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Greenhouse Gas

Scope 1

Scope 2

Scope 3

Report (January 1, 2024 – December 31, 2024)



Preface



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Greenhouse Gas Inventory Report, ISO 14064-1 “Greenhouse Gases - Part 1: Greenhouse Gas Emissions and
This study was prepared in accordance with Article 7.3.1 of the Standard "Narrow Guide and
Specifications for the Calculation and Reporting of Removals at the Organization Level." The inventory
was created based on IPCC methodologies and national reference calculations valid during the inventory
period. In this study, greenhouse gases generated within the framework of the activities carried out by the Organization, e
It has been taken into consideration as a new performance criterion.

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PREPARATION OF GREENHOUSE GAS EMISSION REPORT

What is Carbon Footprint?

Carbon footprint is a term used to describe the amount of carbon each person releases into the atmosphere as a result of transportation, heating, energy consumption, or any product they purchase.

In other words, the energy required for every product we buy or every activity we carry out is produced.

It refers to the total amount of carbon gas released into the atmosphere during the

Climate change, which has been going on for millions of years under the influence of natural processes, is now being caused by human

It has further increased its impact and damage due to environmental pollution. The clean and healthy environment we inherited from the past

Every individual and organization has a duty to pass on the environmental legacy to future generations as needed.

This is also a fact. In this context, we aim to show our sensitivity towards the environment and climate, and

Calculating our carbon footprint to make a concrete contribution to the measures taken against profitability and

It has become an important task to work on reducing carbon footprint, especially fossil fuels.

Since it is a definition based on energy obtained from fuels, reducing the carbon footprint is also

It means reducing or optimizing energy consumption. This is important for businesses.

This could be possible with a package of measures that will initiate a cycle of reducing energy costs. Carbon

footprint studies actually mean developing a new energy use culture for organizations.

is coming.

In addition to each activity having a different carbon footprint, individual or company-based studies

Different factors need to be calculated. Carbon footprint calculations are carried out internationally.

Various methods and standards have been developed. Among the standards that address the six main greenhouse

gases (CO2, CH4, N2O, PFc, HFc, SF6) evaluated within the scope of the Kyoto Protocol is the Intergovernmental Climate

In addition to the methods published by the IPCC, the GHG Protocol, ISO 14064, CDP,

PAS 2050 is coming.

Calculating Greenhouse Gases - Processes Followed - Determining the Purpose

Determining the goals to be achieved through carbon footprint calculation. For example, carbon footprint results

It can be used to set **CO2 reduction targets and identify possible CO2 reduction measures.**

Determination of boundaries

Once the goal is determined, the limits for carbon footprint (limits specified in the standards to be applied)

Various choices should be made to determine the corporate reporting.

The scope used is the operational control scope. This is the scope of the organization's daily operational controls.

will calculate the carbon footprint resulting from all activities under its responsibility

It means that the company will receive some emissions outside of its own activities.

will be taken into consideration.

Since the organization is responsible for determining the boundaries of the organization and the

narrow control, the method used in calculating emissions was chosen as the 'control approach'. Any

changes to be made in the selected method

The change will be declared in the next year's greenhouse gas report and the calculations will be based on the base year.

will be renewed.

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Data Collection and Application of Emission Factors

Once the boundaries and scope of the Carbon Footprint are agreed upon, the activities are narrowed down. Emission factors and global warming potential can be calculated. This collection of information is called an inventory. Emission factors can vary from country to country and over time may vary. Many sources, such as the IPCC guide for emission factors and the WBCSD's GHG Protocol is available.

Evaluation of Results and Footprint Reporting

The report should be transparent and the choices and assumptions made should be clearly stated.

Selecting the Calculation Method

The IPCC Tier-1 methodology was used for greenhouse gas calculations, and the Tier-2 methodology was used for activity data containing national information. Because Turkish Electricity Generation Inc. production data was used in the electricity emission factor calculations, the Tier-2 methodology is used for Scope 2 energy indirect greenhouse gas emissions. Accordingly, the following formulas and variables are used in the calculations of Scope-1 and Scope-2 greenhouse gas sources. Scope-3 emissions are also calculated according to the formula below.

