

RESHAPING TOMORROW:

JUHAYNA'S PATH TO A CLEANER FUTURE

CARBON FOOTPRINT REPORT 2023



CONTENTS

ABBREVIATIONS & ACRONYMS	04
EXECUTIVE SUMMARY	06
INTRODUCTION	16
INVENTORY BOUNDARIES	20

Emissions results of the year 2023

The farming sector represents the highest contributor to GHG emissions in Juhayna, at **86%**, followed by the manufacturing sector at **10%**.



Benchmarking Performance

In benchmarking, only Scope 1 and Scope 2 emissions are considered, with the company evaluated based on its carbon intensity.



CALCULATION APPROACH AND METHODOLOGY	24
REPORTING PERIOD & BASE YEAR (BY)	28
CARBON FOOTPRINT RESULTS	30
CARBON FOOTPRINT RESULTS SUMMARY	106

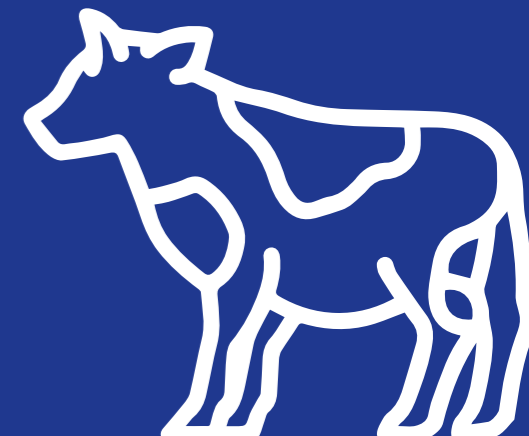
Carbon Footprint Results

In 2023, Juhayna reported total emissions of **982,513 mtCO₂e**, marking a **4.1%** reduction compared to the 2021 base year, but an increase of **10.1%** compared to the previous year.

PERFORMANCE EVALUATION	114
BENCHMARKING	124
DECARBONIZATION PLAN	150
ANNEX	156
QUALITY ASSURANCE STATEMENT	168

2023

CARBON FOOTPRINT REPORT



ABBREVIATIONS & ACRONYMS



AFOLU	Agriculture, Forestry, and Other Land Use
BY	Base Year
CDP	Disclosure Insight Action (formerly the Carbon Disclosure Project)
CFP	Carbon Footprint
CH₄	Methane
CO₂	Carbon Dioxide
CO₂e	Carbon Dioxide Equivalent
DEFRA	Department for Environment, Food & Rural Affairs
EBIT	Earnings Before Interests and Taxes
EF	Emission Factor
FMCG	Fast-Moving Consumer Goods
GHG	Greenhouse Gas
GWP	Global Warming Potential
HQ	Headquarters
HVAC	Heating, Ventilation, and Air-Conditioning
IPCC	Intergovernmental Panel on Climate Change
ISO	International Standard Organization
kWh	Kilowatt hour
LUC	Land Use Change
m²	Square meter
m³	Cubic meter
mtCO₂e	Metric tons Carbon Dioxide equivalent
MWh	Megawatt hour
p.km	Passenger kilometre
t	ton
tN	ton Nitrogen
WTT	Well to Tank



EXECUTIVE SUMMARY



Juhayna Food Industries, a prominent player in the Egyptian dairy and juice production sector, approaches its leadership role with a strong focus on sustainability. For the fourth consecutive year, we are taking stock of our greenhouse gas (GHG) emissions. This report presents our carbon footprint assessment for the period from the **1st of January 2023** to the **31st of December 2023**. Our assessment spans the entirety of our operations, from our farms and manufacturing processes to distribution and headquarters. We've employed calculation methodologies in line with industry standards, including the Greenhouse Gas Protocol, the IPCC Guidelines for Greenhouse Gas Inventories, and full compliance with ISO 14064-1:2018 standards. Our evaluation covers Scope 1 direct emissions from controlled equipment and assets, Scope 2 emissions from purchased energy, and some Scope 3 indirect emissions arising from our operations.

Our organizational boundary includes:



FARMING

AL-ESSEILA FARM
AL-FARAFRA FARM
NON-OWNED FARMS



MANUFACTURING

AL-MASREYA
AL-MARWA
AL-DAWLEYA
EGYFOODS
ASSIUT



DISTRIBUTION

28 CENTERS



HEAD QUARTERS

JUHAYNA'S HQ

ADJUSTED BASEYEAR CALCULATIONS

We recalculated the 2021 base year figures due to the following changes:

- Fertilizer data in 2021 was inaccurately reported requiring a recalculation of emissions.
- The purchased electricity data for the same period mistakenly included chilled water consumption due to double-counting, requiring a recalculation to accurately reflect our actual electricity use.

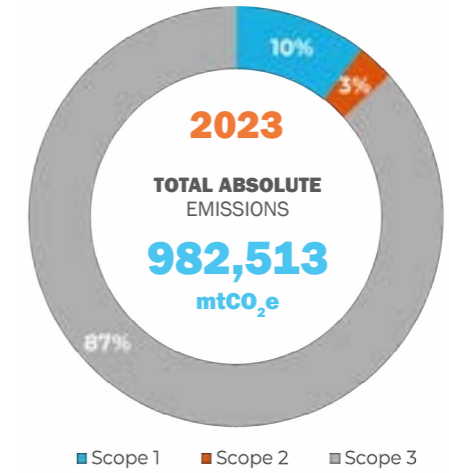


GHG EMISSION RESULTS

In 2023, Juhayna reported total emissions of **982,513 mtCO₂e** marking a 10% reduction from the previous year's total of **1,090,425 mtCO₂e**. While Scope 1 emissions saw a slight rise of **9.2%**, and Scope 2 emissions increased by **4.1%**, Scope 3 emissions significantly dropped by **12.1%**. The largest contributor to overall emissions was local non-owned farms, accounting for **78%** of the total.

The trees planted at Al-Farafra Farm sequestered **1,263 mtCO₂e** as part of our biogenic carbon efforts. Since land-use change for our farms is calculated only once, it is not included in this year's biogenic carbon report.

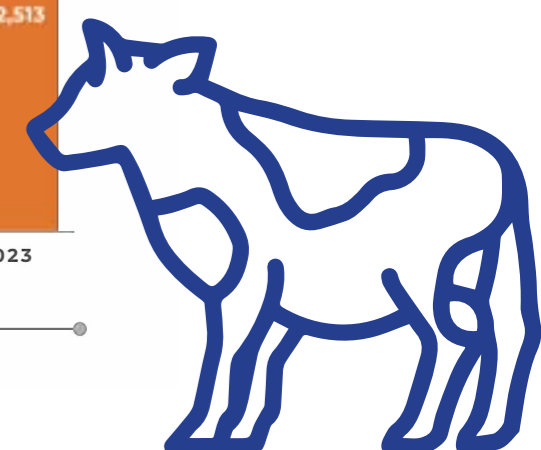
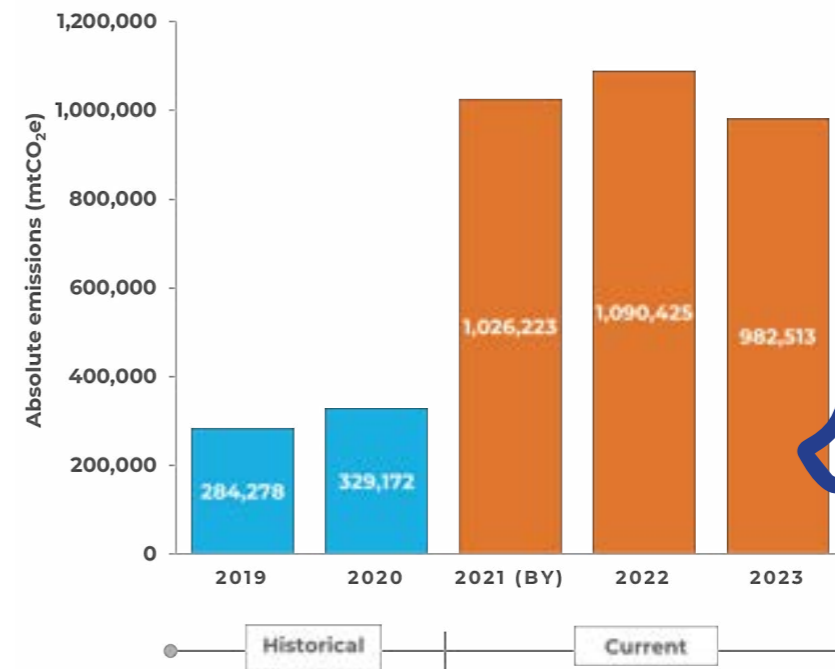
Additionally, the installation of PV modules at our Al-Esseila dairy farm in Al-Bahariya Oasis replaced generator-based energy, avoiding **428 mtCO₂e**. At Al-Dawleya Factory, the switch to PV solar power further prevented **14.5 mtCO₂e** by replacing energy that would have been sourced from the electricity grid.

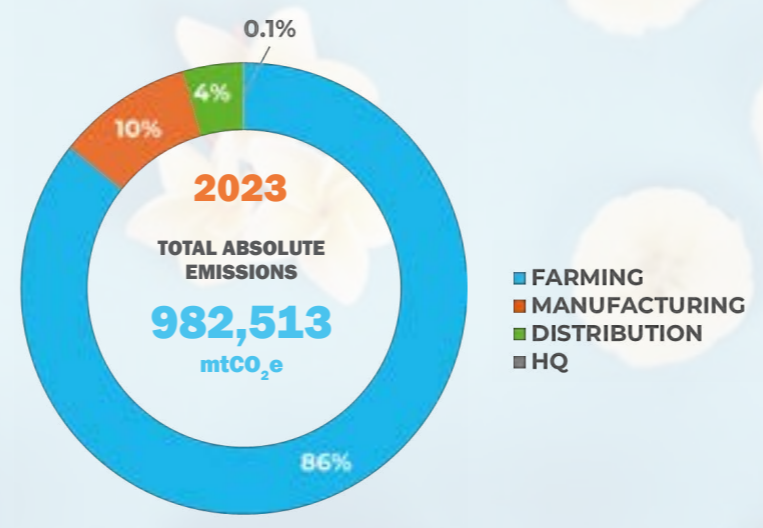


REDUCED EMISSIONS
442 mtCO₂e

BIOGENIC CARBON
1,263 mtCO₂e

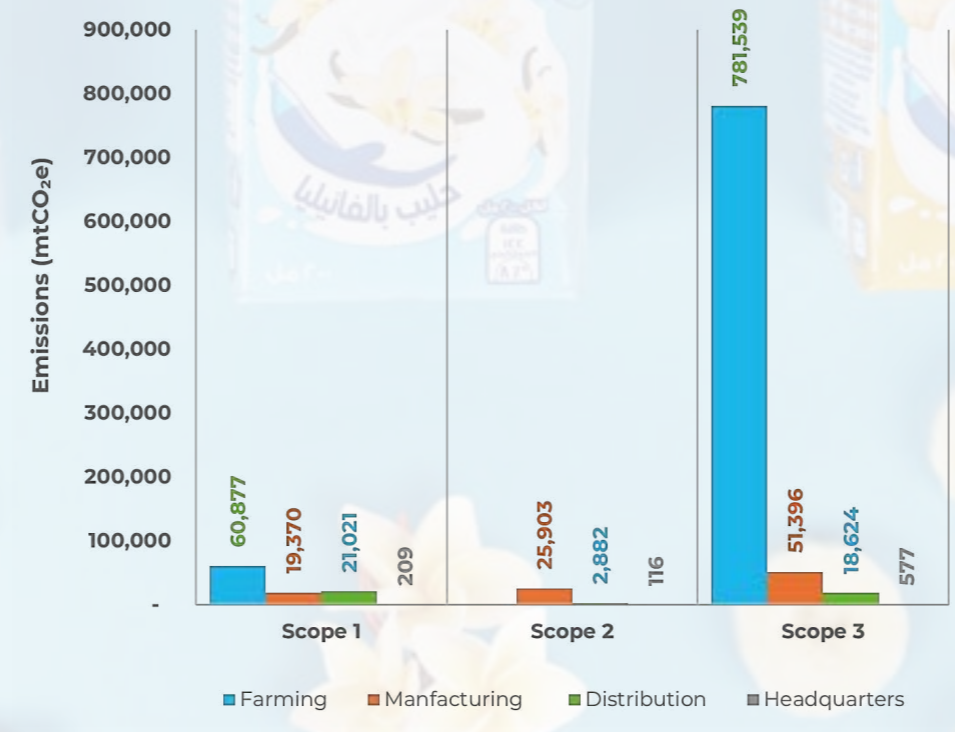
Juhayna Absolute Emissions YOY





SECTOR	EMISSIONS 2023 (mtCO ₂ e)	SHARE (%)
FARMING	842,416	86%
MANUFACTURING	96,669	10%
DISTRIBUTION	42,526	4%
HQ	902	0.1%
TOTAL EMISSIONS	982,513	100%

Emissions per scope (mtCO₂e)





2030
TARGET
REDUCTION

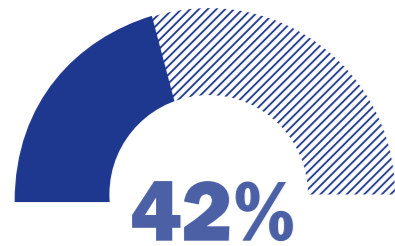
REDUCTION TARGETS

Reduction targets have been set to ensure that Juhayna’s activities and related emissions contribute to a global temperature increase of no more than 1.5 degrees Celsius, in alignment with the goals of the Paris Agreement. Accordingly, Juhayna commits to reach a **42%** reduction in Scope 1 and 2 emissions by the year **2030**.

CARBON INTENSITY

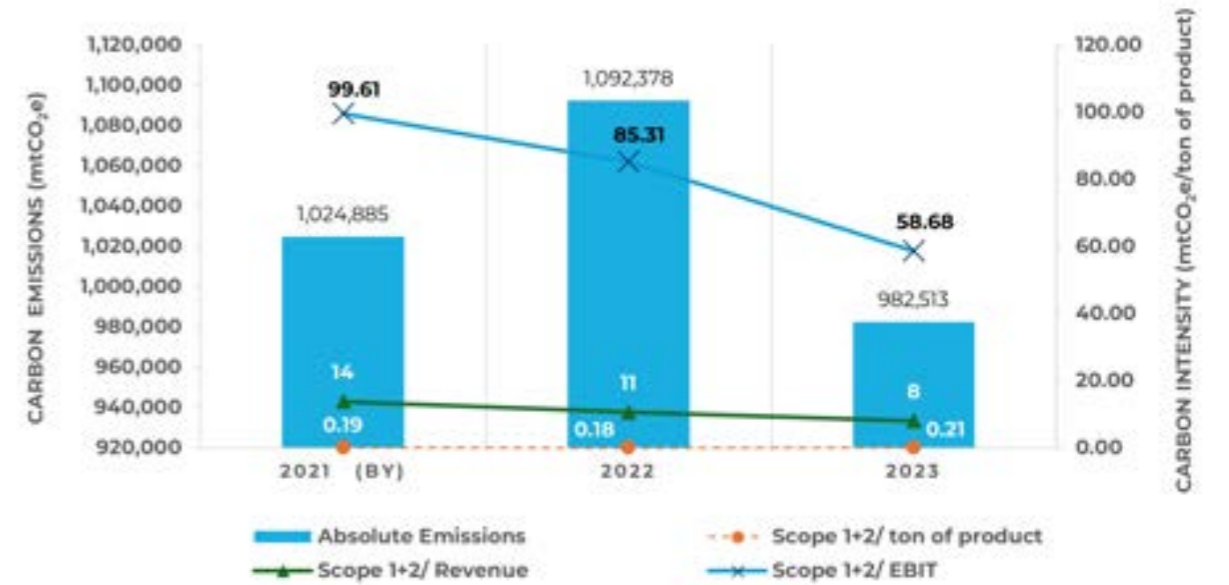
Carbon intensity has shown significant improvement in relation to both revenue and EBIT, with emissions per revenue falling by **41.6%** and emissions per EBIT decreasing by **40.5%**. Despite a **4.3%** reduction in total absolute emissions, carbon emissions intensity per unit of production has risen by **10.5%**.

This increase is primarily due to the instability and devaluation of the Egyptian currency, which has adversely affected the cost structure contributing to higher emissions intensity per unit of output.



For Scope 1 and 2 emissions

YOY Absolute Emissions and Carbon Intensity

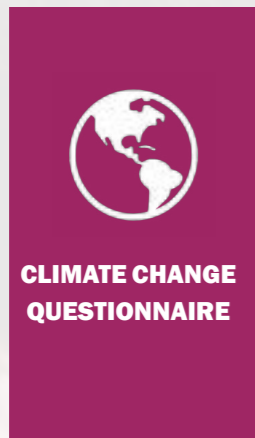


JUHAYNA'S ENVIRONMENTAL PERFORMANCE AT A GLANCE

In our ongoing commitment to transparency and environmental responsibility, this marks the fourth year Juhayna has participated in disclosing climate change data through the **Disclosure Insight Action (CDP)**.

In the 2023 disclosure cycle, Juhayna maintained a "C" score in the climate change questionnaire, which is below the global, regional, and industry averages. Additionally, for the water security questionnaire, Juhayna received a "D" score, also falling short of average scores on a global, regional, and industry level.

Recognizing these areas for improvement, Juhayna is actively working on strategies to enhance our environmental performance in the coming years. We are dedicated to implementing initiatives aimed at elevating our scores and further strengthening our commitment to sustainable practices. By prioritizing transparency and taking actionable steps, we aim to align more closely with industry benchmarks and contribute positively to environmental stewardship.



CLIMATE CHANGE QUESTIONNAIRE

OUR CDP SCORE

C

AVERAGE PERFORMANCE

B-

Food & beverage processing

B-

Africa

C

Global Average



WATER SECURITY QUESTIONNAIRE

OUR CDP SCORE

D

AVERAGE PERFORMANCE

C

Food & beverage processing

C

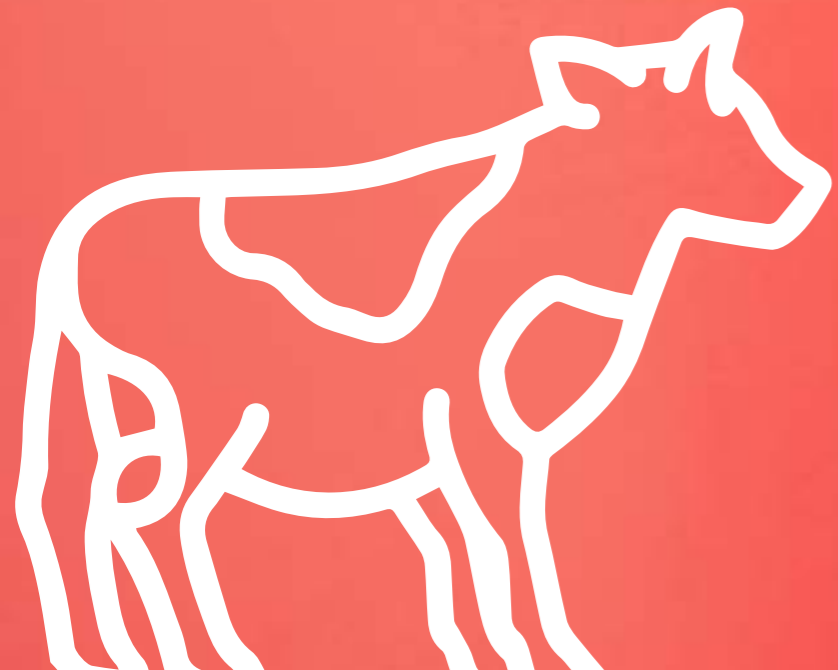
Africa

C

Global Average



INTRODUCTION





Did you know ?



MOST EMISSIONS IN THE LIFECYCLE OF DAIRY PRODUCTS ARISE AT THE BEGINNING OF THE VALUE CHAIN



80-85% of total emissions **SCOPE 3 UPSTREAM**



5% of total emissions **SCOPE 1&2 DURING PRODUCTION DAIRY PRODUCTS**



10-15% of total emissions **SCOPE 3 DOWNSTREAM**

ING Research, 2024

Globally, the main sectors contributing to GHG emissions include energy, industry, transportation, buildings, agriculture, and waste. According to the Intergovernmental Panel on Climate Change (IPCC), the breakdown typically includes energy as the largest contributor, responsible for about 73% of GHG emissions due to fossil fuel combustion across electricity, heat, and transportation. Industry follows, contributing 19%, while agriculture, forestry, and land use (AFOLU) account for 13-21%, depending on farming practices, livestock management, and deforestation rates.

The global food system significantly impacts greenhouse gas (GHG) emissions, accounting for approximately 26% of total global emissions. This breakdown includes major contributors such as livestock and fisheries, which account for 31% due to methane emissions from animal digestion and manure, crop production at 27% primarily from fertilizer usage, land use at 24% driven by deforestation for agricultural expansion, and supply chains at 18% due to food processing, transportation, and waste (Tubiello et al., 2021; Rosenzweig et al., 2021).

The projections for the agriculture sector are concerning, with estimates indicating that emissions from food production could rise by 30-40% by 2050 due to population growth and shifts in dietary patterns (SAPEA, 2020). Livestock farming, in particular, is not only contributing around 31% of emissions within the food system, but also faces vulnerabilities from climate change, which affects grazing conditions, feed quality, and overall animal health.

In 2017, 13 of the world's largest dairy corporations collectively emitted more GHGs than major fossil fuel companies like ConocoPhillips, a U.S.-based oil giant, and BHP, an Australian mining and energy corporation. Despite the dairy industry's substantial contribution to global emissions, it has not faced the same level of public scrutiny

or accountability as the fossil fuel sector, even though research shows the global food system is responsible for up to 37% of total emissions (IATP, 2020).

At Juhayna, we recognize the critical importance of addressing these environmental challenges head-on. While not mandated by government regulations, we have chosen to report our GHG emissions for the fifth consecutive year, demonstrating our leadership and commitment to sustainability within the dairy industry. Our dedication to transparency and accountability is reflected in our proactive measures, such as implementing innovative practices in waste management and energy use, which are designed to minimize our carbon footprint.

We are actively investing in more efficient technologies and practices, including the use of renewable energy sources, improving feed efficiency to reduce methane emissions, and enhancing our manure management systems. Our commitment also extends to engaging with our suppliers and stakeholders to promote sustainable practices across our value chain. By voluntarily disclosing our carbon footprint, we underscore our role in contributing to a more sustainable future.

The 2023 Intergovernmental Panel on Climate Change (IPCC) report emphasizes the urgency of rapid GHG emission cuts, particularly in methane, to prevent catastrophic climate change. Methane, while short-lived in the atmosphere, has around 80 times the warming potential of CO2, making it a critical target for reduction efforts. Juhayna is committed to aligning our sustainability goals with these global imperatives, ensuring that we play an active role in reducing our environmental impact. Our ongoing initiatives reflect our belief that sustainability is not just an obligation but an opportunity to lead in the dairy sector while fostering a healthier planet for future generations.

INVENTORY **BOUNDARIES**

ORGANIZATIONAL BOUNDARIES

The organizational boundary plays a vital role in defining which specific businesses and operational activities are included in the company's greenhouse gas (GHG) emissions accounting and reporting. Companies typically have two primary methods to choose from for disclosure: the control approach, which includes emissions from operations over which they have financial or operational control, and the equity share approach, which accounts for emissions based on the company's equity stake in these operations. We have chosen the operational control approach, which covers all farms, factories, distribution centers, and headquarters within our emissions reporting framework.



FARMING

AL-ESSEILA FARM
 AL-FARAFRA FARM
 117 NON-OWNED FARMS



MANUFACTURING

AL MASREYA
 AL MARWA
 AL DAWLEYA
 EGYFOODS
 ASSIUT *



DISTRIBUTION CENTERS

28 COUNTRIES
 28 CENTERS
 136,000 RETAIL OUTLETS



HEAD QUARTERS

JUHANYA'S HQ

* This year marks the first time we are reporting on our Assiut factory, which operates seasonally to meet the increased demand for yogurt. We have included it in our reporting to ensure we capture the full scope of our operational boundaries.

Given that Assiut's 2023 emissions represent only 0.05% of the total emissions based on the 2021 baseline, no recalculations were required for historical data.

OPERATIONAL BOUNDARIES

The 2023 carbon footprint report comprehensively assesses the emissions stemming from Juhayna's business activities. These emissions are categorized into different scopes: **Scope 1**, which encompasses emissions from equipment and assets owned or controlled by Juhayna; **Scope 2**, covering emissions linked to purchased energy; and **Scope 3**, includes selected


significant indirect emissions resulting from our operations.

For Juhayna's 2023 carbon footprint, we have included the most pertinent activities contributing to Scope 3 emissions in our calculations. Additionally, we have accounted for biogenic carbon and the reduced emissions.

SCOPE 1


Direct GHG Emissions from sources that are owned or controlled by the group (i.e. any owned or controlled activities that release emissions straight into the atmosphere).

STATIONARY COMBUSTION




ON-SITE FUEL COMBUSTION

MOBILE COMBUSTION




OWNED VEHICLES FUEL COMBUSTION

FUGITIVE EMISSIONS




REFRIGERANT LEAKAGE

AGRICULTURAL ACTIVITIES



LIVESTOCK AND MANURE MANAGEMENT

FERTILIZERS




1

SCOPE 2

Indirect GHG emissions from the consumption of purchased electricity and chilled water.

PURCHASED ENERGY




PURCHASED ELECTRICITY

2


SCOPE 3

Emissions resulting from other activities that are not covered in Scope 1 and 2. These indirect emissions are a result of Juhayna's operations but are not directly owned or controlled by it.


FUEL AND ENERGY RELATED ACTIVITIES
(NOT INCLUDED IN SCOPE 1 OR SCOPE 2)



ON-SITE FUEL COMBUSTION WTT




OWNED VEHICLES FUEL COMBUSTION WTT




TRANSMISSION & DISTRIBUTION LOSSES

CAPITAL GOODS




CAPITAL GOODS


PURCHASED GOODS AND SERVICES




PACKAGING




WATER USE




RAW FOOD ITEMS



FARMING GOODS




NON-OWNED FARMS




CONSUMABLES

BUSINESS TRAVEL




HOTEL STAYS




AIR TRAVEL + WTT

WASTE GENERATED IN OPERATIONS




SOLID WASTE DISPOSAL

EMPLOYEE COMMUTING




EMPLOYEE COMMUTING + WTT

DOWNSTREAM TRANSPORTATION AND DISTRIBUTION



EXPORTS

TRANSPORTATION AND DISTRIBUTION




UPSTREAM TRANSPORTATION + WTT

3

BIOGENIC CARBON


Emissions from the natural carbon cycle originate from biological sources like plants, trees, and soil. This includes emissions from the combustion, harvesting, digestion, fermentation, decomposition, or processing of biological materials, as well as CO2 removals by soils and biomass due to afforestation and reforestation efforts.



PLANTED TREES

REDUCED EMISSIONS

Reduced emissions refer to the greenhouse gases that are not released into the atmosphere due to specific actions taken. In the case of Juhayna, we utilize photovoltaic (PV) systems to generate electricity, thereby preventing emissions that would typically result from diesel generators or the electricity grid.



PV PANELS

CALCULATION APPROACH AND METHODOLOGY

This carbon footprint assessment adheres to the GHG Protocol Guidelines and incorporates various international standards, protocols, and guidelines specifically designed for the accounting and reporting of greenhouse gas (GHG) emissions. These include, but are not limited to, the following:

The Greenhouse Gas Protocol Guidelines

which include, but not limited to:

- **Corporate Accounting and Reporting Standard** – Offers guidance to companies for preparing their GHG emissions reports at the corporate level.
- **GHG Protocol (Scope 2) Guidance** – Standardizes how corporations measure emissions from purchased or acquired electricity, steam, heat and cooling.
- **Corporate Value Chain (Scope 3) Accounting and Reporting Standard** – Provides a framework for assessing emissions throughout the entire value chain
- **GHG Protocol Agricultural Guidance** – Interprets the Corporate Accounting and Reporting Standard for the agricultural sector

ISO 14064-1:2018

Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals

2006 Intergovernmental Panel on Climate Change (IPCC)

Guidelines for Greenhouse Gas Inventories (with 2019 Refinements), including specific reference to Volume 4 – Agriculture, Forestry, and Other Land Use (AFOLU).

In alignment with the GHG protocol, the carbon footprint assessment accounted for all seven greenhouse gases covered by the Kyoto protocol: namely carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃).



GREENHOUSE GAS	CHEMICAL FORMULA	100Y-YEAR GWP
Carbon dioxide	CO ₂	1
Methane	CH ₄	27
Nitrous oxide	N ₂ O	273
Hydrofluorocarbons	HFCs	Various
Perfluorocarbons	PFCs	Various
Sulfur hexafluoride	SF ₆	25,200
Nitrogen trifluoride	NF ₃	17,400



All activities related to the business have been meticulously identified, and their corresponding emissions have been accounted for. Activity data for the years 2021 and 2022 were extracted from data records, and all data underwent thorough review and refinement.

The general formula applied for each activity allows us to calculate its emissions, with the unit of measurement being metric tons of carbon dioxide equivalent (mtCO₂e). This unit, CO₂e, signifies an amount of a greenhouse gas (GHG) whose atmospheric impact has been standardized to match the impact of one unit mass of carbon dioxide (CO₂), based on the global warming potential (GWP) of the gas.

The general approach for calculating emissions, measured in mtCO₂e, involves multiplying the activity by its corresponding emission factor. During this process, unit analysis is meticulously performed to ensure that the emission results are obtained in the desired unit, mtCO₂e. The general formula for calculating emissions for each activity adheres to the equation outlined below.

GHG emissions, E [mtCO₂e] = Activity, A [unit] x Emission Factor, EF [mtCO₂e/unit]





REPORTING PERIOD & BASE YEAR (BY)

The reporting period is from the **1st of January 2023** to the **31st of December 2023**.

The calculations approach and methodology are in alignment with the baseline CFP report of Juhayna. No major changes have been done in the approach, besides that more detailed data has been collected and utilised this year, refining the calculations with even more precision. Also, all the EFs derived from DEFRA have been updated to the most recent values, 2020. For more details regarding the methodology of the carbon footprint, please refer to [Juhayna's 2019 CFP](#).

To enhance the accuracy of our emissions reporting, we have revised our 2021 base year data. This update was prompted by two key factors:

1. Fertilizer data for 2021 and 2022 was inaccurately reported necessitating adjustments to our emissions calculations.
2. The purchased electricity data for the same period mistakenly included chilled water consumption in Al-Masreya Factory due to double-counting, requiring a recalculation to accurately reflect our actual electricity use.

Juhayna is committed to continually refining its data reporting processes to uphold the highest standards of accuracy and accountability in the future.

CARBON FOOTPRINT RESULTS

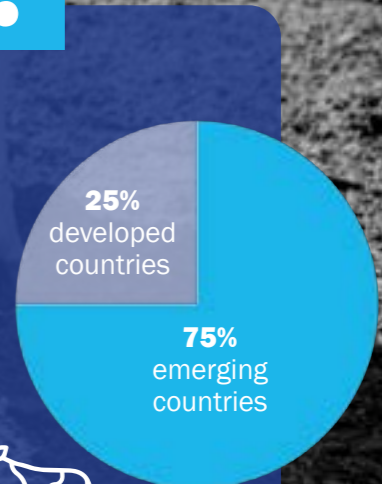


DID YOU KNOW ?

