MEKA GLOBAL
MAKİNE İMALAT SANAYİ VE TİCARET ANONİM ŞİRKETİ

YEAR 2023 ISO 14064-1:2018

GREENHOUSE GAS INVENTORY REPORT

11.06.2025 / Rev.00

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1. INTRODUCTION

This report, Merkez İsmet İnönü Blv. No:12, 06909 Malıköy Başkent OSB Sincan/ANKARA, Factory İsmet İnönü Blv. It provides a detailed report of the carbon footprint of the activities of MEKA Global Makine İmalat Sanayi ve Ticaret A.Ş., located in
Tayyip Erdoğan Bul. No:10, 06909 Malıköy Başkent OSB Sincan/ANKARA,
Atatürk Bul. No:13, 06909 Malıköy Başkent OSB Sincan/ANKARA,
Başkent Bul. No:4, 06909 Malıköy Başkent OSB Sincan/ANKARA,
OSB 2.cad No:14 Odunpazarı/Eskişehir
Company Scope ANKARA: Concrete Batching Plant, Concrete Batching Equipment Manufacturing, Crushing & Screening Plant and Crushing & Screening Equipment Manufacturing
Company Scope ESKIŞEHIR: Concrete Batching Plant, Mixer and Machinery Manufacturing

1.1. COMPANY INTRODUCTION

MEKA was founded in 1987 as an R&D and innovation center developing advanced engineering projects in Ankara by Mehmet Kaybal, an enterprising and innovative young man who gained managerial experience in global companies after graduating from Boğaziçi University's Mechanical Engineering Department with top honors.

As a visionary enterprise that well analyzes the sector dynamics and changing world conditions, it started to produce construction and construction machinery in a short time and became one of the pioneers of its sector. MEKA GLOBAL, an industrial manufacturer with Turkish capital, is today a brand with worldwide recognition and respect in its two main areas of activity.

We have the ability and experience to design and produce concrete plants and equipment for every capacity and production type. We are among the global leaders in this field with the concrete batching plant expertise that comes from the roots of the MEKA brand and the over 4000 active power plants we have installed around the world. We have a wide product range to meet the needs of the entire spectrum, from the smallest construction site to the largest projects, from the ready-mixed concrete industry to the precast industry, with mobile, fixed, compact, construction site type, RCC, Precast concrete batching plants.

All data collected and analyzed in this report have been created in line with the principles of relevance, integrity, consistency, transparency and accuracy of the World Resources Institute (WRI) Greenhouse Gas Protocol (GHG), the most widely used international carbon calculation methodology. The GHG Protocol is recognized as the most widely used international calculation tool for government and business leaders to understand, measure and manage their greenhouse gas emissions.

1.2. STUDY RELATED INFORMATION

MEKA Global has prepared the aforementioned corporate carbon footprint report by using the data of 2023. In order to be a building-manufacturing company with a low carbon footprint, it has defined Greenhouse Gas Emission sources, calculated and reported the emission amounts.

Corporate carbon footprint study was carried out in line with MEKA Global data for 2023.

1.2.1. REPORT PREPARATION RESPONSIBILITY

In this report, considering the ISO 14064-1:2018 Standard and the GHG Greenhouse Gas Protocol Calculation and Reporting Standards, the total Corporate Carbon Footprint values arising from the operations and activities of MEKA Global have been calculated. Tasks are also defined for Greenhouse Gas studies.

Company Representative and Data Responsible: Muhsin BALLI

1.2.2. PURPOSE AND SCOPE

The purpose of this report is to calculate the direct and indirect greenhouse gases released to the atmosphere during the production activities of MEKA Global Makine İmalat Sanayi ve Ticaret A.Ş. in terms of CO_2e.

CO_2 is a greenhouse gas that causes climate change and disruption of ecological balance. While calculating the amount of CO_2 emission, not only emissions from production, but also transportation, heating, energy consumption, waste, material usage and the product produced are taken into account.

This report, prepared within the framework of "TS EN ISO 14064-1:2018 Greenhouse Gases-Part 1: Principles and features regarding the calculation and reporting of greenhouse gas emissions and removals at the organizational level", covers the calculation according to categories. The Carbon Footprint Calculation Report has been planned according to the 9.2 article of the TS EN ISO 14064-1:2018 Standard. The content of the report has been prepared in accordance with TS EN ISO 14064-1:2018 article 9.3.

Institutions and organizations determine national and international climate change policies and manage measures to reduce greenhouse gas risks in order to turn current and future risks into opportunities.

In this context, this report covers the activities of MEKA Global Makine İmalat Sanayi ve Ticaret A.Ş.

- ✓ Calculating the impact on climate change,
- ✓ Reporting in accordance with ISO 14064-1:2018 Standard,
- ✓ Contributing to the formation of the Carbon Management Plan,
- ✓ It has been prepared with the aim of raising awareness and awareness of subcontractor companies of MEKA Global Makine İmalat Sanayi ve Ticaret A.Ş. within its body on climate change, energy efficiency and sustainability.

1.3. TERMS AND DEFINITIONS

- ✓ **CO_2 Equivalent / CO_2e:** It is an international unit obtained by expressing the global warming potentials (GWP) of six greenhouse gases in carbon equivalent with the Greenhouse Gas potential of one unit of CO_2. It is used to establish a common denominator in the assessment of different GHG Emissions (or their reduction).

- ✓ **Direct Emissions:** Emissions from sources controlled or owned by the organization.

- ✓ **Indirect Emissions:** Emissions arising from the activities of the organization but from sources owned or controlled by another organization. An organization's indirect emissions, the electricity it buys, etc. Includes production-related emissions.

- ✓ **Emission Factor:** It is a factor that allows GHG Emissions to be calculated from one unit of activity data (For example, fuel consumed in tons, product produced in tons and final greenhouse gas emissions.

- ✓ **The Most Appropriate Techniques:** It is the most effective and advanced technique in the development of activities and application methods that reveal the real suitability of special techniques that provide emission limit values, which are designed in principle to prevent the effects of emissions on the environment in all aspects and, where this is not possible, to reduce emissions and their effects on the environment as much as possible. is called a phase.

- ✓ **Global Warming Potential:** It is the factor that shows the radiative forcing effect (Degree of Damage to Atmosphere) of one unit of a Greenhouse Gas compared to one unit of carbon dioxide.

- ✓ **Scope:** Used in the GHG Protocol to define the boundaries between different types of direct and indirect emissions.
  Scope I: Direct Greenhouse Gas Emissions made by the reporting institution,
  Scope II: Greenhouse Gas Emissions originating from steam purchased by the reporting organization for electricity, heating/cooling or consumption purposes,
  Scope III: Indicates the reporting organization's non-Scope II Indirect Greenhouse Gas Emissions.

- ✓ **Greenhouse Gas:** These are gases that regulate the heat balance because they are permeable to sunlight and much more permeable to long-wavelength ground radiation. These Greenhouse Gases are the six gases listed in the Kyoto Protocol and these gases are; Carbon Dioxide (CO_2), Methane (CH_4), Nitrose Oxide (N_2O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs) and Sulfur hexafluoride (SF_6) gases.

- ✓ **Greenhouse Gas Protocol:** It is a standard for Corporate Greenhouse Gas Emission calculation and reporting.

1.4. GREENHOUSE GASES AND CARBON FOOTPRINT

Carbon footprint: It is the measurement of greenhouse gases and the expression of the environmental effects caused by all kinds of activities of individuals, institutions and organizations in terms of Carbon Dioxide Equivalent (CO_2e). The definition of Greenhouse Gases determined by the Kyoto Protocol includes Carbon Dioxide (CO_2), Methane (CH_4), Nitrous Oxide (N_2O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs) and Sulfur hexafluoride (SF_6) gases and they are used to determine their amounts. One unit of Carbon Dioxide Equivalent (CO_2e) is used.

The effect of Greenhouse Gases on global warming is shown in Figure 1 with ratios.

