics based on polyester and polyamide. Products - technical fabrics are used in the rubber industry for the production of conveyor belts.

The company uses machines for knitting, weaving and fabric impregnation, as well as other relevant technologies and an internal laboratory, to produce technical fabrics that are the final product of the company.

Production consists of the following technological processes:

- Raw material warehouse
- Knitting
- Weaving
- Impregnation
- Warehouse of finished products

In the plant for impregnation of technical fabric, of the company EP-Belt doo Loznica, the impregnation of raw technical fabric, which is produced in the company's plant, is carried out. Raw technical fabric is produced by weaving from finished fibers based on polyamide, PA 6.6 (polyhexamethylenedipamide - "Nylon"), PA 6 - (polycaprolactam - "Perlon") and polyester PES ("Dacron", "Diolen", "Tergal", "Trier" and others).

Technical fabrics based on PES, PA 6.6, PA 6 serve as reinforcement in conveyor belts and withstand all loads and impacts, while rubber serves to protect the fabric and thus extend its life. In order to create a bond between the fabric and the rubber, the fabric is impregnated by applying a thin layer of impregnation (approx. 5% by weight) to the fabric, which has the ability to chemically bond with the rubber.

The impregnation of technical fabrics itself is a complex process, where after dipping the fabric in the impregnation solution, a series of technological operations occur simultaneously, all with the aim of making the physical and mechanical characteristics of the fabric meet all the requirements for installation in conveyor belts.

Impregnation is performed on the impregnation line, which consists of a series of machines and devices that are interconnected and synchronized in their work through a central control cabinet for impregnation. Within the impregnation process, the key processes are:

- Placing the goods roll (fabric) on the unwinder where it joins the lauf belt on the impregnation machine.
- Immersion of the fabric in the impregnation solution is done in the pre-dryer zone, which consists of a bath for the impregnation solution, a vacuum box, the removal of the excess solution and a dryer for evaporating the water. The dryer for evaporating water is a tower with a height of 11 meters and there are four natural gas burners on it that allow a constant temperature inside the dryer.
- The drying of the fabric is done in a dryer consisting of 4 natural gas burners. Here occurs the evaporation of excess water and thermostabilization of the fabric.
- Winding of the impinged fabric
- Impregnated fabric packaging

All activities take place at two locations that are about 1.5 km apart:

1. PLANT I, Prvog maja bb Loznica
2. PLANT II "BOP", Vojvođanska (Žike Popovića), Loznica

Equivalent production processes take place at both locations, while the main offices are also located at the POGON I location.

2.2. OPERATIONAL BOUNDARIES

EP-Belt doo Loznica consolidates its GHG emissions using the control approach, whereby it includes 100% of GHG emissions from operations over which it has operational control.

Within the operational limits, and in accordance with the requirements of the GHG Protocol, the following types of emissions are included:

- Scope 1. Direct emissions - all direct emissions. Exceptions are defined in section 2.2.3
- Scope 2. Indirect emissions from purchased energy. Exceptions are defined in section 2.2.3

The period for which emissions are quantified in this report is:

January 1, 2023 - December 31, 2023

2.2.1. Scope 1. Direct emissions

Process/Activity	GHG generated	Source
Stationary sources of emissions from the consumption of fossil fuels - natural gas	CO ₂ , CH ₄ , N ₂ O	Natural gas burners with a power of 25-110 kW - 12 units Natural gas burners with a power of 30-140 kW - 4 units
Fugitive emissions in refrigeration equipment	HFC	Installation of air conditioning and cooling 530g – 1 unit 700g – 1 unit 730g – 1 unit 1650g – 1 unit 1120g – 1 unit Unknown amount of refrigerant gas - 1 unit
Emissions from mobile sources from burning fossil fuels - diesel	CO ₂ , CH ₄ , N ₂ O	A truck <ul style="list-style-type: none"> Man TGA26363 6X2 FNLLC Commercial vehicles <ul style="list-style-type: none"> CITROEN JUMPER 2.8HDI MERCEDES BENZ SPRINTER 208CDI
Emissions from mobile sources from the burning of fossil fuels - petrol	CO ₂ , CH ₄ , N ₂ O	Company cars <ul style="list-style-type: none"> DAEWOO LANOS DAEWOO LANOS
Emissions from mobile sources from burning fossil fuels - LPG (gas)	CO ₂ , CH ₄ , N ₂ O	Forklifts
Fugitive emissions from fire extinguisher equipment	CO ₂	Fire extinguishers: 5 kg – 5 units 10 kg – 1 unit