25% of global dairy GHG emissions are from dairy farms in **developed countries.**

75% of global dairy GHG emissions are from dairy farms in **emerging countries.**

IFCN, 2021



FARMING SECTOR

The farming sector consists of two farms owned by Juhayna and the local farms from which Juhayna sources its milk: Al-Esseila, Al-Farafra, and local non-owned farms.

AL-ESSEILA
FARM

AL-FARAFRA
FARM

LOCAL
FARMS

2023

86%



This sector is the primary contributor to GHG emissions, accounting for **86%** of the total emissions,

Did you know?

A single cow produces 70-120 kg of methane gas per year

EPA, 2020



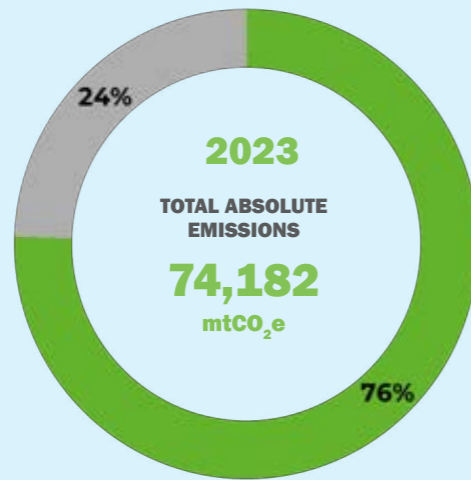


AL-ESSEILA FARM ACTIVITIES

Al-Enmaa Livestock Company specializes in dairy farm construction and owns a **550-acre** property within the Bahareya Oasis, specifically located in Al-Esseila. Al-Esseila farm is fully owned by the company and is equipped with impressive milk production capabilities, capable of accommodating a herd of 7,000 milking cows.

Al-Esseila farm stands as an exclusive asset of the company, showcasing a remarkable milk production capacity of **49, 207 tons** in 2023. This farm plays a pivotal role in fulfilling the company's significant raw milk requirements. The largest share of emissions comes from Livestock and Manure Management, accounting for approximately **64%** of the total farm emissions in 2023.

El-Esseila Farm Total Emissions (mtCO₂e)



■ Scope 1 ■ Scope 3

2023

REDUCED EMISSIONS

428
mtCO₂e

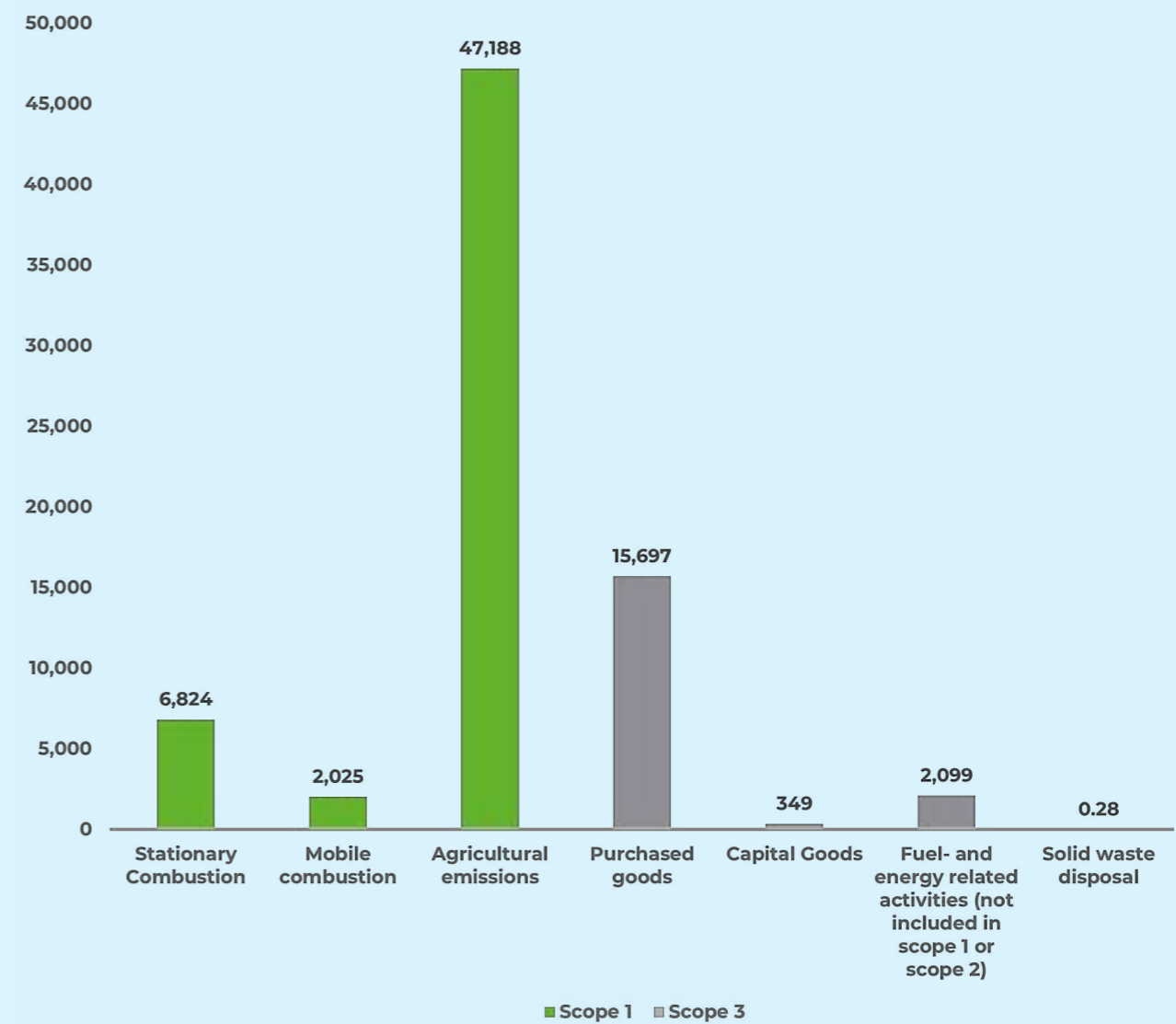
The installation of PV panels, which replaced the use of **1,292 MWh** of energy from diesel generators, resulted in the avoidance of emissions, totaling **428 mtCO₂e**.





EMISSIONS PER SCOPE AND ACTIVITY (mtCO₂e)

Al-Esseila Farm Total Emissions (mtCO₂e)





AI-FARAFRA FARM ACTIVITIES

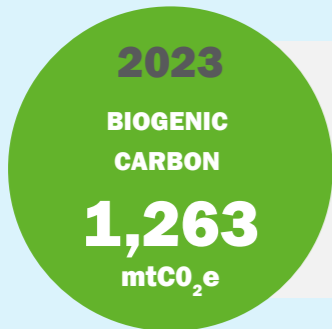
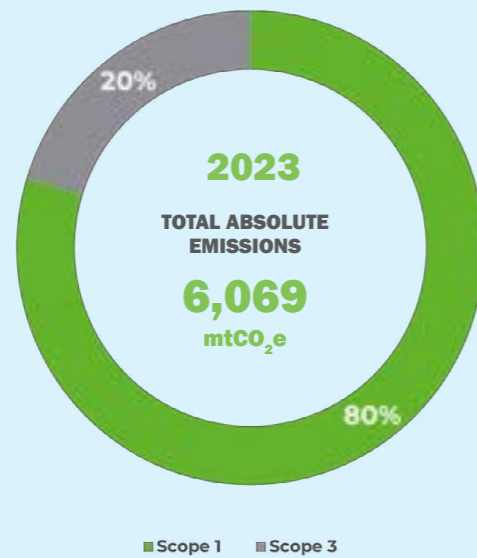
El Enmaa Company for Agricultural Cultivation specializes in the growth of fruits and a diverse range of crops, operating across a total farm area of **2,686 acres**, with **2,000 acres** specifically dedicated to crop production.

In 2023, we cultivated a total of **22,743 tons** of oranges, lemons, and corn silage, alongside a tree crop area covering 801 acres. Furthermore, we utilized **43,587**

tons of fruit waste as feed for cows in our livestock operations at Al-Esseila Farm.

The predominant source of emissions on the farm arises from the combustion of diesel fuel on-site, which accounts for approximately **62%** of our total farm emissions.

Al-Farafra Farm Total Emissions (mtCO₂e)



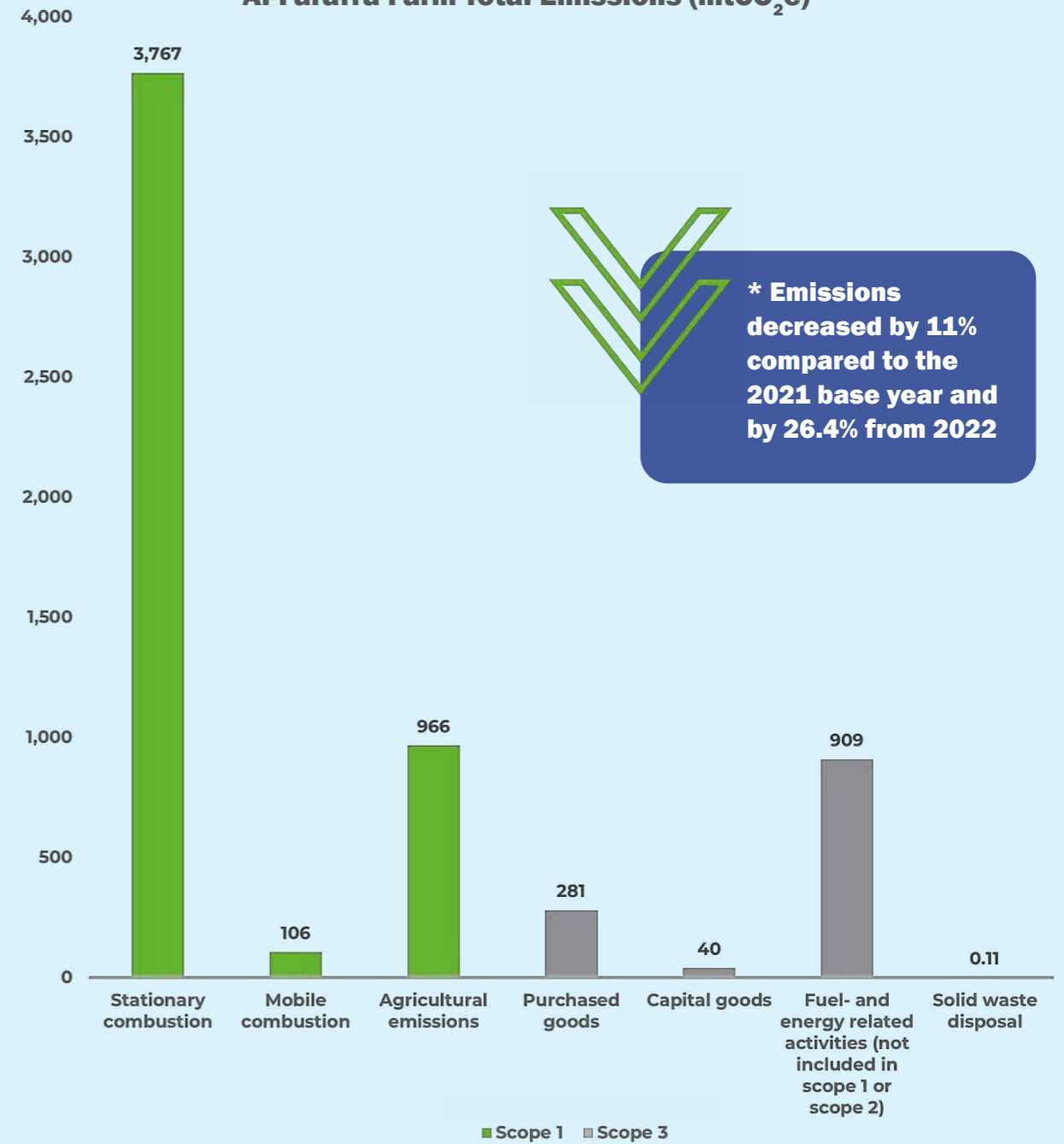
The carbon sequestration from **801** planted trees at El-Farafra Farm resulted in a total of **1,263 mtCO₂e** for biogenic carbon.





EMISSIONS PER SCOPE AND ACTIVITY (mtCO₂e)

Al-Farafra Farm Total Emissions (mtCO₂e)



* Emissions for Al-Farafra Farm were recalculated for 2021 and 2022 due to an error in reporting fertilizer quantities, requiring adjustments to our emissions calculations. The revised emissions for 2021 are 6,846 mtCO₂e, and for 2022, they are 8,245 mtCO₂e.

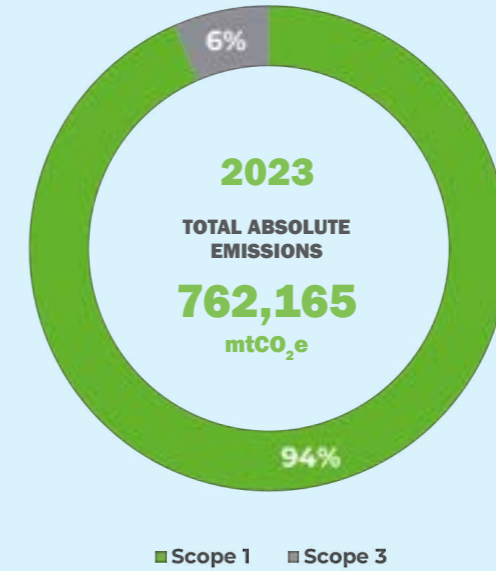


NON-OWNED FARMS ACTIVITIES

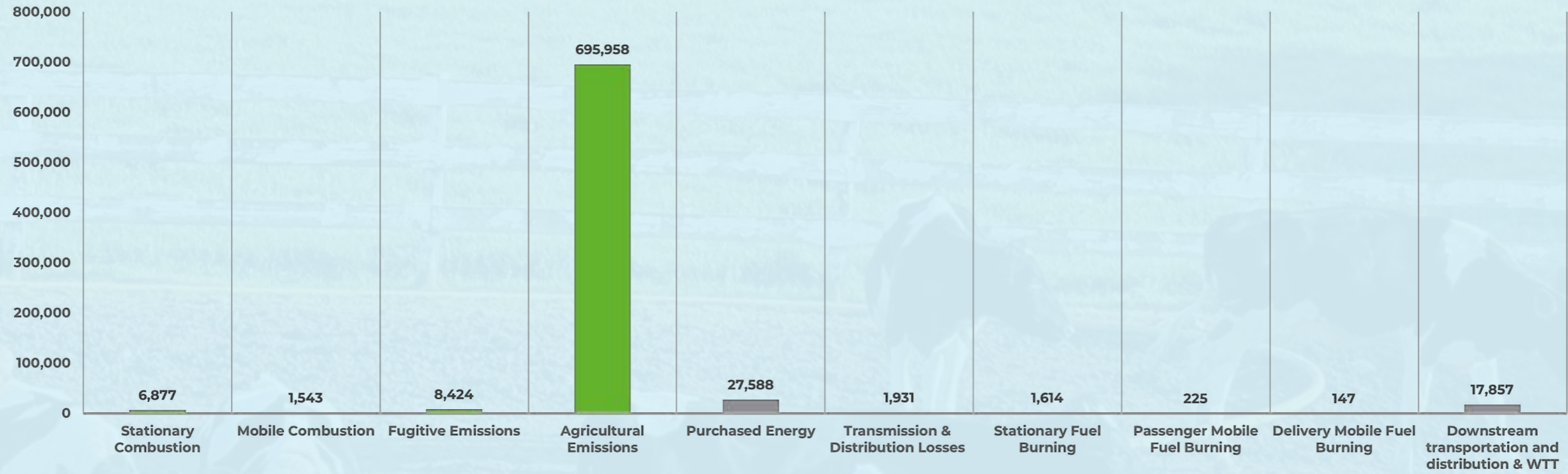
Juhayna has developed strategic partnerships with a select group of local farms to ensure a steady supply of high-quality raw milk. In 2023, this network included **117** farms, with detailed data collected directly from **10** farms. For the remaining farms, we applied estimates based on the information gathered from these sampled farms. These local farms collectively produced **47,337 tons** of milk, which accounted for **22%** of the total **216,114 tons** sourced from all local farms. To improve data accuracy, we plan to expand the sample size for the next reporting period.

In terms of GHG emissions, local farm operations constitute the majority of Juhayna's total emissions, making up **78%** of our 2023 footprint. Emissions within this segment are predominantly driven by agricultural activities such as livestock management, manure management, and fertilizer use, which together contribute **91%** of emissions associated with our local milk sourcing operations.

Non-owned Farms Total Emissions (mtCO₂e)



Local Farms Activities Emissions Summary, 2023 (mtCO₂e)



■ Scope 1
 ■ Scope 3



FARMING EMISSIONS SUMMARY

	2021 (BY)	2023
Scope 1. Direct Emissions	57,728 mtCO₂e	60,877 mtCO₂e
Stationary Combustion (Diesel generators)	13,493	9,723
Stationary Combustion (Diesel machinery)	881	868
Mobile Combustion	50	2,131
Agricultural Emissions	43,304	48,154
Scope 3. Indirect Emissions	840,577 mtCO₂e	781,539 mtCO₂e
Category 1 : Purchased goods and services	7	15,978
Category 2 : Capital Goods	-	388
Category 3 : Fuel- and energy related activities (not included in scope 1 or scope 2)	3,352	3,007
Category 5 : Waste generated in operations	-	0.38
Category 9: Downstream transportation and distribution	3,908	-
Local farms	833,310	762,165
Total Scope 1 & 3 Emissions	898,305 mtCO₂e	842,416 mtCO₂e
Reduced Emissions	566 mtCO₂e	428 mtCO₂e
PV panels	566	428
Biogenic Carbon	180 mtCO₂e	1,263 mtCO₂e
Planted trees	180	1,263

The farming sector is the largest contributor to Juhayna's greenhouse gas emissions, accounting for approximately **86%** of total emissions in 2023. Local farms represent **78%** of overall emissions and **90%** of emissions within the farming sector. However, emissions from local farms are categorized under Scope 3 (indirect emissions).

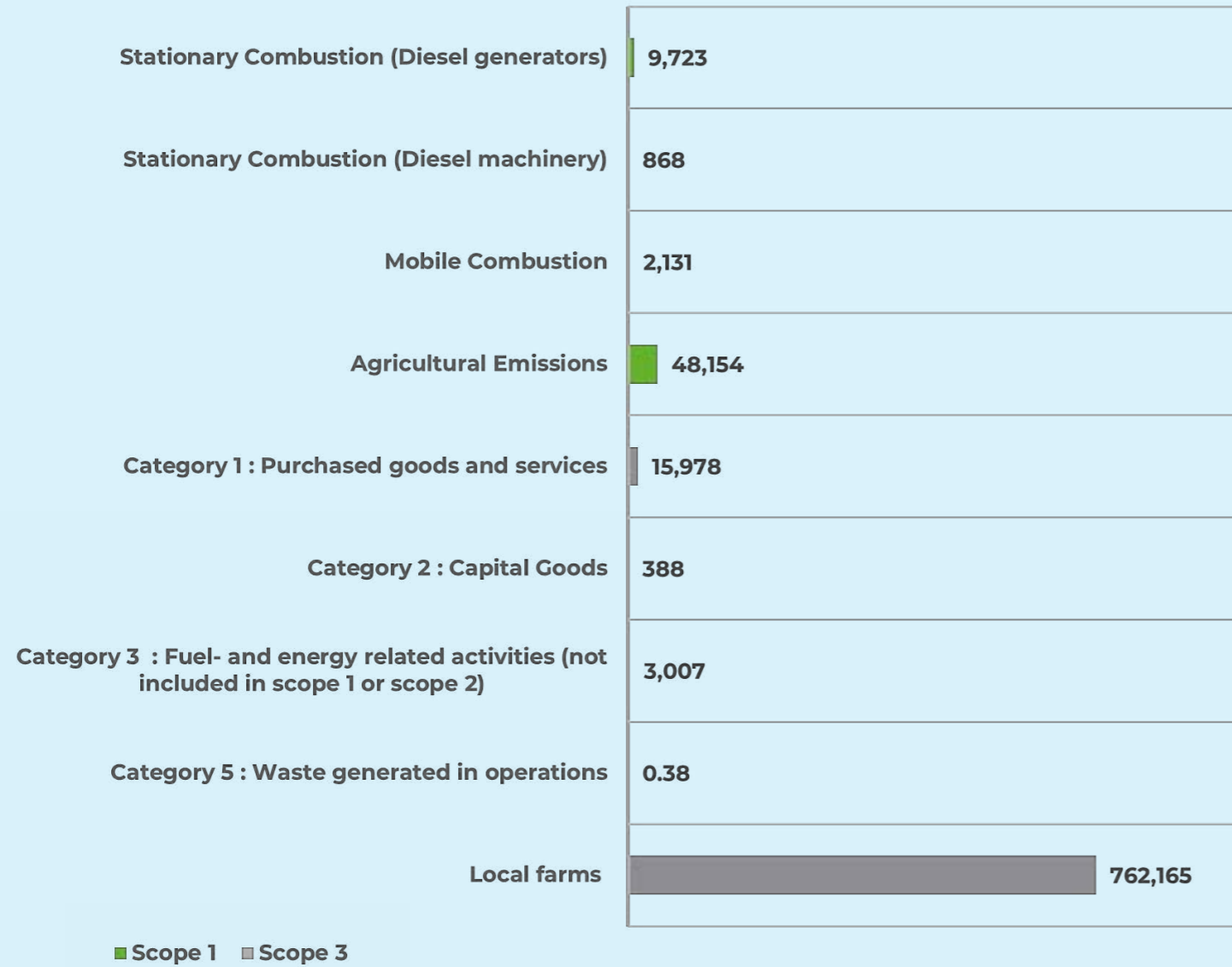
Regarding biogenic carbon, **1,263 mtCO₂e** were sequestered through tree planting. Land use change on our farms is calculated only

once, so it is not included in this year's biogenic carbon reporting. Additionally, the installation of a 1 MW solar PV system at Al Bahareya Oasis generated clean energy, avoiding **509 mtCO₂e** emissions at Al-Esseila Farm.

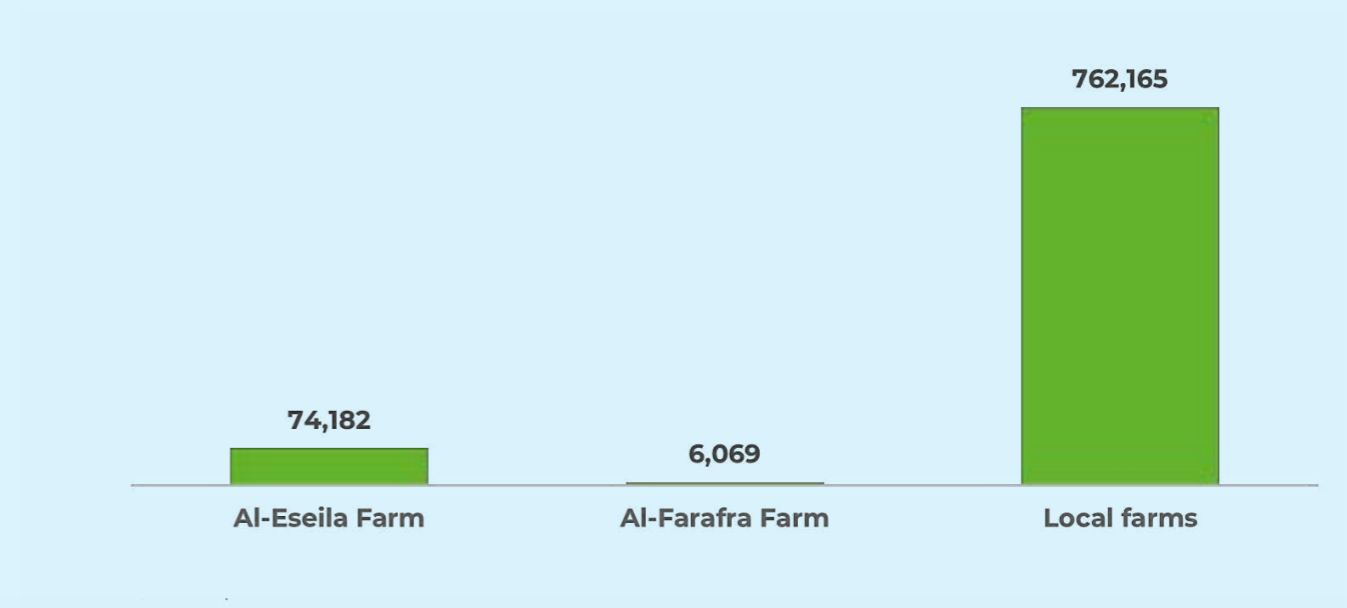
Between 2021 and 2023, farm emissions increased by **5.5%** in Scope 1 emissions, while Scope 2 emissions decreased by **7%**, resulting in an overall reduction of total emissions by **6.2%**.



Farming Activities Emissions Summary 2023 (mtCO₂e)



Farming Total Absolute Emissions per Farm 2023 (mtCO₂e)





FARMING EMISSIONS SUMMARY YOY

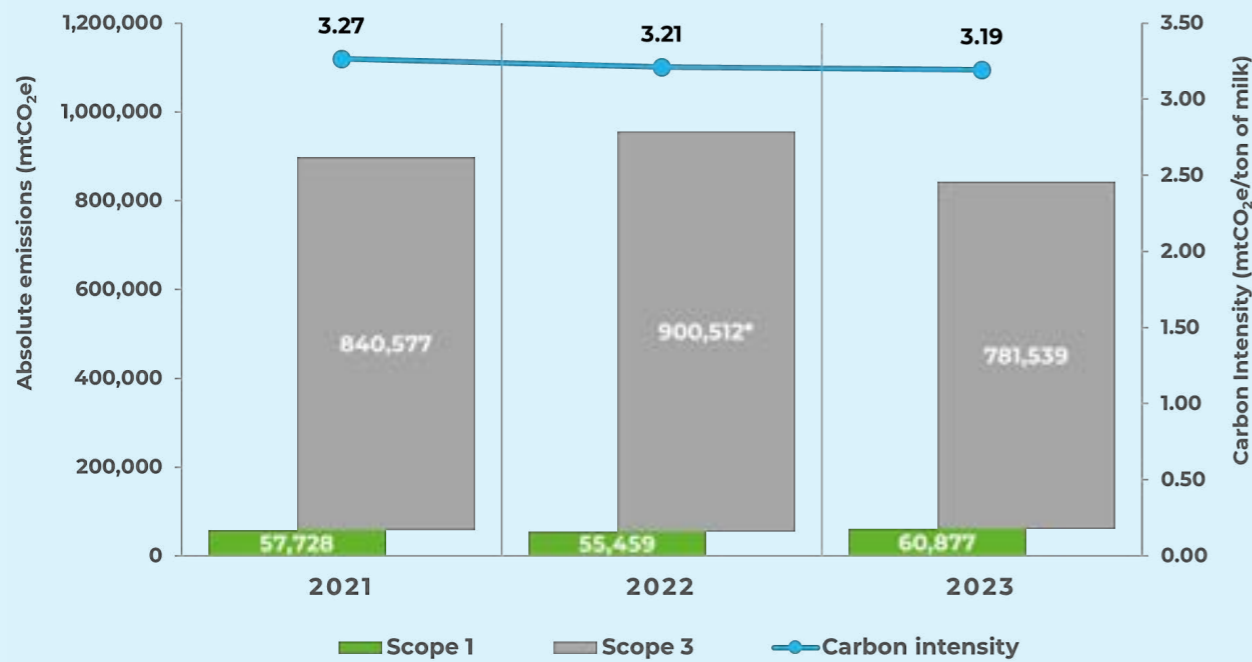
In 2021, total farm emissions were **898,305 mtCO₂e**, establishing the base year. Scope 1 emissions for that year were **57,728 mtCO₂e**, while Scope 3 emissions, representing the largest portion, amounted to **840,577 mtCO₂e**. This contributed to a carbon intensity of **3.27 mtCO₂e** per ton of milk produced, with a total milk production of **275,043 tons**.

By 2022, total emissions rose to **955,971 mtCO₂e**, a **6.4%** increase over the 2021 BY, driven largely by a **7%** increase in Scope 3 emissions to **900,512 mtCO₂e**. In contrast, Scope 1 emissions decreased by **3.9%**. Carbon intensity improved slightly to **3.21 mtCO₂e** per ton, correlating with an increase in milk

production to **297,656 tons**, which suggests gains in emissions efficiency relative to production.

In 2023, overall farm emissions dropped to **842,416 mtCO₂e**, an improvement of **11.3%** compared to 2021 and a **11.9%** reduction from 2022. Scope 1 emissions rose to **60,877 mtCO₂e**, but Scope 3 emissions saw a significant decrease, falling **13.2%** below the 2021 level. Carbon intensity also saw slight improvement, reaching **3.19 mtCO₂e** per ton, with total milk production at **263,686 tons**. These reductions reflect ongoing progress in emissions management and operational efficiency at Juhayna's farming sector.

Farming Absolute Emissions and Carbon Intensities





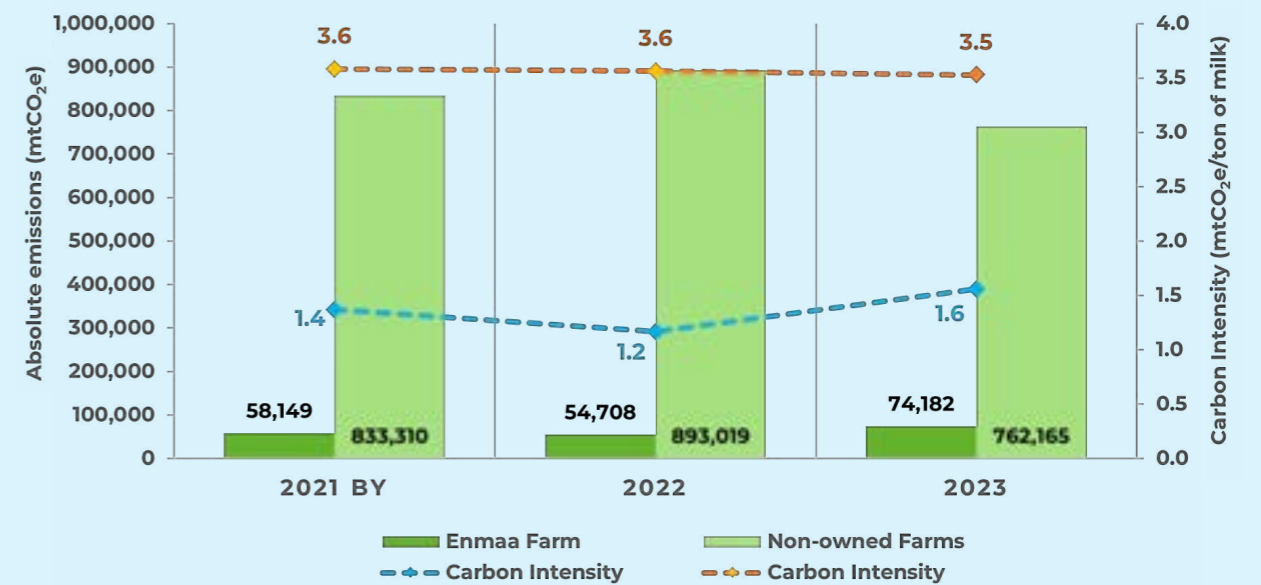
An analysis of Juhayna's Enmaa Farm and non-owned farms between 2021 and 2023 shows fluctuations in emissions and carbon intensity metrics that reveal both challenges and improvements. In 2021, Enmaa Farm reported emissions of **58,149 mtCO₂e**, which decreased by **5.9%** to **54,708 mtCO₂e** in 2022. However, by 2023, emissions increased significantly to **74,182 mtCO₂e**, a **27.6%** increase over the baseline year. This rise was accompanied by an increase in carbon intensity, which moved from **1.4 mtCO₂e** per ton in 2021 to **1.6 mtCO₂e** in 2023, indicating a need for further efficiency improvements in emissions relative to production.