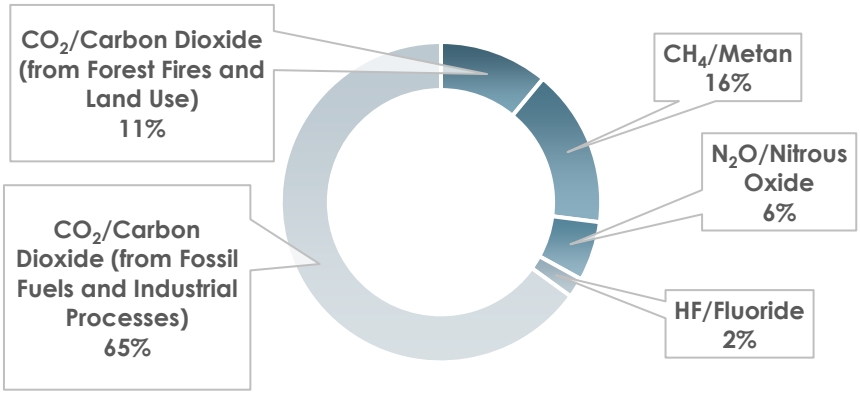

Figure 1. Effects of Different Greenhouse Gases on Global Warning

The development of industry changes the chemical content of the atmosphere, causes the accumulation of greenhouse gases in the atmosphere, especially the increase in CO_2, CH_4 and N_2O levels. If no precautions are taken, global warming will cause an increase in sea level, change in local climate conditions, and negative effects on vegetation and water resources.

The effect of economic activities on Greenhouse Gas Emissions is shown in Figure 2 with ratios

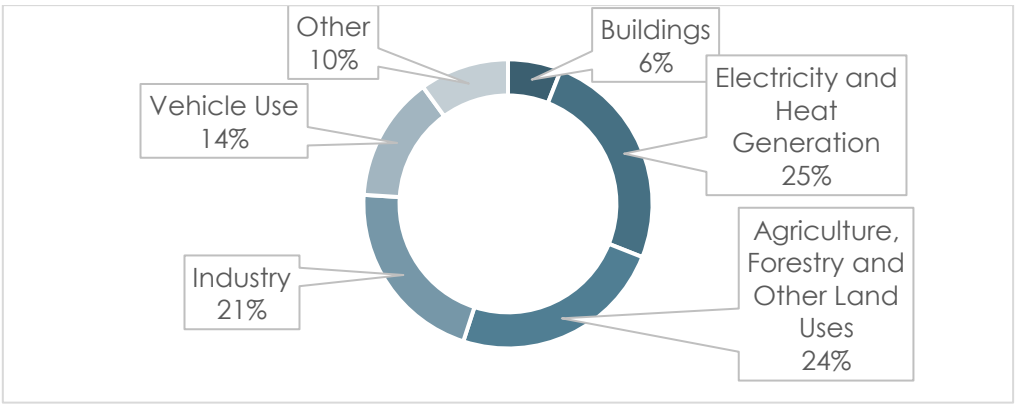

Figure 2. Distribution of Global Greenhouse Gas Emissions by Economic Sectors

Global warming affects the health of living things, causes the deterioration of many ecosystems, and continues to be. Therefore, individuals, companies, organizations and governments need to act together to reduce carbon emissions.

1.4.1. CARBON FOOTPRINT CALCULATION STANDARDS

GHG Protocol and ISO 14064-1:2018 Standard are the most widely used carbon footprint calculation methods in Turkey. Other standards used in corporate carbon footprint calculations are as follows;

- Carbon Disclosure Project (Carbon Disclosure Project)
- CRC Energy Efficiency Program (CRC Energy efficiency Scheme)
- EPA Climate leader
- US Regional Greenhouse Gas Initiative (US Regional Greenhouse Gas Initiative)

1.4.1.1. GREENHOUSE GAS PROTOCOL

The GHG Protocol has been prepared to support all aspects of GHG emission calculation and reporting. It aims to report the greenhouse gas emissions of institutions accurately and fairly.
The GHG Protocol breaks down emissions into operational scopes for effective greenhouse gas management. According to this principle, emissions are basically divided into direct and indirect emissions.

- ✓ **Direct Emissions: Emissions** from sources owned or controlled by the organization.
- ✓ **Indirect Emissions: Emissions** from the activities of the organization or the activities that the organization controls.

In order to facilitate the calculation of direct and indirect emissions, the sources are divided into 3.

- ✓ **Scope I:** Direct Emissions (Greenhouse Gas Emissions generated by the company and made directly to the atmosphere. These are; Fixed combustion emissions from the fuels used in the process, on- road and off -road emissions of the company. It includes mobile combustion emissions from road vehicles, and refrigerant gas leaks from coolers and air conditioners.)
- ✓ **Scope II:** Indirect Emissions (Includes emissions generated during electricity, heating and cooling purchased by the company.)
- ✓ **Scope III:** Other Indirect Emissions (These are emissions from goods and services purchased by the company, logistics, waste disposal, hotel accommodation, water consumption and other external uses.)

Direct and Indirect Greenhouse Gas Emissions are shown in Figure 3.

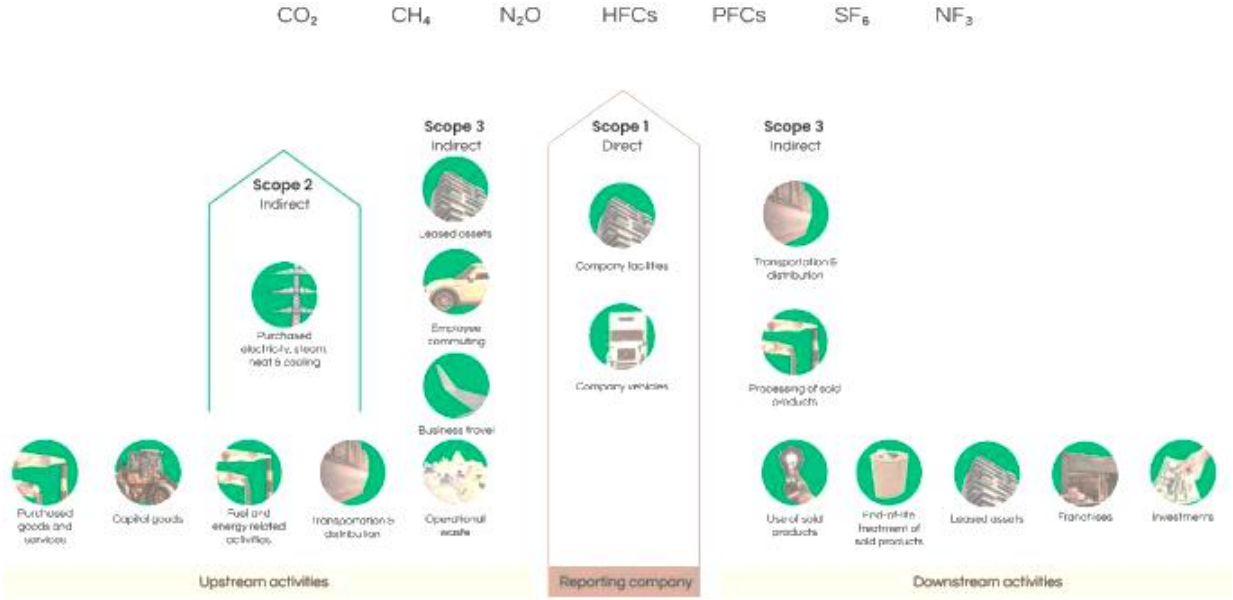

Figure 3. Direct and Indirect Emission Sources

1.4.1.2. ISO 14064-1:2018 STANDARD

International Organization for Standardization for Standardization is one of the world's largest standards publisher non-governmental organizations. The ISO 14064-1:2018 Standards published by this organization provide information on how to calculate and report greenhouse gas emissions and consist of three parts.

- ✓ **ISO 14064-1:2018 Greenhouse Gases Part I:** Guidance and Specifications Standard for Establishment Level Calculation and Reporting of Greenhouse Gas Emissions and Removals.
  - It provides information on the calculation and reporting of greenhouse gas emissions at the organizational level.
- ✓ **ISO 14064-2:2018 Greenhouse Gases Part II:** Guidance and Specifications Standard for Project Level Calculation, Monitoring and Reporting of Greenhouse Gas Emission Reductions or Removal Improvements.
  - It provides information on the calculation, monitoring and reporting of greenhouse gas emissions on a project basis.
- ✓ **ISO 14064-3:2018 Greenhouse Gases Part III:** Guidance and Specifications Standard for Verification and Validation of Greenhouse Gas Claims.
  - It provides information on the principles required for the validation and verification of greenhouse gas emission inventories.

2. WORKING METHOD

The aforementioned study is “GHG Protocol Corporate Accounting and Reporting Standards” prepared by GHG Protocol for MEKA Global Makine İmalat Sanayi ve Ticaret A.Ş. Reporting Standard)” and ISO 14064-1:2018 standards.
In accordance with the GHG Protocol, the reporting of Scope I, II and III emissions is mandatory. The reporting of gases other than the greenhouse gases defined in the Kyoto Protocol is outside the scope and must be reported separately. MEKA Global Makine İmalat Sanayi ve Ticaret A.Ş. reported all of its scopes by including it in its account.