2.2.2. Scope 2. Indirect emissions from purchased electricity

Process/Activity	GHG generated	Source
Emissions from electricity consumption	CO ₂ , CH ₄ , N ₂ O	Electricity consumption

2.2.3. Exceptions

Scope 1 - direct emissions that occur as a result of process reactions - drying and thermostabilization of impregnated fabric is carried out in the dryer zone. The removal of evaporated water and gas combustion products is carried out using a fan and is carried out through the ventilation pipes outside the dryer. There is no continuous measurement of these emissions in the company, but the company hires an external testing laboratory that periodically measures emissions of polluting substances into the air. The measurement is carried out every 2-3 years, and the last report is from June 2022. Pollutants were measured according to the Regulation on limit values of pollutant emissions into the air from stationary sources of pollution, except for combustion plants ("Official Gazette of RS", no. 111/2015 and 83/2021), and the following parameters were measured: Organic compounds expressed as total carbon and Total nitrogen oxides as NO₂. According to the available data, it was not possible to conclude whether and to what extent GHG emissions occur in the drying process.

Scope 3 - This report did not analyze indirect emissions within Scope 3, the reporting of which is optional in accordance with the requirements of the GHG Protocol.

3. EMISSION SOURCES AND REMOVAL

In accordance with the previously mentioned operational boundaries, the following emission sources were taken into account during the inventory analysis:

1) Sources of direct emissions

- Fossil fuel consumption in stationary sources: natural gas for burners in the process of drying impregnated fabric
- Maintenance of air conditioning and refrigeration installations: possible leakage of HFCs
- Fossil fuel consumption in mobile sources: diesel, petrol and LPG in company vehicles and forklifts
- Fugitive emissions from fire extinguishers: possible CO₂ leakage

2) Sources of indirect emissions from purchased energy

- Electricity consumption (operation of production equipment, lighting, management, operation of air conditioners and other equipment within the organization, etc.)

4. EMISSION QUANTIFICATION METHODOLOGY

The inventory of GHG emissions for 2023 was prepared in accordance with the methodology recommended in the GHG Protocol ("Accounting and Corporate Reporting Standard of the Greenhouse Gas Protocol"), according to the following formula:

$$t \text{ CO}_{2eq} = \text{Activity data} \times \text{emission factor} \quad (1)$$

The results presented below represent tons of CO_{2eq} by emission source and scope, and follow the methodology shown in formula (1).

4.1. SCOPE 1

1. Direct emissions from stationary sources caused by the consumption of fossil fuels

STATIONARY SOURCE	
	Natural gas
Scope	1
Total activity recorded	538,615.00 m ³
Emission factor	2.03437 kg CO ₂ / m ³
	0.00307 kg CH ₄ / m ³
	0.00095 kg N ₂ O / m ³
	2.03839 kg CO _{2eq} / m ³
Total emissions (kg CO ₂)	1,095,742.20
Total emissions (kg CH ₄)	1,653.55
Total emissions (kg N ₂ O)	511.68
Total emissions (kg CO _{2eq})	1,097,907.43
Total emissions (t CO_{2eq})	1,097.91

2. Fugitive direct emissions from air conditioners

	ESKIMO LUX 2	GALANZ INFOTECH AUS18AR53 FAZ	GALANZ INFOTECH AUS12	VIVAX 12R51ME	VIVAX ACP12	GREE GWH12A CC
Scope	1	1	1	1	1	1
Refrigerant gas	R-22	R-22	R-22	R-410	R-410	R-32
Capacity	0.700 kg	1.650 kg	1.120 kg	-	0.730 kg	0.530 kg
Number of units	1	1	1	1	1	1
Total activity recorded	0 kg	0 kg	0 kg	0 kg	0 kg	0 kg
Emission factor (kg CO _{2eq} /kg)	1760	1760	1760	in 1924	in 1924	677
Total emissions (kg CO _{2eq})	0	0	0	0	0	0
Total emissions (t CO_{2eq})	0	0	0	0	0	0