Non-owned farms, responsible for the largest emissions share, emitted **833,310 mtCO₂e** in 2021. Emissions rose by **7.2%** in 2022 to **893,019 mtCO₂e** but declined by **14.7%** in 2023 to **762,165 mtCO₂e**. This reduction reflects efforts to optimize emissions on non-owned farms. The carbon intensity for these

farms showed slight improvement, maintaining **3.6 mtCO₂e** per ton in 2021 and 2022, before dropping to **3.5 mtCO₂e** in 2023. These metrics suggest progress in managing emissions within non-owned farms, aligning them more closely with Juhayna's sustainability objectives.

In analyzing the emissions data for Juhayna's Enmaa Farm compared to non-owned farms, a critical insight emerges: the carbon intensity per ton of milk produced on non-owned farms is nearly **three times** higher than that of Enmaa Farm. The variation in carbon intensity between owned and non-owned farms suggests that Enmaa Farm's controlled, sustainable practices contribute to a more efficient production model with lower emissions per output. Extending such practices could not only reduce Juhayna's overall emissions footprint but also support the broader goal of sustainable agriculture in its supply chain.

Milking Farms Absolute Emissions and Carbon Intensities



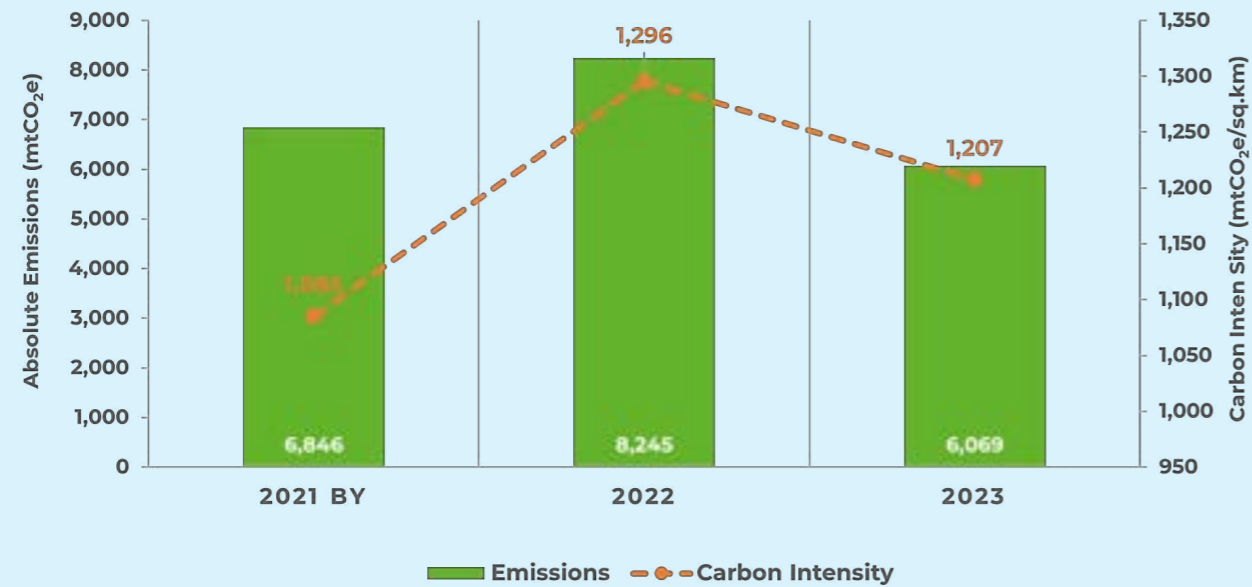


FARMING EMISSION SUMMARY YOY

For Juhayna’s Farafra Farm, emissions data from 2021 to 2023 show notable fluctuations. In 2021, Farafra’s total emissions were **6,846 mtCO₂e**, which then increased by **20.4%** to 2022. This rise was primarily attributed to increased operational activities. However, by 2023, emissions decreased significantly to **6,069 mtCO₂e**—a **26.4%** reduction from the 2022 peak and an **11.4%** decrease from the 2021 baseline.

Carbon intensity trends at Farafra also reflect these changes. In 2021, carbon intensity per crop area was **1,085 mtCO₂e per sq.km**, rising to **1,296 mtCO₂e per sq.km** in 2022 due to the increase in emissions and production demands. The 2023 data shows a reduction in carbon intensity to **1,207 mtCO₂e per sq.km**, a positive step toward more efficient emissions management compared to the 2022 levels. This trajectory suggests that emissions reduction measures implemented in 2023 were effective in lowering the farm’s carbon footprint, though there is still potential to optimize and bring the intensity down to 2021 levels, further supporting Juhayna’s sustainability goals.

Farafra Farm Absolute Emissions and Carbon Intensities





How are we farming for a cleaner future ?

1

Advanced cooling technology in our barns and milking parlors

- The fans are equipped with variable frequency drives (VFDs), allowing them to adjust speed based on temperature and humidity levels. This not only ensures optimal climate control but also significantly reduces energy consumption compared to traditional fans.
- The cooling systems also maintain ideal conditions in the milking parlors, boosting worker efficiency and improving animal handling during the milking process.

2

Soil fertility enhancement through sustainable practices

- Juhayna prioritizes soil fertility by utilizing cow waste collected through an automatic daily cleaning system in the herd yard. This approach reduces reliance on industrial fertilizers, thus minimizing their negative environmental impacts.
- To promote land preservation and lower agricultural costs related to feed harvesting, we actively support the cultivation of grains and corn throughout our farm network, enhancing grazing opportunities.
- Juhayna's Esseila farm produced 30,169 kg of organic compost. If this compost had been replaced with synthetic fertilizer containing 34% nitrogen, it would have resulted in an estimated 43 mtCO₂e emissions, based on calculations using the IPCC 2016 standards.

3

Circular Economy

- As part of Juhayna's commitment to circular economy principles, 43,586,598 kg of fruit waste was redirected from disposal and repurposed as feed for cows on the farm. By transforming this byproduct into animal feed, Juhayna maximizes resource efficiency and reduces waste, supporting a closed-loop system that benefits both the environment and the farm's operations. This approach not only minimizes the need for external feed sources but also decreases overall waste,



MANUFACTURING

We operate five advanced factories, all strategically located in 6th of October City, equipped with cutting-edge facilities to produce and package a wide range of products.

Our diverse production portfolio includes milk and dairy offerings, and we are committed to continuously optimizing our manufacturing processes for maximum efficiency.

This year, we are also reporting for the first time on our Assiut factory, which operates seasonally during Ramadan to meet the heightened demand for yogurt. By including it in our reporting, we ensure comprehensive coverage of our operational boundaries.

In total, we produced **631,145 tons** this year, with Al-Masreya contributing to nearly **half** of the production volume, followed by Al-Dawleya at **30%**.



EGYFOODS

AL-DAWLEYA

AL-MARWA

AL-MASREYA

ASSIUT



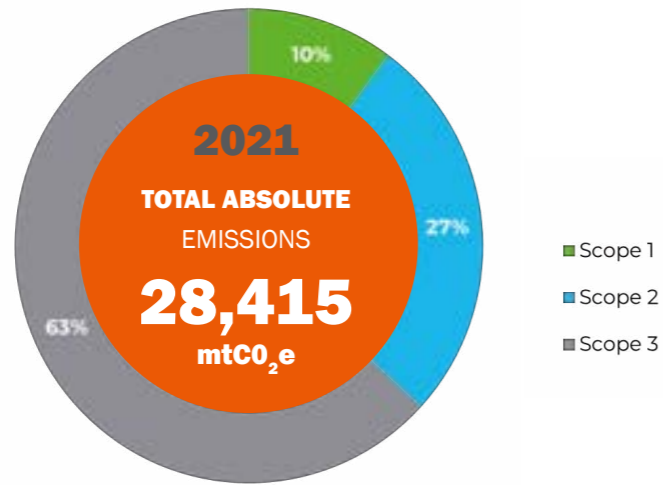
 **EGYFOODS**

EgyFoods operates within a facility spanning **35,472 m²**. The factory proudly holds several certifications that demonstrate its commitment to food safety, occupational health and safety, resource management, and energy efficiency. These certifications reflect the company's dedication to maintaining high standards across its operations.

In 2023, EgyFoods achieved an annual production volume of **95,645 tons**, representing a modest decrease of **14%** compared to the 2022 production total.

Our diverse production lineup features UHT products packaged in Tetrapak, including a full range of milk options—full cream, half cream, skimmed, and lactose-free—alongside rich whipping and cooking creams. We also offer nut and grain-based favorites like oat, soy, hazelnut, coconut, and almond drinks. For something different, our bag-in-box UHT range includes milkshakes, sundae mix, soft serve, and whipping cream. Expanding into fermented milk, we craft creamy set yogurts in both plain and flavorful varieties, plus refreshing drinkable yogurts, including fruit-infused options, packaged in sleek PET bottles. Our Greek yogurt, available in both plain and fruity varieties, is a customer favorite, packed in convenient preformed PP cups.

EgyFoods Factory Total Emissions (mtCO₂e)



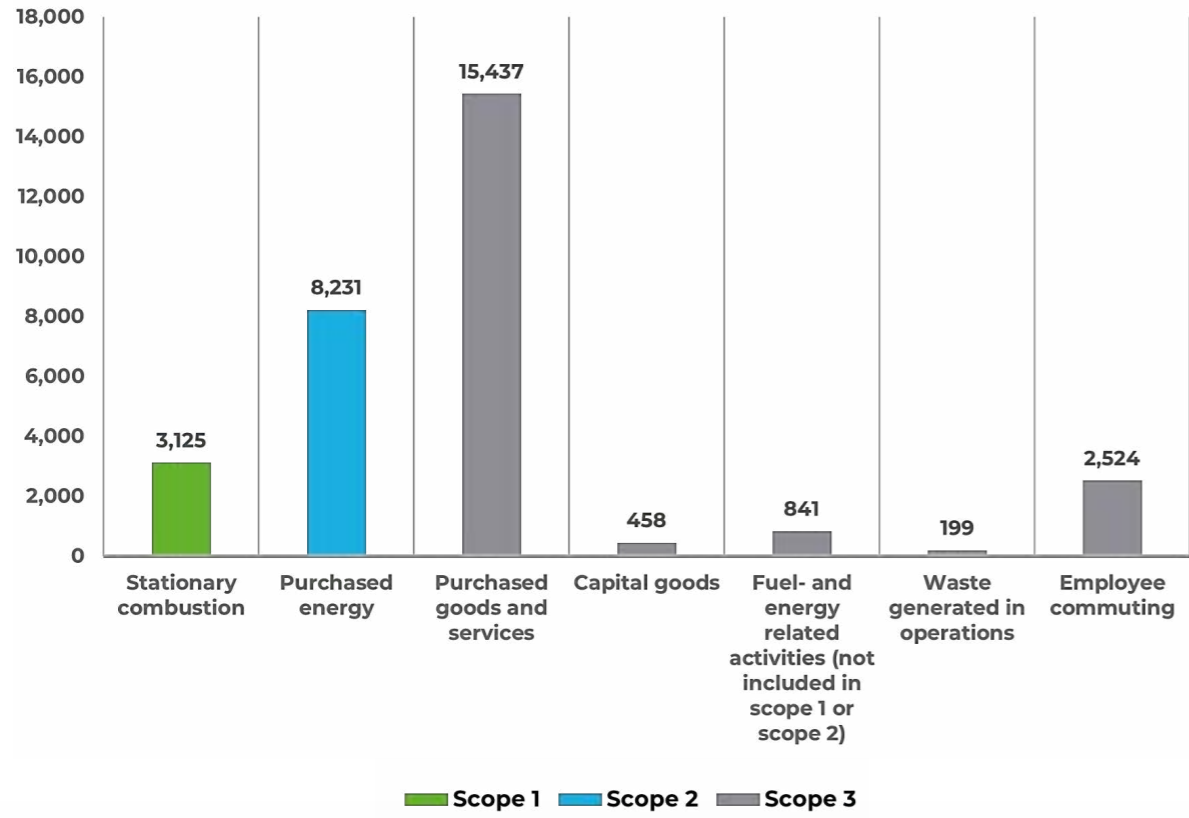
In 2023, EgyFoods reported total emissions of **30,815 mtCO₂e**, with **63%** attributed to Scope 3, **27%** to Scope 2, and **10%** to Scope 1 emissions.

The largest contributor to Scope 3 emissions was purchased goods and services, accounting for **79%** of Scope 3 emissions and **50%** of EgyFoods' total emissions.

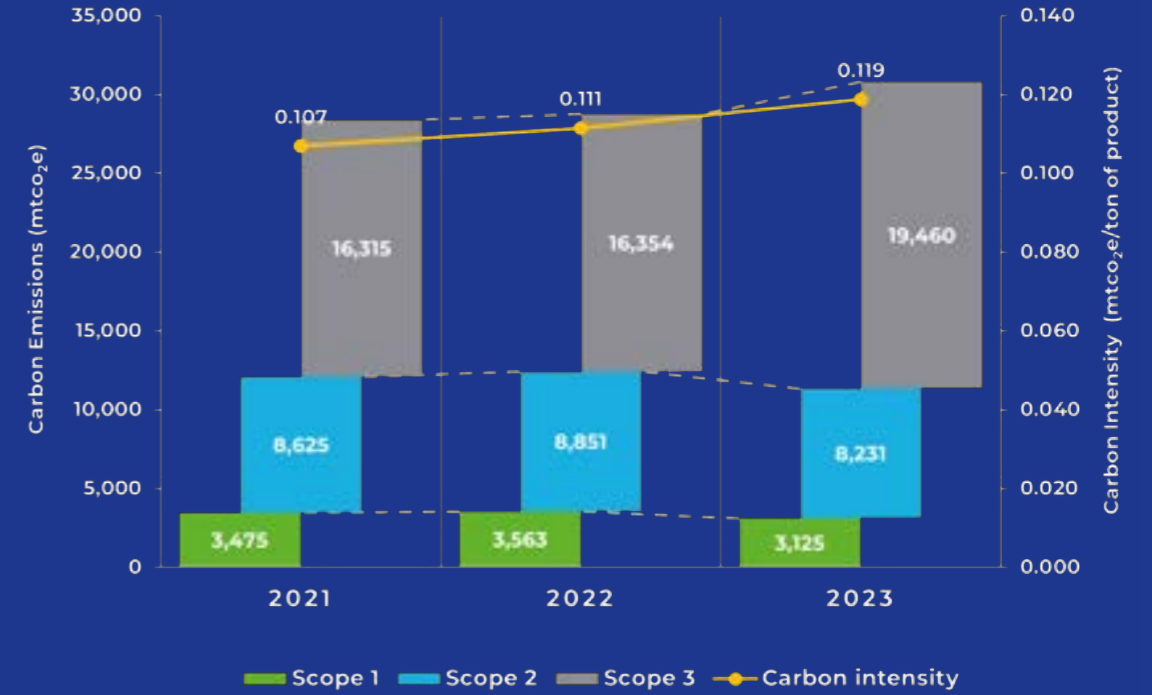
Over the years, carbon intensity has increased by **11%** in 2023 compared to the 2021 baseline year, showing a smaller increase of **7%** from the previous year. In terms of total absolute emissions, 2023 saw an **8.4%** rise compared to the 2021 baseyear, but a more modest increase of **7.2%** from 2022, indicating some improvement in overall emissions management.



EgyFoods Emissions per Scope and Activity, 2023 (mtCO₂e)



EgyFoods Emissions and Production Trends Over the Years





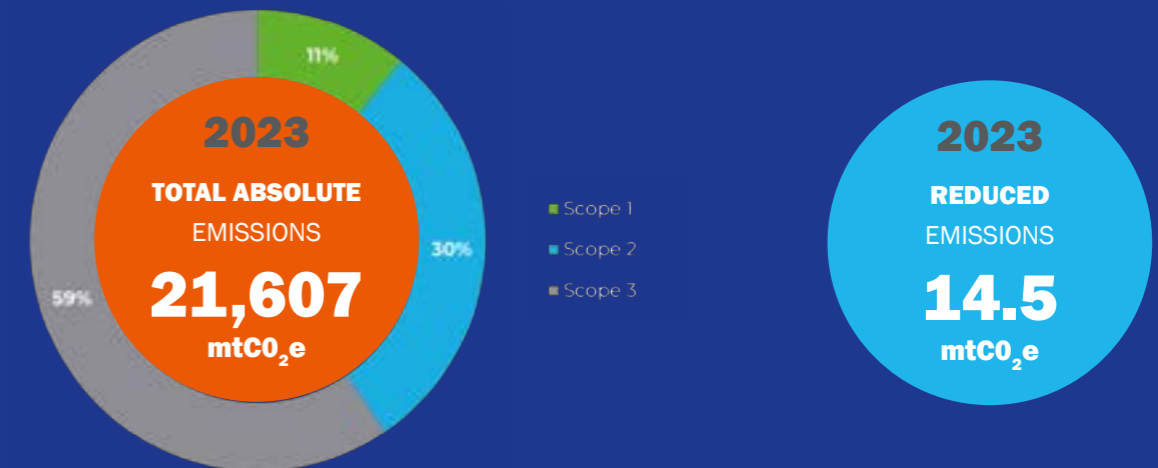
AL-DAWLEYA

Al-Dawleya is recognized as one of the largest industrial complexes in Egypt and the MENA region. In 2021, the facility achieved an impressive annual production volume of **190,240 tons**, representing a slight decline of **1.8%** from the previous year.

Since its establishment in 2009, this state-of-the-art manufacturing facility, spanning **53,425 m²**, has been a leader in producing and packaging fresh juices and beverages. It is home to renowned brands such as Juhayna Juice, Pure, Bekhero, and Oriental Beverages.

El Dawleya operates continuously to maximize productivity, featuring full automation and cutting-edge technology that minimize waste generation. The facility proudly holds numerous global and local quality certifications, highlighting its unwavering commitment to excellence in all aspects of its operations.

Al-Dawleya Factory Total Emissions (mtCO₂e)



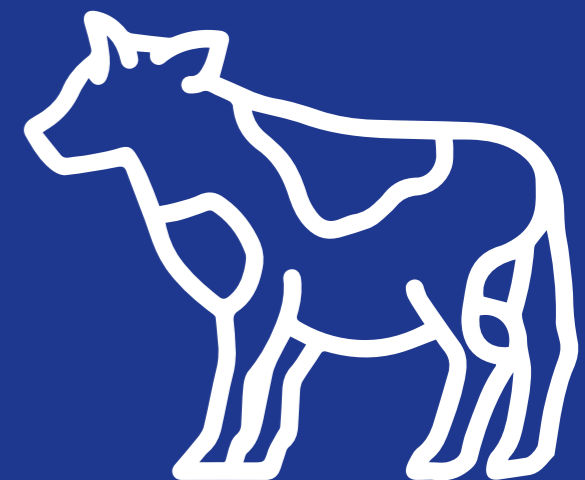
In 2023, Al-Dawleya reported total emissions of **21,607 mtCO₂e**. This breakdown revealed that **59%** of emissions were classified as Scope 3, **30%** as Scope 2, and **11%** as Scope 1.

The primary contributor to Scope 3 emissions was purchased goods and services, which represented **78%** of Scope 3 emissions and **46%** of Al-Dawleya's total emissions.

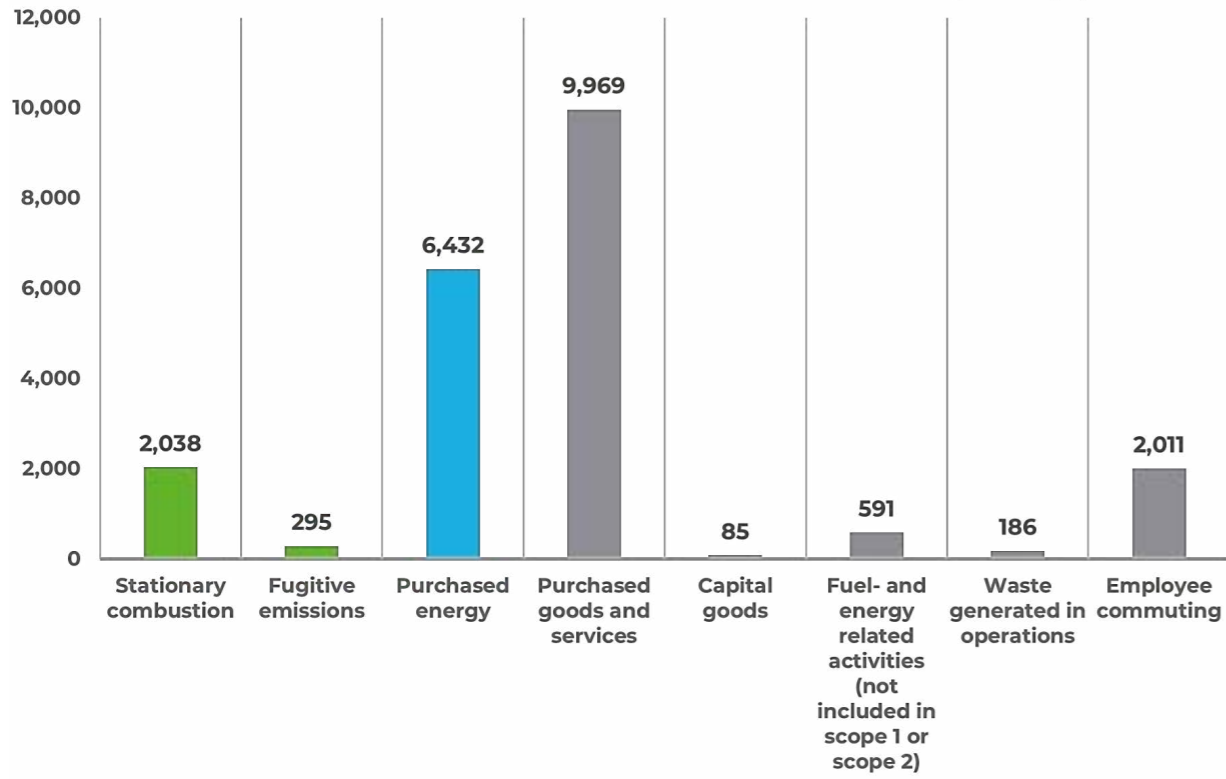
Analyzing carbon intensity, there was a reduction of **2.13%** in 2023 compared to the 2021 baseyear, along with a more

significant decline of **4.2%** from the previous year. In terms of absolute emissions, 2023 experienced a **3.7%** decrease compared to the 2021 base year, along with a substantial reduction of **7.4%** from 2022. These results indicate meaningful progress in emissions management.

The installation of PV panels, replaced the use of **30 MWh** of energy from the electricity grid, resulting in the avoidance of emissions, totaling **14.5 mtCO₂e**.

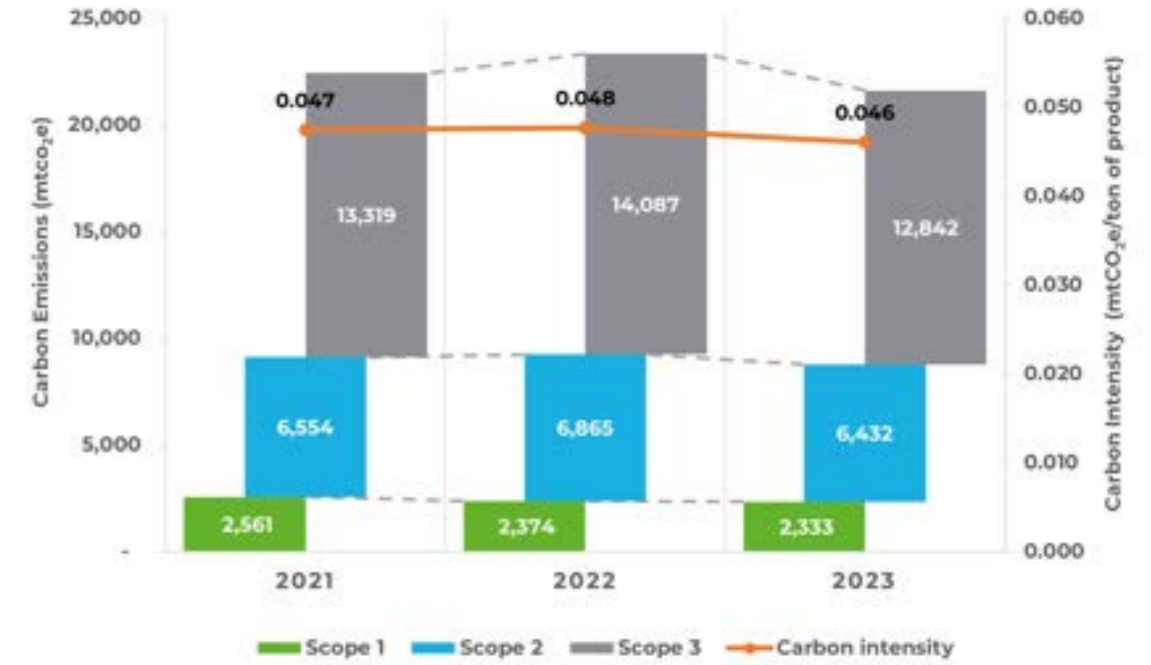


Al-Dawleya Emissions per Scope and Activity, 2023 (mtCO₂e)



■ Scope 1 ■ Scope 2 ■ Scope 3

Al-Dawleya Factory Emissions and Carbon Intensity Trends Over the Years





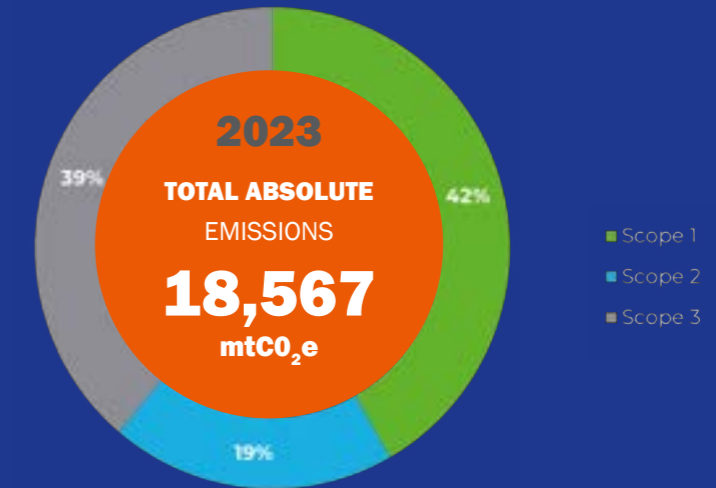
Founded in 1998, Juhayna's Al-Marwa factory has undergone significant upgrades and modernization, now equipped with cutting-edge global manufacturing technologies.

In 2023, Al-Marwa achieved an annual production volume of **36,422 tons**, representing a slight decrease of **1.4%** from the previous year. This specialized facility focuses primarily on fruit processing, producing fruit concentrates and pulps for both internal use and export. A wide variety of fruits are processed here, including mango, guava, strawberry, peach, apricot,

apple, and concentrated carrot, all handled with meticulous care under stringent quality control protocols.

Al-Marwa operates as a semi-automated plant in collaboration with the Modern Concentrates Factory to ensure seamless operations. The factory proudly holds various prestigious certifications, reflecting its dedication to high standards in food safety, environmental management, occupational health and safety, and compliance with kosher dietary requirements.

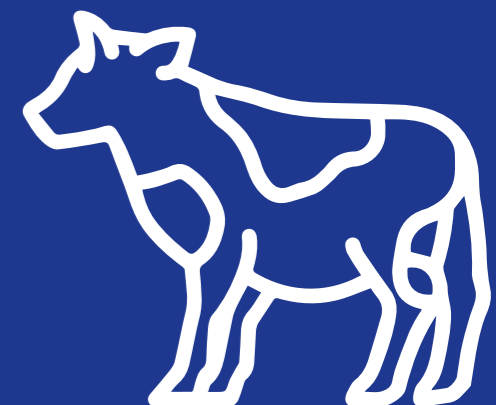
Al-Marwa Factory Total Emissions (mtCO₂e)



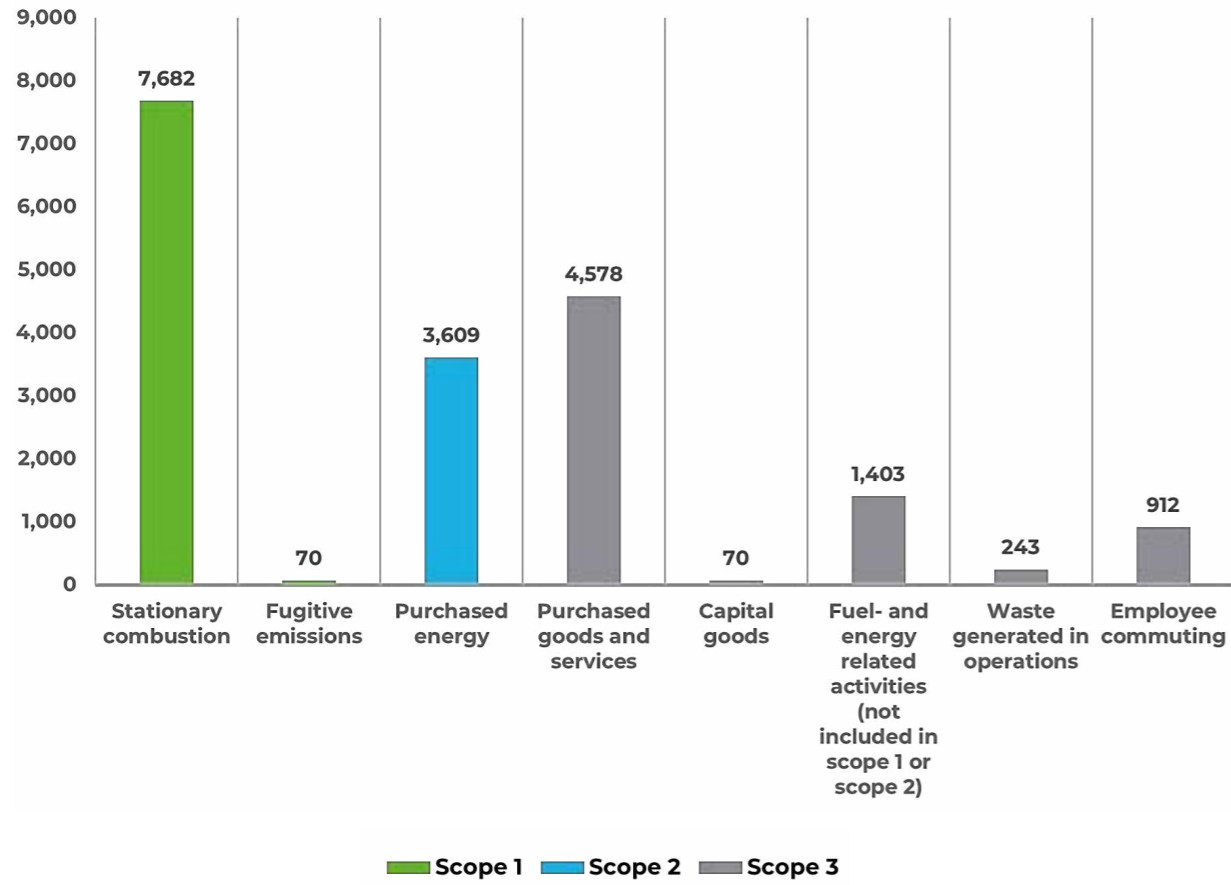
In 2023, Al-Marwa reported total emissions of **18,567 mtCO₂e**. This breakdown revealed that **42%** of emissions were classified as Scope 1, **19%** as Scope 2, and **39%** as Scope 3.