Exclusions ;

- ✓ The account has not been excluded for any reason.

Indirect emission acceptance criteria have been determined according to the effect size specified in the Greenhouse Gas Emission Procedure, and indirect emissions that have an effect of 0.1% or higher on total indirect emissions are as follows.

Emission Sources	Amount (Ton CO2e)	Percent Effects
Electricity Consumption	844,58	8,244%
Services	203,08	1,982%
Logistics	275,62	2,690%
Travels	28,69	0,280%
Accommodation	66,65	0,651%
Water Consumption	2,95	0,029%
Purchased Goods/Raw Materials	8.616,27	84,107%
Domestic Waste and Domestic Wastewater	71,05	0,694%
Solid Waste	1,51	0,015%
End-of-life treatment of sold products	8,88	0,087%
Fuel and Energy Transmission/Distribution	125,08	1,221%
Total	10.244,36	%100

Table 1. Impact Percentages of Indirect Emissions

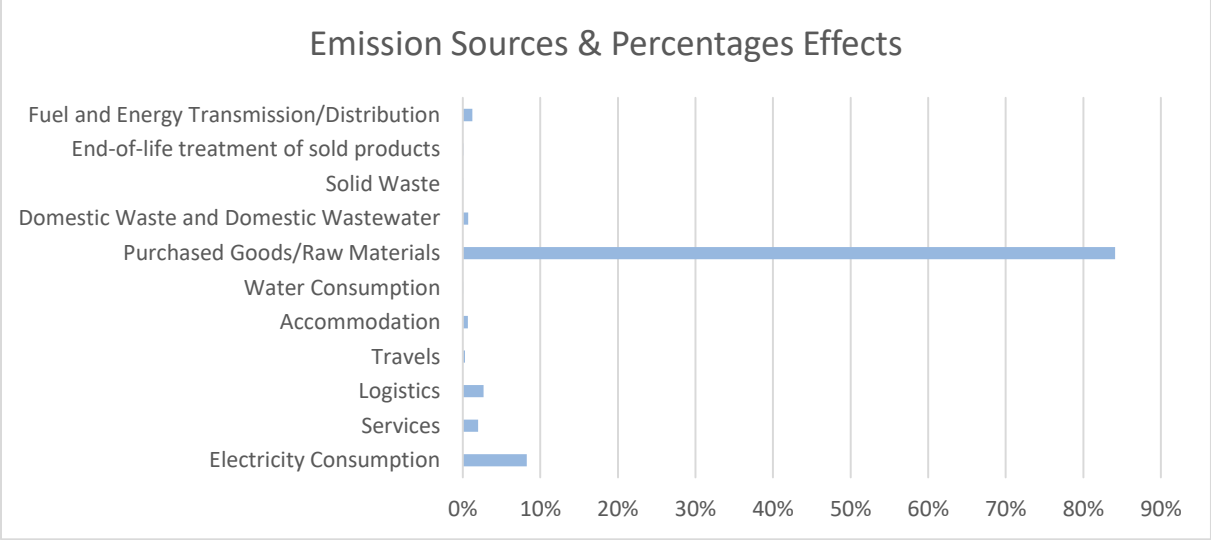

Figure 4. Emission Sources & Percentage Effects

Indirect Emission Determination Criteria: In the meetings held with the Greenhouse Gas Management Team and institution officials from different departments, the criteria related to the prioritization of indirect emissions were determined as Impact, Risk and Dimension. Their definitions are described in the table below. For direct emissions, the calculation will be made in every way, and for other indirect emissions, emissions with a ratio of 0,1% to total indirect emissions will be included.

Criterion	Explanation
Dimension	They contribute significantly to the company's total expected indirect emissions.
Effect	Emissions with potential emission reductions that can be undertaken or affected by the company are evaluated.
Risk	They contribute to the company's exposure to risk (for example, climate change-related risks such as financial, regulatory, supply chain, product and customer, litigation and reputational risks)

Table 2. Size, Impact & Risk Criteria

MEKA Global Makine İmalat Sanayi ve Ticaret A.Ş. reviews the indirect emission prioritization criteria when the following conditions are met;

- ✓ Changes in production activities,
- ✓ Capacity increase,
- ✓ Process change,
- ✓ Product change,
- ✓ Change in sectoral priorities,

Changes are brought to the agenda by the Greenhouse Gas Management Team and the decision to review the criteria is considered.

Acceptances;

- ✓ Refrigerant Gas in Direct Emissions data is provided by comparing air conditioner labels and MMR records, and the refrigerant gases for which the MMR records do not specify the filling amount are calculated by assuming the loss and leakage rates according to IPCC Volume 3, Chapter 7, Table 7.9. These rates are clearly indicated in the table below.

Equipment Name	Leakage Rate (%)	Reference
Refrigerator	0,1	IPCC Volume 3 , Cahapter 7, Table 7.9 (ESTIMATES FOR CHARGE, LIFETIME AND EMISSION FACTORS FOR REFRIGERATION AND AIR-CONDITIONING SYSTEMS)
Water Dispenser	0,1	
Air Conditioner	1	
Portable Air Conditioner	10	
Commercial Cooler	10	
Vehicle Air Conditioner	15	
Cold Storage	7	
Chiller	2	
Fire Extinguishing System	2	https://www.ipcc.ch/pdf/special-reports/sroc/sroc09.pdf
Fire Extinguisher	4	
Transformer Breaker Gas	2,6	IPCC Volume 3 , Cahapter 8, Table 8.3 (CLOSED PRESSURE ELECTRICAL EQUIPMENT (HV SWITCHGEAR) CONTAINING SF6: DEFAULT EMISSION FACTORS)

Table 3. Leakage Rates of Refrigerants

- ✓ In the calculation, raw material-based emission factors are taken according to the general name of the material according to SimaPro (Ecoinvent 3.10) and DEFRA 2023 data.
- ✓ Domestic waste and Domestic Wastewater amount was calculated with TUİK per capita data.
- ✓ The data for employee services is the distance traveled per year and was adopted by selecting the appropriate emission factor from DEFRA-GHG Conversion Factors 2022 Managed assets vehicle, Managed car (by size).

- ✓ Since the company's accommodation and travel data are kept common for 4 locations, they are included in the calculation proportionally (%92 MEKA 2, %4 MEKA 1, %2 MEKA 4 ve %2 MEKA Eskişehir)
- ✓ MEKA 3 operates within the scope of After Sales Services. MEKA 3 accommodation and travel data are also included in the calculation.
- ✓ The company's MEKA 1, MEKA 2, MEKA 3 and Meka 4 branches in Ankara were calculated proportionally (%25 MEKA 1, %45 MEKA 2, %10 MEKA 3 ve %20 MEKA 4) since they use the services jointly.

2.1. PRINCIPLES AND POLICY

Seven main greenhouse gases contribute to climate change under the Kyoto Protocol. These; CO_2, CH_4, N_2O, HFCs, PFCs, SF_6 and NF_3 gases. Different activities emit different gases and the GHG gases produced by the activities are reported according to the Kyoto Protocol.
MEKA Global Makine İmalat Sanayi ve Ticaret A.Ş. consumption data has been provided within the scopes to be used in carbon footprint calculations.

MEKA Global Makine İmalat Sanayi ve Ticaret A.Ş. 2023 carbon footprint calculation and reporting were carried out in accordance with international standards and methods, ISO 14064-1:2018 and GHG Protocol Standards. These standards are;

- ISO 14064 Part-1: Specification Containing Organization-Level Guidance for Measuring and Reporting Greenhouse Gas Emissions and Removals

- The general principles within the framework of the ISO 14064-1:2018 standard compliance with the Corporate Calculation and Reporting Standard of the Greenhouse Gas Protocol are given below.

