



AL SHIRAWI
Equipment Co.

Our Vision: Carbon-Neutral Manufacturing of Reliable Solutions

Carbon
Footprint
Report
2023



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ABOUT US



Al Shirawi Equipment Company was formed in Dubai in 1976 to support the manufacture of trailers for the transportation of goods. We have since grown into an end-to-end design and manufacturing catering to multiple industries supporting the basic human needs of energy (upstream, downstream oil and gas, power) shelter (construction) sanitation (waste management cleaning equipment and water treatment projects) and equipment for transportation of food (nutrition) and supplies for all the above.

As a manufacturing company serving multiple industries for over forty years, we have tried to implement the concept of environmental sustainability in our operations and products. Recently we have realized that implementing some sustainability ideas alone is not enough. We believe that there is a need for urgency and seriousness to act upon the environmental crisis we face. To do our part in addressing this crisis, we explored means to turn our previously standalone efforts into a corporate commitment. Through this process, we found a purpose and a vision.



LOCATIONS: DIC & AL QUOZ

We aim to Measure, Reduce, and completely Offset the Carbon footprint of our Manufacturing processes by 2024.



FOUNDED IN: 1976



TOTAL EMPLOYEES: 1200



ASSESSMENT PERIOD: 2023

IMPORTANCE OF CARBON FOOTPRINT



A carbon footprint is the total amount of greenhouse gases, mainly carbon dioxide, emitted directly or indirectly by an individual, organization, event, or product. It is measured in carbon dioxide equivalent and reflects the impact on climate change. Reducing carbon footprints involves minimizing emissions through sustainable practices and choices in energy, transportation, and consumption.

Measuring carbon footprints is crucial for climate change mitigation, accountability, and informed decision-making. It helps set emission reduction targets, allocate resources efficiently, comply with regulations, and promotes sustainability in both individual and corporate contexts.



Data is collected in multiple and continuous assessment and converted into required units to which GHG emission factors can be applied. The key parameters such as Electricity, Water, Industrial Waste, Gases, Travel, Supply Chain, Industrial Process, Paper Waste are considered.

Our Vision: Carbon-Neutral Manufacturing of Reliable Solutions



INTRODUCTION

The 2023 carbon footprint report of Al Shirawi Equipment shows the company's dedication to diminish carbon footprints for both in-house and its clients. This commitment is aimed at contributing to a more sustainable future. The report provides a comprehensive overview of Al Shirawi Equipment Company's emissions and the corresponding actions taken to reduce them during the year.

OBJECTIVE

The purpose of this report on greenhouse gas (GHG) emissions inventory is to demonstrate Al Shirawi Equipment's ongoing dedication to sustainable development and Carbon neutral manufacturing of reliable solutions. It outlines the company's emissions and the targeted measures taken to reduce them. This shows Al Shirawi Equipment 's commitment to maintain transparency and adhere to standard reporting, in accordance with ISO 14064.

FREQUENCY OF REPORT

The Carbon Footprint report is prepared annually by the Company.

UNCERTAINTY ASSESSMENT

Since direct instruments aren't employed for the measurement of GHG emissions, errors related to calibrations are not a concern in this process. Statistical errors, including sampling errors, are unlikely because no statistical operations have been applied to the data. The GHG emission data for Al Shirawi equipment company is directly obtained from electricity and fuel bills, with conversion factors used to translate it into GHG reporting metrics. The only source of uncertainty pertains to the conversion factors, particularly the grid emission conversion factor, as it is not region specific for the United Arab Emirates.

SCOPE OF REPORT

CALCULATING EMISSIONS

Considered below factors for carbon footprint calculation:

- Confirm proper labeling of emission units, parameters, and conversion factors.
- Verify consistent labeling of units throughout calculations.
- Check the accuracy of conversion factors.
- Review data processing steps in the spreadsheets.
- Clearly differentiate input and calculated data.
- Scrutinize a sample of calculations manually or electronically.
- Validate data aggregation across categories and units.
- Ensure consistency in time series inputs and calculations after method or data changes.

LEVEL OF CERTAINTY

The data from our company's manufacturing plants and office was utilized to generate a greenhouse gas emissions inventory report for the reference year 2023. This report served as an internal validation tool for cross-checking values derived from manual calculations. The verification process aligns with ISO 14064.