The primary contributor to Scope 1 emissions was stationary combustion, which represented **41%** of Al-Marwa's total emissions, followed by purchased goods and services representing **25%** of Al-Marwa's total emissions, and **64%** of Scope 3 emissions.

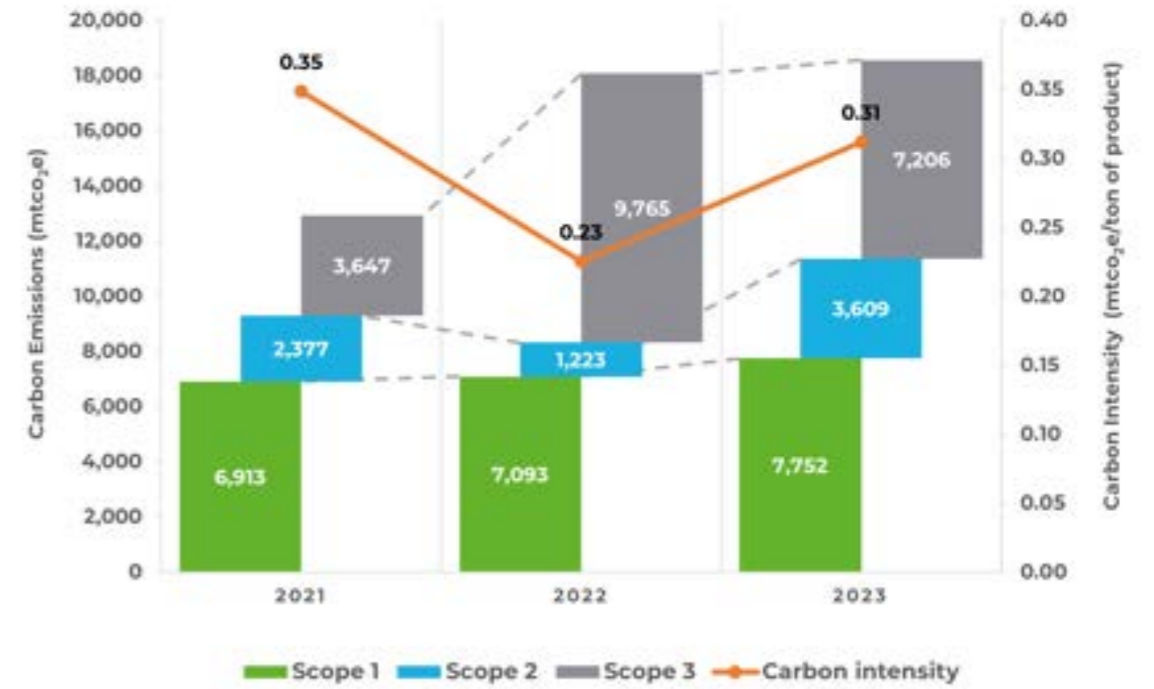
Analyzing carbon intensity, there was a reduction of **11.4%** in 2023 compared to the 2021 baseline. However, it is a **34.8%** increase from the previous year. In terms of absolute emissions, 2023 experienced a **3.7%** decrease compared to the 2021 base year, along with a substantial reduction of **7.4%** from 2022. These results indicate meaningful progress in emissions management.



Al-Marwa Emissions per Scope and Activity, 2023 (mtCO₂e)



Al-Marwa Factory Emissions and Carbon Intensity Trends Over the Years

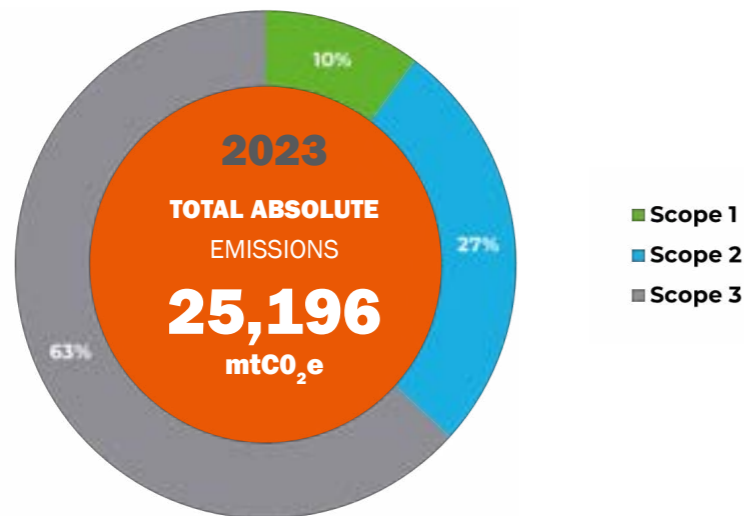


 **AL-MASREYA**

To meet the rising demand for Juhayna products, we acquired the Al-Masreya factory in 2005. Equipped with advanced technologies, this facility specializes in producing top-tier dairy products. In 2023, Al-Masreya recorded an annual production volume of **307,758 tons**, though this reflected a **9%** drop from the previous year's total.

Importantly, Juhayna, through Al-Masreya, became the third company globally to implement the innovative TBA-Edge packaging technology, ensuring exceptional quality in milk products. The factory also boasts numerous certifications, underscoring its commitment to high standards and rigorous quality control.

Al-Masreya Factory Total Emissions (mtCO₂e)



In 2023, Al-Marwa reported total emissions of **25,196 mtCO₂e**, with **63%** classified as Scope 3, **27%** as Scope 2, and **10%** as Scope 1.

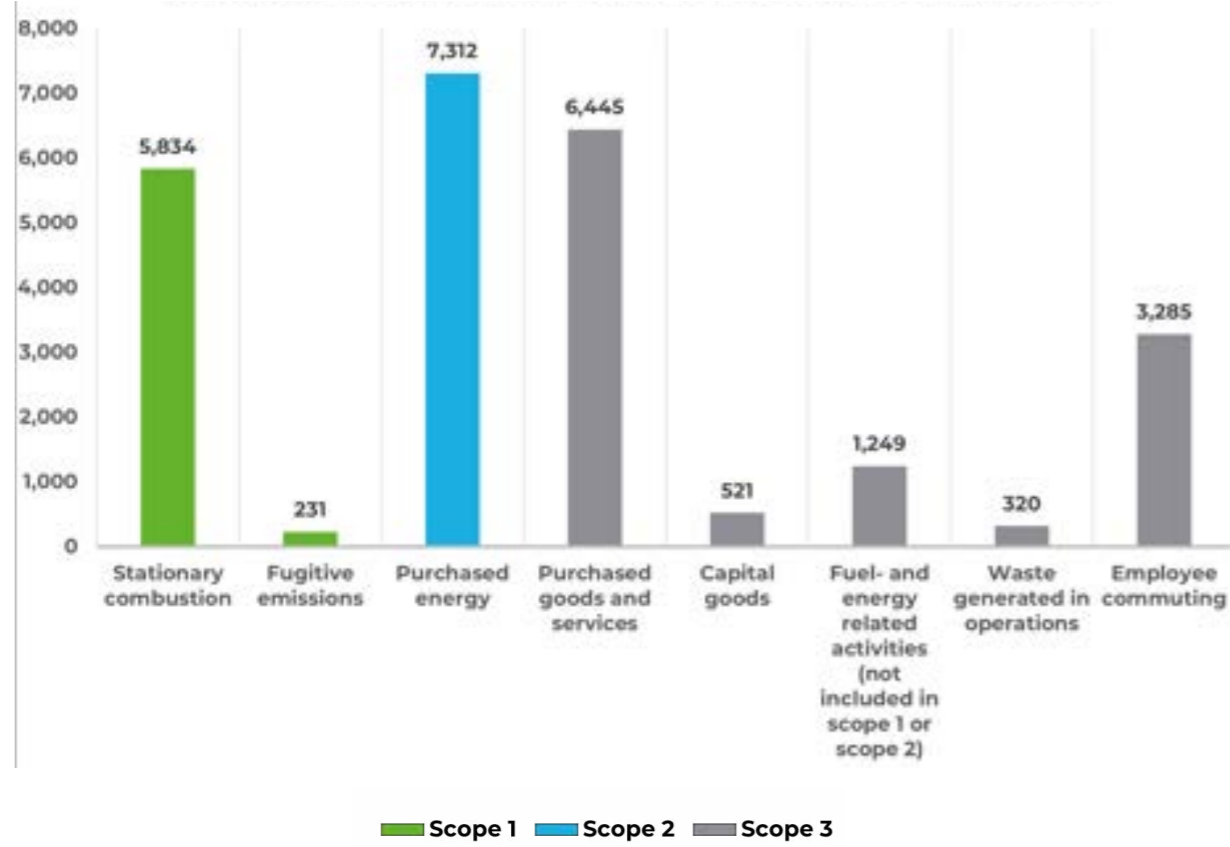
Stationary combustion, the primary source of Scope 1 emissions, accounted for **23%** of the total, while purchased energy was the largest overall contributor, representing **29%** of Al-Marwa's emissions. Importantly, in Scope 3, most emissions stemmed from purchased goods and services, which made up **55%** of Scope 3 emissions and

26% of total emissions. This highlights our focus on targeting key areas such as our supply chain and energy consumption.

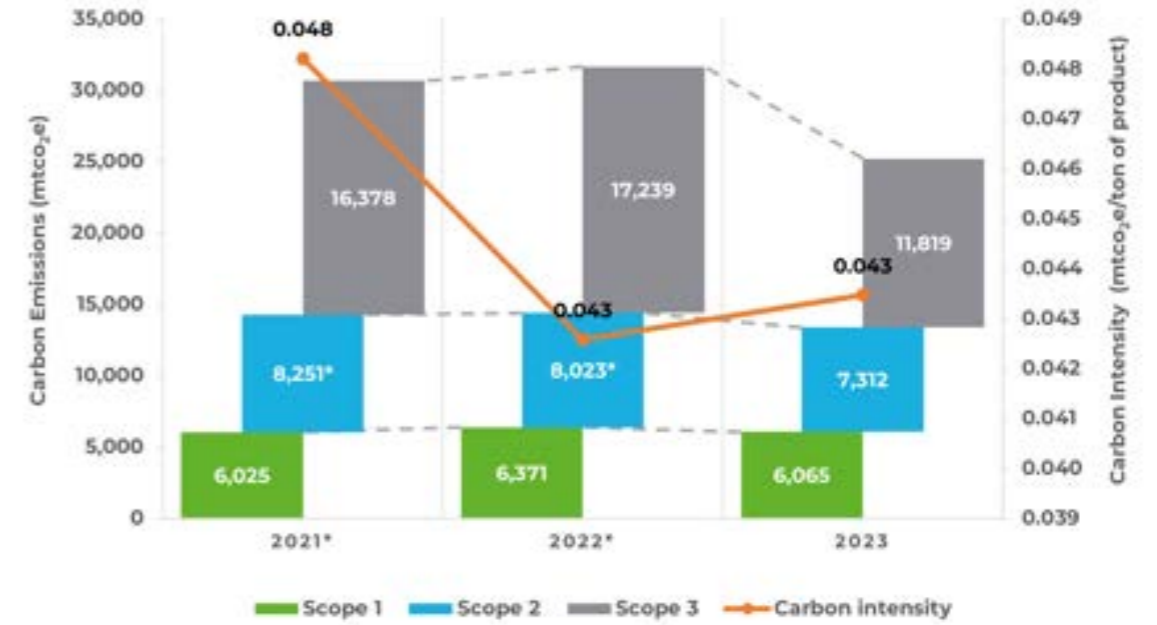
Notably, carbon intensity has consistently decreased each year, with a **20.4%** decrease from the 2021 base year and a **10.4%** reduction compared to the previous year. These reductions reflect our intensified carbon mitigation activities and continued investment in more efficient, sustainable practices.



Al-Masreya Emissions per Scope and Activity, 2023 (mtCO₂e)



Al-Masreya Factory Emissions and Carbon Intensity Trends Over the Years



* In 2021 and 2022, Scope 2 emissions were recalculated after identifying an error in the reporting of chilled water consumption at the Al-Masreya Factory. Chilled water usage had been mistakenly double counted within the purchased electricity data for those years. This adjustment was necessary to correct our reported electricity consumption and ensure the accuracy of our Scope 2 emissions figures.





ASSIUT

This year marks the first time we are including our Assiut factory in our reporting. The factory operates seasonally during Ramadan to meet the heightened demand for yogurt, and its inclusion ensures we capture the full scope of our operational boundaries.

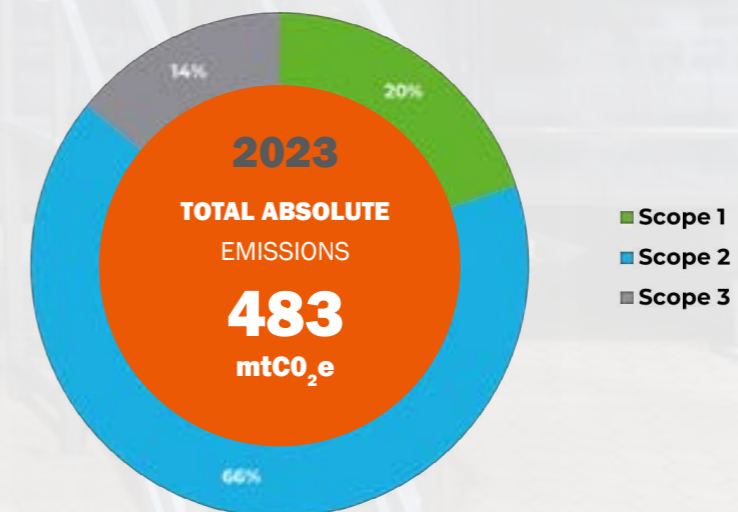
In 2023, the Assiut factory, covering an area of **30,000 m²**, achieved an annual production volume of **1,080 tons**. During the reporting year, the facility recorded total emissions of **483 mtCO₂e**, with 66%

classified as Scope 2, **20%** as Scope 1, and **14%** as Scope 3.

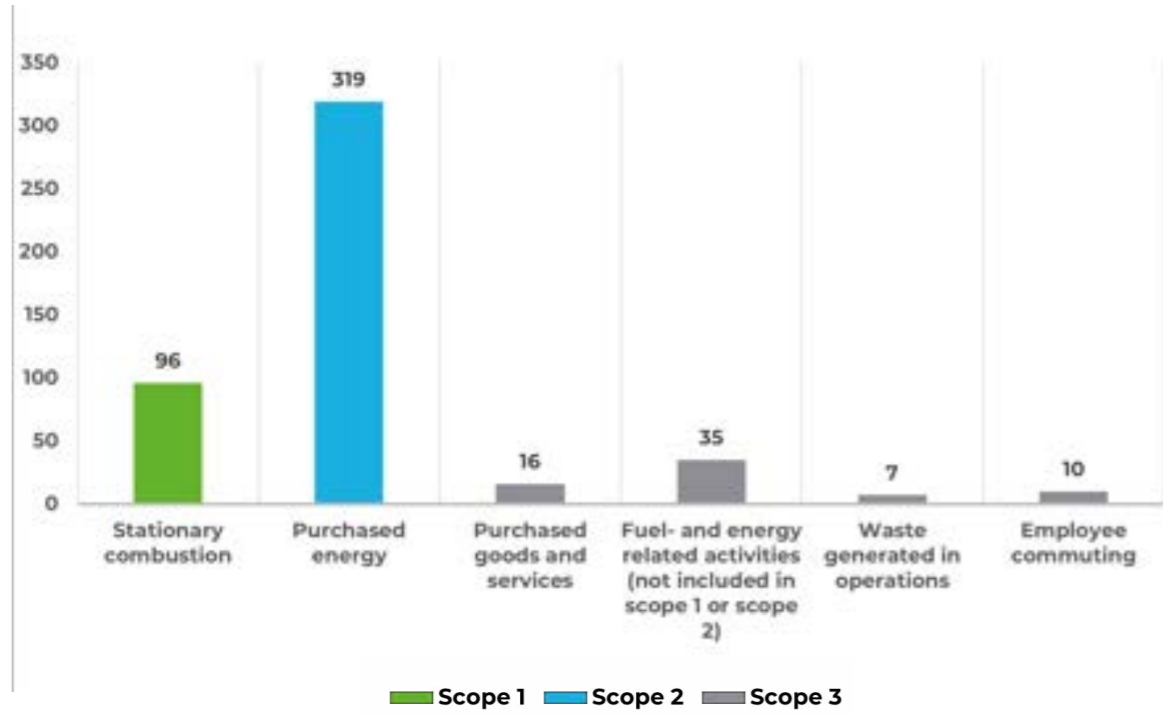
The sole source of Scope 1 emissions was stationary combustion. For Scope 3, fuel and energy-related activities (not included in Scope 1 or 2) accounted for **7%** of total emissions and **51%** of Scope 3 emissions at the Assiut facility.

In terms of carbon intensity, the factory reported a rate of **0.38 mtCO₂e** per ton of product.

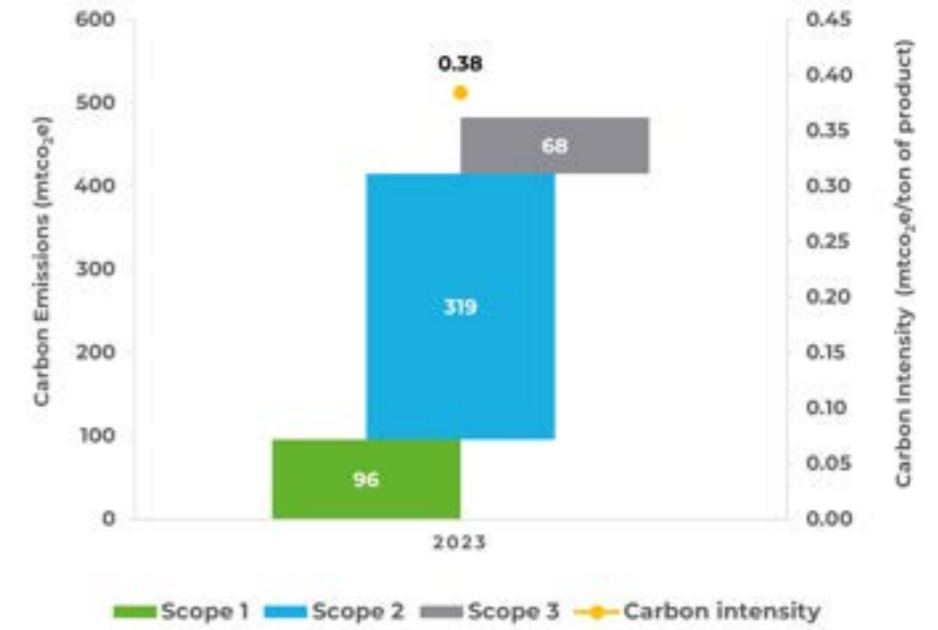
Assiut Factory Total Emissions (mtCO₂e)



Assiut Factory Total Emissions per Scope and Activity (mtCO₂e)



Assiut Factory Emissions and Carbon Intensity





MANUFACTURING EMISSIONS SUMMARY

	2021 (BY)	2023
Scope 1. Direct Emissions	18,973 mtCO₂e	19,370mtCO₂e
Stationary combustion	17,515	18,775
Fugitive emissions	1,458	596
Scope 2. Indirect Emissions	25,807* mtCO₂e	25,903 mtCO₂e
Purchased Electricity	25,807	25,903
Total Scope 1 & 2 Emissions	44,780 mtCO₂e	45,273 mtCO₂e
Scope 3. Indirect Emissions	49,658 mtCO₂e	51,396 mtCO₂e
Category 1: Purchased goods and services	39,697	36,445
Category 2: Capital goods	-	1,134
Category 3: Fuel- and energy related activities (not included in scope 1 or scope 2)	2,961	4,120
Category 5: Waste generated in operations	820	955
Category 7: Employee commuting + WTT	6,181	8,742
Total Scope 1, 2 & 3 Emissions	94,439 mtCO₂e	96,669 mtCO₂e
Reduced Emissions	13 mtCO₂e	14.5 mtCO₂e
PV panels	13	14.5

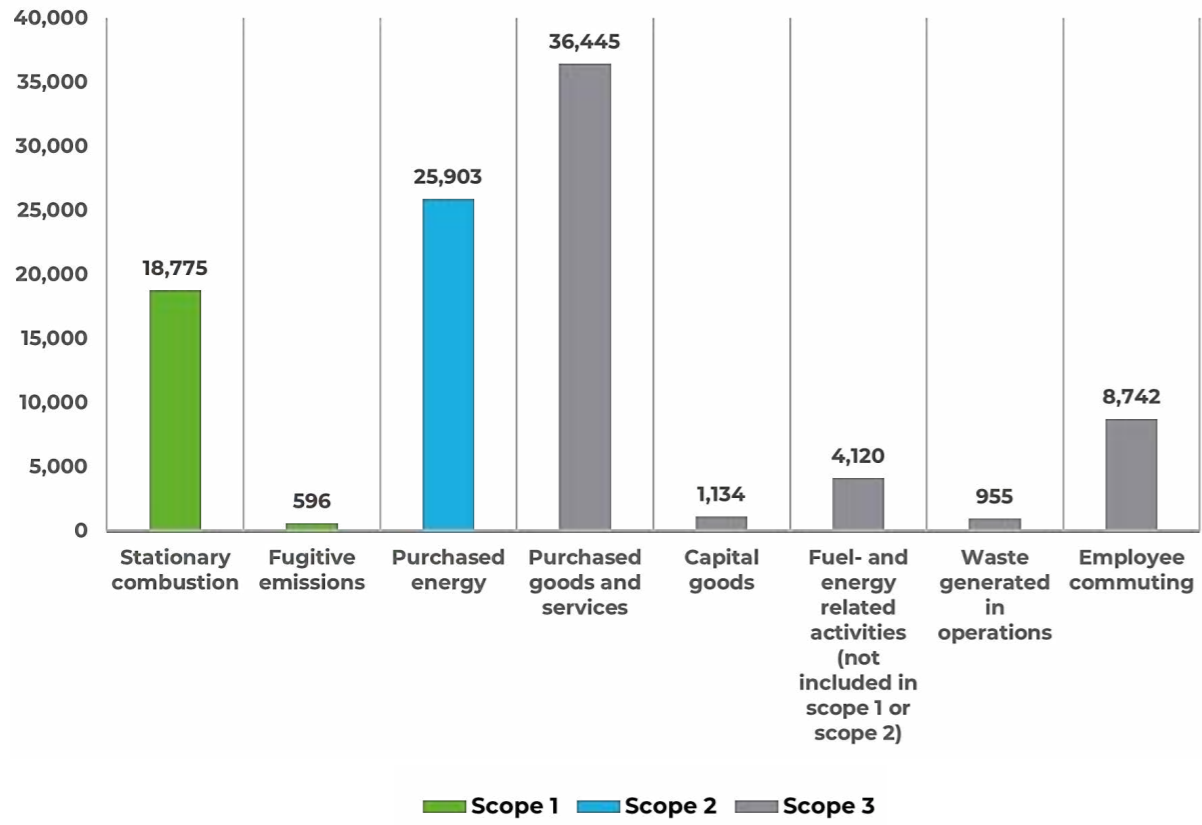
* In 2021 and 2022, Scope 2 emissions were recalculated after identifying an error in the reporting of chilled water consumption at the Al-Masreya Factory. Chilled water usage had been mistakenly double counted within the purchased electricity data for those years. This adjustment was necessary to correct our reported electricity consumption and ensure the accuracy of our Scope 2 emissions figures.

Purchased materials include wood and metals, paper and board, plastics, and consumables such as ink cartridges, gloves, uniforms etc. In 2022, packaging emissions constituted approximately **21%** of our total manufacturing emissions, and a significant **40%** of our

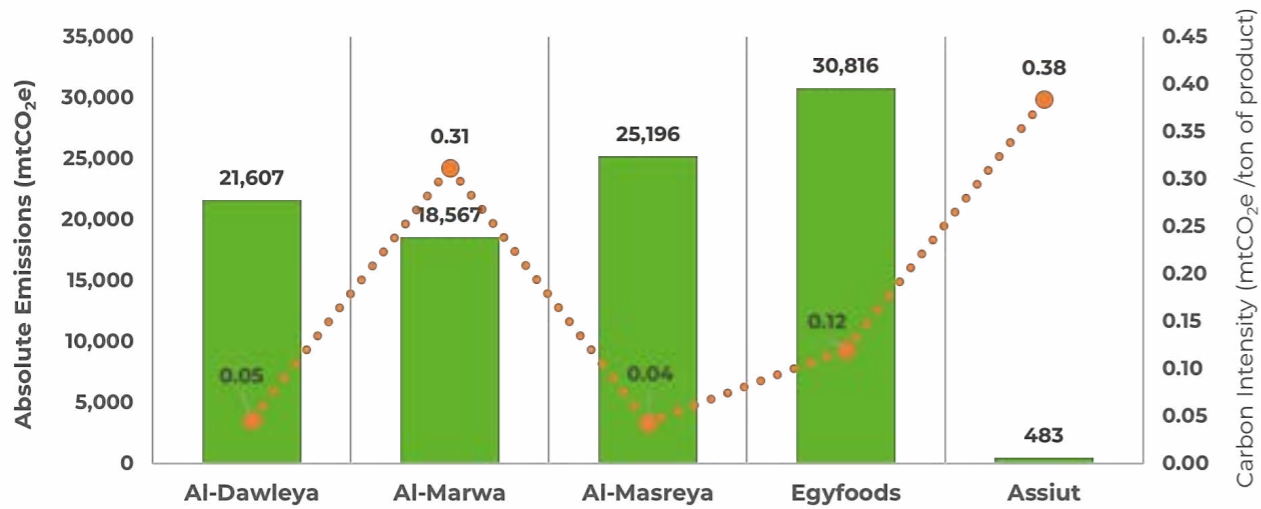
Scope 3 emissions. Meanwhile, our Scope 1 emissions accounted for around **23%** of the total, and Scope 2 emissions made up roughly **24%**. Scope 3 emissions represented the largest share of our total manufacturing emissions, comprising about **53%**.



Manufacturing Activities Emissions Summary per Scope and Activity (mtCO₂e)



Manufacturing Absolute Emissions and Carbon Intensities





MANUFACTURING EMISSIONS SUMMARY

In 2021, Juhayna's total manufacturing emissions amounted to **94,440 mtCO₂e**. The following year, emissions increased to **101,809 mtCO₂e**, reflecting a **7.8%** rise from the previous year. In 2023, however, total emissions decreased to **96,669 mtCO₂e**, indicating a **2.4% increase** over the 2021 baseline while also representing a **5.1%** reduction from the peak emissions recorded in 2022.

Analyzing Scope 1 emissions, which were **18,974 mtCO₂e** in 2021, a slight increase occurred in 2022, reaching **19,401 mtCO₂e**—a rise of **2.2%**. By 2023, Scope 1 emissions slightly declined to **19,371 mtCO₂e**, which is just **0.2%** lower than the previous year. Although this reduction indicates some improvement in direct emissions management, levels remain **2.1%** higher than the 2021 baseline.

For Scope 2 emissions, there was a marginal increase to **25,903 mtCO₂e** in 2023, representing a **0.4% rise** compared to 2021. This stability suggests effective

management of energy-related indirect emissions throughout the reporting period.

Scope 3 emissions also saw an increase, rising to **51,395 mtCO₂e**, which marks a **3.5% rise** from the base year. While these emissions remain above 2021 levels, the rate of increase is lower than in previous years, indicating progress in managing indirect emissions effectively.

Between 2021 and 2023, Juhayna experienced fluctuations in carbon intensity. Starting at **0.071 mtCO₂e per ton** in 2021, the intensity improved to **0.065 mtCO₂e per ton** in 2022, signifying an **8.5% decrease** in emissions relative to production. However, in 2023, carbon intensity rose again to **0.072 mtCO₂e per ton**, which is a **10.8% increase** compared to 2022 and reflects a **1.4%** rise from 2021 levels. This variation underscores the ongoing need for Juhayna to enhance sustainability practices and improve operational efficiencies in its manufacturing processes.

Manufacturing Emissions and Carbon Intensity Trends Over the Years



* In 2021 and 2022, Scope 2 emissions were recalculated after identifying an error in the reporting of chilled water consumption at the Al-Masreya Factory. Chilled water usage had been mistakenly double counted within the purchased electricity data for those years. This adjustment was necessary to correct our reported electricity consumption and ensure the accuracy of our Scope 2 emissions figures.





How are our factories leading the change for cleaner operations ?

Did you know ?

It takes about a kg of CO₂ to produce a kg of milk in key dairy regions

ING Research, 2024



- **Al-Marwa**
- **Al-Dawleya**
- **Al-Masreya**
- **EgyFoods**

WATER MANAGEMENT

- ● ● ● We have strategically positioned water storage tanks across all our facilities to effectively manage and optimize our water resources.
- ● Introduced a new cleaning machine that reduces water consumption.
- Implemented systems to reuse water from cooling loops of sugar pumps and homogenizers.
- Collected and repurposed condensate water from fruit washing for subsequent washing cycles.
- ● Installed a new feedwater tank designed to optimize water and natural gas consumption by collecting steam for reuse.
- Removed unnecessary rinse time, reducing water consumption by 400 liters per minute per pasteurizer across four pasteurizers.
- Applied a dry-cleaning concept to 60% of cleaning activities to further minimize water consumption.

OPERATIONAL IMPROVEMENTS AND SYSTEM EFFICIENCY

- ● Replaced old steam traps with new hydrostatic traps to improve steam management efficiency.
- Upgraded to an HD Energy model homogenizer, designed to lower operating pressure and reduce power consumption.
- Installed an economizer in boilers for improved heat recovery.
- Installed an automatic softener to treat water fed into the boilers, enhancing heat transfer efficiency.
- Implemented optimization strategies for production processes and established an Energy Management System (ENMS).
- ● Collected all condensate water into a recovery tank in the boiler room, reducing the need for fresh water and enhancing overall resource management.