Eligibility with Relevance	GHG sources, GHG sinks, GHG reserves, data and methodologies should be selected in accordance with the needs of the organization.
Completeness	All relevant GHG emissions and removals are included.
Validity	The Carbon Footprint inventory in question appropriately reflects the Greenhouse Gas Emissions within MEKA Global Makine İmalat Sanayi ve Ticaret A.Ş. and serves the decision-making needs of users.
Integrity	The said Carbon Footprint Inventory is calculated for all Greenhouse Gas Emission sources within the system boundaries created within MEKA Global Makine İmalat İnşaat Sanayi ve Ticaret A.Ş.
Consistency	This calculation and report follow a valid methodology that is comparable for future studies. Meaningful comparisons are enabled in GHG related information.
Truth	MEKA Global Makine İmalat İnşaat Sanayi ve Ticaret A.Ş. confirms that all uncertainties in the Carbon Footprint study have been minimized and no data has been ignored within the limits of the system. Assumptions and uncertainties have been reduced as much as possible.
Transparency	MEKA Global Makine İmalat Sanayi ve Ticaret A.Ş. transparently discloses in the report the assumptions made about the study within the scope of the study and provides references to data quality and data sources in the report. Sufficient and appropriate GHG-related information is presented with reasonable confidence to allow target users to make decisions.

Table 4. Company Principles

3. GREENHOUSE GAS EMISSIONS INVENTORY LIMITS

3.1. ORGANIZATIONAL BOUNDARIES

As MEKA Global Makine İmalat Sanayi ve Ticaret A.Ş. an operational control approach has been adopted for the address given below, which has 100% financial and operational control.

Institution Name, Address and Coordinates

- ✓ Company Name: MEKA Global Makine İmalat Sanayi ve Ticaret A.Ş.
- ✓ Company Addresses:
  Ankara Merkez, Başkent Organize San. Böl. İsmet İnönü Bul. No:12, 06909 Malıköy Başkent OSB Sincan/ANKARA
  Ankara Fabrika, Tayyip Erdoğan Bul. No:10, 06909 Malıköy Başkent OSB Sincan/ANKARA,
  Ankara Fabrika, Atatürk Bul. No:13, 06909 Malıköy Başkent OSB Sincan/ANKARA,
  Ankara Fabrika, Başkent Bul. No:4, 06909 Malıköy Başkent OSB Sincan/ANKARA,
  Eskişehir Fabrika, Organize San. Böl. 2.cad no:14 Odunpazarı/Eskişehir

3.2. REPORTING LIMITS

MEKA Global Makine İmalat Sanayi ve Ticaret A.Ş. has calculated all of the greenhouse gas emissions of the location whose coordinates and address were given in the previous title, taking into account all of its locations.

Emissions by category;

- Direct Emission Sources: Category 1
- Indirect Greenhouse Gas Emissions from Imported Energy: Category 2
- Emissions from Transportation: Category 3
- Product Emissions: Category 4
- Emissions from Product Use: Category 5
- Greenhouse Gas Emissions from Other Sources: Category 6

The company made its calculations in six categories.

ISO 14064 Category	Source	Activity Data Source	Gas Attribute
Category 1 - Direct Greenhouse Gas Emissions and Removals	Fuels	Natural Gas Bills	CO_2, CH_4, NO_2
	Company Vehicles	Company Vehicles Fuel Consumption Data	CO_2, CH_4, NO_2
	Refrigerants	Refrigerator Label Information	CO_2
Category 2 - Indirect Greenhouse Gas Emissions from Imported Energy	Electricity Consumption	Electricity Bills	CO_2, CH_4, NO_2
Category 3 - Indirect Greenhouse Gas Emissions from Transport	Services	Service Vehicles km Data	CO_2, CH_4, NO_2
	Logistics	Logistic Vehicle Billing Information	CO_2
	Travels	Travel Tickets	CO_2, CH_4, NO_2
	Accommodation	Accommodation Records	CO_2
Category 4 - Indirect Greenhouse Gas Emissions from Products Used by the Organization	Water Consumption	Water Bills	CO_2
	Purchased Goods/Raw Materials	Raw Material Usage Amounts	CO_2
	Domestic Waste and Domestic Wastewater	Number of Employees, Number of Working Days	CO_2
	Solid Waste	Waste Declaration	CO_2
Category 5 - Indirect greenhouse gas emissions associated with the use of products from the organization	End-of-life treatment of sold products	Produced Product Information	CO_2
Category 6 - Greenhouse Gas Emissions from Other Sources	Fuel and Energy Transmission/Distribution	Electricity Bills	CO_2

Table 5. Emission Sources/Source Data Records/Category and Scope Assessments

4. RESULTS FOR 2023 BY INVENTORY CATEGORIES

ISO 14064 Category	Source	Total Emission Meka-1, Meka-2, Meka-3, Meka 4, Meka Eskişehir Ton CO_2e	CO_2 kg	CH_4 kg	NO_2 kg
Category 1 - Direct Greenhouse Gas Emissions and Removals	Fuels	594,60	594599,7	306,7	311,2
	Company Vehicles	375,50	375502,6	543,0	5344,7
	Refrigerants	131,25	131248,7		
Category 2 - Indirect Greenhouse Gas Emissions from Imported Energy	Electricity Consumption	844,58	844579,7	201,1	3017,1
Category 3 - Indirect Greenhouse Gas Emissions from Transport	Services	203,08	203076,4	4,5	1627,6
	Logistics	275,62	275620,6		
	Travels	28,69	28690,5	2,3	240,8
	Accommodation	66,65	66649,2		
Category 4 - Indirect Greenhouse Gas Emissions from Products Used by the Organization	Water Consumption	2,95	2889,3		
	Purchased Goods/Raw Materials	8.616,27	8616267,6		
	Domestic Waste and Domestic Wastewater	71,05	71052,9		
	Solid Waste	1,51	1509,7		
Category 5 - Indirect greenhouse gas emissions associated with the use of products from the organization	End-of-life treatment of sold products	8,88	8884,4		
Category 6 - Greenhouse Gas Emissions from Other Sources	Fuel and Energy Transmission/Distribution	125,08	125082,3		

Table 6. 2023 Year Results by Inventory Categories and Units

- ✓ Anthropogenic or Biogenic fuels are not available in MEKA Global.

5. QUANTIFICATION OF GREENHOUSE GAS EMISSIONS

MEKA Global Makine İmalat Sanayi ve Ticaret A.Ş. corporate carbon footprint calculation study was multiplied by the relevant emission factors and the emission data according to the activities were obtained in terms of carbon dioxide equivalent (CO_2).

The carbon dioxide equivalent is obtained by multiplying the mass of the given greenhouse gas and its global warming potential. The potentials were determined by the Kyoto Protocol and are given in Table 6.

IPCC, Intergovernmental Panel on Climate Change-6. Evaluation Report global warming potential data was used.

Greenhouse Gas Type	Global Warming Potential (100 years, CO_2e)
Carbon dioxide (CO_2)	1
Methane (CH_4)	27,9
Diazot Monoxide (N_2O)	273

Table 7. Global Warming Potentials

Global Warming Potential Potential (GWP), expressed in carbon dioxide equivalent, is the unit used to compare the radiant power of a greenhouse gas with carbon dioxide. The carbon dioxide equivalent of a greenhouse effect gas is obtained by multiplying the gas mass by the carbon dioxide equivalent.

MEKA Global Makine İmalat Sanayi ve Ticaret A.Ş. Footprint calculations have been calculated in line with the data within the scope of the period between 1 January 2023 and 31 December 2023.

Base Year: The year 2022 has been selected. The calculation and inventory report, which will be renewed every year after this date, will be analyzed based on the year 2022.

Calculation Methodology and Resources

Natural Gas / Diesel / E= Activity data *Density*0.000001 DD*NKD* Emission factor

Propane E= Activity data * Emission factor

(Calculated using the Tier 1 approach.)

Consumption amount data consisting of emission sources shown in the table is the data recorded within MEKA Global Makine İmalat Sanayi ve Ticaret A.Ş. within the company; data accepted, neglected or not calculated are described below by emission categories.

Direct Emissions	1.101,35	Ton CO_2e
Indirect Emissions	10.244,36	Ton CO_2e
Total Carbon Emission Amount (Emission&Sink)	11.345,71	Ton CO_2e

Table 8. Total Emission Values

ISO 14064 Category	Source	Total Emission Meka-1, Meka-2, Meka-3, Meka 4, Meka Eskişehir
		Ton CO_2e
Category 1 - Direct Greenhouse Gas Emissions and Removals	Fuels	594,60
	Company Vehicles	375,50
	Refrigerants	131,25
Category 2 - Indirect Greenhouse Gas Emissions from Imported Energy	Electricity Consumption	844,58
Category 3 - Indirect Greenhouse Gas Emissions from Transport	Services	203,08
	Logistics	275,62
	Travels	28,69
	Accommodation	66,65
Category 4 - Indirect Greenhouse Gas Emissions from Products Used by the Organization	Water Consumption	2,95
	Purchased Goods/Raw Materials	8.616,27
	Domestic Waste and Domestic Wastewater	71,05
	Solid Waste	1,51
Category 5 - Indirect greenhouse gas emissions associated with the use of products from the organization	End-of-life treatment of sold products	8,88
Category 6 - Greenhouse Gas Emissions from Other Sources	Fuel and Energy Transmission/Distribution	125,08

Table 9. Emissions Inventory Results

Category 1 / Emissions from Fuels, Company Vehicles and Refrigerants Used

Fuels Used:

E= Activity data *Density*0.000001 DD*NKD* Emission factor

(Calculated using the Tier 1 approach.)