3. Direct emissions from mobile sources caused by the consumption of fossil fuels (diesel, petrol, LPG)

MOBILE SOURCE			
	Diesel	Petrol	LPG
Scope	1	1	1
Activity data (liters)	5,059.49	2,888.07	9,380.25
Emission factor	2.47887 kg CO ₂ / l	2.08354 kg CO ₂ / l	1.55491 kg CO ₂ / l
	0.00029 kg CH ₄ / l	0.00806 kg CH ₄ / l	0.00136 kg CH ₄ / l
	0.03290 kg N ₂ O / l	0.00587 kg N ₂ O / l	0.00086 kg N ₂ O / l
	2.51206 kg CO _{2eq} / l	2.09747 kg CO _{2eq} / l	1.55713 kg CO _{2eq} / l
Total emissions (kg CO ₂)	12,541.82	6,017.41	14,585.44
Total emissions (kg CH ₄)	1.47	23.28	12.76
Total emissions (kg N ₂ O)	166.46	16.95	8.07
Total emissions (kg CO _{2eq})	12,709.74	6,057.64	14,606.27
Total emissions (t CO_{2eq})	12.71	6.06	14.61

4. Fugitive direct emissions from fire extinguishers

	Device CO ₂ -5	Device CO ₂ -10
Scope	1	1
Refrigerant gas	CO ₂	CO ₂
Capacity	0.700 kg	1,650 kg
Number of units	5	1
Total activity recorded	0 kg	0 kg
Emission factor (kg CO _{2eq} /kg)	1	1
Total emissions (kg CO _{2eq})	0	0
Total emissions (t CO_{2eq})	0	0

4.2. SCOPE 2

1. Indirect emissions resulting from the consumption of purchased electricity

Electricity	
Scope	2
Total activity recorded	2,128,500.00 kWh
Emission factor	0.678 kg CO _{2eq} / kWh
Total emissions (kg CO _{2eq})	1,443,123.00
Total emissions (t CO_{2eq})	1,443.12

4.3. Total annual emissions

Emissions according to Scope and activities for the year 2023 of the company EP-Belt doo Loznica are shown in the following table:

SCOPE	ACTIVITY	Emissions (t CO _{2eq})	TOTAL EMISSIONS (t CO _{2eq})
SCOPE I	Stationary combustion	1,097.91	1,131.28
	Air conditioners	0	
	Mobile combustion	33.37	
	Fire extinguishers	0	
SCOPE II	Electricity	1,443.12	1,443.12
IN TOTAL		2,574.40	