ENERGY EFFICIENCY

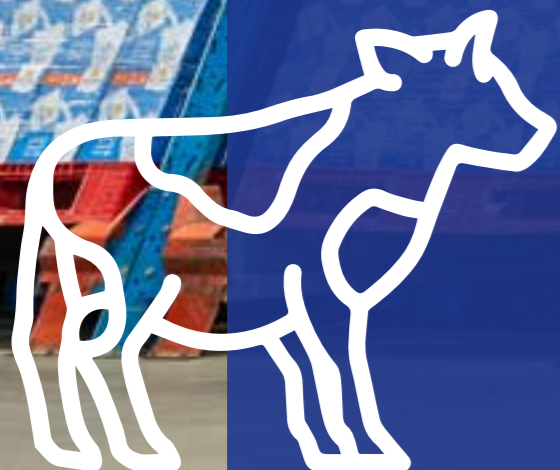
- ● Implemented inverter-based power panels integrated with SCADA for main booster pumps, allowing operation based on actual demand.
- Replaced standard air compressors with VFD type compressors for variable speed operation based on demand.
- Conducted comprehensive overhauls on multiple compressors to enhance operational efficiency.
- Installed a motion detection system for the cooling and lighting systems in the administration building.

CIRCULAR ECONOMY

- We are dedicated to minimizing food loss and waste throughout the value chain. Oils extracted from fruit peels are repurposed for use in pharmaceuticals and cosmetics, adding value to these by-products. The fruit pulp is processed and exported globally, which further reduces waste and enhances efficiency. Additionally, water evaporated during the fruit concentration process is condensed and recycled for use in washing and cleaning operations, maximizing resource efficiency. Fruit peels are utilized as cattle feed, contributing to a circular approach to waste management. Finally, fruit seeds are sold for replanting, promoting sustainable agricultural practices, and reducing waste in the production cycle.

DISTRIBUTION CENTERS

Juhayna's commercial division, TIBA, is the cornerstone of our distribution network and a key element of our vertical integration strategy. TIBA operates one of the largest distribution fleets in the Egyptian food and beverage sector, with approximately **1,000 vehicles** capable of transporting both refrigerated and non-refrigerated products across the country. Our extensive distribution network includes **28** strategically positioned centers, enabling us to efficiently serve an impressive **136,000** retail outlets nationwide.



DISTRIBUTION EMISSIONS

	2021 (BY)	2023
Scope 1. Direct Emissions	16,290 mtCO₂e	21,021 mtCO₂e
Stationary Combustion	88	87
Mobile Combustion (Vans)	44	-
Distribution Fleet (Factories to Tiba)	4,027	9,357
Distribution Fleet (Tiba to Retail)	11,667*	11,534
Fugitive Emissions	465	43

Scope 2. Indirect Emissions	2,785 mtCO₂e	2,882 mtCO₂e
Purchased Electricity	2,785	2,882

Total Scope 1 & 2 Emissions



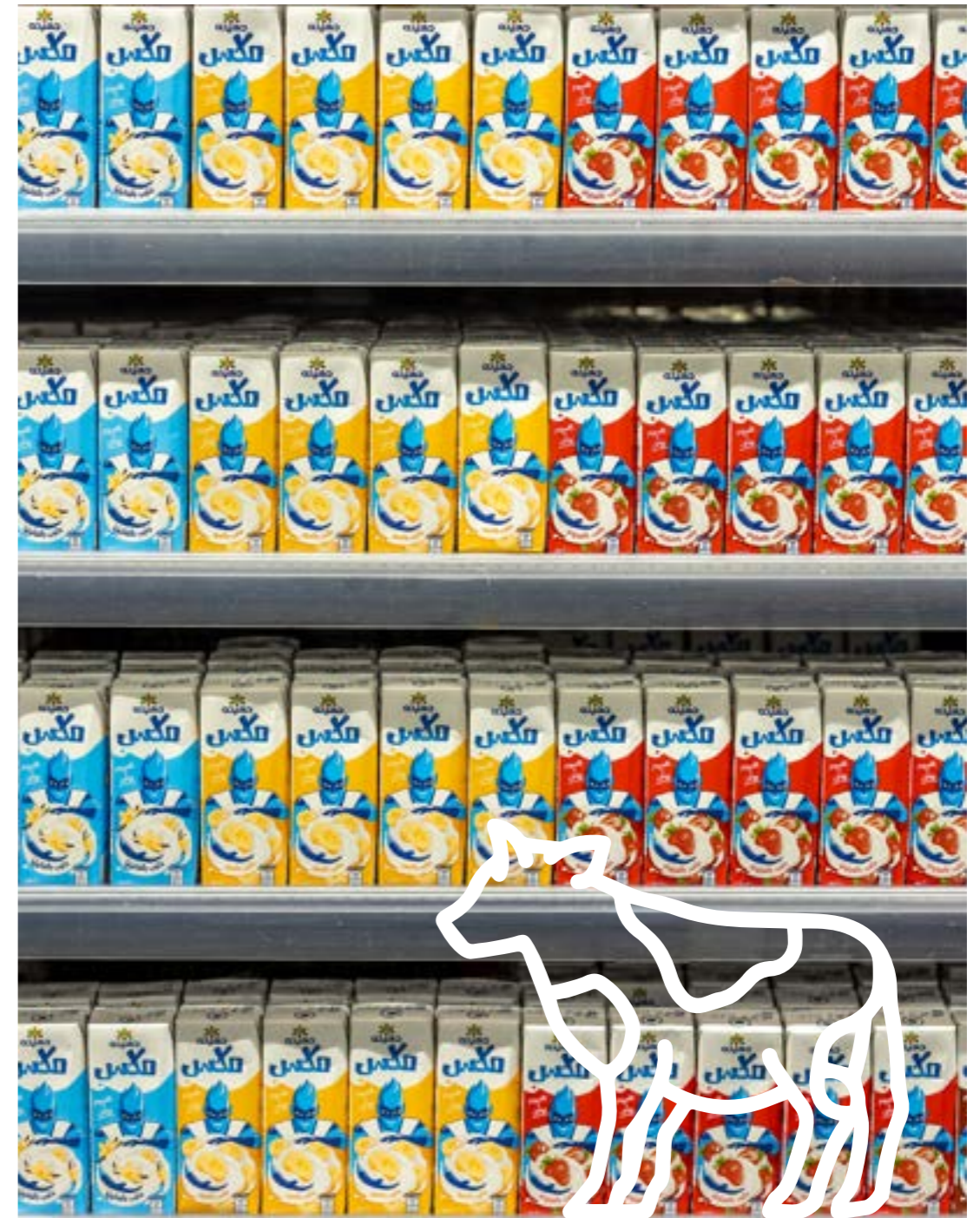
Scope 3. Indirect Emissions	12,248 mtCO₂e	18,624 mtCO₂e
Category 1: Purchased Goods and Services	73	23
Category 3: Fuel- and energy related activities (not included in scope 1 or scope 2)	3,673	5,119
Category 5: Waste generated in operations	53	44
Category 7: Employee commuting	8,449	8,824
Category 4&9: Up/Downstream transportation and distribution & WTT	--	4,615

Total Scope 1, 2 & 3 Emissions



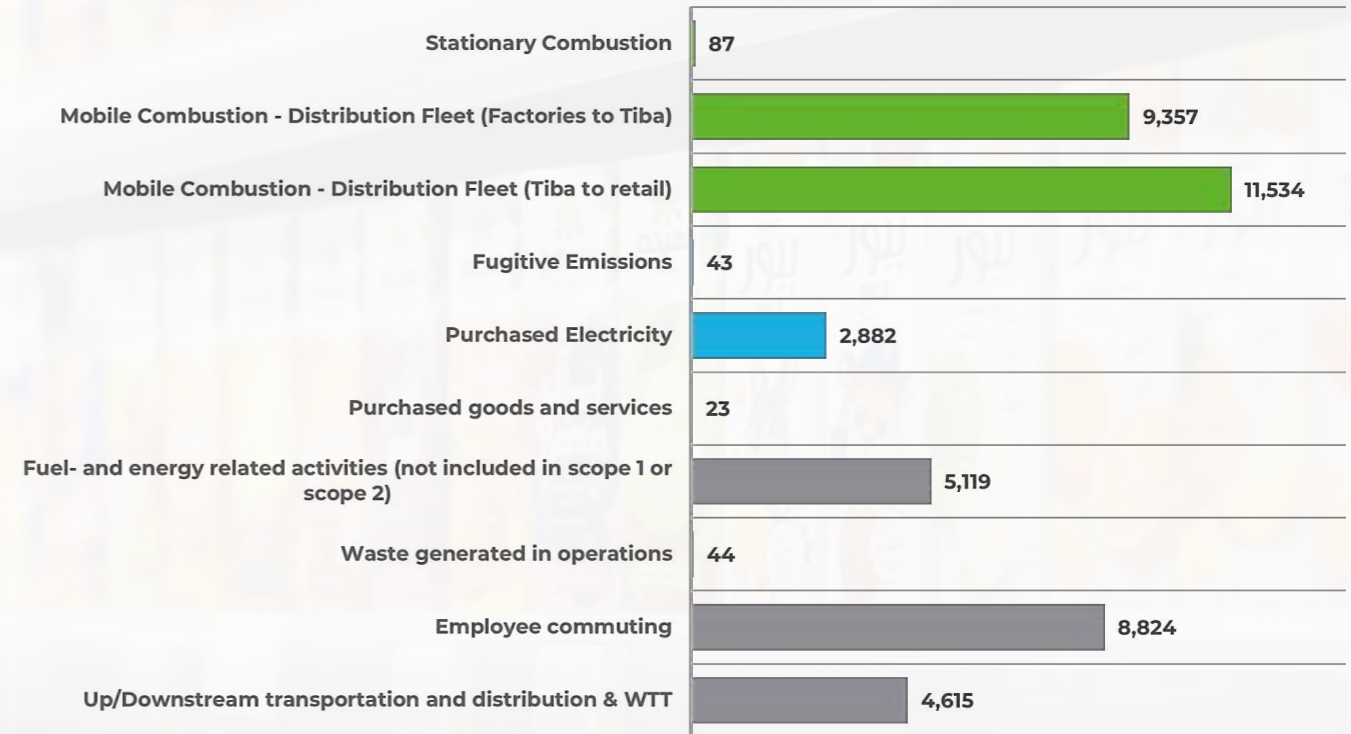
In previous reporting years, transportation from our factories to Tiba was included in the factories' emissions calculations. However, since the same fleet is used for both purposes and Tiba serves as Juhayna's commercial arm and primary distribution network, the entire distribution fleet, including trips to and from Tiba, is now reported under distribution in Scope 1 (mobile combustion). This adjustment provides a more accurate representation of our emissions. Exports are accounted for under downstream transportation and distribution in Scope 3, primarily through ocean routes with some land transport.

The distribution fleet operating from Tiba to retail outlets now represents the largest share of emissions, accounting for **30%** of total distribution emissions and **55%** of total Scope 1 distribution emissions.



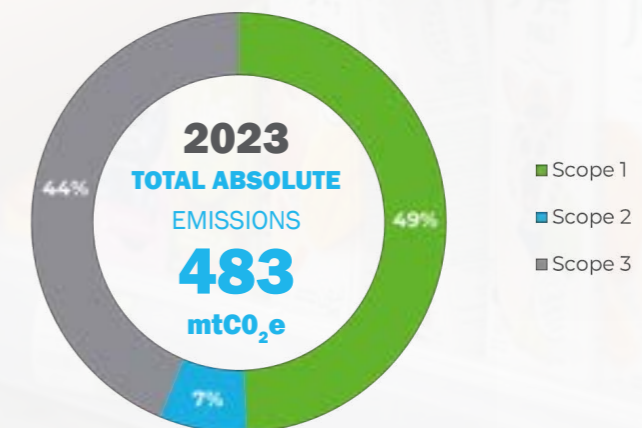


Distribution Centers Activities Emissions Summary, 2023 (mtCO₂e)



■ Scope 1 ■ Scope 2 ■ Scope 3

Distribution Centers Total Emissions, 2023 (mtCO₂e)





DISTRIBUTION EMISSIONS SUMMARY YOY

Between 2021 and 2023, total emissions from Juhayna's warehouses rose significantly, reflecting increased direct and indirect impacts. In **2021**, the base year total emissions were **31,323 mtCO₂e**. Emissions then rose by **9.6%** in **2022**, reaching **34,339 mtCO₂e**. By **2023**, total emissions had surged to **42,527 mtCO₂e**, indicating a **23.8% increase** from 2022 and a cumulative **35.6% rise** compared to the 2021 base year. This trend underscores the need for more comprehensive emissions reduction strategies across warehouse operations.

For **Scope 1 emissions**—direct emissions from fuel use in warehouse operations—the values show a sharp increase over the three years. Starting at **16,290 mtCO₂e** in **2021**, emissions rose to **17,869 mtCO₂e** in **2022** (an **increase of 9.7%**) and further to **21,021 mtCO₂e** in **2023**, marking a **17.9% increase** from 2022 and a **29.5% increase** from the base year.

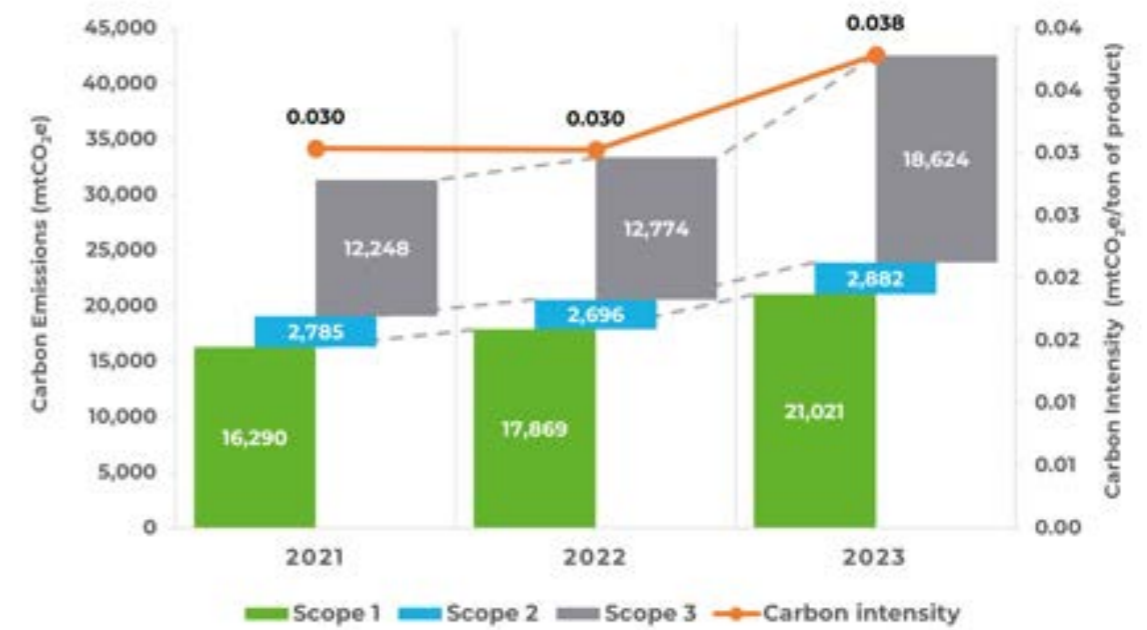
Scope 2 emissions, representing electricity-related indirect emissions, showed a smaller fluctuation. Emissions were **2,785 mtCO₂e** in **2021** and decreased slightly to **2,696 mtCO₂e**

in **2022**, reflecting a **3.2% reduction**. However, in **2023**, emissions rose to **2,882 mtCO₂e**, a **6.9% increase** from the base year.

In **Scope 3 emissions**, which cover supply chain-related indirect emissions, the increase was particularly pronounced. Starting at **12,248 mtCO₂e** in **2021**, Scope 3 emissions increased to **12,774 mtCO₂e** in **2022** (a **4.3% rise**) and then jumped sharply to **18,624 mtCO₂e** in **2023**. This represents a **46.1% increase** over 2022 and a **52.1% increase** from the 2021 base year. This surge indicates growing impacts from supply chain activities associated with warehouse operations, highlighting the need for emissions reductions in logistics and supplier engagement.

In Juhayna's warehouse operations, carbon intensity saw a significant rise from **0.030 mtCO₂e per ton** in both 2021 and 2022 to **0.038 mtCO₂e per ton** in 2023, marking a 26.7% increase over the baseline. This trend indicates a growing intensity of emissions relative to output, emphasizing the need for focused efforts on emission reduction across all scopes in warehouse operations.

Distribution Emissions and Carbon Intensity Trends Over the Years



X2
IN
5
YEARS
By 2025





HEADQUARTERS

	2021 (BY)	2023
Scope 1. Direct Emissions	234 mtCO₂e	209 mtCO₂e

Mobile Combustion	234	209
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	2021 (BY)	2023
Scope 2. Indirect Emissions	101 mtCO₂e	116 mtCO₂e

Purchased Electricity	101	116
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Total Scope 1 & 2 Emissions



	2021 (BY)	2023
Scope 3. Indirect Emissions	482 mtCO₂e	577 mtCO₂e

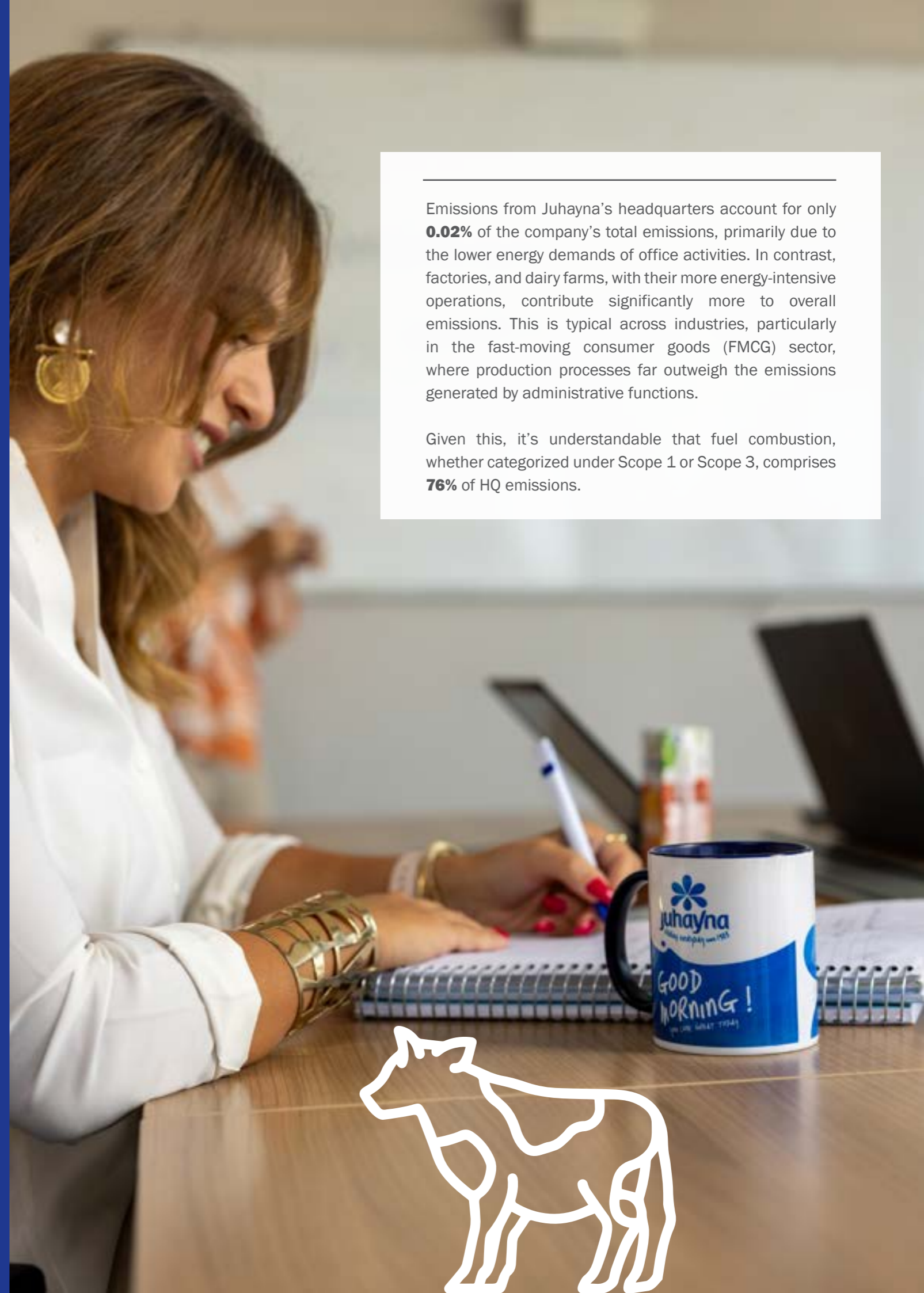
Category 1: Purchased goods and services	4	5
Category 3: Fuel and Energy-related activities (not included in Scope 1 and 2)	59	61
Category 5: Waste generated in operations	7	8
Category 6: Business travel	-	25
Category 7: Employee commuting + WTT	412	479

Total Scope 1, 2 & 3 Emissions

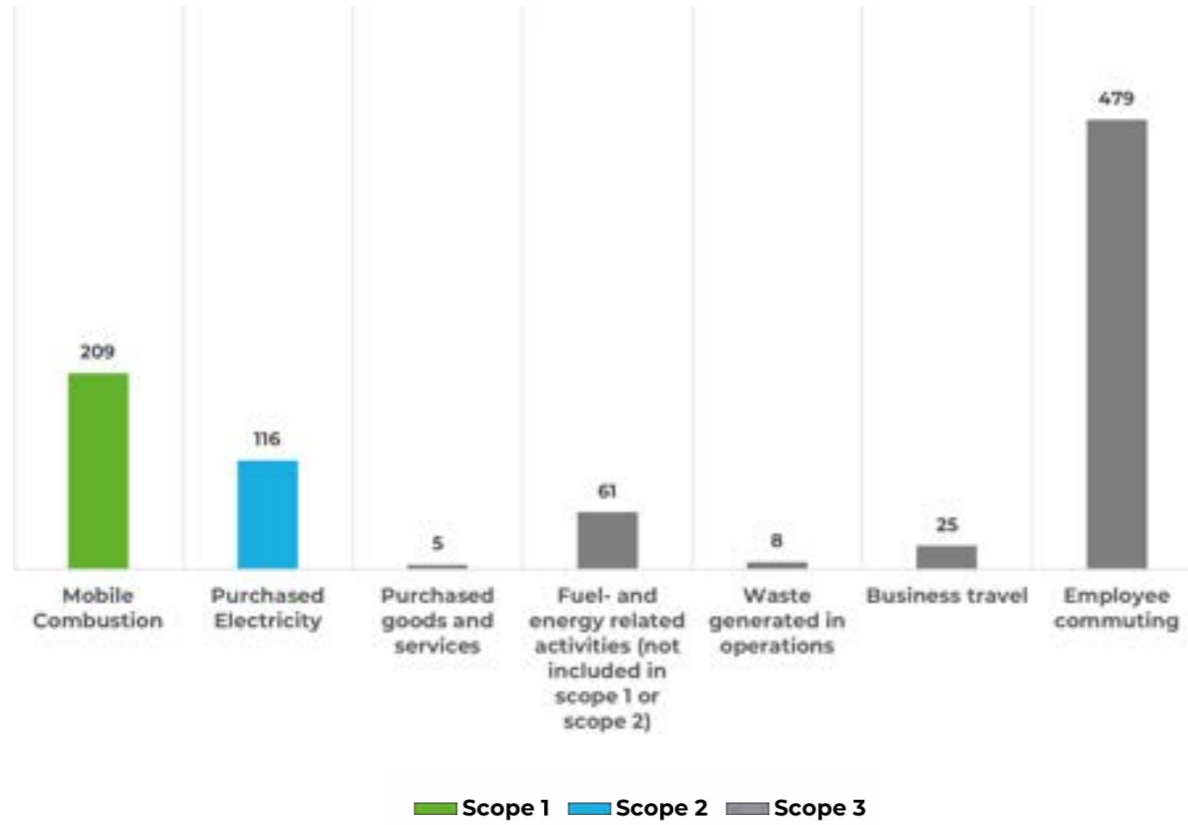


Emissions from Juhayna's headquarters account for only **0.02%** of the company's total emissions, primarily due to the lower energy demands of office activities. In contrast, factories, and dairy farms, with their more energy-intensive operations, contribute significantly more to overall emissions. This is typical across industries, particularly in the fast-moving consumer goods (FMCG) sector, where production processes far outweigh the emissions generated by administrative functions.

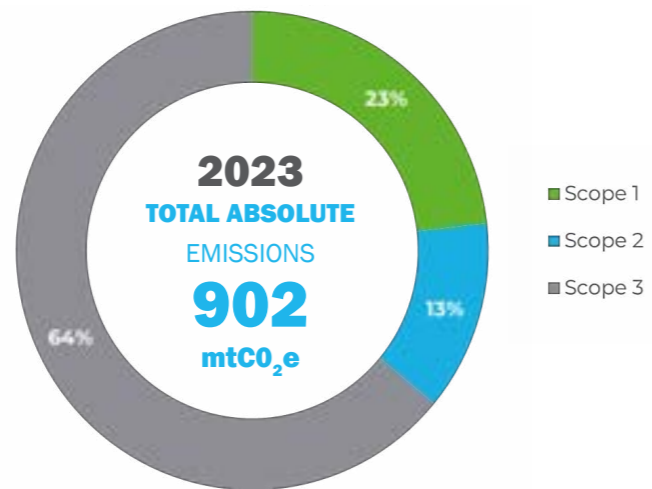
Given this, it's understandable that fuel combustion, whether categorized under Scope 1 or Scope 3, comprises **76%** of HQ emissions.



Headquarters Emissions Summary, 2023 (mtCO₂e)



Headquarters Total Emissions, 2023 (mtCO₂e)





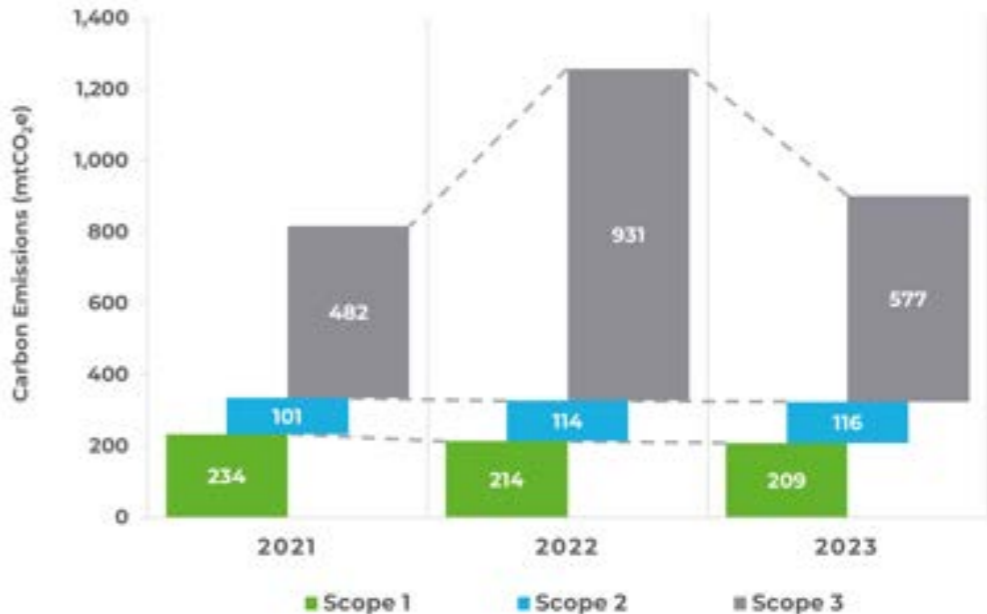
HEADQUARTERS EMISSIONS SUMMARY YOY

In Juhayna’s headquarters, total emissions demonstrated fluctuations across the reporting years. In 2021, headquarters emissions totaled **817 mtCO₂e**, establishing a baseline for comparison. By 2022, total emissions increased to **1,259 mtCO₂e**, marking a **54%** rise primarily due to Scope 3 emissions, which saw a significant spike. Scope 3 emissions in headquarters accounted for the largest changes, beginning at **482 mtCO₂e** in 2021 and rising sharply to **931 mtCO₂e** in

2022—a **93% increase**. By 2023, Scope 3 emissions dropped to **577 mtCO₂e**, still **19.7%** above the 2021 baseyear but reflecting a significant improvement from the previous year.

In 2023, total emissions dropped to **902 mtCO₂e**, representing a **10.4%** increase over the 2021 base year but a **28.3%** decrease from the 2022 peak, indicating improved emission management.

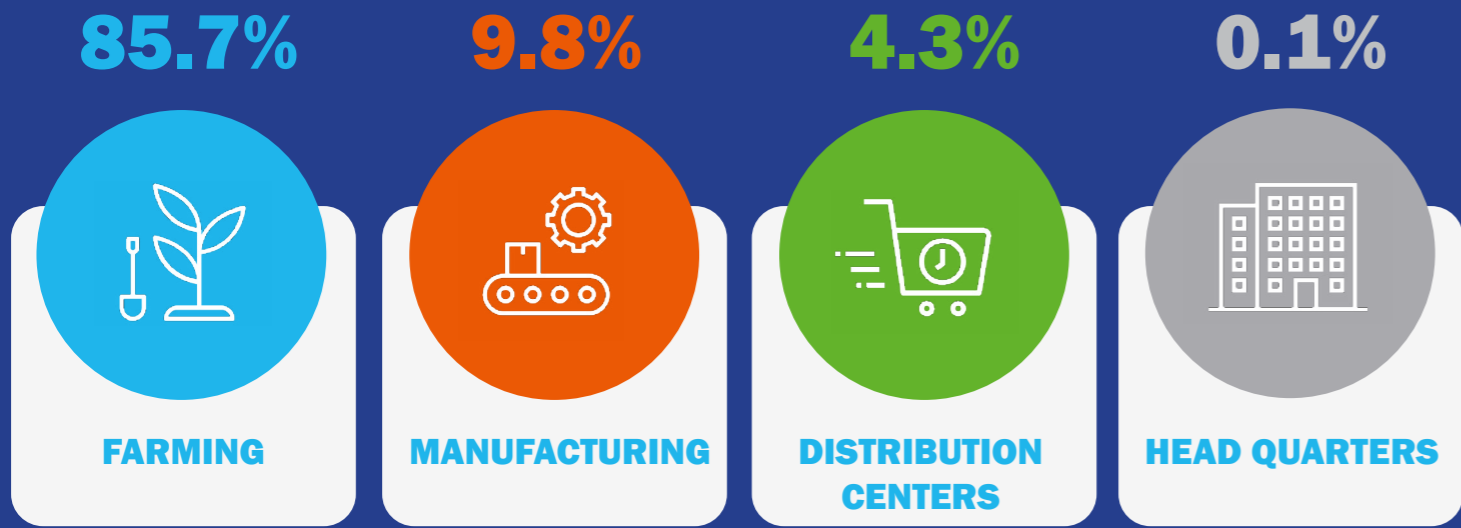
Headquarters Emissions and Carbon Intensity Trends Over the Years



CFP RESULTS SUMMARY

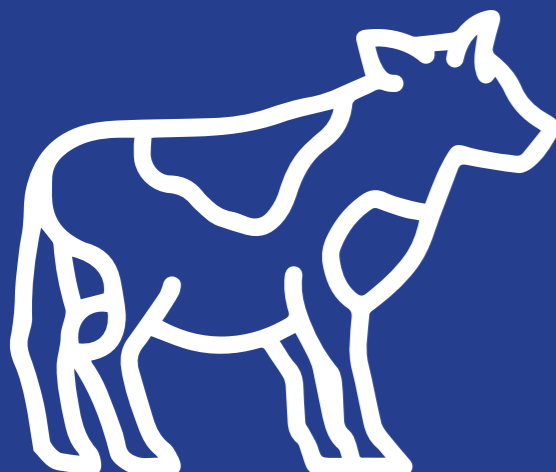


2023



In 2022, Juhayna reported total emissions of **982,513 mtCO₂e**, marking a **4.3%** reduction compared to the 2021 base year. Scope 1 emissions saw an increase of **10%**, while Scope 2 emissions rose slightly by **0.7%**. In contrast, Scope 3 emissions decreased by **6%**. In terms of biogenic carbon, the trees planted at Farafra Farm sequestered **1,263 mtCO₂e**. Since the land-use change for our farms is calculated only once, it was not included in this year's biogenic carbon reporting.