Emissions, fuel = EmissionCO2, fuel + EmissionCH4, fuel + EmissionN2O, fuel
EmissionCO2, fuel = Consumption Quantity, fuel X Emission FactorCO2, fuel

A calculation methodology was chosen because there was not enough technological infrastructure to measure all emission sources. No measurement methodology was used. This calculation method is uncertain. It can be reflected in the results. It meets its energy needs only from electrical energy. Mass It does not use energy sources classified as biomass. For this reason, biomass use No relevant calculations have been made.

Selection of Greenhouse Gas Emission Factors

Greenhouse gas emission values originating from the consumption of externally supplied electricity, calculated separately from CO2 equivalent tonnes, are available at www.ea.org/CO2 emission values for Turkey.

Since the value of the factor has been determined, the calculation was made according to the TIER 2 approach. CO2 equivalent

The greenhouse gas emission value resulting from diesel consumption of company vehicles is calculated separately per ton. The emission factor value for Turkey is available at www.ea.org/CO2hghlghts

Since it has not been determined, the calculation was made according to the TIER 1 approach.

In this study, greenhouse gas emissions (carbon footprint) for the relevant organization are shared with the 2024 data. It was calculated separately and the total corporate carbon footprint was calculated firstly separately and then by taking 2025 as the 'base year' to cover the period between 01.01.2024 and 31.12.2024.

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GREENHOUSE GAS INVENTORY AND CORPORATE CARBON FOOTPRINT CALCULATION

Activity	Activity Categories	Activity Vers	Scope	Greenhouse Gases
Heating System	Constant Burning	Natural gas (m3)	Direct (Scope 1)	CO2 CH4 N2O
Air Conditioning Gases	Fugitive Emissions	Air conditioning gas kg (Not calculated)	Direct (Scope 1)	R410a
Custom Vehicles	Moving Combustion	Engine (lt)	Direct (Scope 1)	CO2 CH4 N2O
Fire Extinguishers	Leakage Emissions	Fire Extinguisher (kg)	Indirect (Scope 2)	FM200 CO2
Electricity Consumption	Electricity	kWh	Indirect (Scope 2)	CO2
Transportation Activities	Moving Combustion	Engine (lt)	Indirect (Scope 3)	CO2 CH4 N2O
Dangerous Waste Ger Acquisition	Open Loop	kg	Indirect Value (Scope 4)	CO2

Determinations and Acceptances

Greenhouse Gas	Global warming Potential (GWP)
CO2	1
CH4	28
N2O	265

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In calculating greenhouse gas emissions from natural gas;

Activity data related to natural gas consumption is ensured by reading the natural gas supplied from the main network from the natural gas meter.

In calculating fugitive emissions;

The emission factor of the R407C type refrigerant has been determined within the scope of the "Kyoto Protocol".
Data are from the "EPA- Greenhouse Gas Emsson Calculator" data system.

has been taken.

Annual loss/leakage amount for air conditioners is accepted as 4.5% of the filled gas.
(Uncertainty=±10%) Source: "IPPC-Special Report on Safeguarding the Ozone and the Global Climate System-Chapter 5: Resdental and Commercial Ar

In the calculation of fire extinguishing systems;

Leakage rates for portable CO2 fire extinguishers are 4% of the weight of the gas in the cylinder.
It is accepted as (Uncertainty=±2%). "Source: IPPC-Specal Report on Safeguarding the Ozone and the Global Clear System- Chapter 9: Fre Protecton-Table 9.2"

In the calculation of CO2 systems used for cooling purposes;

Portable CO2 intakes are added to the calculations as direct carbon emissions.
The engine's emission factors included in the report are based on the EPA-Greenhouse Gas Emissions Calculator.
obtained from the tables

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Direct Greenhouse Gas Emissions (Scope 1)

Heating System

Total amount of natural gas consumed in the heating system			22298 m3
Activity data		Emission factor	Emission amount
22298 m3	EF CO2 =	2,040 kg/ m3	45487,920 kg CO2-eq
22298 m3	EF CH4 =	0.003 kg/m3	66.894 kg CO2-eq
22298 m3	EF N2O =	0.001 kg/m3	22.298 kg CO2-eq
TOTAL EQUIVALENT DUE TO WARMING GREENHOUSE GAS EMISSION AMOUNT			45577,112 kg CO2-eq

Air Conditioning System

Since there is no leakage amount of Greenhouse Gas Emissions from Air Conditioners until 2024, it has not been taken into account.