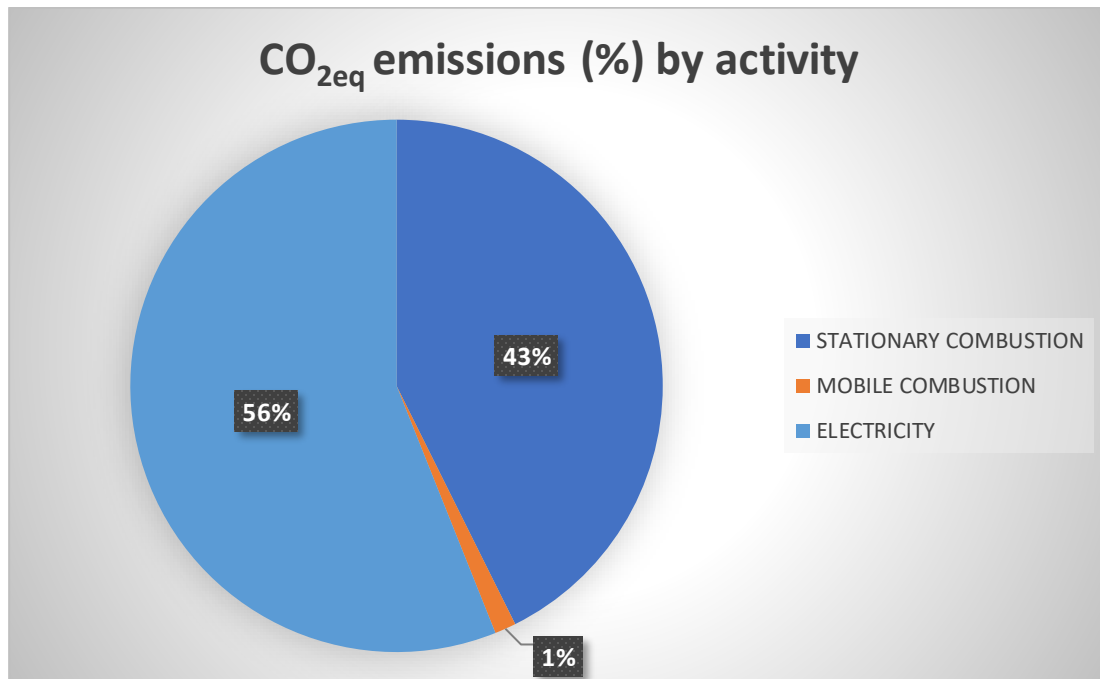


Figure 1 CO_{2eq} emissions by activities, expressed in %

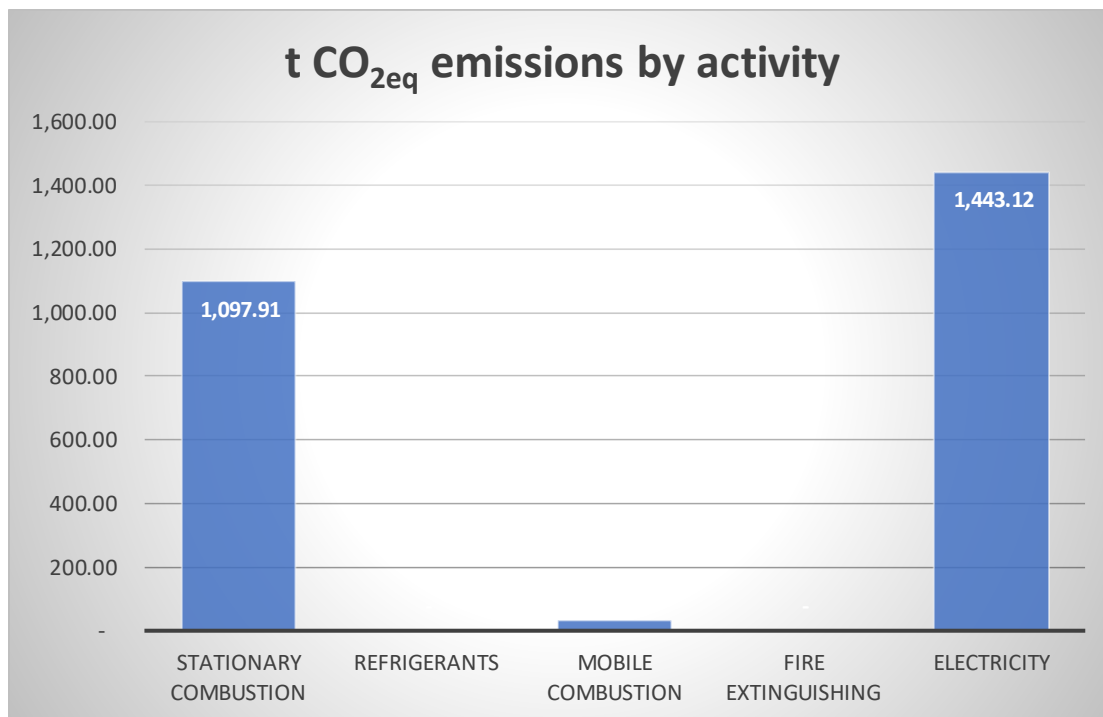


Figure 2 CO_{2eq} emissions by activities, expressed in tons of CO_{2eq}

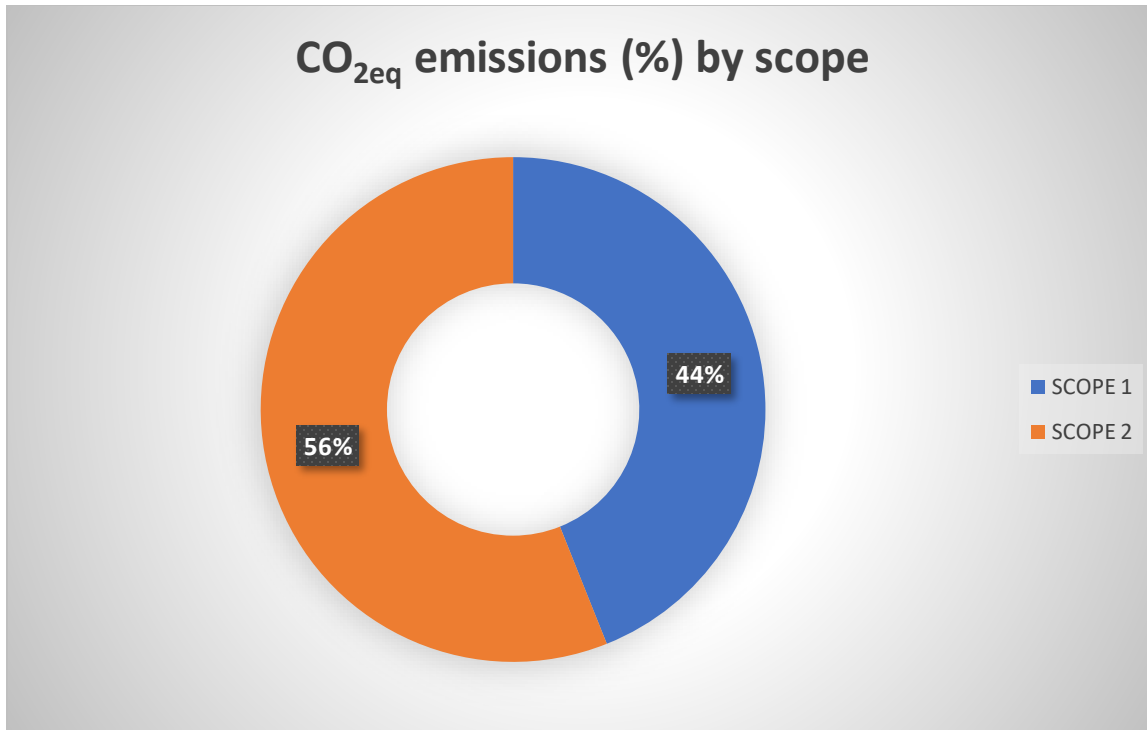


Figure 3 CO_{2eq} emissions by Scope, expressed in %

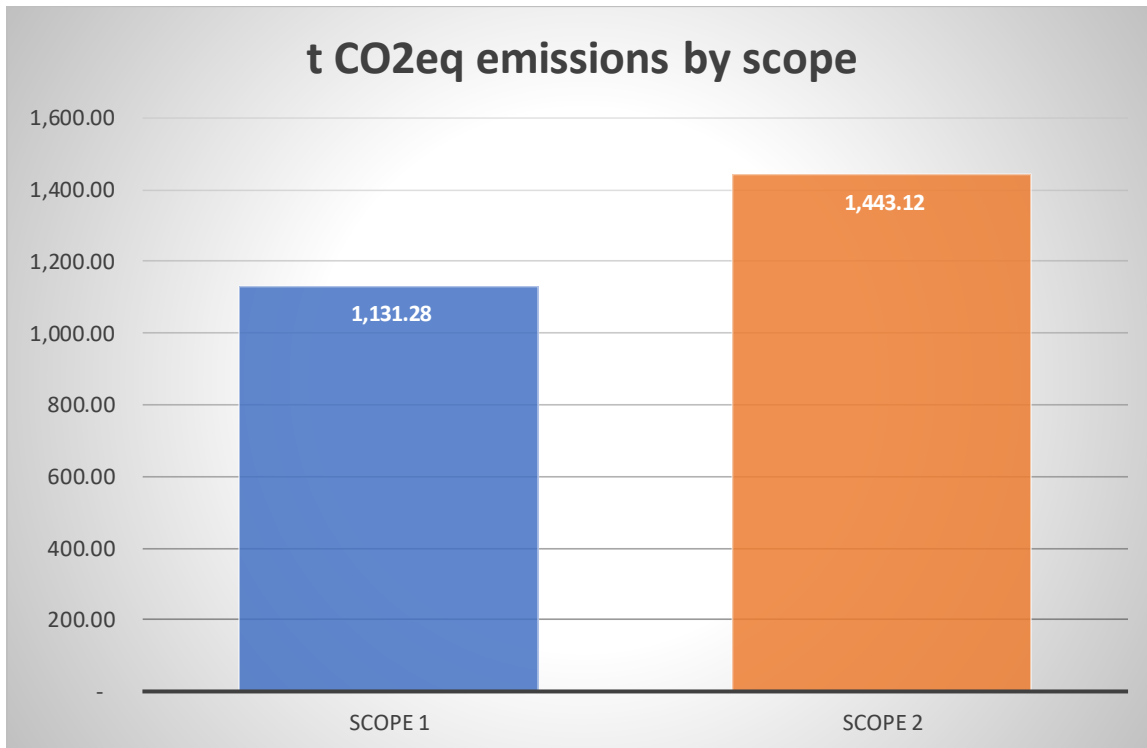


Figure 4 CO_{2eq} emissions by Scope, expressed in tons of CO_{2eq}

5. IMPACT OF UNCERTAINTY

The estimated uncertainty of emissions is a combination of the uncertainty of the emission factors and the uncertainty of the activity data.

The emission factors used in the estimation of the GHG inventory come from official sources (DEFRA, EIB) and are specific for each category of emission sources.

As for the consumption data used, they come from commercial invoices, which are subject to the applicable commercial exchange regulations and therefore the relevant metering regulations.

Consequently, from all of the above, it can be said that the emission factors and the activity data used make it possible to guarantee the smallest possible uncertainty.

6. APLIED EMISSION FACTORS