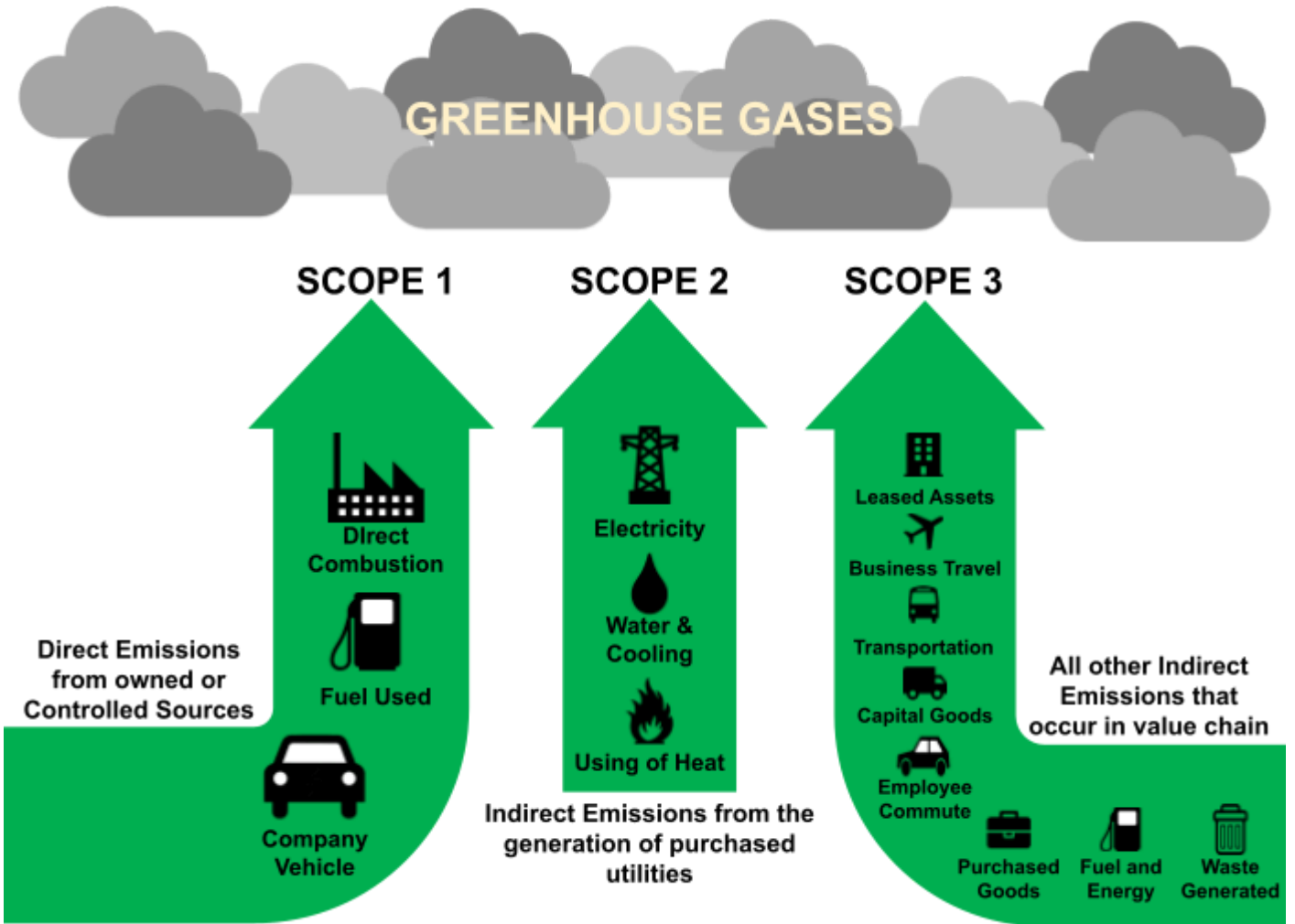


SOURCE OF GHGs

Al Shirawi Equipment encompasses typical corporate operations spanning its offices, departments and manufacturing facilities. The following sources of greenhouse gas emissions within the previously defined boundary are identified in accordance with the GHG IPCC protocol.

SOURCE OF GHG EMISSIONS		
S.No	Source	Inclusion
1	Transport emissions from fuel combustion	Included
2	Diesel consumption towards running the standby generators and calorifier	Included
3	Purchased electricity from DEWA	Included
4	Purchased Water from DEWA	Included
5	Paper usage	Included
6	Different gases for equipment processes	Included
7	Wastewater treated at the onsite plant	Under Measurement
8	CO2 cylinders used as fire extinguishers	One off - Under Measurement
9	Waste sent to landfill	Under Measurement
10	Refrigerant units used	Under Measurement

SCOPE 1,2 & 3 EMISSIONS



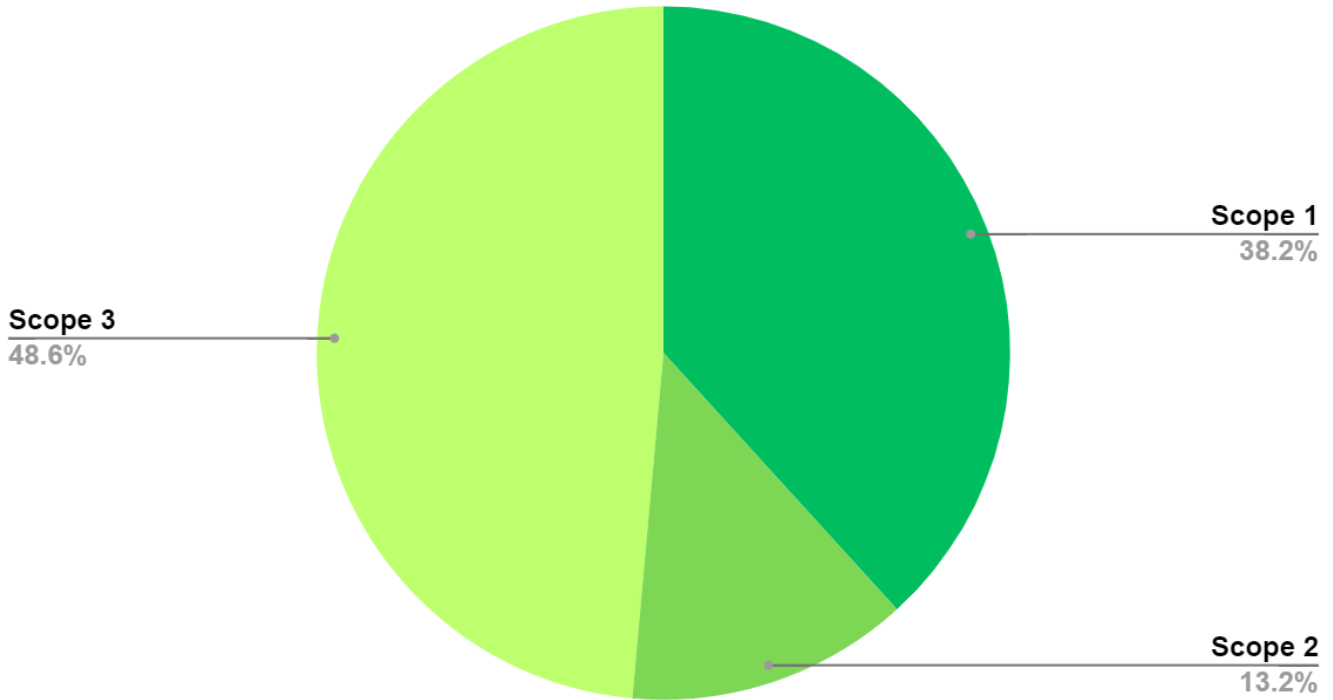
DIC BRANCH DATA

Parameter	Measurement Unit	Value
Scope 1: Direct Emissions		
Diesel	Liters	44,007
Propane	Liters	4823
CO2	Cubic Meter	536.4
Acetylene	Kilograms	528
Cutting Edge Gas (CEG)	Kilograms	8756
Scope 2: Indirect Emissions		
Electricity Consumption	kWh	0
Water Consumed	Liters	13,688,572.52
Scope 3: Other Indirect Emissions		
Paper Usage	Tonnes	2.3736
Fuel Consumption of Employee Transport	Liters	144,086.1718