To further reduce dependence on non-renewable energy sources, photovoltaic (PV) panels were installed to replace energy from diesel generators at Esseila Farm and from the electrical grid at El-Dawleya Factory. At Esseila Farm, these panels offset **509 mtCO₂e** through the generation of **1,292,030 kWh** of energy. At El-Dawleya Factory, the PV panels contributed to an offset of **15 mtCO₂e** with the production of **29,638 kWh** of energy. Both biogenic carbon uptake and the reduced emissions resulting from the installation of the PV panels are presented separately, as they do not fall under any of the three Scopes in accordance with GHG Protocol guidelines.



SCOPE 1 – DIRECT EMISSIONS (mtCO ₂ e)		2021 BY	2023	Share (%)	Scope Percentage
Stationary combustion	On-site diesel fuel burning	14,375	10,687	1%	10%
	On-site natural gas consumption	17,603	18,765	2%	
Mobile combustion	Owned vehicles diesel fuel burning	16,021	23,086	2%	
	Owned vehicles petrol fuel burning	-	146	0.01%	
Fugitive emissions	Refrigerants leakage	1,923	639	0.07%	
Livestock and fertilizers	Fertilizers	1,137*	966	0.10%	
	Livestock and manure management	41,030	47,188	5%	
Total Scope 1 (mtCO₂e)		92,089	101,477		

SCOPE 2 – INDIRECT EMISSIONS (mtCO ₂ e)		2021 BY	2023	Share (%)	Scope percentage
Purchased energy	Purchased electricity (Market Based)	28,693	28,900	3%	3%
Total Scope 2 (mtCO₂e)		28,693	28,900		

Total Scope 1 & 2 emissions (mtCO₂e)	120,782	130,377	
Scope 1 & 2 carbon intensity (mtCO ₂ e/Mil EGP Revenue)	13.7	8.1	
Scope 1 & 2 carbon intensity (mtCO ₂ e/ton of production)	0.19	0.21	

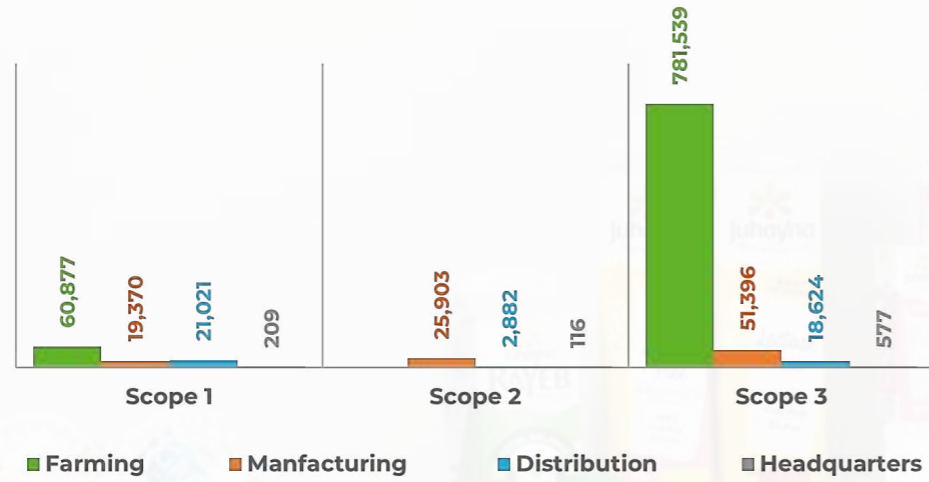
SCOPE 3 – INDIRECT EMISSIONS (mtCO ₂ e)		2021 BY	2023	Share (%)	Scope percentage	
Category 1	Purchased goods and services	Water Use	510	601	0.1%	87%
		Raw Food items: Production	-	10,473	1.1%	
		Packaging	39,272	24,584	2.5%	
		Farming goods	-	15,973	1.6%	
		Consumables	-	819	0.1%	
		Non-Owned Farms	835,786	762,165	77.6%	
Category 2	Capital goods	Capital Goods	-	1,522	0.2%	
		Transmission & Distribution Losses	-	1,246	0.1%	
Category 3	Fuel and energy-related activities (not included in Scope 1 and 2)	On-site diesel fuel burning	6,316	2,508	0.3%	
		On-site natural gas consumption	-	3,075	0.3%	
		Owned vehicles diesel fuel burning	3,728	5,440	0.6%	
		Owned vehicles petrol fuel burning	-	38	0.004%	
Category 4	Upstream transportation & distribution	Upstream	3,908	4,278	0.4%	
Category 5	Waste generated in operations	Wastewater treatment	839	987	0.1%	
		Solid waste disposal	42	20	0.0%	
Category 6	Business travel	Air Travel + (WTT)	-	22	0.0%	
		Hotel Stays	-	3	0.0%	
Category 7	Employee commuting	Employee commuting +WTT	15,041	18,045	1.8%	
Category 9	Downstream transportation and distribution & WTT	Exports	-	337	0.03%	
Total Scope 3 (mtCO₂e)		905,441	852,136			

Total Scope 1, 2 & 3 emissions (mtCO₂e)	1,026,223	982,513	
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REDUCED EMISSIONS	
PV Panels	579 442
BIOGENIC CARBON	
Planted trees	180 1,263

* Scope 1 emissions have been recalculated following a revision of the fertilizer quantities reported for the Farafra Farm in 2021 and 2022, leading to necessary adjustments in our emissions calculations. The updated emissions for Farafra now stand at 6,846 mtCO₂e for 2021 and 8,245 mtCO₂e for 2022.

Emissions per Scope (mtCO₂e)



The farming sector constitutes the largest share of emissions at **86%**, primarily categorized as Scope 3 due to the involvement of non-owned farms. Following this, the manufacturing sector contributes **10%** of total emissions, with Scope 3 emissions again being the most prominent. Lastly, the distribution sector exhibits the highest Scope 1 emissions, mainly resulting from the emissions associated with Juhayna's owned fleet under Tiba, the company's distribution arm.

SECTOR	EMISSIONS 2021 BY (mtCO ₂ e)	EMISSIONS 2023 (mtCO ₂ e)	SHARE (%)
FARMING	898,305	842,416	85.7%
MANUFACTURING	94,440	96,669	9.8%
DISTRIBUTION	31,323	42,526	4.3%
HQ	817	902	0.1%
TOTAL EMISSIONS	1,024,885	982,513	100%



SCOPE 1

On-site diesel fuel burning	10,687
On-site natural gas consumption	18,765
Owned vehicles diesel fuel burning	23,086
Owned vehicles petrol fuel burning	146
Refrigerants leakage	639
Fertilizers	966
Livestock and manure management	47,188

SCOPE 2

Purchased Electricity	28,900
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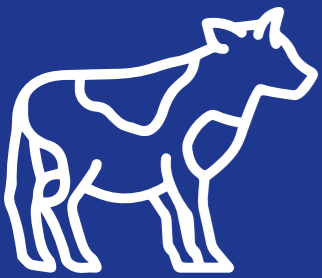
SCOPE 3

Purchased goods and services	814,615
Capital goods	1,522
Fuel and energy related activities (not included in Scope 1 and 2)	12,307
Upstream transportation & distribution	4,278
Waste generated in operations	1,007
Business travel	25
Employee commuting	18,045
Downstream transportation and distribution & WTT	337

10%

3%

87%



PERFORMANCE EVALUATION



JUHAYNA'S EMISSIONS YOY

ABSOLUTE EMISSIONS (mtCO₂e)

ORGANIZATIONAL BOUNDARIES	2021 BY	2022	2023	INDICATOR
OWNED FARMS	64,995*	62,953*	80,251	23.5% Increase
OUTSOURCED LOCAL FARMS	833,310	893,019	762,165	8.5% Decrease
FACTORIES	94,440	101,809	96,669	2.4% Increase
DISTRIBUTION CENTRES	31,323	33,339	42,526	35.8% Increase
HEADQUARTERS	817	1,259	902	10.4% Increase
	1,024,885*	1,092,378*	982,513	4.1% Decrease

* Emissions for Farafra Farm were recalculated for 2021 and 2022 due to an error in reporting fertilizer quantities, requiring adjustments to our emissions calculations. The revised emissions for 2021 are 6,846 mtCO₂e, and for 2022, they are 8,245 mtCO₂e.

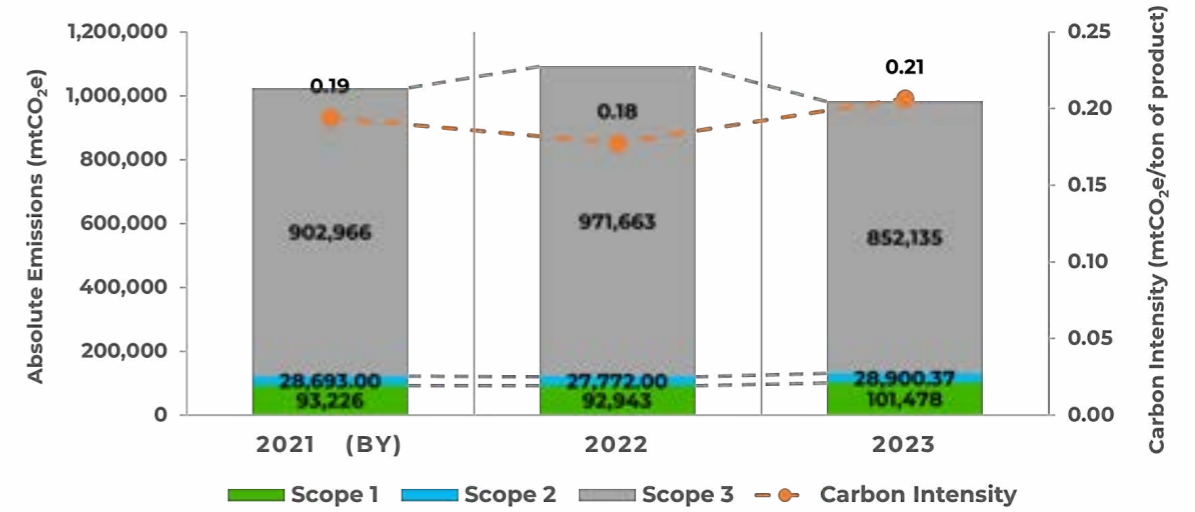
In 2023, Juhayna reported total emissions of **982,513 mtCO₂e**, marking a **4.1%** reduction compared to the 2021 base year, but a higher decrease of 10.1% compared to the previous year. Compared to the base year, Scope 1 emissions saw an increase of **10%**, while Scope 2 emissions rose slightly by **0.7%**. In contrast, Scope 3 emissions decreased by **6%**.

In terms of business lines, the farming sector represents the highest contributor to GHG emissions in Juhayna, at around **86%** in 2023 and **88%** in both preceding years. The

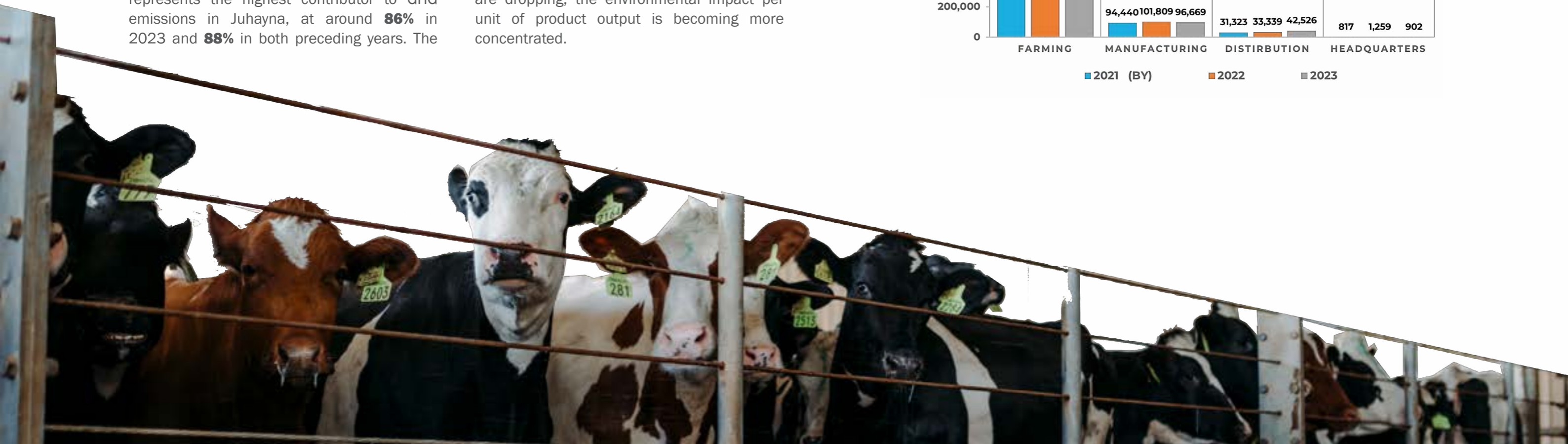
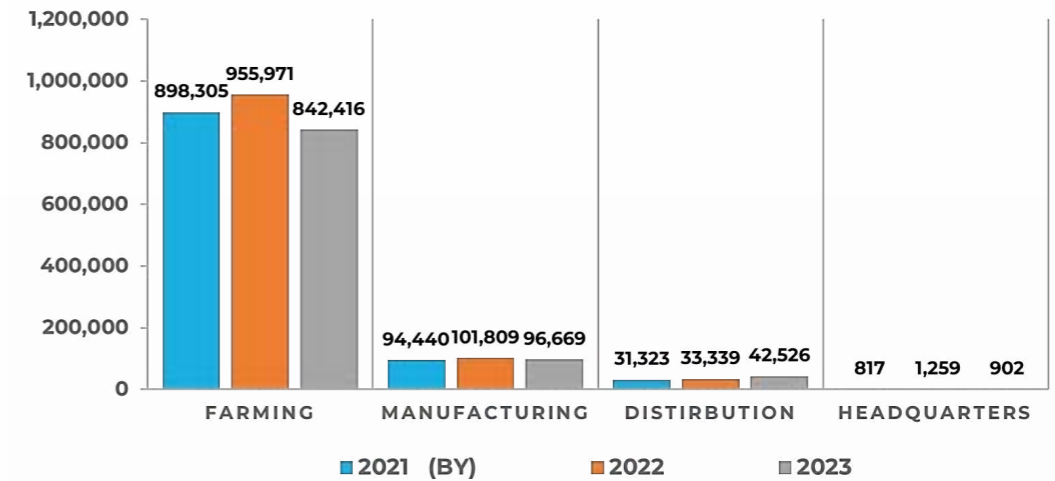
manufacturing sector follows at around **10%** across all years. However, for the distribution sector, it represents **3%** of total emissions in the 2021 base year and 2022, and higher in 2023 with **4%** of total emissions.

Despite a **4%** decline in total absolute emissions, the carbon emissions intensity per unit of production has increased by **10.5%**. This rise suggests that while overall emissions are dropping, the environmental impact per unit of product output is becoming more concentrated.

YOY Absolute Emissions and Carbon Intensity

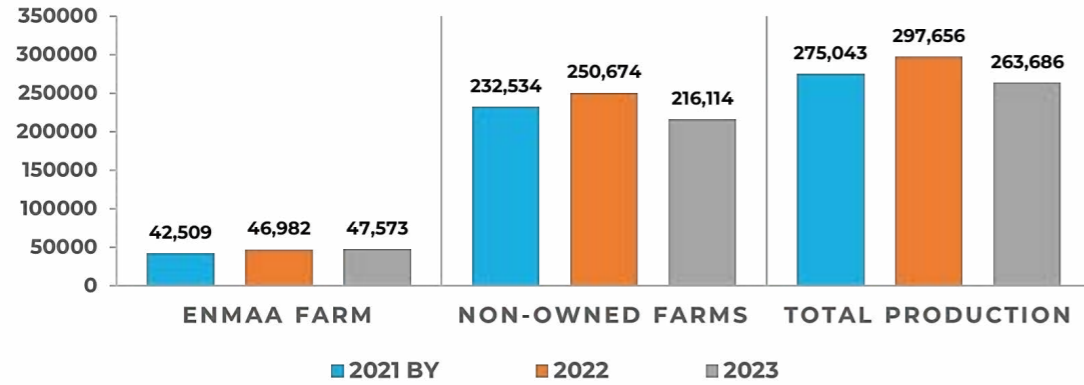


YOY Absolute Emissions by Sector



OUTPUT PRODUCTION FARMS

Juhayna Milk Production (tons)



MILK PRODUCTION (tons)

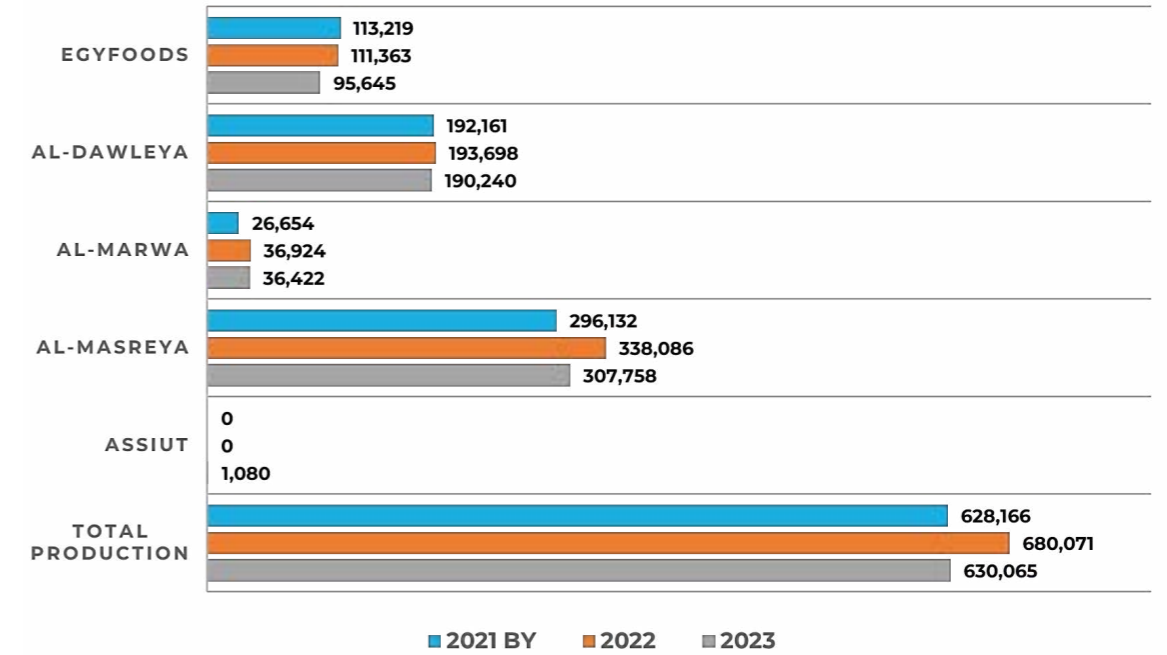
ORGANIZATIONAL BOUNDARIES	2021 BY	2022	2023	INDICATOR
ENMAA FARM	42,509	46,982	47,573	12% Increase
NON-OWNED FARMS	232,534	250,674	216,114	7% Decrease
TOTAL PRODUCTION	275,043	297,656	263,686	4% Decrease

At Juhayna, we are deeply committed to both our own farms and the local farms we work with, ensuring the well-being of our cows and maintaining the highest milk quality—the essential foundation of our dairy products. Our total production spans a wide range of products, including milk, yogurt, and juices. Enmaa Farms have

shown a steady increase in production, with a **12%** rise from the base year and a **1.3%** increase over the previous year. Production from our own farms rose compared to the base year in 2022; however, by 2023, it had declined to **7%** below the base year level and was **14%** lower than the prior year, highlighting an area for renewed focus.

FACTORIES

Juhayna Factories Production (tons)



JUHAYNA PRODUCTION (tons)

ORGANIZATIONAL BOUNDARIES	2021 BY	2022	2023	INDICATOR
EGYFOODS	113,219	111,363	95,645	15.5% Decrease
AL-DAWLEYA	192,161	193,698	190,240	1% Decrease
AL-MARWA	26,654	36,924	36,422	36.6% Increase
AL-MASREYA	296,132	338,086	307,758	3.93% Increase
ASSIUT	—	—	1,080	—
TOTAL	628,166	680,071	631,145	0.47% Increase

In 2023, Juhayna recorded a total production volume of **631,145 tons**, reflecting a **0.5%** increase over the 2021 base year but a **7%** decrease compared to the previous year. When compared to the 2021 base year, EgyFoods was the only factory with a

significant drop in production, decreasing by **15.5%**, while Al-Dawleya recorded a slight decline of **1%**. Al-Marwa and Al-Masrya, however, both saw production growth, with Al-Marwa leading the factories with a substantial **37%** increase.



CARBON INTENSITY

Carbon intensity has made notable strides in both financial and operational metrics. Emissions relative to revenue decreased by **41.6%**, while emissions per EBIT saw a similar improvement with a **40.5%** reduction. These figures reflect Juhayna's success in enhancing the environmental efficiency of its financial performance. However, the operational side tells a different story. Despite a **4.1%** decline

in total absolute emissions, the carbon emissions intensity per unit of production has increased by **10.5%**. This increase indicates that while overall emissions are decreasing, the environmental impact per unit of product output is becoming more concentrated, signaling a need for continued focus on enhancing operational efficiency.

Juhayna's Carbon Emissions Intensity 2023
(Scope 1 & 2 emissions)

		2021 (BY)	2022	2023	INDICATOR
EMISSIONS INTENSITY* (mtCO ₂ e/M.EGP)	REVENUE	13.8	10.6	8.1	-41.6%
	EBIT	98.6	85.3	58.7	-40.5%
ABSOLUTE EMISSIONS (mtCO ₂ e)	Scope 1	93,226	92,943	101,478	+8.9%
	Scope 2	28,693	27,772	28,900	-0.72%
	Scope 1+2	121,919	120,715	130,377	+6.94%
	Scope 3	902,966	971,663	852,135	-5.63%
	Total	1,024,885	1,092,378	982,513	-4.13%
EMISSIONS INTENSITY* (mtCO ₂ e/ton of product)	Emissions intensity	0.19	0.18	0.21	+10.5%

* Scope 1 and 2 emissions only

REDUCTION TARGETS

Aligned with our strong commitment to global climate action and mitigating climate change, Juhayna has set ambitious reduction targets to be achieved over a nine-year period from 2021 to 2030. Throughout this period, we will rigorously monitor, report, and assess our progress, maintaining a focused pursuit of these critical objectives.

Our reduction targets are designed to ensure that Juhayna's activities contribute to limiting global temperature rise to no more than

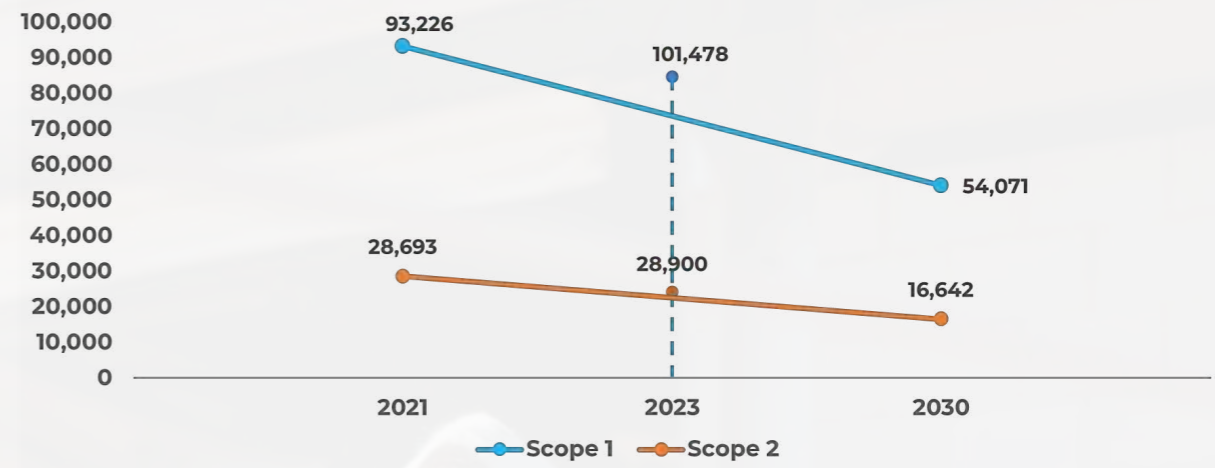
1.5°C, in line with the Paris Agreement's objectives. Specifically, Juhayna is committed to achieving a **42%** reduction in Scope 1 and 2 emissions by 2030.

As of 2023, Juhayna's total absolute Scope 1 and 2 emissions have increased by **8%** compared to the 2021 baseline. This underscores the significant work that remains ahead, and we have developed plans that will support our progress in the upcoming reporting years.

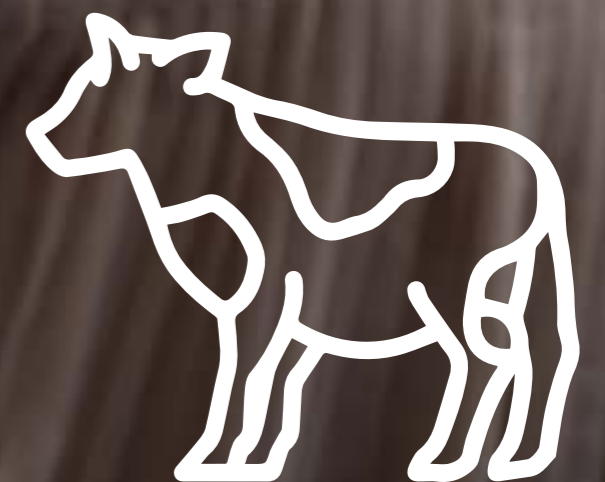


	Base Year 2021	Target Year 2030	Reporting Year 2023	Target Reduction %	Status
Scope 1 (mtCO ₂ e)	93,226	54,071	101,478	42%	+8.9% increase compared to 2021
Scope 2 (mtCO ₂ e)	28,693	16,642	28,900	42%	+0.72% increase compared to 2021
Scope 1+2 (mtCO₂e)	121,919	70,713	130,378	42%	+6.9% increase compared to 2021

Absolute Emissions Reduction Target



BENCHMARKING



CLIMATE CHANGE QUESTIONNAIRE 2023 DISCLOSURE CYCLE

In the 2023 disclosure cycle, Juhayna maintained a **“C”** score in the climate change questionnaire, consistent with its score from 2022. This rating places Juhayna in the **awareness band**, indicating a commitment to coordinated action on climate issues. However, Juhayna’s score is **below the Africa regional average of B-** and the Food & Beverage Processing sector average of **B-**.

The CDP Corporate Scorecard offers a comprehensive assessment of Juhayna’s

environmental performance, benchmarking it against peers in the industry. This evaluation provides crucial insights that help Juhayna understand its current standing and pinpoint areas for improvement to enhance its rating.

Within the Food & Beverage Processing activity group, Juhayna ranked in the top **29%** of companies classified in the **awareness band** in 2023, reflecting its proactive approach to environmental challenges despite room for progress.



OUR CDP SCORE

C

AVERAGE PERFORMANCE

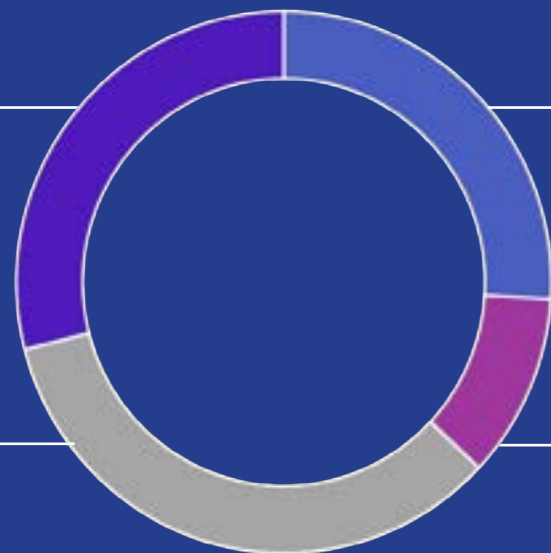


29%
Awareness

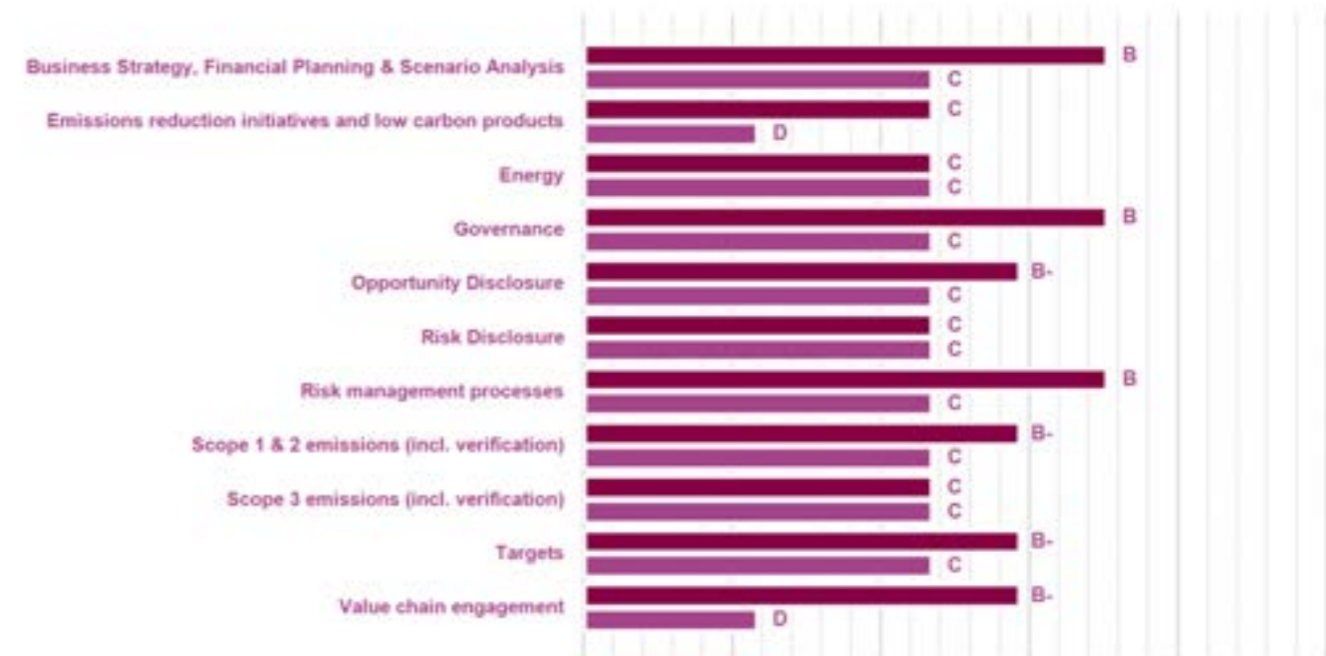
26%
Leadership

34%
Management

11%
Disclosure



Activity Group Average | Your Score



WATER SECURITY QUESTIONNAIRE 2023 DISCLOSURE CYCLE

In the 2023 disclosure cycle, Juhayna received a “D” score in the water security questionnaire, matching its score from 2022. This rating positions Juhayna in the **disclosure band**, indicating a level of transparency regarding water-related issues. However, it is important to note that this score **falls short** of both the Africa regional average of C and the Food & Beverage Processing sector average of C.