As mentioned in the previous point, the applied emission factors come from official sources. The list of applied emission factors is in the table below:

Emission factors				
Subject	Emission factor	Measurement unit	Source	Version
Stationary combustion (natural gas)	2.03839	kg CO _{2eq} / m ³	UK Government GHG Conversion Factors for Company Reporting. Department for Business, Energy & Industrial Strategy. Greenhouse gas reporting: conversion factors 2023, v1.1	Version 1.1 year 2023.
Mobile Combustion (Diesel)	2.51206	kg CO _{2eq} / liter	UK Government GHG Conversion Factors for Company Reporting. Department for Business, Energy & Industrial Strategy. Greenhouse gas reporting: conversion factors 2023, v1.1	Version 1.1 year 2023.
Mobile combustion (Petrol)	2.09747	kg CO _{2eq} / liter	UK Government GHG Conversion Factors for Company Reporting. Department for Business, Energy & Industrial Strategy. Greenhouse gas reporting: conversion factors 2023, v1.1	Version 1.1 year 2023.

Mobile Combustion (LPG)	1.55713	kg CO _{2eq} / liter	UK Government GHG Conversion Factors for Company Reporting. Department for Business, Energy & Industrial Strategy. Greenhouse gas reporting: conversion factors 2023, v1.1	Version 1.1 year 2023.