CARBON FOOTPRINT - DIC

Total Carbon Footprint 695.1 Tonnes CO₂e



Scope 1
265.8 Tonnes
CO₂e

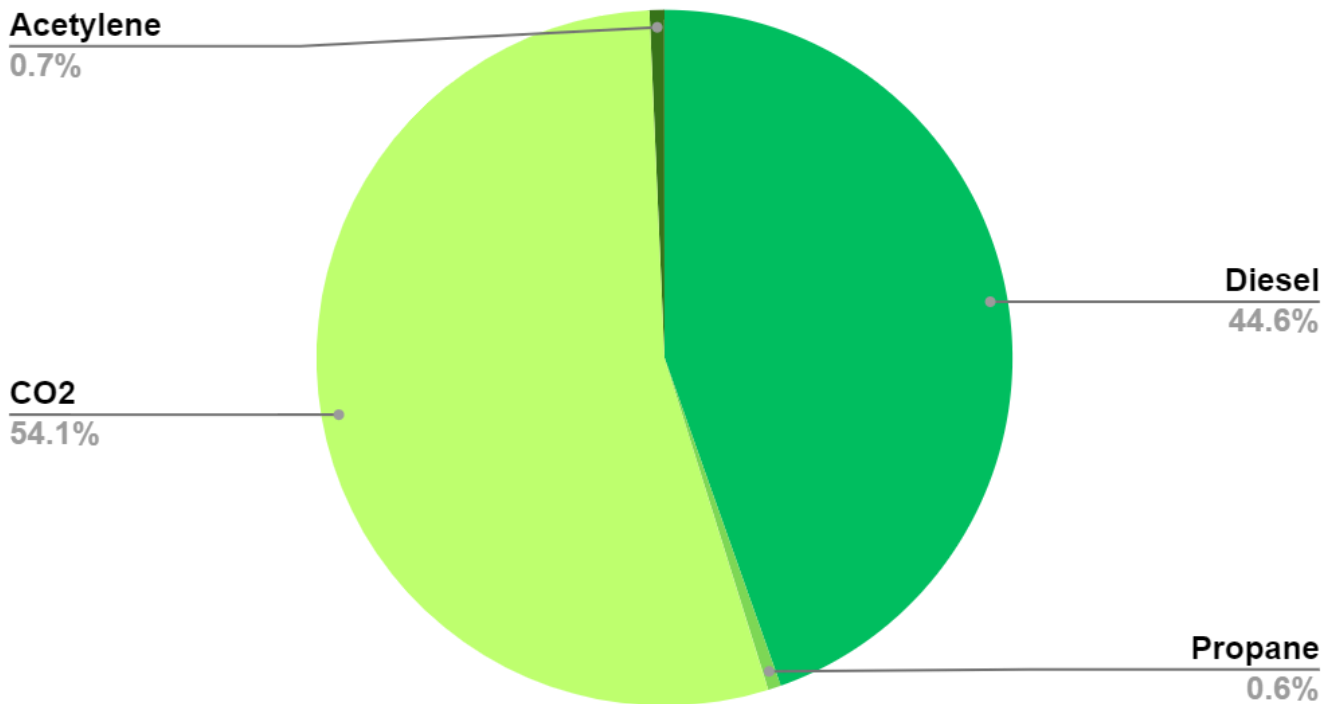
Scope 2
91.7 Tonnes
CO₂e

Scope 3
337.6 Tonnes
CO₂e

SCOPE 1 EMISSION - DIC

Parameter	Measurement Unit	Value	Emission Factor (KG CO2e/UOM)	Carbon Footprint (Tons CO2e)
Diesel	Litres	44,007	2.692	427.0
CO2	Cubic Meter	536.4	268.23	143.9
Acetylene	Kilogram	528	3.38	1.8
Cutting Edge Gas	Kilogram	8,756	0.0036	0.0315
Propane	Litres	4823	0.33	1.6

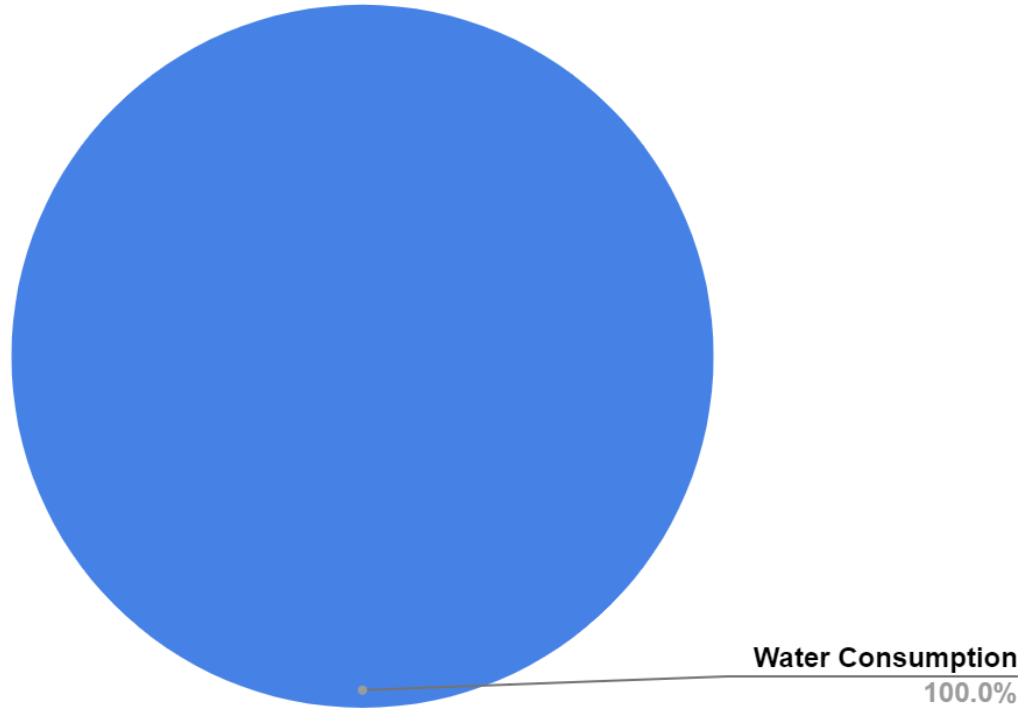
DIC Scope 1 Emission



SCOPE 2 EMISSION - DIC

Parameter	Measurement Unit	Value	Emission Factor (KG C02e/UOM)	Carbon Footprint (Tons CO2e)
Electricity Consumption	KWH	0.0	0.4041	0.0
Water Consumption	Litres	13688572.52	0.0067	91.7