Custom Vehicles

The amount of engine consumed in passenger cars in 2024: 2000 liters
The amount of engine consumed for the generator in 2024: 600 liters

Total amount of diesel consumed from vehicles and generators			2600 lt
Activity data		Emission factor	Emission amount
2600 lt	EF CO2 =	2.51 kg/lt	6526,000 kg CO2-eq
2600 lt	EF CH4 =	0.00029 kg/lt	0.754 kg CO2-eq
2600 lt	EF N2O =	0.033 kg/lt	85,800 kg CO2-eq
FROM VEHICLES AND GENERATORS TOTAL EQUIVALENT GREENHOUSE GAS EMISSION EMISSION AMOUNT			6612,554 kg CO2-eq

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Fire Extinguishers

It is estimated that the amount of **CO2 leaking from fire extinguishers will be 2024 .**

Total number of fire extinguishers replaced during the year kg number * 168 kg					
Tube type	changing tube quantity	tube kg	Total kg	Activity data	Emission amount
CO2 Cylinder	22	6	132 kg 1	kg/	132,000 kg CO2-eq
HFC-227ea (FM200)	6	6	36 kg	3,350 kg/	20100,000 kg CO2-eq
TOTAL EQUIVALENT GREENHOUSE GAS EMITTED FROM FIRE EXTINGUISHERS EMISSION AMOUNT					20232,000 kg CO2-eq

Indirect Greenhouse Gas Emissions - Electricity Consumption (Scope 2)

Electricity consumption is the total amount of electricity consumed. 280208 KWH		
Activity data	Emission factor	Emission amount
280208 KWH	0.493 CO2-eq/kWh	138143 kg CO2-eq
CAUSED BY ELECTRICITY CONSUMPTION TOTAL EQUIVALENT GREENHOUSE GAS EMISSIONS AMOUNT		138143 kg CO2-eq

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Transportation Activity (Scope 3)

Business trip total km			1000 km
Activity data		Emission factor	Emission amount
1000 KM	EF.CO2 =	0.080 kg/km	80 kg CO2-eq
TOTAL KM DUE TO BUSINESS TRAVEL EMISSION AMOUNT			80 kg CO2-eq

Non-Hazardous Waste Recovery/Disposal (Scope 3)

Waste Type	Waste Amount (kg)	Emission Factor	Annual Emission COÿ (kg)
Organic Waste	3600	0.446	1605.6
Paper Waste	2521	0.022	55,462
Plastic Waste	1260	0.022	27.72
Mixed PACKAGING	1296	0.022	28,512
Total			1717,294

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TOTAL EQUIVALENT GREENHOUSE GAS EMISSION AMOUNT

TOTAL EQUIVALENT GREENHOUSE GAS EMISSION AMOUNT		
TOTAL EQUIVALENT DUE TO WARMING GREENHOUSE GAS EMISSION AMOUNT	45577,112	COÿ (kg)
CAUSED BY VEHICLES AND GENERATORS TOTAL EQUIVALENT GREENHOUSE GAS EMISSION AMOUNT	6612,554	COÿ (kg)
TOTAL CASES CAUSED BY FIRE EXTINGUISHERS EQUIVALENT GREENHOUSE GAS EMISSION AMOUNT	20232,000	COÿ (kg)
TOTAL ELECTRICITY CONSUMPTION EQUIVALENT GREENHOUSE GAS EMISSION AMOUNT	138142,544	COÿ (kg)
TOTAL KM DUE TO BUSINESS TRAVEL EMISSION AMOUNT	80	COÿ (kg)
Recycling/Disposal of Non-Hazardous Waste (Scope 3)	1717,294	COÿ (kg)