The CDP Corporate Scorecard delivers a thorough evaluation of Juhayna’s

environmental performance, providing a benchmark against industry peers. This assessment offers valuable insights, enabling Juhayna to better understand its current position and identify specific areas for improvement to elevate its score.

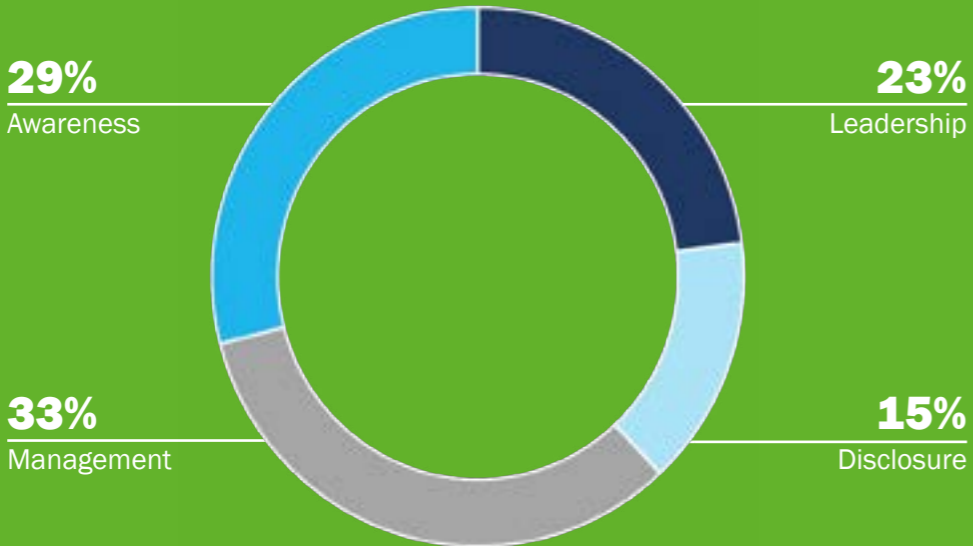
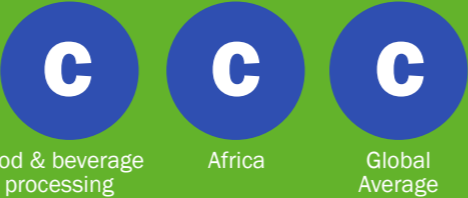
Within the Food & Beverage Processing activity group, Juhayna ranked in the top **15%** of companies in the disclosure band in 2023, showcasing its proactive stance on environmental challenges, even as there remains potential for further advancement.



OUR CDP SCORE

D

AVERAGE PERFORMANCE



Activity Group Average (Dark Blue), Your Score (Light Blue)





INTERNAL BENCHMARKING

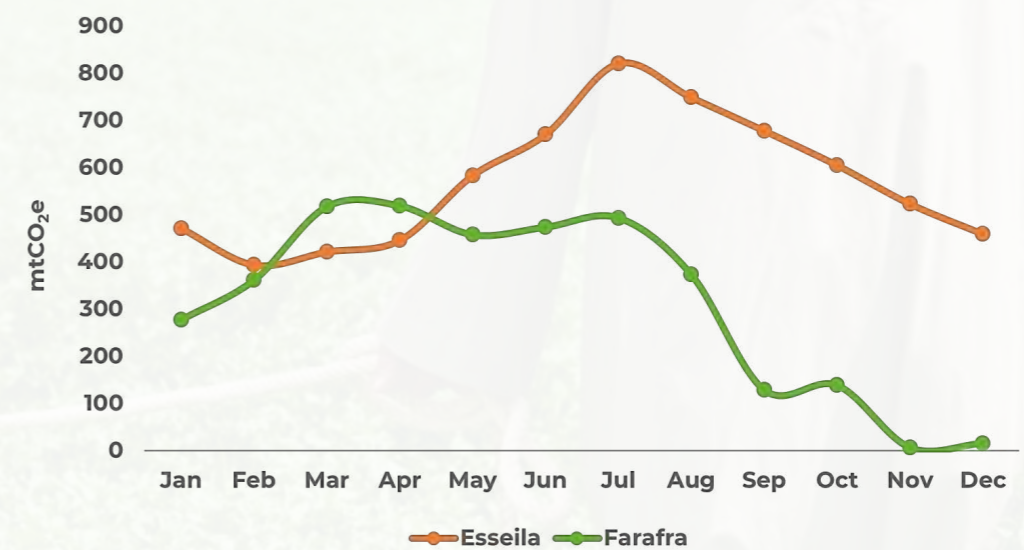
Besides assessing our business' performance externally, we also strive to track and improve our performance internally. Therefore, an internal benchmarking is conducted, considering Scope 1 and 2 emissions of our main sectors: A) farming, B) manufacturing, and C) distribution.

A FARMING

The intensity metrics of the farms include only Scope 1 emissions. Both of Juhayna's owned farms operate autonomously, disconnected from the grid, and rely on diesel generators for electricity generation. Notably, Al-Esseila Farm has an integrated photovoltaic (PV) system thereby substituting a portion of fossil

fuel consumption with renewable energy sources. Consequently, Juhayna's owned farms register no Scope 2 emissions. The intensity metrics for Esseila and Farafra farms were established with reference to tonnage of milk produced and crop area, respectively.

On-Site Diesel Fuel Consumption Emissions (mtCO₂e)



At Esseila Farm, total emissions from on-site diesel fuel consumption reached **6,824 mtCO₂e**, peaking in July with **821 mtCO₂e**. In comparison, Farafra Farm emitted a total of **3,767 mtCO₂e**, with November seeing the lowest emissions at just **7 mtCO₂e**.

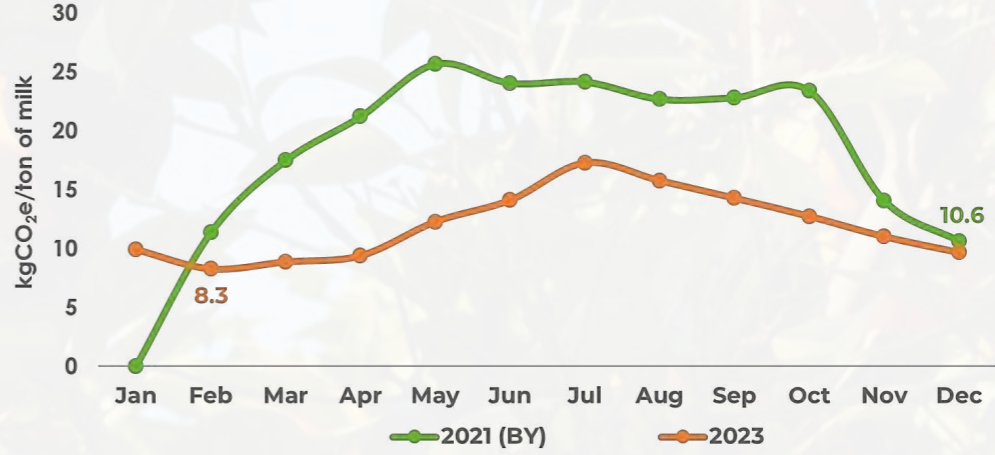


FARM	ON-SITE DIESEL	LIVESTOCK MANAGEMENT	FERTILIZERS	TOTAL SCOPE 1
DIRECT EMISSIONS INTENSITY (kgCO ₂ e/ton of milk)				
ESSEILA	143	498	-	1,178
DIRECT EMISSIONS INTENSITY (mtCO ₂ e/crop area in sq.km)				
AL-FARAFRA	749	-	192	963

The trend in emissions intensity for carbon emissions per ton of milk was tracked over both years. In 2021, the lowest recorded value was **10.6 kgCO₂e per ton of milk**, while in 2023, it decreased to **8.3 kgCO₂e per ton of milk**. This reflects a notable **22%** reduction in the lowest emissions intensity values.

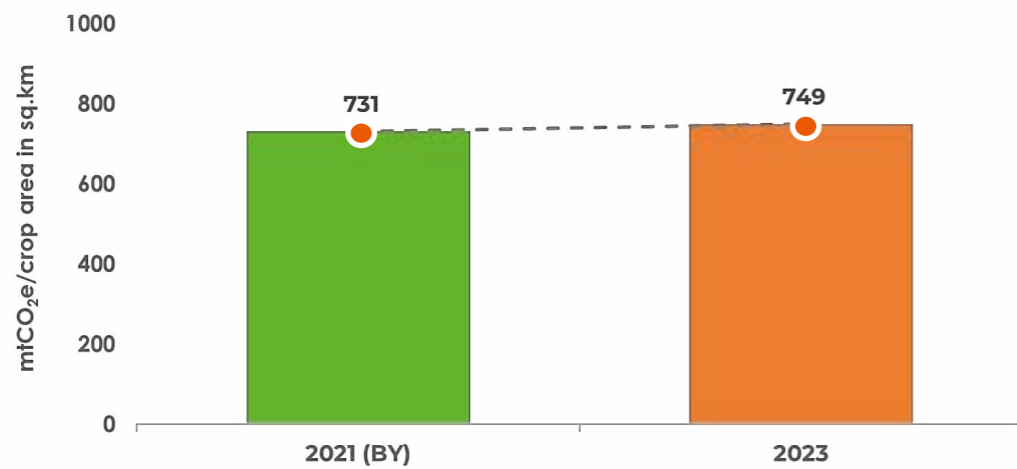
LOWEST ON-SITE DIESEL FUEL CONSUMPTION EMISSIONS INTENSITY VALUES ACHIEVED DURING 2021 (BY) AND 2023				
	UNIT	2021 (BY)	2023	INDICATOR
ESSEILA FARM	kgCO ₂ e/ton of milk	10.6	8.3	22% Reduction

Esseila Farm on-site diesel fuel consumption emissions intensity (kgCO₂e/ton of milk)



At Farafra Farm, the trend in emissions intensity for carbon emissions per square kilometer of crop area was monitored over both years. In 2023, there was a slight increase of **2.5%** compared to the baseline year of 2021.

Farafra Farm on-site diesel fuel consumption emissions intensity (mtCO₂e/crop area in sq.km)

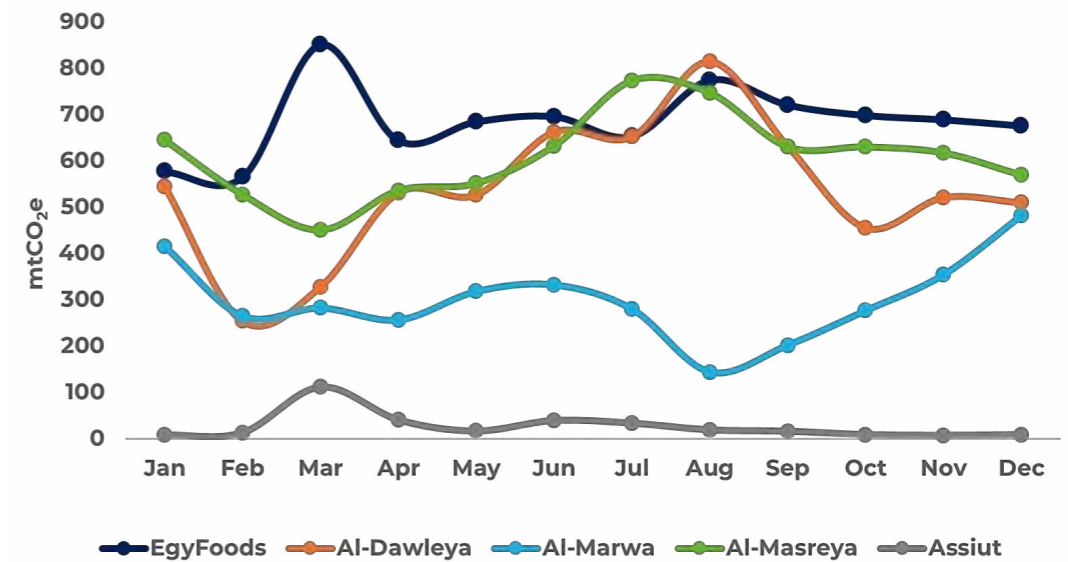


B MANUFACTURING

Scope 1 and 2 emissions are factored into all carbon intensity metrics, expressed in mtCO₂e per ton of output production. Each factory's lowest emissions values for the year, based on electricity consumption and natural gas use, have been identified.

These benchmarks serve as targets for our manufacturing processes; if we can consistently achieve these minimum levels, we can significantly improve our carbon footprint and reduce overall emissions.

ELECTRICITY

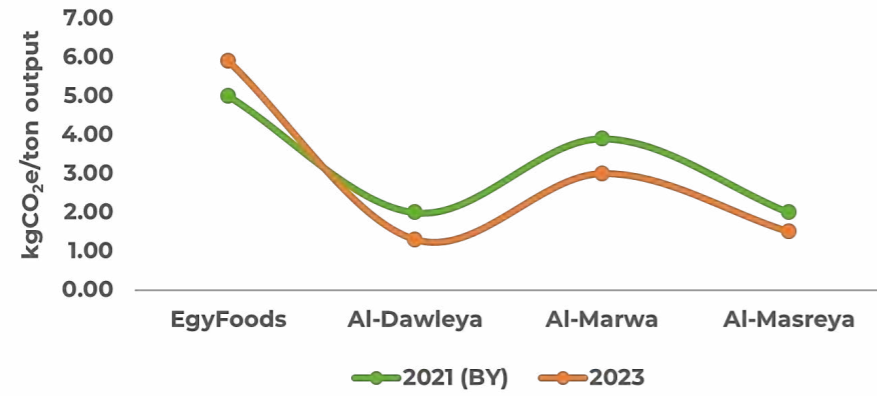


EgyFoods recorded the highest electricity emissions among all factories, totaling **8,231 mtCO₂e**, making it a significant contributor to Juhayna's overall emissions profile. Following closely are Al-Masreya with **7,312 mtCO₂e**, Al-Dawleya with **6,342 mtCO₂e** and Al-Marwa with **3,609 mtCO₂e**, while Assiut registered the lowest emissions at just **319 mtCO₂e**.

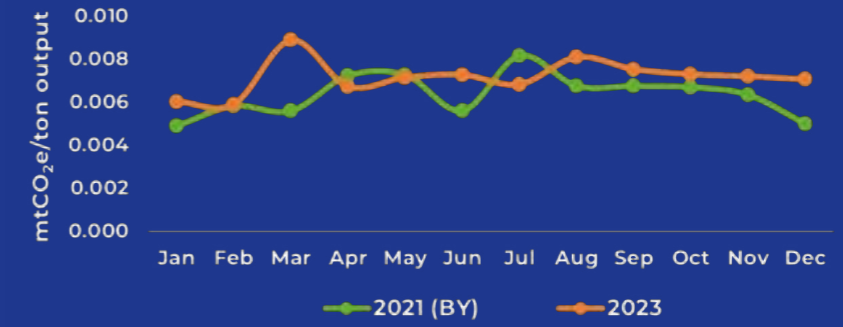
Compared to the baseline year, all factories, except for EgyFoods, showed a reduction in their lowest electricity emissions intensity values. In contrast, EgyFoods experienced an increase of **18%**. Overall, while progress has been made in reducing electricity emissions intensity across most factories, EgyFoods presents an opportunity for targeted interventions to enhance its sustainability performance.

LOWEST ELECTRICITY EMISSIONS INTENSITY VALUES ACHIEVED DURING 2021 (BY) AND 2023				
	UNIT	2021 (BY)	2023	INDICATOR
EGYFOODS		5.00	5.90	18% increase
AL-DAWLEYA	kgCO ₂ e/ton	2.00	1.30	35% decrease
AL-MARWA	product output	3.90	3.00	23% decrease
AL-MASREYA		2.00	1.50	25% decrease

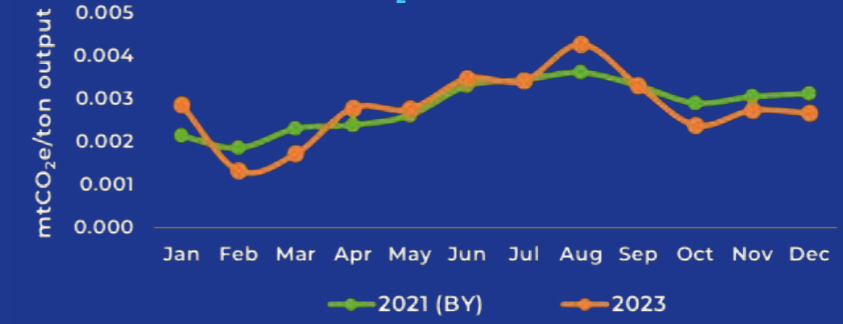
Comparison of Lowest Purchased Electricity Consumption Emissions



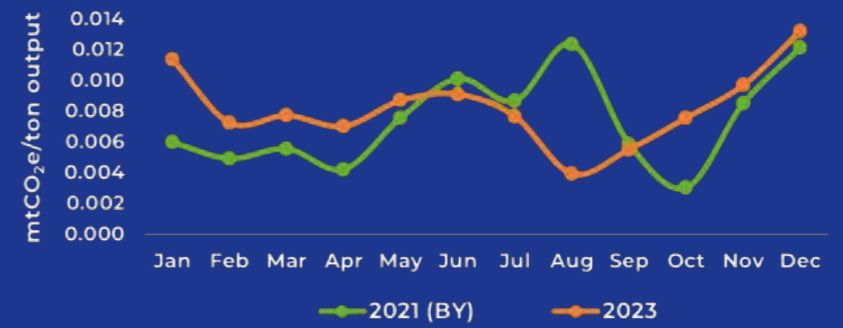
EgyFoods purchased electricity emissions intensity (mtCO₂e/ton output)



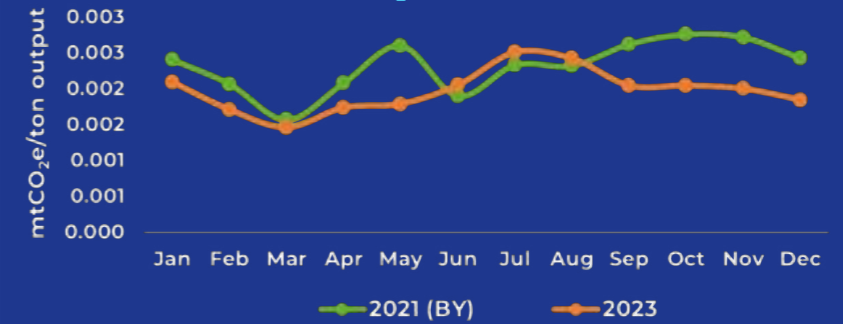
Al-Dawleya purchased electricity emissions intensity (mtCO₂e/ton output)



Al-Marwa purchased electricity emissions intensity (mtCO₂e/ton output)

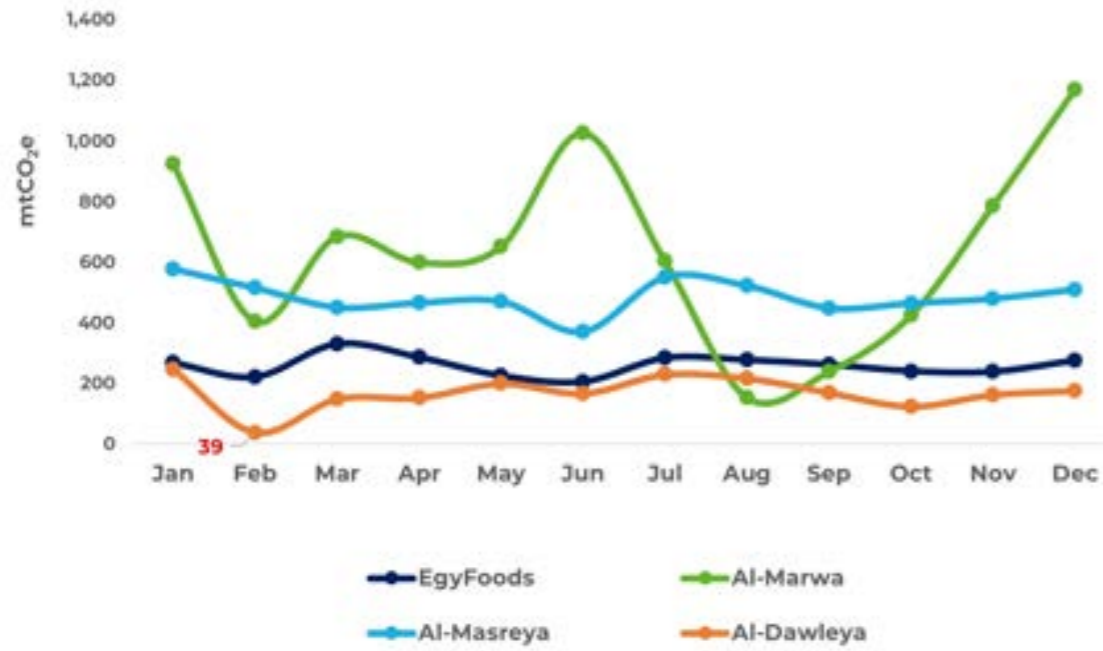


Al-Masreya purchased electricity emissions intensity (mtCO₂e/ton output)



NATURAL GAS

Al-Marwa factory is the largest consumer of natural gas between Juhayna's four factories, followed by **Al-Masreya**.

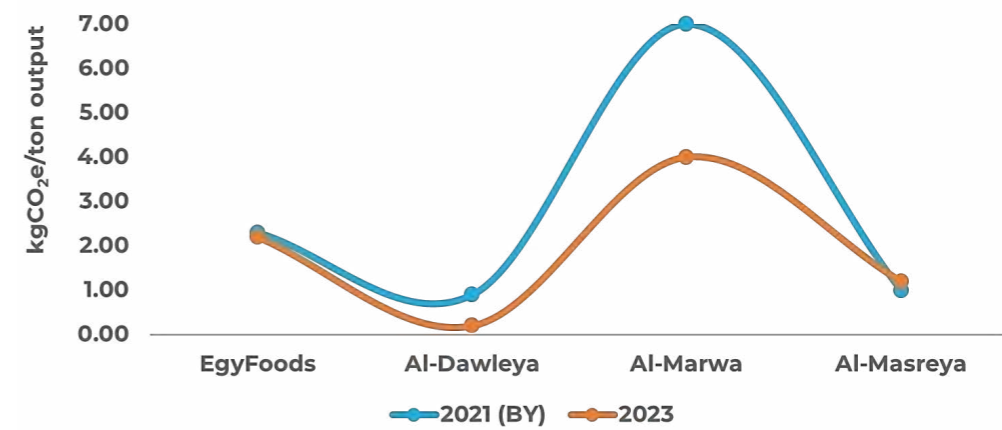


Juhayna's factories have experienced a significant decrease in natural gas emissions intensity in 2023 compared to the 2021 figures, except for Al-Masreya, which saw a 20% increase. The reductions

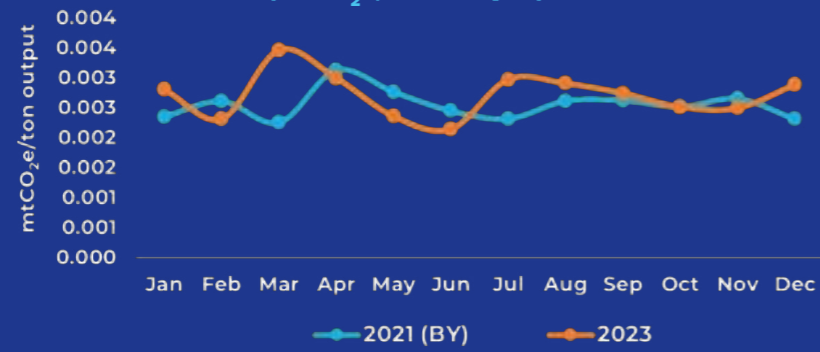
vary across facilities, ranging from **4.4%** to **77.8%**, as detailed in the table below, with Al-Dawleya achieving the most substantial decrease.

LOWEST EMISSIONS INTENSITY VALUES ACHIEVED DURING 2021 (BY) AND 2023				
	UNIT	2021 (BY)	2023	INDICATOR
EGYFOODS		2.30	2.20	4.35% decrease
AL-DAWLEYA	kgCO ₂ e/ton	0.90	0.20	77.8% decrease
AL-MARWA	product output	7.00	4.00	42.9% decrease
AL-MASREYA		1.00	1.20	20% increase

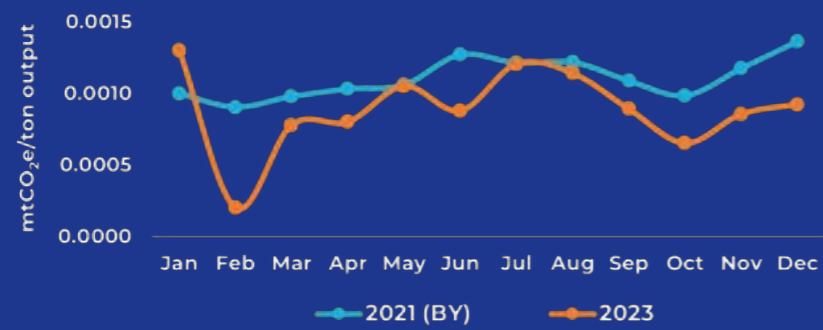
Comparison of Lowest Natural Gas Emissions



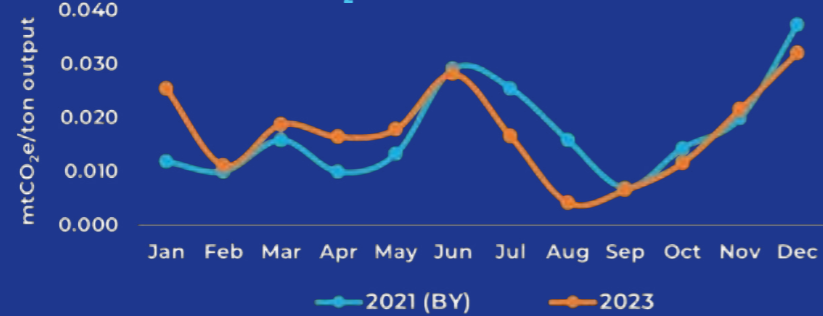
EgyFoods natural gas consumption emissions intensity (mtCO₂e/ton output)



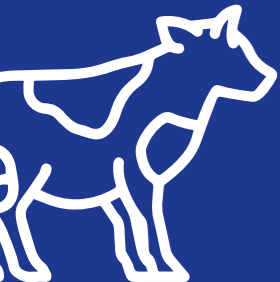
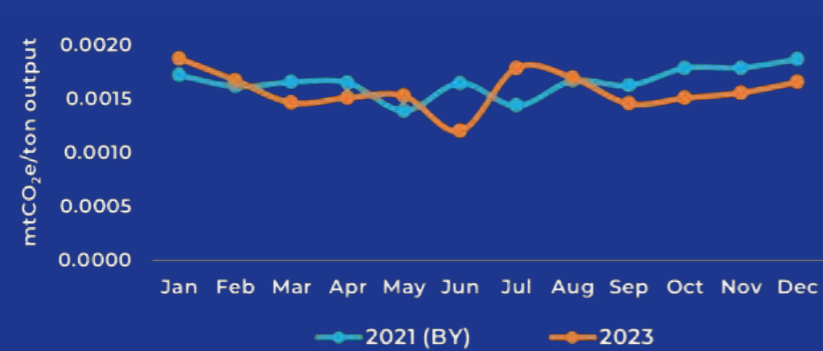
Al-Dawleya natural gas consumption emissions intensity (mtCO₂e/ton output)



Al-Marwa natural gas consumption emissions intensity (mtCO₂e/ton output)

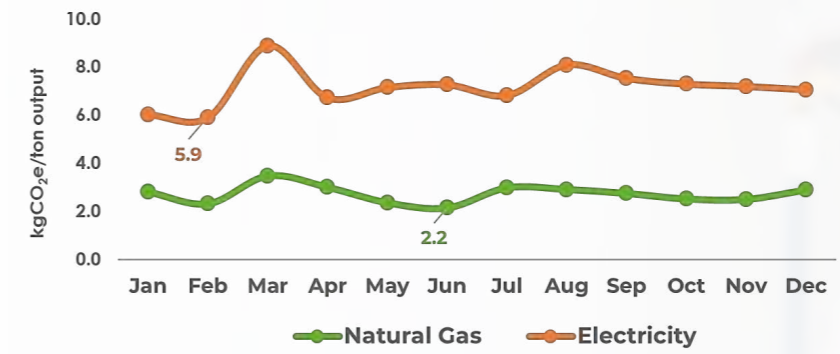


Al-Masreya natural gas consumption emissions intensity (mtCO₂e/ton output)

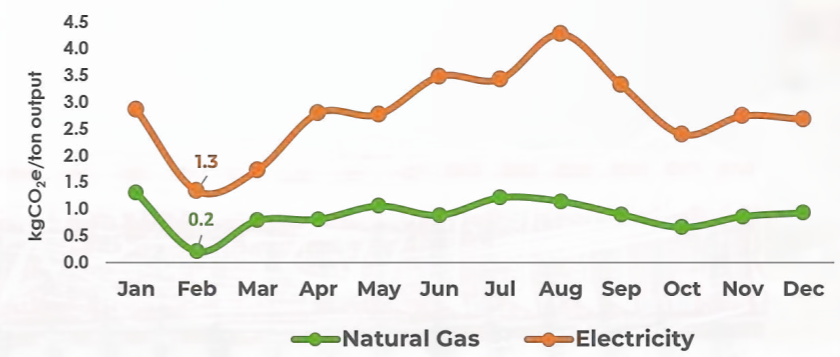




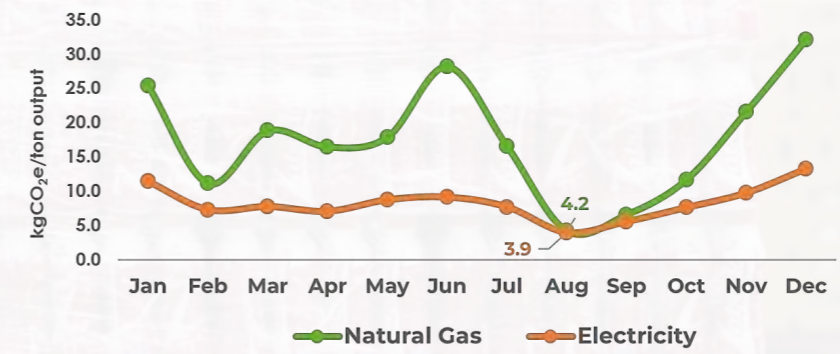
EgyFoods emissions intensity (mtCO₂e/ton output)



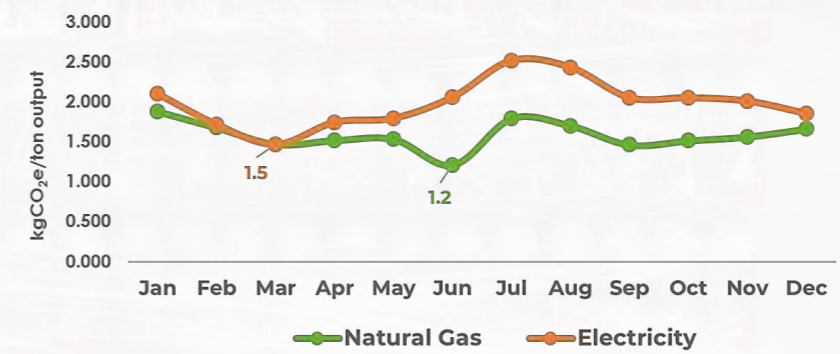
Al-Dawleya emissions intensity (mtCO₂e/ton output)



Al-Marwa emissions intensity (mtCO₂e/ton output)



Al-Masreya emissions intensity (mtCO₂e/ton output)



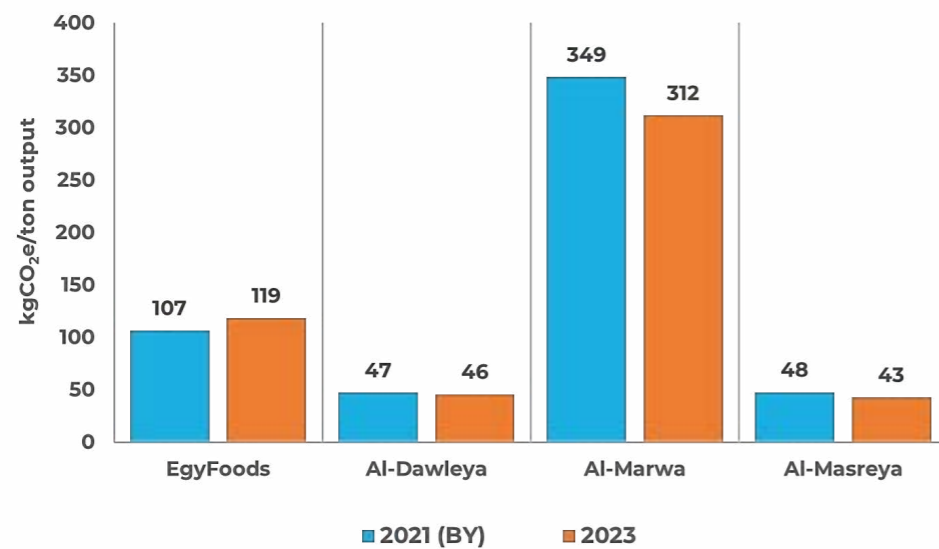
Scope 1+2 Carbon Intensity

Juhayna's factories generally show progress in emission intensity reduction per ton of product output since 2021. Al-Marwa and Al-Masreya achieved notable reductions, with decreases of 10.6% and 10.4%, respectively, reflecting improved efficiency and emissions management. Al-Dawleya saw a slight improvement of 2.13%, while Egyfoods experienced an 11.2% increase in emissions intensity, suggesting a need for focused reduction strategies. The newly reported data for Assiut in 2023 provides a baseline for further optimization.