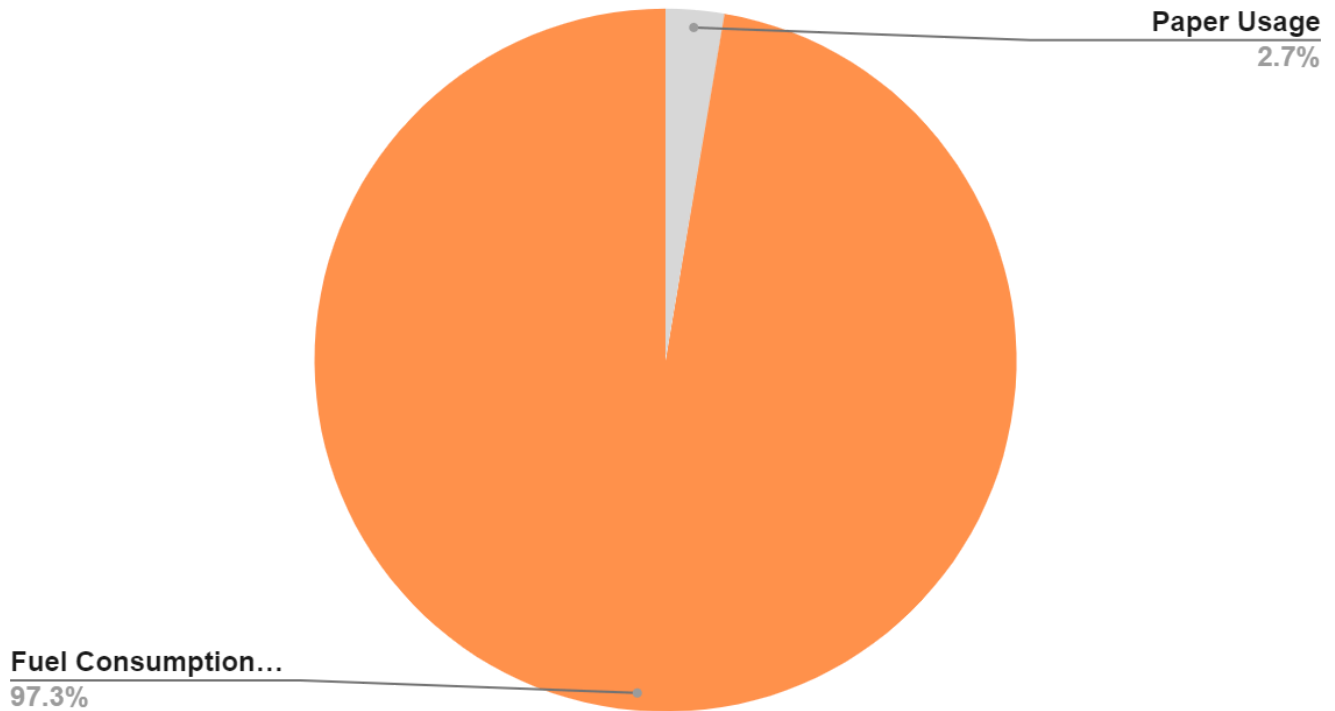
DIC Scope 2 Emission



SCOPE 3 EMISSION - DIC

Parameter	Measurement Unit	Value	Emission Factor (KG CO2e/UOM)	Carbon Footprint (Tons CO2e)
Paper Usage	Tonnes	2.3736	3840.21	9.1
Fuel Consumption of Employee Transport	Litres	144086.17	2.28	328.5