Fuel consumption from stationary combustion within MEKA:

- ✓ Fuels using natural gas in the process are taken as stationary combustion.
- ✓ Natural Gas (IPCC V2_2_Ch2_Stationary_Combustion)
- ✓ Diesel (IPCC V2_2_Ch2_Stationary_Combustion)

Stationary Combustion			
Fuel Type	**Emission Factors**		
	CO_2	**CH_4**	**NO_2**
DIESEL/DIESEL OIL	74100	3	0,6
NATURAL GAS	56100	1	0,1
PROPANE	2993,40	2,5872	1,64513

Table 10. Fuels Used for Stationary Combustion

The net calorific values used in the calculation of combustion emissions are taken from V2_1_Ch1_Introduction.

- ✓ Diesel Net Calorific Value: 43
- ✓ Natural Gas Net Calorific Value: 48

Emissions from Company Vehicles:

- ✓ Emission factors for passenger company vehicles are selected from DEFRA-GHG Conversion Factors 2023 source Passenger Vehicles and Delivery Vehicles

Emissions from Fire Extinguishers and Refrigerants:

- ✓ CO_2-containing fire extinguishers and HFC-containing refrigerant gas devices used within MEKA are evaluated as follows.
- ✓ The emission factors used in the calculation are taken from the IPCC-AR6 WGI Report, Chapter 7 Supplementary Material.

E= Activity data * Emission factor (Calculated using Tier 1 approach)

REFRIGERANTS		
Explanation	**Gas Type**	**Emission Factor**
Air conditioning	**R410A**	**2255,5**
Air conditioning	**R22**	**1960**
Air conditioning	**R32**	**771**
Water Dispenser	**R134A**	**1530**
Refrigerator	**R134A**	**1530**
Refrigerator	**R404A**	**4728**
Refrigerator	**R600A**	**3**
Mixed Gas	**CO_2**	**1**
FIRE EXTINGUISHER		
Fire Extinguisher	**CO_2**	1

Table 11. Refrigerant Gases Emission Factors

Since there is no filling amount in the maintenance records of the refrigerants for 2022, calculations were made with leakage percentages as given in the table below. IPCC AR-6 Source data was used. **Refrigerant gas emission factors are calculated from IPCC AR-6.**

Equipment Name	Leakage Rate (%)	Reference
Refrigerator	0,1	IPCC Volume 3 , Cahapter 7, Table 7.9 (ESTIMATES FOR CHARGE, LIFETIME AND EMISSION FACTORS FOR REFRIGERATION AND AIR-CONDITIONING SYSTEMS)
Water Dispenser	0,1	
Air Conditioner	1	
Portable Air Conditioner	10	
Commercial Cooler	10	
Vehicle Air Conditioner	15	
Cold Storage	7	
Chiller	2	
Fire Extinguishing System	2	https://www.ipcc.ch/pdf/special-reports/sroc/sroc09.pdf
Fire Extinguisher	4	
Transformer Breaker Gas	2,6	IPCC Volume 3 , Cahapter 8, Table 8.3 (CLOSED PRESSURE ELECTRICAL EQUIPMENT (HV SWITCHGEAR) CONTAINING SF6: DEFAULT EMISSION FACTORS)

Table 12. Emission Leakage Rates by Equipment

Category 2 / Emissions from Electricity Used

✓ The factors given for Turkey from the IEA Emission Factors resource were used.

E= Activity data * Emission factor (calculated with Tier 2 approach)

Type of Greenhouse Gases	Emission Factors
Kg CO_2	0,4183
Kg CH_4	0,0001
Kg N_2O	0,0015

Table 13. Emission Factors for Electrical Emissions

Category 3 / Emissions from Transport

(Transfer Vehicles - Service)

Emissions from logistics are taken into account as follows.

E= Activity data * Emission factor (Calculated using Tier 1 approach)

Utilization Area	Emission Factor
	kg CO_2
Truck transportation	1,5563

Table 14. Emission Factor for Transfer Vehicles

✓ For logistics, the data is taken as average 2023 USD rate and classified as truck, water and air transportation and the appropriate emission factor is selected and the emission amount is calculated by USD emission tool.

✓ Service data was included in the account by proportioning the branches of the company in Ankara (%25 MEKA1, %45 MEKA2, %10 MEKA 3 ve %20 MEKA 4) since they use the services jointly.

(Travels)

Emissions from travels are taken into account as follows.

- ✓ Emission factors from travels were taken from (GHG conversion-factors-2022-full-set-advanced-users, Business Travel-air).
- ✓ When calculating emissions from travel, the number of the number of people and distance (km) were taken into account.

Travel Type	Emission Factor *(kg CO_2e/ passenger·km)*			Source
	kg CO_2	kg CH_4	kg N_2O	
Air	0,0788	0,000006	0,000667	DEFRA 2023, Business Travel-air, International, Economy Class, Without RF

Table 15. Sample Emission Factor from Travel

(Accommodation)

Emissions from accommodations are taken into account as follows.

- ✓ Emission factors from accommodation were taken from (GHG conversion-factors-2023-full-set-advanced-users, stay hotel).
- ✓ When calculating emissions from accommodation, the number of rooms and the number of nights were taken into account.

Region of Accommodation	Emission Factor *(kg CO_2e/ room·night)*	Source
TURKIYE	32,1	DEFRA 2023, Hotel Stay
RUSYA	24,2	DEFRA 2023, Hotel Stay
ABD	16,1	DEFRA 2023, Hotel Stay
SUUDİ ARABİSTAN	106,4	DEFRA 2023, Hotel Stay
MUSCAT / UMMAN	90,3	DEFRA 2023, Hotel Stay
BELÇİKA	12,2	DEFRA 2023, Hotel Stay
FRANSA	6,7	DEFRA 2023, Hotel Stay
ENDONEZYA	62,7	DEFRA 2023, Hotel Stay
ÜRDÜN	68,9	DEFRA 2023, Hotel Stay
BREZİLYA	8,7	DEFRA 2023, Hotel Stay
LIUBLIANA / SLOVENYA	16,9	www.hotelfootprints.org
VARŞOVA / POLONYA	39,4	www.hotelfootprints.org
GÜRCİSTAN	37,6	www.hotelfootprints.org
CEZAYİR	64,5	www.hotelfootprints.org
DAR ES SALAM / TANZANYA	46,5	www.hotelfootprints.org
TAŞKEN / ÖZBEKİSTAN	31,5	www.hotelfootprints.org
IRAK	36,9	www.hotelfootprints.org
LAGOS / NIJERYA	30	www.hotelfootprints.org
DAKAR / SENEGAL	34	www.hotelfootprints.org
LİBYA	60,7	www.hotelfootprints.org
SIRBİSTAN	49,2	www.hotelfootprints.org
PODGORICA (KARADAĞ)	22,4	www.hotelfootprints.org
KUVEYT	216,1	www.hotelfootprints.org
FİLDİŞİ SAHİLİ	27,1	www.hotelfootprints.org

Table 16. Sample Emission Factor from Accommodation

Category 4 / Emissions from Water Consumption, Raw Material Use, Wastewater, and Solid Waste Disposal

Emissions due to water consumption are taken into account as follows.

E= Activity data * Emission factor (Calculated using Tier 1 approach)

Emission Factor
kg CO_2e
0,15311

Table 17. Water Consumption Emission Factors

✓ Emission factors for calculating emissions from water consumption (GHG conversion-factors-2022-full-set-advanced-users, water supply) taken from source.

Emissions due to material use are taken into account as follows.

E= Activity data * Emission factor (Calculated using Tier 1 approach)

✓ Emission factors of raw materials are taken from "GHG conversion-factors-2022-full-set-advanced-users, material use" and SimaPro (Ecoinvent).