Refrigerant gas (R-22)	1760	kg CO _{2eq} / kg	UK Government GHG Conversion Factors for Company Reporting. Department for Business, Energy & Industrial Strategy. Greenhouse gas reporting: conversion factors 2023, v1.1	Version 1.1 year 2023.
Refrigerant gas (R-410)	in 1924	kg CO _{2eq} / kg	UK Government GHG Conversion Factors for Company Reporting. Department for Business, Energy & Industrial Strategy. Greenhouse gas reporting: conversion factors 2023, v1.1	Version 1.1 year 2023.
Refrigerant gas (R-32)	677	kg CO _{2eq} / kg	UK Government GHG Conversion Factors for Company Reporting. Department for Business, Energy & Industrial Strategy. Greenhouse gas reporting: conversion factors 2023, v1.1	Version 1.1 year 2023.
Fire extinguishers	1	kg CO _{2eq} / kg	UK Government GHG Conversion Factors for Company Reporting. Department for Business, Energy & Industrial Strategy. Greenhouse gas reporting: conversion factors 2023, v1.1	Version 1.1 year 2023.
Electricity	0.678	kg CO _{2eq} / kWh	EIB Project Carbon Footprint Methodologies - Methodologies for the Assessment of Project GHG Emissions and Emission Variations - Table A1.3 Country Specific Electricity emission factors, page 35, January 2023, v11.3	Version 11.3 year 2023.