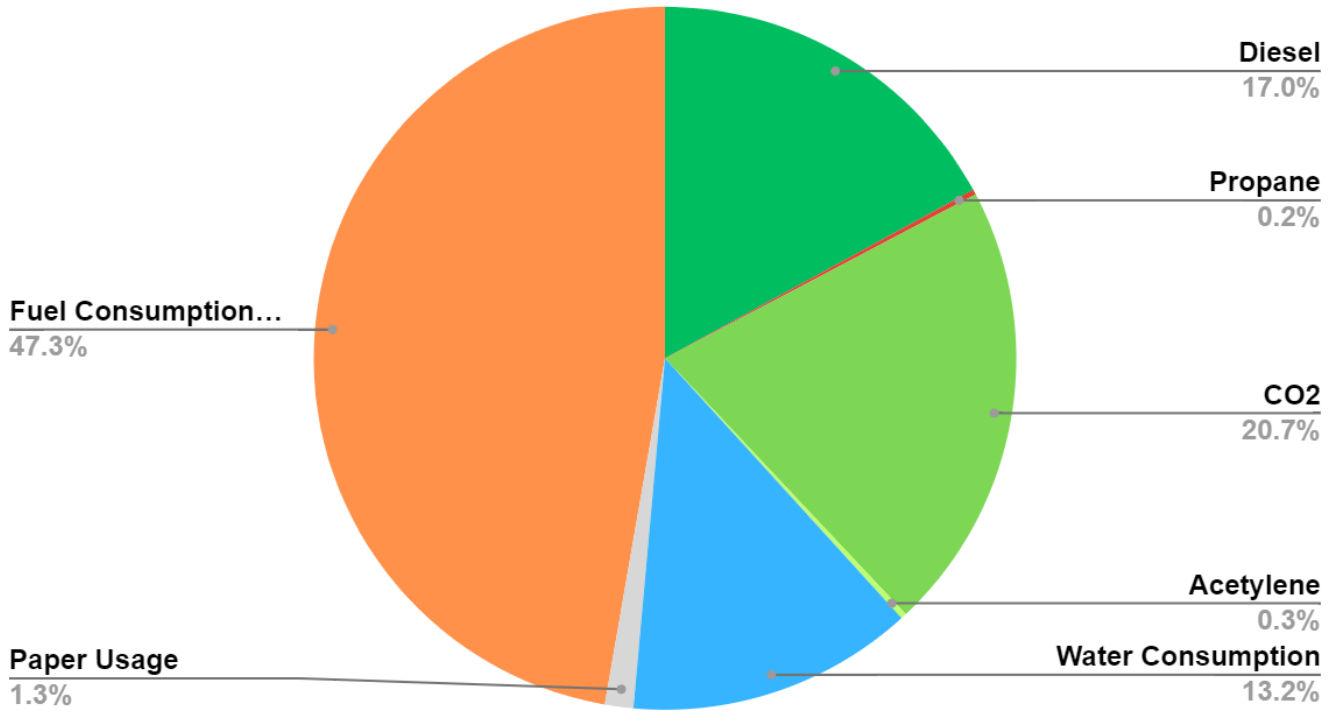
DIC Scope 3 Emissions





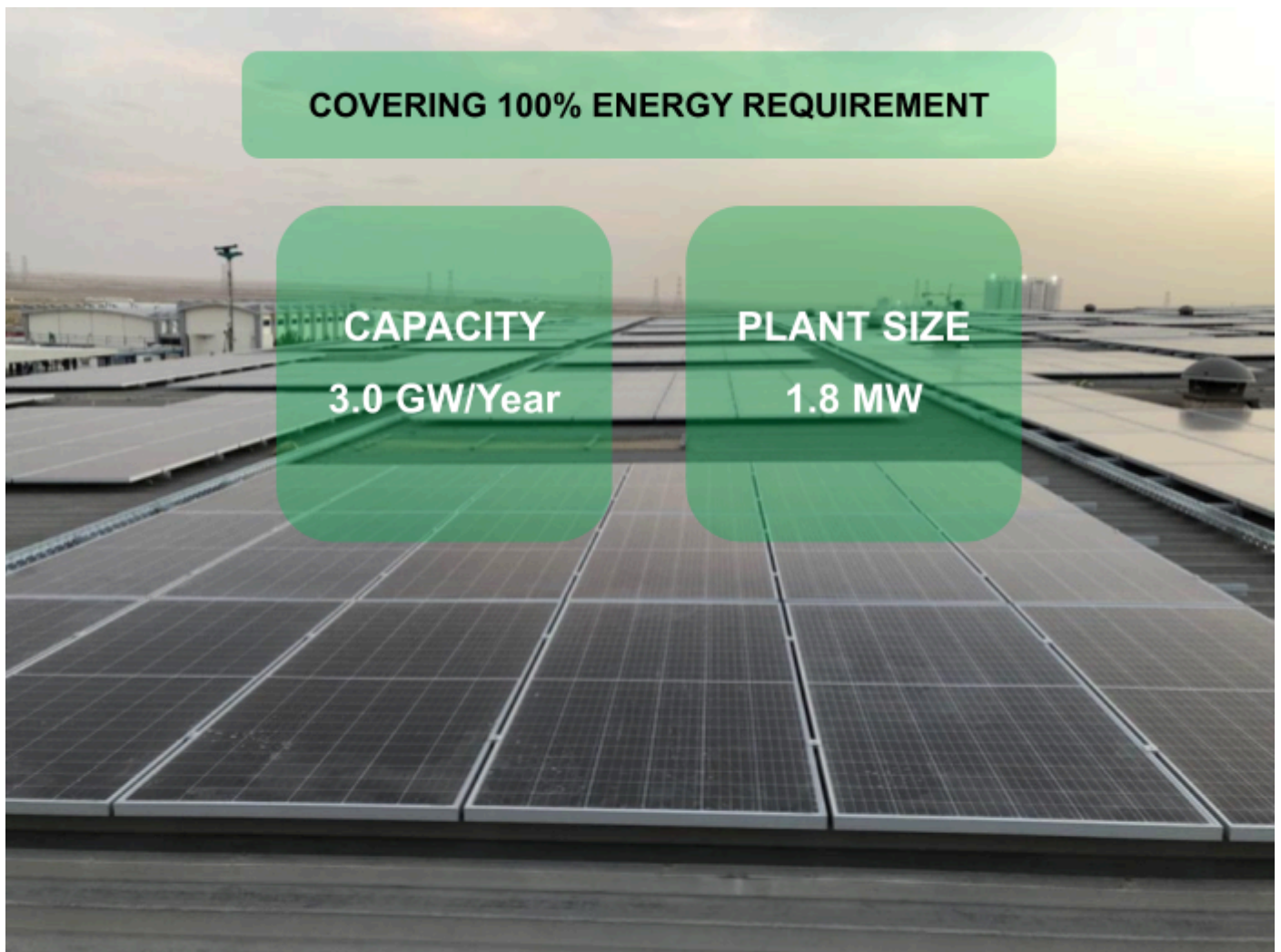
SCOPE & PARAMETER DISTRIBUTION - DIC

Total Carbon Footprint 695.1 Tonnes CO₂e



SOLAR POWER PLANT - DIC

Harnessing Solar Energy through photovoltaic panels. These panels convert Sunlight into electricity without producing harmful emissions or depleting finite resources, reducing our reliance on fossil fuels.