Emissions from Raw Materials			
Product name	**Unit**	**Emission Factor**	**Source**
Steel Raw Material	Kg	1,25	Ecoinvent 3, Forging, steel {RoW}| forging, steel, large open die | Cut-off, S
Raw Material Coming via Subcontractor	Kg	1,25	Ecoinvent 3, Forging, steel {RoW}| forging, steel, large open die | Cut-off, S
Stell Casting	Kg	0,0385	Ecoinvent 3, Iron scrap, unsorted {GLO}| market for iron scrap, unsorted | Cut-off, S
Primer Paint	Kg	6,53	Ecoinvent 3, Alkyd paint, white, without solvent, in 60% solution state (RoW) market for alkyd paint, white, without solvent, in 60% solution state, Cut-off
Topcoat Paint	Kg	6,53	Ecoinvent 3, Alkyd paint, white, without solvent, in 60% solution state (RoW) market for alkyd paint, white, without solvent, in 60% solution state, Cut-off
Thinner	Kg	1,17	Ecoinvent 3, Solvent, organic (GLO) market for solvent, organic, Cut-off

Table 18. Emission Factors & Values by Material Types

Emissions from Domestic Wastewater and Domestic Waste have been taken into account as follows.

E= Activity data * Emission factor (Calculated using Tier 1 approach)

Domestic Wastewater	
Waste Type	**Emission Factors**
Domestic Wastewater	**0,201318292**
Domestic Waste	
Waste Type	**Emission Factors**
Domestic Waste	**497,0447065**

Table 19. Domestic Wastewater and Domestic Waste Emission Factors

- ✓ Emission factors for wastewater emission calculation are taken from (GHG conversion-factors-2023-full-set-advanced-users, water treatment).
- ✓ The amount of Domestic Wastewater was calculated by taking 80% of the consumed water.
- ✓ Emission factors for wastewater emission calculation are taken from (GHG conversion-factors-2023-full-set-advanced-users, waste disposal).
- ✓ The amount of domestic waste is calculated according to the data of 1.03 kg/day (TUİK Data) for the number of employees of the company and the number of days of work per year for the workers.
- ✓ Domestic waste is considered as Landfill.

Emissions from waste disposal are taken into account as follows.

E= Activity data * Emission factor (Calculated using Tier 1 approach)

Solid Waste		
Hazardous Wastes		
Waste Type	**Disposal Method**	**Emission Factors**
		kg CO_2e
08 01 11	R12	21,28
08 01 13	R12	21,28
12 01 09	R12	21,28
12 01 16	R12	21,28
12 01 20	R12	21,28
15 01 02	R12	21,28
15 01 06	R12	21,28
15 01 10	R12	21,28
15 01 11	R12	21,28
15 02 02	R12	21,28
20 01 26	R12	21,28
20 01 34	R12	21,28
Non-Hazardous Wastes		
15 01 01	R12	**0**
19 12 02	R12	**0**
20 01 40	R12	**0**

Table 20. Emission Factors According to Hazardous, Non-Hazardous and Other Waste Types

- ✓ Wastes were calculated by considering Combustion and Open-loop emission factors from the source of DEFRA-GHG conversion factors, according to the Turkish Recycling code given in the waste declaration.

Emissions from Category 5 / end-of-life disposal have been taken into account as follows.

- ✓ MEKA 2022 production data is used.
- ✓ Emission factors by product type are taken from DEFRA- GHG conversion factors, Waste Disposal, Construction, Metals.

Product Type	Production capacity tons/year	Emission Factors (kg CO_2e)
Concrete Batching Plants	6147	0,9849
Crushing & Screening Plants	2682	0,9849
Concrete Batching Plants and Crushing & Screening spare parts	192	0,9849

Table 21. Products & Emission Factors

Category 6 / Emissions from electricity transmission and distribution are discussed below.

E= Activity data * Emission factor (Calculated using Tier 1 approach)

- ✓ Electricity transmission-distribution is calculated with 11,02% loss assumption. Information of Türkiye Electricity Distribution Sector Report.

ELECTRICITY TRANSMISSION LOST EMISSIONS		
Energy Consumed (CO2e)	Transmission & Distribution Loss Rate	Transmission & Distribution Losses
844,58	%14,81	125,08

Table 22. Electricity Transmission and Distribution Loss Rate

Data Sources

The activity data sources used in the calculations are given in Table 21.

ISO 14064 Category	Source	Activity Data Source
Category 1 - Direct Greenhouse Gas Emissions and Removals	Fuels	Natural Gas Bills
	Company Vehicles	Company Vehicles Fuel Consumption Data
	Refrigerants	Refrigerator Label Information
Category 2 - Indirect Greenhouse Gas Emissions from Imported Energy	Electricity Consumption	Electricity Bills
Category 3 - Indirect Greenhouse Gas Emissions from Transport	Services	Service Vehicles km Data
	Logistics	Logistic Vehicle Billing Information
	Travels	Travel Tickets
	Accommodation	Accommodation Records
Category 4 - Indirect Greenhouse Gas Emissions from Products Used by the Organization	Water Consumption	Water Bills
	Purchased Goods/Raw Materials	Raw Material Usage Amounts
	Domestic Waste and Domestic Wastewater	Number of Employees, Number of Working Days
	Solid Waste	Waste Declaration
Category 5 - Indirect greenhouse gas emissions associated with the use of products from the organization	End-of-life treatment of sold products	Produced Product Information
Category 6 - Greenhouse Gas Emissions from Other Sources	Fuel and Energy Transmission/Distribution	Electricity Bills

Table 23. Activity Data Sources

MEKA Global Spreadsheet Summary

All emissions have been formulated and calculated as direct and indirect emissions in tonnes of CO2e, the values are as follows. In addition, as in the table below, emissions are specified separately by type, category and amount.

Direct Emissions	1.101,35	Ton CO_2e
Indirect Emissions	10.244,36	Ton CO_2e
Total Carbon Emission Amount (Emission&Sink)	11.345,71	Ton CO_2e

Table 24. Direct, Indirect & Sink Emission Amounts

ISO 14064 Category	Source	Activity Data Source	Total Emission Meka-1, Meka-2, Meka Eskişehir Ton CO_2e	Gas Attribute	Percent Effects	CO_2 kg	CH_4 kg	NO_2 kg
Category 1 - Direct Greenhouse Gas Emissions and Removals	Fuels	Natural Gas Bills	594,60	CO_2, CH_4, NO_2	%5,26	594599,7	306,7	311,2
	Company Vehicles	Company Vehicles Fuel Consumption Data	375,50	CO_2, CH_4, NO_2	%3,32	375502,6	543,0	5344,7
	Refrigerants	Refrigerator Label Information	131,25	CO_2	%1,16	23409,1		
Category 2 - Indirect Greenhouse Gas Emissions from Imported Energy	Electricity Consumption	Electricity Bills	844,58	CO_2, CH_4, NO_2	%7,47	187431,6	44,8	672,1
Category 3 - Indirect Greenhouse Gas Emissions from Transport	Services	Service Vehicles km Data	203,08	CO_2, CH_4, NO_2	%1,80	203076,4	4,5	1627,6
	Logistics	Logistic Vehicle Billing Information	275,62	CO_2	%2,44	275620,6		
	Travels	Travel Tickets	28,69	CO_2, CH_4, NO_2	%0,25	28690,5	2,3	240,8
	Accommodation	Accommodation Records	66,65	CO_2	%0,59	630,9		
Category 4 - Indirect Greenhouse Gas Emissions from Products Used by the Organization	Water Consumption	Water Bills	2,95	CO_2	%0,03	538,0		
	Purchased Goods/Raw Materials	Raw Material Usage Amounts	8.575,42	CO_2	%75,86	6996761,5		
	Domestic Waste and Domestic Wastewater	Number of Employees, Number of Working Days	71,05	CO_2	%0,63	16353,1		
	Solid Waste	Waste Declaration	1,51	CO_2	%0,01	631,0		
Category 5 - Indirect greenhouse gas emissions associated with the use of products from the organization	End-of-life treatment of sold products	Produced Product Information	8,88	CO_2	%0,08	8884,4		
Category 6 - Greenhouse Gas Emissions from Other Sources	Fuel and Energy Transmission/Distribution	Electricity Bills	125,08	CO_2	%1,11	125082,3		

Table 25. Emission Amounts by Category

The ratio of emissions to total emissions by category is explained in the chart below.