7. BASE YEAR

Companies must select and report a base year for which reliable emissions information is available; They should also specify the reasons that led to selection of that year. Most companies choose one year as the base year. However, it is possible to choose the average of annual emissions for several consecutive years as a basis.

Companies should choose as a base year the furthest away in time, but also relevant for current operations, and for which there is reliable and complete information.

The company EP-Belt doo Loznica has chosen the calendar year 2023 (from January 1, 2023 to December 31, 2023) as the base year for calculating the organizational carbon footprint, which coincides with the calculation period as it is the first year that a Carbon Footprint calculations is carried out. A fixed base year has the advantage of allowing emissions data to be compared to a common baseline.

8. EVOLUTION OF THE CARBON FOOTPRINT

As this is the first year of calculating the carbon footprint, it is not possible to present and analyze its evolution.

9. CARBON FOOTPRINT REDUCTION PLAN

In December 2023, a solar power plant with a total installed power of 400 kW was put into trial operation at the location of POGON II "BOP", Vojvođanska (Žike Popovića), Loznica. This is expected to reduce the carbon footprint in the next accounting period, because the electricity obtained from solar energy will contribute to the reduced consumption of purchased electricity and the reduction of GHG emissions within Scope 2.

APPENDIX 1: TERMS AND DEFINITIONS

- Greenhouse Gases (GHGs): A gaseous component of the atmosphere, both natural and anthropogenic, that absorbs and emits radiation at specific wavelengths within the spectrum of infrared radiation emitted by the Earth's surface, atmosphere, and clouds.
- GHG source: A physical unit or process that releases GHGs into the atmosphere.
- GHG sink: A physical unit or process that removes GHGs from the atmosphere.
- GHG emission: The total mass of GHG released into the atmosphere in a given period.
- GHG removal: The total mass of GHG removed from the atmosphere in a given period.
- GHG emissions or removal factor: A factor that relates activity data to GHG emissions or removals.
- Direct GHG emission: GHG emission from GHG sources owned or controlled by the organization.
- Indirect GHG emission by energy: GHG emission that comes from the production of electricity, heat or steam from external sources that is consumed by the organization.
- Other indirect GHG emissions: GHG emissions other than indirect GHG emissions from purchased energy, which are a consequence of the organization's activities, but originate from GHG sources owned or controlled by other organizations.
- GHG Statement: A factual and objective statement or assertion by the responsible party.
- GHG Inventory: sources, sinks, emissions and removals of GHG within the organization.
- GHG Report: A stand-alone document intended to convey information related to an organization's GHG to interested parties.
- Global Warming Potential: A factor that describes the impact of a radiative forcing unit based on a given GHG mass, relative to an equivalent unit of carbon dioxide in a given period.
- Base Year: A specified historical period, for the purpose of comparing GHG emissions or removals or other GHG-related information over a period of time.
- Facility: A single facility, a set of facilities or production processes (static or mobile), which can be defined within a single geographical boundary, organizational unit or production process.
- Organization: a company, corporation, firm, enterprise, authority, or institution, or part or combination thereof, whether formally constituted or not, whether public or private, having its own functions and administration.

- **Responsible Party:** The person or persons responsible for providing GHG communications and supporting GHG information.
- **Targeted action:** A specific activity or initiative not organized as a GHG project, carried out by an organization to reduce or prevent direct or indirect GHG emissions, or increase GHG removals.
- **Monitoring:** Periodic or ongoing assessment of GHG emissions or removals or other GHG-related data.
- **Verification:** A systematic, independent and documented process for evaluating the GHG claims in the GHG project plan in accordance with the verification criteria.
- **Uncertainty:** A parameter associated with a quantification result that characterizes the dispersion of values that can reasonably be attributed to the quantified quantity.