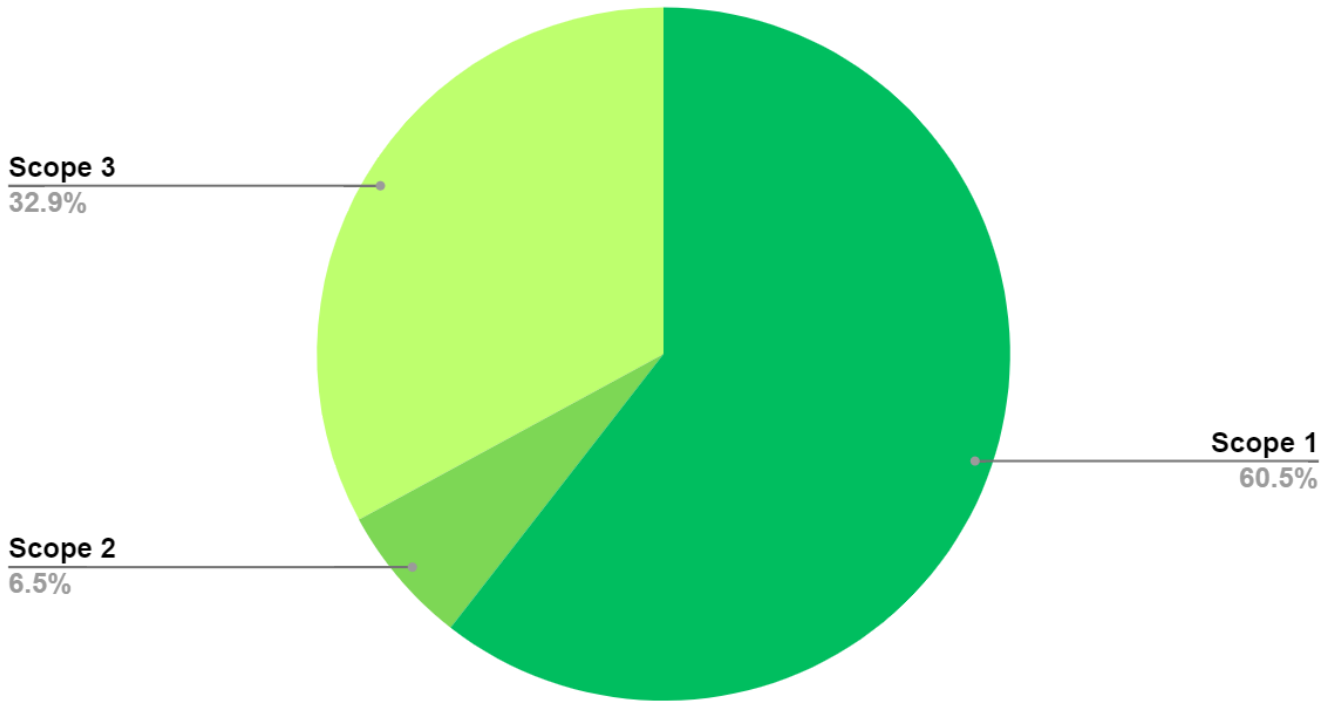
AL QUOZ BRANCH DATA

Parameter	Measurement Unit	Value
Scope 1: Direct Emissions		
Diesel	Liters	108,139
Propane	Liters	0
CO2	Cubic Meter	148.92
Acetylene	Kilograms	308
Cutting Edge Gas (CEG)	Kilograms	8,184
Scope 2: Indirect Emissions		
Electricity Consumption	kWh	0
Water Consumed	Liters	5,359,004.94
Scope 3: Other Indirect Emissions		
Paper Usage	Tonnes	0.972
Fuel Consumption of Employee Transport	Liters	77584.86



CARBON FOOTPRINT - Al Quoz

Total Carbon Footprint 548.7 Tonnes CO₂e



Scope 1
332 Tonnes
CO₂e

Scope 2
35.9 Tonnes
CO₂e

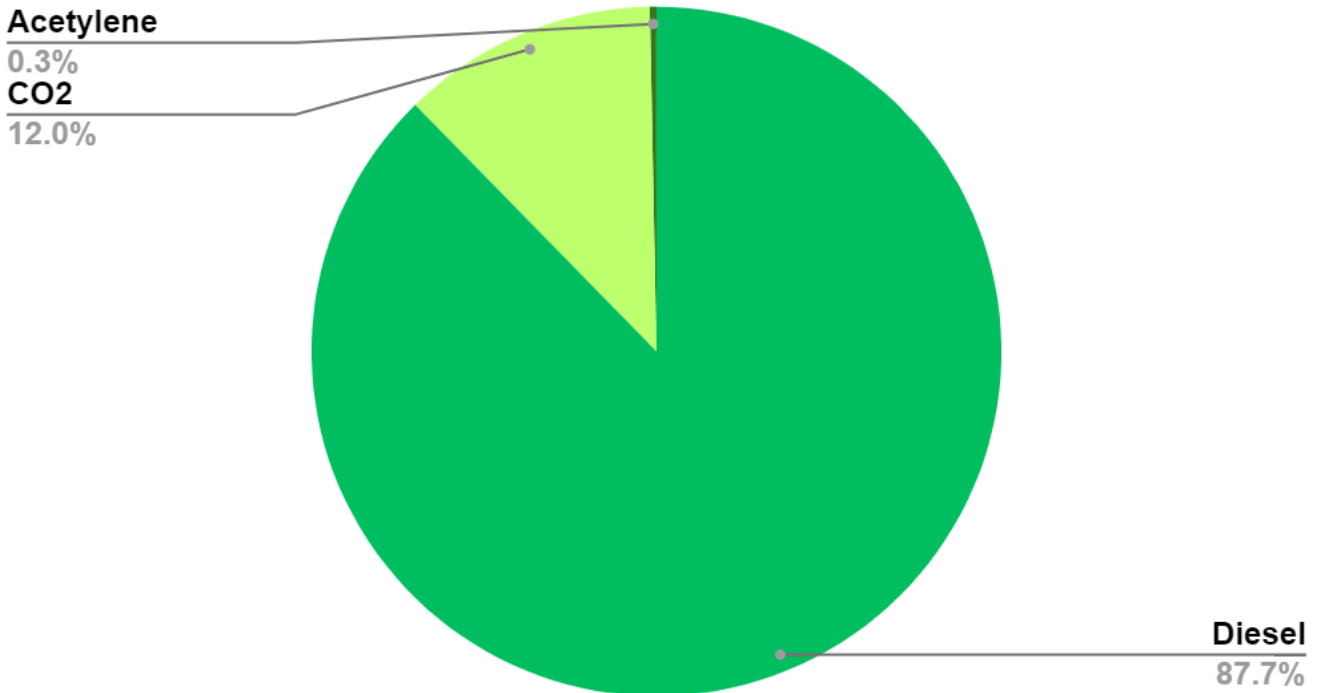
Scope 3
180.6 Tonnes
CO₂e



SCOPE 1 EMISSION - AI Quoz

Parameter	Measurement Unit	Value	Emission Factor (KG C02e/UOM)	Carbon Footprint (Tons CO2e)
Diesel	Litres	108,139	2.692	291.1
CO2	Cubic Meter	148.92	268.23	39.9
Acetylene	Kilogram	308	3.38	1.0
Cutting Edge Gas	Kilogram	8,184	0.0036	0.0295
Propane	Litres	0	0.33	0.0