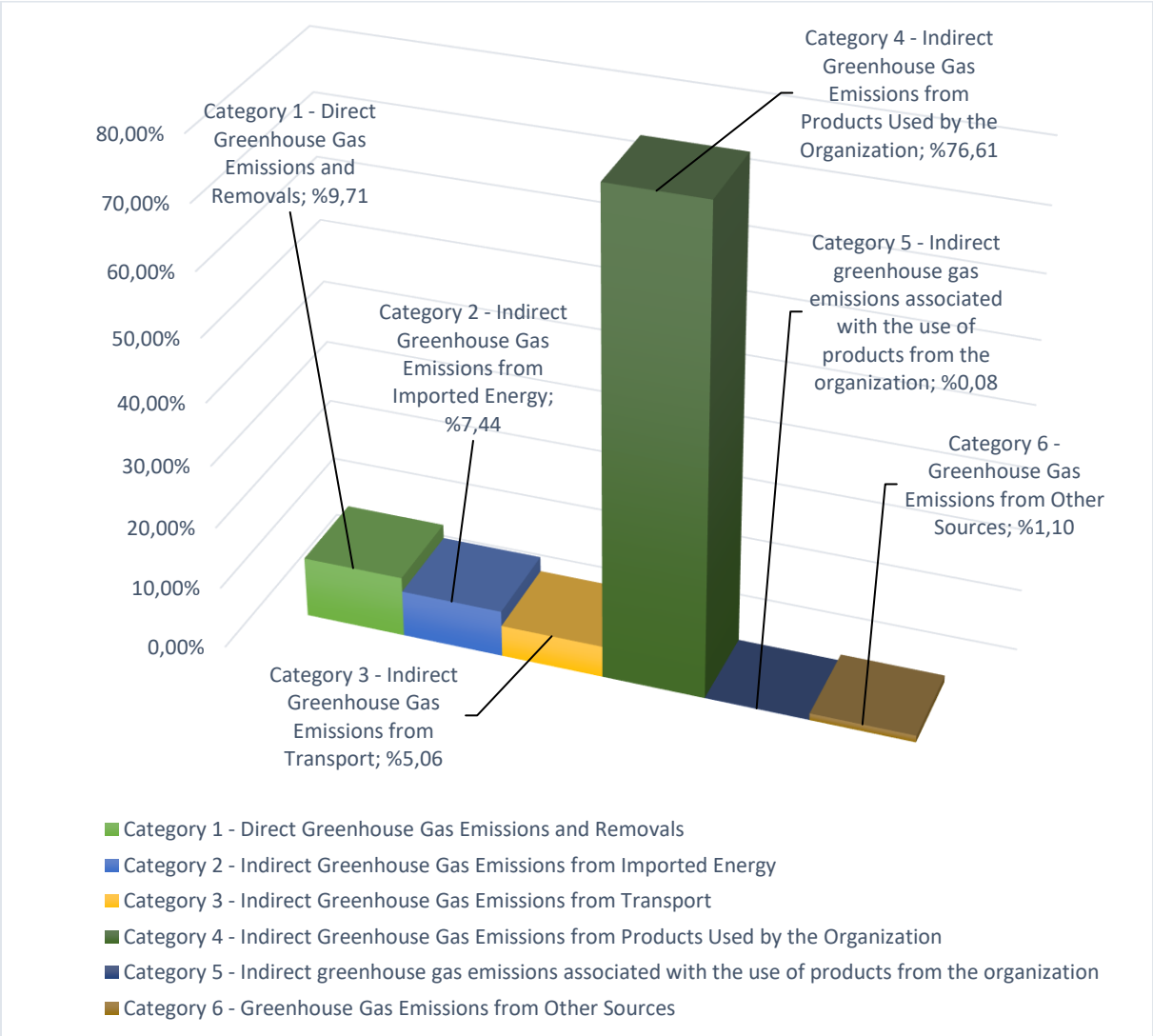

Figure 5. Emission Distributions by Categories

6. EMISSION REDUCTION AND ELIMINATION TARGET ACTIVITIES

	Emission Reduction Planned Activity	Responsible	Deadline
1	Planning logistics planning to reduce the amount of emissions by 0,5%	MEKA Global Makine İmalat Sanayi ve Ticaret A.Ş.	December 2024
2	Raising awareness of staff about water consumption and electricity consumption and ensuring a 0.5% reduction	MEKA Global Makine İmalat Sanayi ve Ticaret A.Ş.	December 2024

Table 26. Emission Reduction Planned Activities

7. RISK AND OPPORTUNITY ASSESSMENTS

14064-1:2018 Risk and Opportunity Evaluations of the enterprise are detailed in the table below.

Event	Type of Risk	Possibility	Intensity	Risk Value	Internal Risk Level	The Current Situation
Activity data is incorrect	Getting wrong data	2	4	**8**	**Reasonable**	Collected data is done through invoices and purchase records.
Incomplete Natural Gas Activity Data, Inappropriate Inventory Period	Getting wrong data	2	4	**8**	**Reasonable**	Including invoices suitable for the period into the account, and if there is missing data, proportioning or accepting with a suitable method
Incorrect Selection of Emission Factor	Getting wrong data	2	4	**8**	**Reasonable**	Areas where emission factors such as GHG, IPCC, ECOINVENT are taken are checked every year.
Incorrect Calculation of Net Calorific Value and Density	Getting wrong data	2	4	**8**	**Reasonable**	Areas where emission factors such as GHG, IPCC, ECOINVENT are taken are checked every year.
Missing Calibrations in the Vaues Measured With the Calibrated Device	Measurement Error, Account Error	2	4	**8**	**Reasonable**	Monitoring is done with calibration plans.
Incorrect Unit Conversions During Calculations	Getting wrong data	1	4	**4**	**Reasonable**	Calculation is made by using automatic formulation.
Failure to Define the System for Reviewing Accounts for the Accounting Period	Incorrect Calculation, Conversion Error	1	4	**4**	**Reasonable**	Annual management system reviews are carried out.
Onformation Management System not Effective	Incorrect Calculation	2	4	**8**	**Reasonable**	Information management procedures are created, flows are defined and records are kept.
Uncertainty Percentages not Taken Correctly in Uncertainty Calculation	Data Transfer Error, Login Error, Missing Data, Incorrect Calculation, Incorrect Additions	2	4	**8**	**Reasonable**	GHG uncertainty draft is used in the uncertainty calculation and calculations are made separately for indirect and direct emissions. In cases where the activity data is uncertain, if there is rounding, rates lower than 5% can be accepted when the emission factor of more than 3% belongs to us, and 1% for the data meter measured by the supplier. .5 is accepted.
Incorrect Uncertainty Calculation	Incorect Determination of Trust Level	2	4	**8**	**Reasonable**	GHG uncertainty draft is used in the uncertainty calculation and calculations are made separately for indirect and direct emissions. In cases where the activity data is uncertain, if there is rounding, rates lower than 5% can be accepted when the emission factor of more than 3% belongs to us, and 1% for the data meter measured by the supplier. .5 is accepted. The calculation is made automatically.
Inventory report not Complying with the Standart	Nonconformances Occur During Verification	2	2	**4**	**Reasonable**	The inventory report is written under appropriate headings according to the content of standard article 9.3 of 14064-1.
Failure to Determine the Conditions for Changing Organizational boundaries	Incorrect Calculation	2	4	**8**	**Reasonable**	Organizational boundaries are reviewed annually.
Incorrect Determination of Reporting Limits	Incorrect Calculation	2	4	**8**	**Reasonable**	Reporting limits are reviewed annually.
Categories not Determined Correctly	Incorrect Calculation	2	2	**4**	**Reasonable**	Categories are reviewed based on reporting and organizational boundaries. And review statuses are available in the information management procedure.
Prioritizations not Done Correctly	Incorrect Calculation	2	3	**6**	**Reasonable**	Prioritization is determined according to the percentage of impact on indirect emissions, and all data is taken into account regardless of the percentage until the data becomes clear.

Table 27. 14064-1:2018 Risk and Opportunity Evaluation Process

8. CALCULATION OF UNCERTAINTY

TS-EN ISO 14064-1:2018 Greenhouse Gases Part-1: It has been prepared in accordance with the guidelines and specifications on the calculation and reporting of greenhouse gas emissions and removals at the enterprise level.

In the uncertainty calculation, direct emissions and indirect emissions are calculated separately.