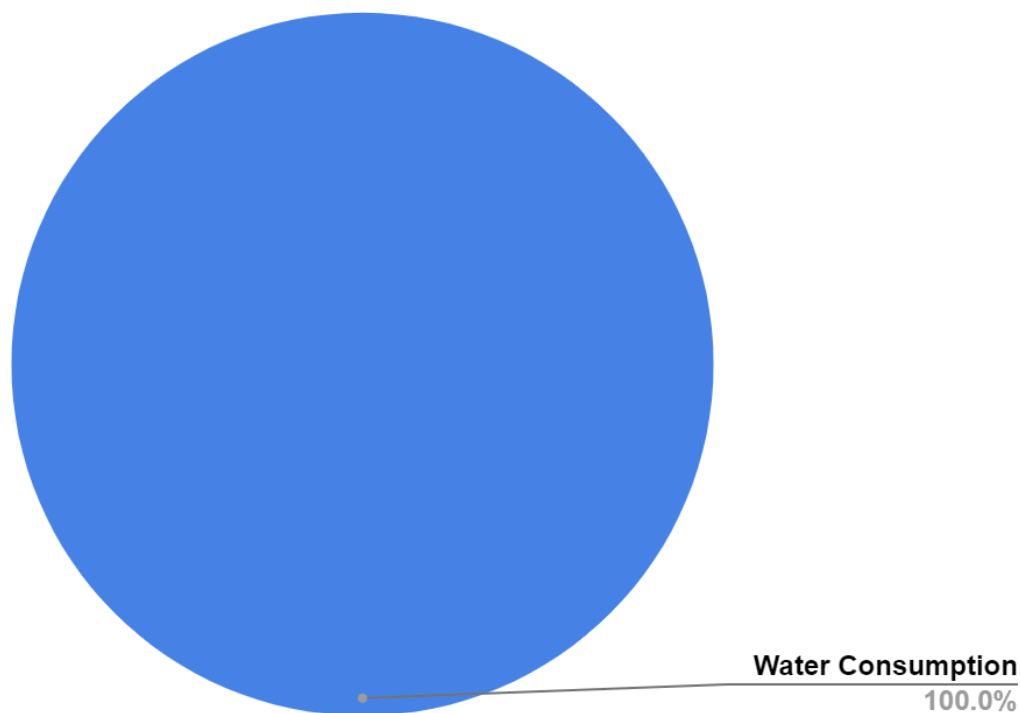
AI Quoz Scope 1 Emission



SCOPE 2 EMISSION - AI Quoz

Parameter	Measurement Unit	Value	Emission Factor (KG C02e/UOM)	Carbon Footprint (Tons CO2e)
Electricity Consumption	KWH	0.0	0.4041	0.0
Water Consumption	Litres	5359004.94	0.0067	35.9

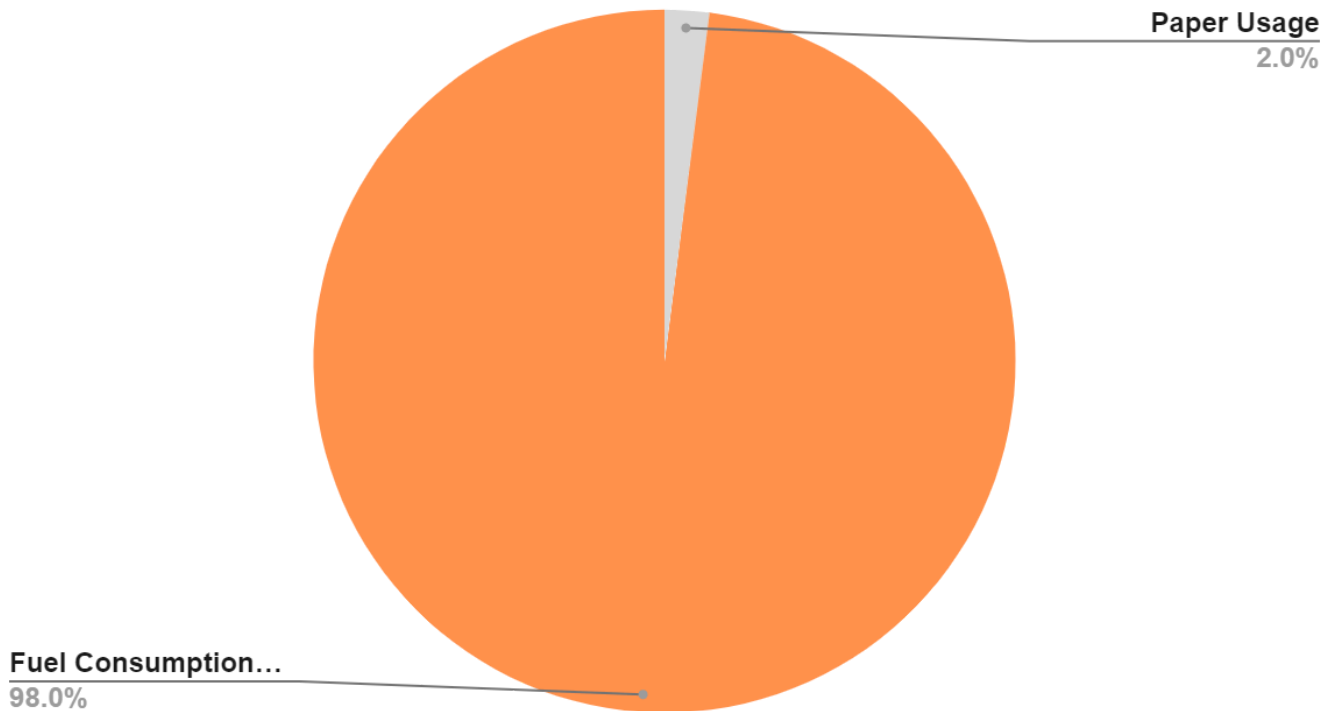
AI Quoz Scope 2 Emission



SCOPE 3 EMISSION - AI Quoz

Parameter	Measurement Unit	Value	Emission Factor (KG CO2e/UOM)	Carbon Footprint (Tons CO2e)
Paper Usage	Tonnes	0.972	3840.21	3.7
Fuel Consumption of Employee Transport	Litres	77584.86	2.28	176.9