DATA SUPPLY METHOD	Emission Factor Supply Method	Uncertainty Value (%)
Legal Metrological Control	IPCC	1,5
Calibration Date Current Meter	Internationally Accepted Data	1,5
Calibration Date Not Valid / No Calibration	National inventories of countries	2,5
Labeled Supplier Data (Gas Filling Capacity etc.)	Labeled Supplier Data (MSDS etc.)	3,5
Supplier Data	Supplier Data	5
Distance Measurement Programs (Google maps etc.)	Hypothesis	7
Unclear and Unavailable (Excluded Data)	Supplier Data and Unavailable Data	10

Table 28. Uncertainty Rates

The uncertainty clusters from directly and indirectly measured emissions are shown in the table below. While the total emission uncertainty is 4,9%, the confidence level is 95,1%.

Uncertainty for indirect emissions;

Aggregation-Indirect, Page 1 of the ghg- uncertaint.xslx file published by the GHG Protocol Calculated using the Measure section.

± 5,4% uncertainty and ± 94,6% confidence level were determined.

	Activity Data (e.g. Quantity of fuel used)	Unit used to measure Activity Data	Uncertainty of activity data (a) (Confidence interval expressed in ± percent)	GHG emission factor	Unit of GHG emission factor (for kg CO2!)	Uncertainty of emission factor (Confidence interval expressed in ± percent)	CO2 emissions in kg	CO_2 emissions in metric tonnes	Uncertainty of calculated emissions	Certainty Ranking	Auxiliary Variable 1	Auxiliary Variable 2
							A * D	G/1000	$\pm\sqrt{(\cdot)^2+(\cdot)^2}$		(H*I)	k^2
Example: Source 1	1000,00	GJ	+/- 5,0%	56,10	kg CO2 / GJ	+/- 10,0%	56.100,00	56,10	+/- 11,2%	Good	6,27	39,34
Source description												
Elektrik Tüketimi	2011383,06	kwh	+/- 1,5%	0,42	kg CO2 / kwh	+/- 5,0%	841.361,53	841,36	+/- 5,2%	Good	43,92	1.929,00
Servis Araçları	973584,00	km	+/- 3,0%	0,21	kg CO2 / km	+/- 5,0%	201.444,27	201,44	+/- 5,8%	Good	11,75	137,97
Lojistik - Karayolu	177097,63	USD	+/- 5,0%	1,56	kg CO2 / USD	+/- 7,0%	275.620,57	275,62	+/- 8,6%	Good	23,71	562,15
Seyahat - Uluslararası	361008,00	km	+/- 5,0%	0,08	kg CO2 / km	+/- 5,0%	28.447,43	28,45	+/- 7,1%	Good	2,01	4,05
Su Tüketimi	16701,08	m³	+/- 1,5%	0,18	kg CO2 / m³	+/- 5,0%	2.950,82	2,95	+/- 5,2%	Good	0,15	0,02
Evsel Atık Su	13360,86	m³	+/- 5,0%	0,20	kg CO2 / m³	+/- 5,0%	2.689,79	2,69	+/- 7,1%	Good	0,19	0,04
Evsel Atık	137,54	ton	+/- 5,0%	497,04	kg CO2 / ton	+/- 5,0%	68.363,07	68,36	+/- 7,1%	Good	4,83	23,37
Katı Atık - Emisyon Fak. 21,28 olanlar	70,77	ton	+/- 1,5%	21,28	kg CO2 / kg	+/- 5,0%	1.505,94	1,51	+/- 5,2%	Good	0,08	0,01
Katı Atık - Emisyon Fak. 0 olanlar	139,03	ton	+/- 1,5%	0,00	kg CO2 / kg	+/- 5,0%	0,00	0,00	+/- 5,2%	Good	0,00	0,00
Satın Alınan Mal/Hammadde/Çelik Hammadde	6199970,00	kg	+/- 5,0%	1,25	kg CO2 / kg	+/- 5,0%	7.749.962,50	7.749,96	+/- 7,1%	Good	548,01	300.309,59
Satın Alınan Mal/Ham./Çelik Döküm	1647000,00	kg	+/- 5,0%	0,04	kg CO2 / kg	+/- 5,0%	63.409,50	63,41	+/- 7,1%	Good	4,48	20,10
Satın Alınan Astar Boya	64000,00	kg	+/- 5,0%	6,53	kg CO2 / kg	+/- 5,0%	417.920,00	417,92	+/- 7,1%	Good	29,55	873,29
Satın Alınan Son Kat Boya	56000,00	kg	+/- 5,0%	6,53	kg CO2 / kg	+/- 5,0%	365.680,00	365,68	+/- 7,1%	Good	25,86	668,61
Satın Alınan Tiner	30352,00	kg	+/- 5,0%	1,17	kg CO2 / kg	+/- 5,0%	35.511,84	35,51	+/- 7,1%	Good	2,51	6,31
Ürün Yaşam Sonu/Beton Santralleri	6146,98	ton	+/- 5,0%	0,98	kg CO2 / kg	+/- 5,0%	6.054,23	6,05	+/- 7,1%	Good	0,43	0,18
Ürün Yaşam Sonu/Kırma Eleme Tesisleri	2681,74	ton	+/- 5,0%	0,98	kg CO2 / kg	+/- 5,0%	2.641,28	2,64	+/- 7,1%	Good	0,19	0,03
Ürün Yaşam Sonu/Yedek Parça	191,80	ton	+/- 5,0%	0,98	kg CO2 / kg	+/- 5,0%	188,91	0,19	+/- 7,1%	Good	0,01	0,00
Elektrik İletim Dağıtım Kayıpları	297885,83	kwh	+/- 1,5%	0,42	kg CO2 / kwh	+/- 5,0%	124.605,64	124,61	+/- 5,2%	Good	6,50	42,31

Table 29. Uncertainty for Indirect Emissions

Step 4: Cumulated Uncertainty: $\pm u = \pm \frac{\sqrt{\sum_{i=1}^{n} (H_i * I_i)^2}}{M}$ | **+/- 5,4%** | **Good**

Figure 6. Percent Uncertainty for Indirect Emissions

Uncertainty for direct emissions;

Aggregation-Indirect, Page 2 of the ghg- uncertainty.xslx file published by the GHG Protocol Calculated using the Measure section.

± 1,4% uncertainty and ± 98,6% confidence level were determined.

	Estimated GHG emissions in kg	Estimated Uncertainty of calculated emissions
		Estimation from directly measured data
Example: Source 1	10.000,00	+/- 10,0%
Example: Source 2		+/- 5,0%
Source description		
Yakıtlar Kaynaklı Emisyonlar-(Mazot-Propan-Doğalgaz)	594.599,70	+/- 1,5%
Şirket Araçları Kaynaklı Emisyonlar	375.502,61	+/- 3,0%
Soğutucu Gazlardan Kaynaklanan Emisyonlar	131.248,69	+/- 5,0%

Table 30. Uncertainty for Direct Emissions

Step 4: Cumulated Uncertainty: $\frac{\sqrt{\sum_{i=1}^{n}(R_i * I_i)^2}}{M}$	**+/- 1,4%**	**High**

Figure 7. Percent Uncertainty for Direct Emissions

Total Uncertainty;

Aggregated uncertainty Page 3 of the ghg- uncertainty.xslx file published by the GHG Protocol Calculated using the Measure section.

± 4,9% uncertainty and ± 95,1% confidence level were determined.

	Aggregated Uncertainty	Uncertainty Ranking
Step 4: Aggregated Uncertainty for the total of all directly and indirectly measured emissions	**+/- 4,9%**	**High**

Figure 8. Total Uncertainty

10. QUALITY MANAGEMENT SYSTEM

Consumption data to be used in the calculation at MEKA Global Makine İmalat Sanayi ve Ticaret A.Ş. is collected monthly and calculations are made in accordance with GHG/IPCC data.

The following documents have been created within the scope of the Greenhouse Gas Management System.

- KLT-PR-019 Greenhouse Gas Monitoring Procedure
- KLT-PR-019 -Annex 1 Inventory Report
- KLT-PR-019 -Annex 2 Data Collection List
- KLT-PR-019 -Annex 3 Calculation of Uncertainty
- KLT-PR-019 -Annex 4 Spreadsheet

This report, prepared in accordance with ISO 14064-1 principles, will be prepared in Times New Roman 11 format, including revision and publication date. It will be published on the server and made available for access every year. Greenhouse gas inventory report will be verified by accredited organizations every year. Greenhouse gas inventory report will be updated within the first 3 months of each year.

This document must be used in conjunction with two additional documents:

1. Greenhouse Gas Protocol guide on uncertainty assessment and statistical parameter uncertainty calculation in greenhouse gas inventories and
2. Chapter 'Managing Inventory Quality from the GHG Protocol Accounting and Reporting Standard', 2nd edition.