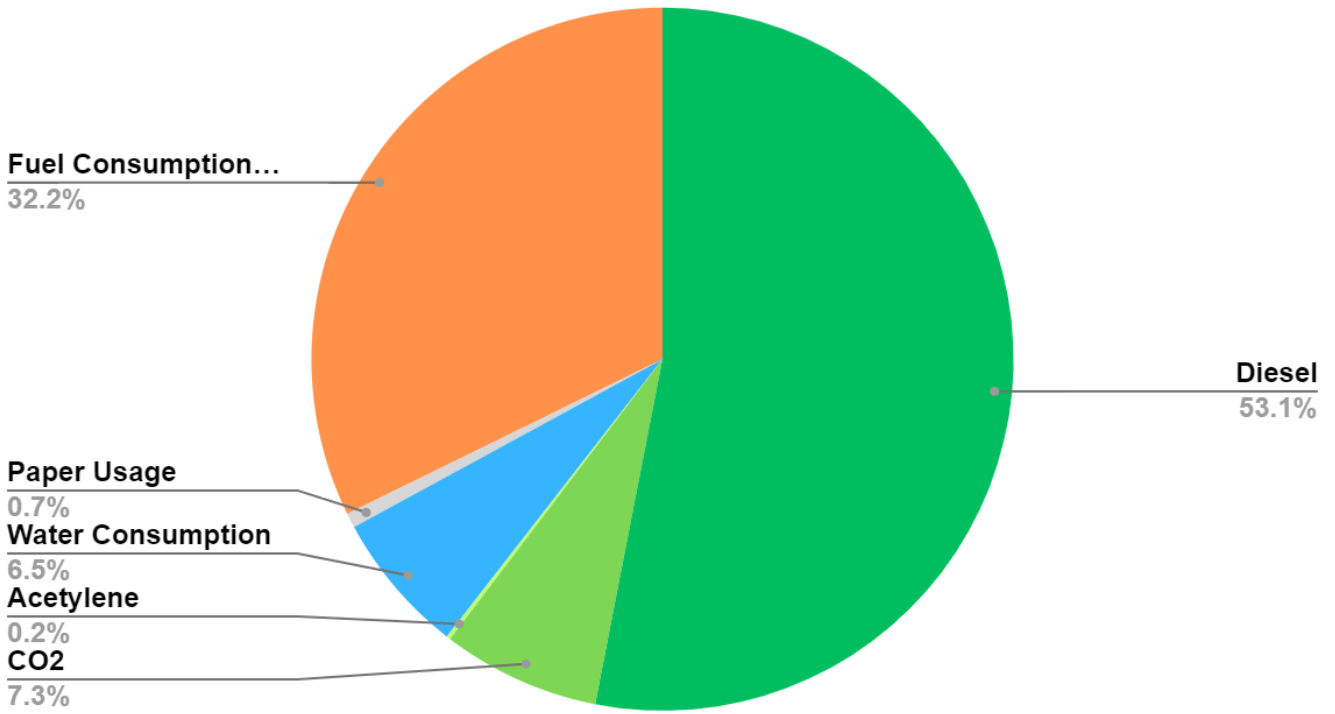
AL Quoz Scope 3 Emissions





SCOPE & PARAMETER DISTRIBUTION - AI Quoz

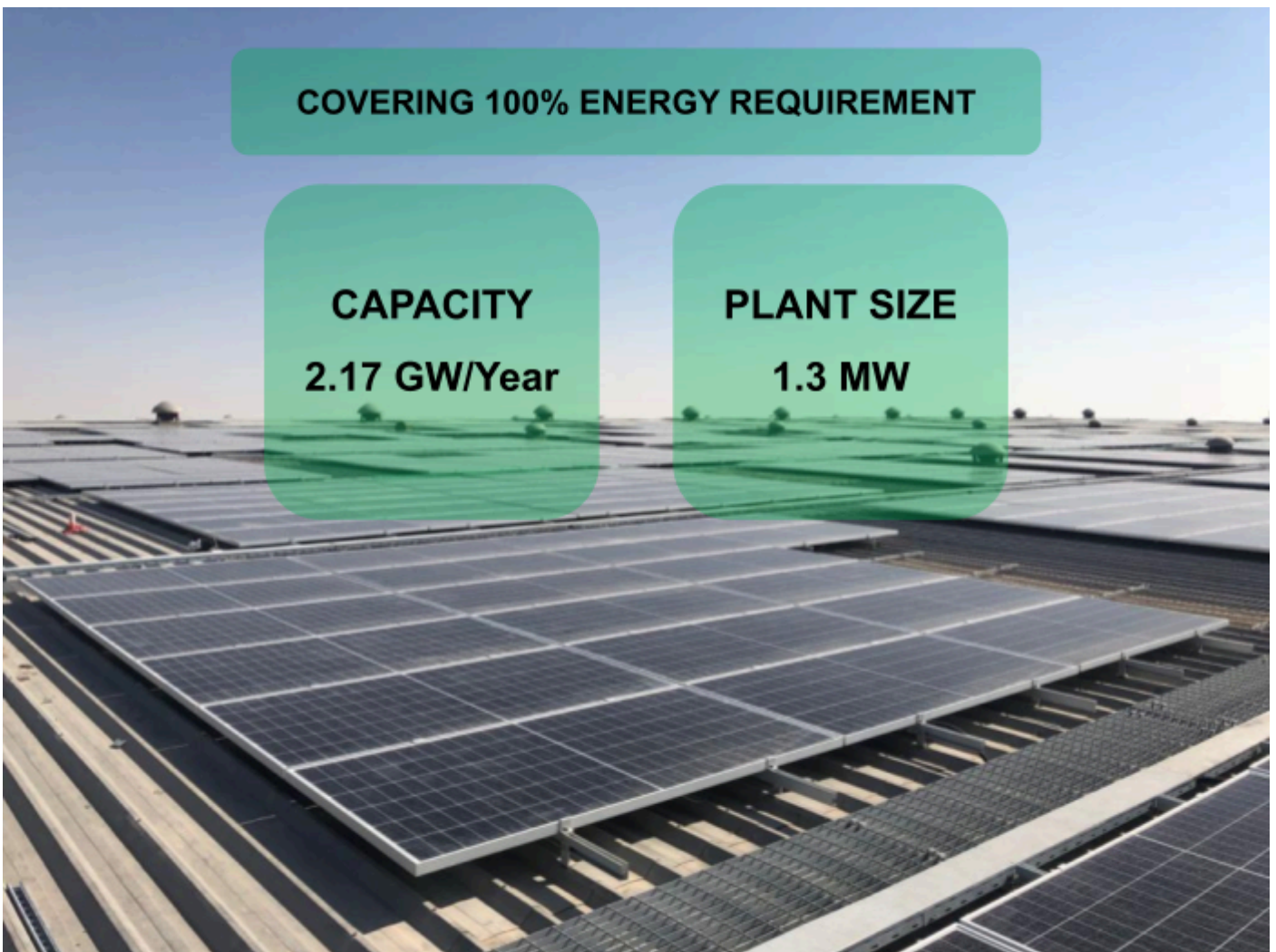
Total Carbon Footprint 548.7 Tonnes CO₂e





SOLAR POWER PLANT - AL QUOZ

Solar Plants tap into an abundant renewable source, the sun, which provides more energy in an hour than the world uses in a year. Drastically cutting carbon emissions and requiring minimal maintenance offering an eco-friendly energy source.



CONCLUSIONS

The GHG emissions inventory and reduction summary for Al Shirawi Equipment for the year 2022 is as shown below. All calculations and procedures for this report have been in accordance with ISO 14064 and GHG IPCC Protocol.

Furthermore, the amount of surplus energy generated is as follows for the two separate plants.





AL SHIRAWI Equipment Co.

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