EMISSIONS INTENSITY VALUES ACHIEVED DURING 2021 BY AND 2023

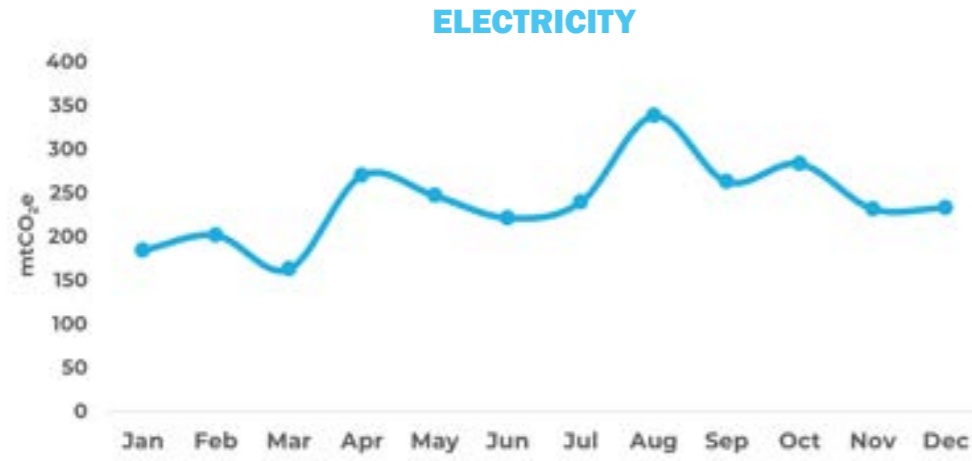
	UNIT	2021 (BY)	2023	INDICATOR
EGYFOODS		107	119	11.2% increase
AL-DAWLEYA	kgCO ₂ e/ton product output	47	46	2.13% decrease
AL-MARWA		349	312	10.6% decrease
AL-MASREYA		48	43	10.4% decrease
ASSIUT		—	384	

Comparison of Scope 1 & 2 Carbon Intensity



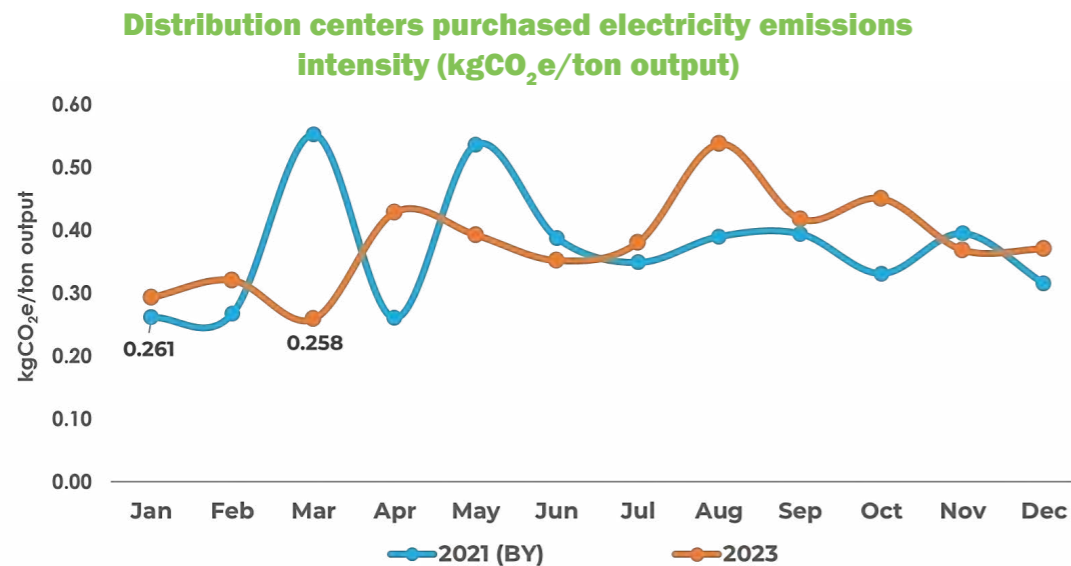
C DISTRIBUTION

Similar to the farms and factories, the lowest values achieved in 2021 and 2023 have been identified for natural gas usage, electricity consumption, and fuel consumption in downstream transportation. Carbon intensity metrics for these areas account for Scope 1 and 2 emissions.



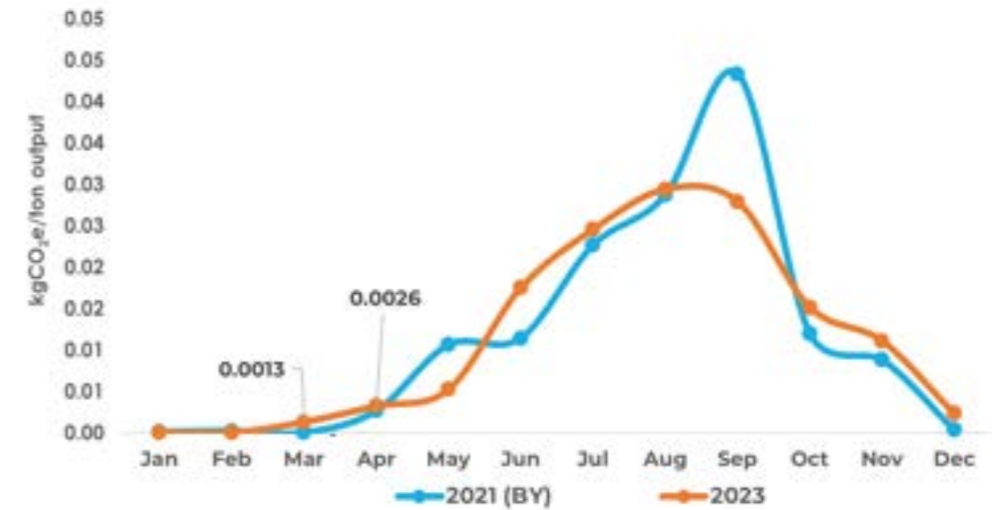
Electricity consumption across distribution centers resulted in a total of **2,882 mtCO₂e**, with August recording the peak emissions at **339 mtCO₂e**. Comparing the lowest monthly values between the base year and 2023 shows a slight yet positive reduction of **0.78%**, signaling steady progress in emissions efficiency.

LOWEST VALUES ACHIEVED DURING 2021 (BY) AND 2023				
	UNIT	2021 (BY)	2023	INDICATOR
ELECTRICITY	kgCO ₂ e/ton product output	0.261	0.258	0.77% decrease

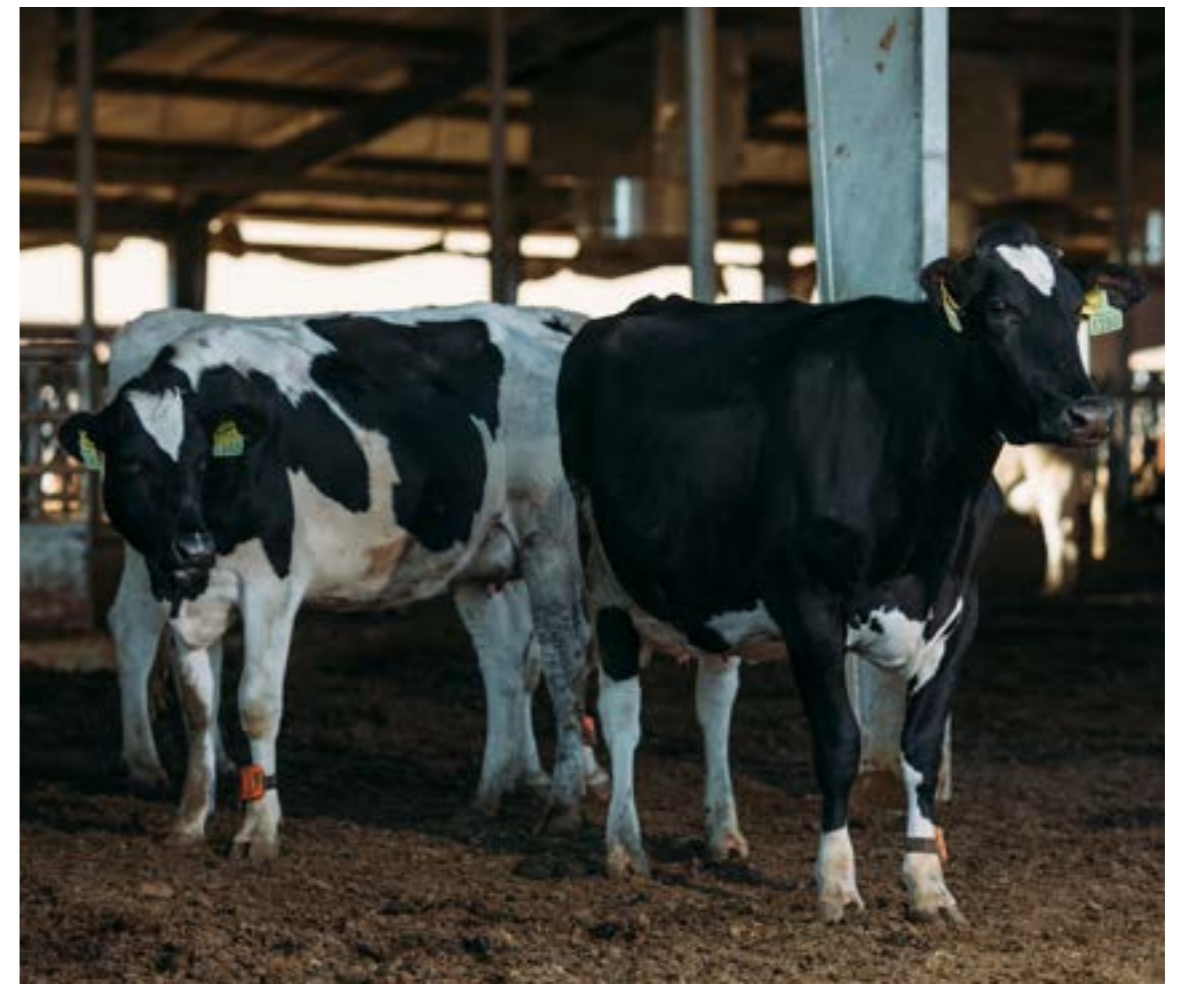


NATURAL GAS

Distribution centers natural gas emissions intensity (kgCO₂e/ton output)



Juhayna's TIBA distribution centers achieved a modest **1.14%** reduction in natural gas consumption. Emissions intensity per ton of product remained consistent year-over-year at **0.14 kgCO₂e per ton**. The peak natural gas emission intensity for 2023 was recorded in September.



OWNED FLEET

Distribution centers owned fleet fuel combustion emissions intensity (kgCO₂e/ton output)



In 2023, emissions from Juhayna's owned fleet reached **20,891 mtCO₂e**, marking a **33%** increase from the 2021 baseline. Starting in June, emissions saw a steady rise throughout the year.

LOWEST VALUES ACHIEVED DURING 2021 (BY) AND 2023

	UNIT	2021 (BY)	2023	INDICATOR
DOWNSTREAM TRANSPORTATION	kgCO ₂ e/ton product output	1.49	2.41	61.7% increase



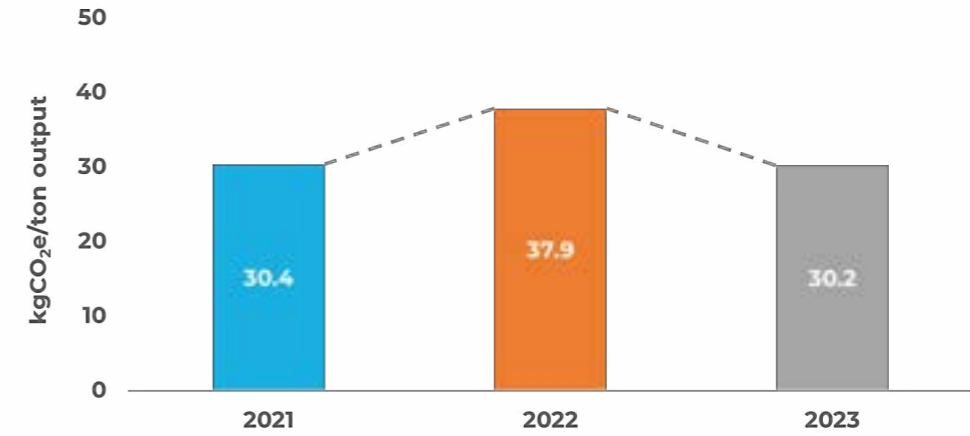
SCOPE 1+2 CARBON INTENSITY

In 2023, distribution centers recorded a modest **0.7%** reduction in overall Scope 1 and 2 emissions intensity compared to the 2021 baseline, with a notable **20%** decrease relative to the previous year.

EMISSIONS INTENSITY VALUES ACHIEVED DURING 2021 (BY) AND 2023

	UNIT	2021 (BY)	2023	INDICATOR
SCOPE 1 & 2	kgCO ₂ e/ton product output	30.4	30.2	0.7% decrease

Comparison of Scope 1 & 2 Carbon Intensity





DECARBONIZATION PLAN

STATUS

ACTIVITY & DESCRIPTION



ENERGY AND WATER EFFICIENCY AUDIT AND MANAGEMENT SYSTEM

All factories have comprehensive energy efficiency audits and management systems in place and are certified under ISO 50001 standards.

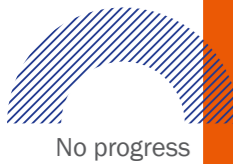
Water Management Initiatives Across Factories:

- **Updated Water Usage Mapping:** Detailed mapping of water use across all operational areas ensures efficient tracking and identification of high-consumption processes.
- **Digital Monitoring:** Advanced water flowmeters integrated with SCADA systems allow precise, real-time monitoring of water consumption, enabling prompt adjustments for efficiency.
- **Optimized Cleaning Practices:** Low-flow hoses and enhanced cleaning protocols are implemented to minimize water use during daily operations, contributing to significant reductions.
- **Water Reuse and Recycling:** Condensate water is repurposed for various processes, including washing and boiler feed, reducing the need for fresh water and enhancing overall water efficiency.
- **Ongoing Monitoring and Improvements:** Continuous observation of water consumption at key points ensures targeted action and ongoing optimization efforts, even where formal water management systems are not yet established.



CLIMATE-RELATED INCENTIVE PROGRAM DEVELOPMENT

Set specific, measurable climate goals for emissions, water, and energy reduction across departments and facilities. Develop financial and non-financial rewards tailored to employees, suppliers, and partners, such as bonuses, recognition, or exclusive contracts. Implement resource efficiency targets for each facility, with incentives for achieving reductions in energy and water use. Regularly track and report on achievements, sharing success stories to motivate continuous improvement.



STATUS

ACTIVITY & DESCRIPTION



WASTE MANAGEMENT PLAN AND OPERATING SYSTEM

Waste Management Initiatives Across Factories:

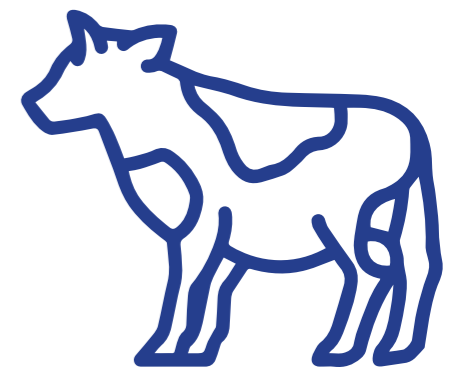
- **Comprehensive Waste Management Plan:** A structured waste management plan is in place, with clear procedures for waste segregation starting at the source using recycling bins across the facilities.
- **Approved Recycling Partnerships:** Existing contracts with government-certified, environmentally approved suppliers ensure that waste is managed and disposed of responsibly, adhering to regulatory standards.
- **Systematic Waste Classification:** Waste is separated and classified effectively within the plant, starting from designated recycling stations, to streamline the recycling process and enhance waste sorting efficiency.
- **Reuse and Recovery Initiatives:** Operations and quality teams conduct risk assessments to identify opportunities for waste reuse and material recovery, minimizing landfill contributions and promoting sustainable practices.



DESIGN, ADOPT AND IMPLEMENT A REFRIGERATE LEAKAGE REDUCTION PROGRAM



Cooling System Optimization Initiatives Across Factories:

- **Ammonia Refrigerant Usage:** Cooling systems across all facilities utilize ammonia as the primary refrigerant, prioritizing energy efficiency and minimizing environmental impact.
- **Integration of Absorption Chillers:** Absorption chillers operating with a brine solution are implemented, enhancing the cooling process while further optimizing resource efficiency and sustainability.



STATUS

ACTIVITY & DESCRIPTION

COMPANY FLEET VEHICLE EFFICIENCY

Implement routine inspections and maintenance to guarantee that the vehicles in the transportation fleet are operating effectively in terms of fuel consumption.

Vehicle Efficiency Initiatives Across Factories:

Optimized the fill rate of vehicles to ensure they are optimally loaded for each vehicle.




ESG DATA MANAGEMENT SYSTEM

Develop a tailored ESP platform and training and capacity building.





CORPORATE CULTURE

Introduce environmental culture through training and capacity-building programs.




ANALYSIS OF EMPLOYEE COMMUTING

Design, adopt and implement employee commuting data collection and analysis system.






SUSTAINABILITY POLICIES

Introduce and adopt sustainability policies for all Juhayna's activities, with commitment to practices and standards to promote environmentally and socially responsible operations, including developing low-carbon business travel policy.

STATUS

ACTIVITY & DESCRIPTION






GREEN BUILDING GUIDELINES

Develop and adopt green building guidelines incl. refurbishment of buildings such as insulation, draught proofing, efficient lighting and lighting control, HVAC operational parameters and control, external/internal shading optimization, daylight and occupancy sensors and building energy and water efficiency and management.



Green Building Initiatives:

- Occupancy sensors installed in some common areas in the HQ.

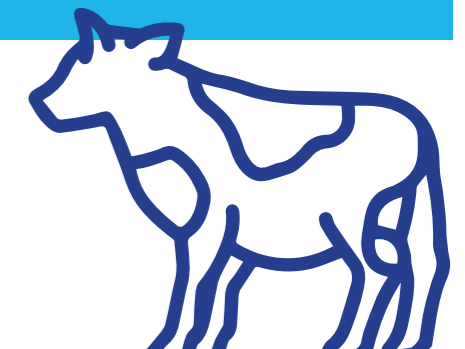
LOWER EMISSIONS SOURCES OF ENERGY

- Natural Gas for Boiler Operations:** Natural gas is utilized for boiler operations at El Marwa, Dawleya, and El Masreya, reducing greenhouse gas emissions compared to conventional fuel sources.
- Solar Heating Systems:** El Marwa has adopted solar heaters as a sustainable alternative to gas heaters, reducing its reliance on natural gas and enhancing energy efficiency.
- On-Grid Solar Panels:** Dawleya has installed an on-grid solar panel system in the car parking area, generating 14.28 kW of renewable energy, which helps decrease the facility's carbon footprint.

SUPPLY CHAIN DECARBONIZATION AND CLIMATE RESILIENCE PROGRAM

Implement program for supply chain decarbonization and climate resilience, including but not limited to training and capacity-building webinars and workshops, carbon footprint analysis, adoption of regenerative agriculture, resource efficiency, and environmental management system in accordance with ISO 140001.



Annex



DEFINITIONS & TERMINOLOGY

Reduced emissions	Reduced emissions refer to emissions that are prevented from being released into the atmosphere. At Juhayna, photovoltaic (PV) systems are employed at Al-Esseila Farm and Al-Dawelya Factory, helping to avoid emissions that would have otherwise resulted from using diesel generators and the electricity grid for power generation.
Base year	A base year is a reference year in the past with which current emissions can be compared. To maintain the consistency and comparability with future carbon footprints, base year emissions need to be recalculated when structural changes occur in the company that change the inventory boundary (such as acquisitions or divestments). If no changes to the boundaries of the inventory happen, the base year is not adjusted.
Biogenic carbon	Emissions related to natural carbon cycle and resulting from the combustion, processing, harvesting, fermentation, digesting and decomposition of biological sources and they include CO ₂ removal because of afforestation and reforestation.
Carbon footprint	The amount of Carbon Dioxide that an individual, group, or organization lets into the atmosphere in a certain time frame.
CO₂e	Carbon dioxide equivalent or CO ₂ equivalent, abbreviated as CO ₂ e, is a metric used to compare the emissions from various GHGs based on their global-warming potential (GWP), by converting amounts of other gases to the equivalent amount of carbon dioxide with the same global warming potential.
CO₂e sequestration	The capture and secure storage of carbon that would otherwise be emitted to or remain in the atmosphere.
Direct emissions	Greenhouse gas emissions from facilities/sources owned or controlled by a reporting company, e.g., generators, blowers, vehicle fleets.
Emission factors	Specific value used to convert activity data into greenhouse gas emission values.
Fugitive emissions	Fugitive emissions are emissions of gases or vapors from pressurized equipment due to leaks and other unintended or irregular releases of gases, mostly from industrial activities. Besides the economic cost of lost commodities, fugitive emissions contribute to air pollution and climate change.
GHG protocol	Greenhouse Gas Protocol is a uniform methodology used to calculate the carbon footprint of an organization.
GWP	Global Warming Potential is an indication of the global warming effect of a greenhouse gas in comparison to the same weight of carbon dioxide.
Indirect emissions	Greenhouse gas emissions from facilities/sources that are not owned or controlled by the reporting company, but for which the activities of the reporting company are responsible, e.g., purchasing of electricity.
Kyoto protocol	It operationalizes the United Nations Framework Convention on Climate Change by committing industrialized countries to limit and reduce greenhouse gases (GHG) emissions in accordance with agreed individual targets.
Operational boundary	Determination of which facilities or sources of emissions will be included in a carbon footprint calculation.
Organizational boundary	Determination of which business units of an organization will be included in a carbon footprint calculation.
Refrigerant	A refrigerant is a substance or mixture, usually a fluid, used in a heat pump and refrigeration cycle.
Renewable energy	Energy from a source that is not depleted when used, such as wind or solar power.
Scope 1	Direct emissions from sources that are owned or controlled by the reporting entity (i.e., any owned or controlled activities that release emissions straight into the atmosphere).
Scope 2	Indirect emissions associated with the consumption of purchased electricity, heat or steam from a source that is not owned or controlled by the company.
Scope 3	Indirect emissions resulting from other activities that are not covered in scope 1 and 2. This includes transport fuel used by air business travel, and employee-owned vehicles for commuting to and from work; emissions resulting from courier shipment; emissions from waste disposal, etc.



DATA SOURCES & QUALITY

All data is retrieved from Juhayna's Database and is corresponding to activities occurring during 2023. The data quality has been assessed and the unit and resolution of each line of the business are presented below.



SCP	ACTIVITY	DATA	UNITS	RESOLUTION
DISTRIBUTION CENTERS				
1	Stationary combustion	Natural gas	42,284	m ³ Data recorded monthly for natural gas consumption.
1	Mobile combustion	Transport vehicles	Diesel 7,855,601	liters Data recorded monthly for fuel consumption and includes fuel type
1	Fugitive emissions	Refrigerants leakage	HFC-134a 33	kg Data recorded on a yearly basis and included refrigerant type
2	Purchased energy	Purchased electricity	6,282	MWh Data recorded monthly for electricity consumption.
3	Purchased goods and services	Water use	64,508	m ³ Data recorded monthly for water consumption.
3	Transportation & Distribution	Downstream Transportation (Exports)	HGVs 702,680 Cargo ships 10,431,982	ton.km Data recorded on an annual basis, includes shipment origin, destination, and transported weight.
		Upstream Transportation	3,404,125	km Data recorded on an annual basis, including vehicle type, and travelled distance.
3	Waste generated in operations	Wastewater treatment	58,057	m ³ 58,057
		Solid waste disposal	Plastics 147 Paper and board 147	tons Data assumes that waste generated by the distribution centers consists of equal parts paper and plastic, with each accounting for half of the total waste
3	Employee Commuting	Employee Commuting + WTT	Buses 69,839,810	p.km Data recorded on a yearly basis, includes vehicle type, number of vehicles, and route distance.

- **Good:** no changes
- **Satisfactory:** could be improved
- **Weak:** priority area for improvement



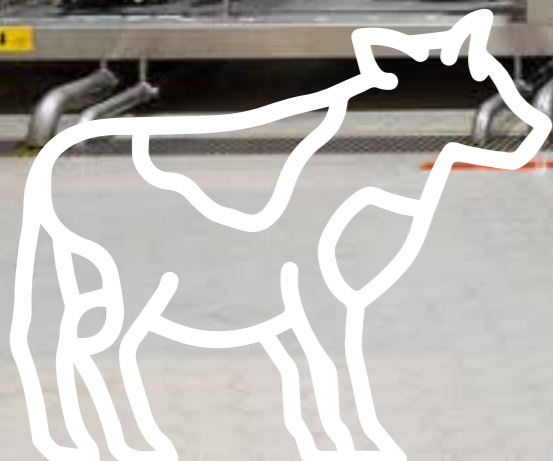
SCP	ACTIVITY	DATA	UNITS	RESOLUTION
HEADQUARTERS				
1	Mobile combustion	Passenger vehicles	Diesel 23,855 Petrol 62,207	liters Data recorded on a monthly basis, includes vehicle type, fuel type and total fuel consumption.
2	Purchased energy	Purchased electricity	219	MWh Data recorded monthly in MWh for all months. However, the data for August was provided in EGP, and the value for July was estimated based on the August and September data.
			53,774	EGP Data recorded for the month of August in EGP
3	Purchased goods and services	Water use	13,181	m ³ The most recent reliable data from 2020 was utilized. To ensure more accurate and up-to-date monitoring of monthly water consumption, it is highly recommended to implement a tracking system.
3	Waste generated in operations	Wastewater treatment	11,863	m ³
3	Business travel	Air travel	Int'l 107,863	p.km Data recorded on a yearly basis, includes number of passengers, flight route and flight distance for both international and domestic flights.
			Local 3,820	
		Hotel stays	Int'l 71 Local 5	nights Data recorded monthly, includes number of rooms, days of stay, total nights, and country of stay.
3	Employee commuting	Employee Commuting + WTT	Cars 2,054,400	km Data recorded on a yearly basis, includes vehicle type, number of vehicles, and route distance. Data was collected through a survey.
			Taxis 158,400	p.km
			Buses 157,358	p.km





SCP	ACTIVITY	DATA	UNITS	RESOLUTION	
FARMING					
OWNED FARMS					
1	Stationary combustion	Diesel used in generators	3,656,214	liters	Data recorded monthly.
		Diesel used in machinery	326,253		
		Passenger vehicles	25,499		
1	Mobile combustion	Transport vehicles	27,297	liters	Data recorded monthly, includes fuel type, quantity, and vehicle type.
		R-HGVs	19,448,833	ton.km	Data recorded on a yearly basis, includes distance travelled and mass in transport.
1	Agricultural emissions	Fertilizers	764,493	kg	Data recorded on a yearly basis, includes fertilizer name, type, quantity, and nitrogen content.
		Enteric Fermentation & Livestock Management	7,178	count	Data recorded on a yearly basis, includes the number of cows, along with their weights categorized by different age groups
2	Purchased energy	Purchased electricity	2,159	MWh	Data recorded monthly for electricity consumption at Al-Esseila Farm.
3	Purchased goods	Purchased materials	561,837,020	EGP	Data recorded on an annual basis, includes the total spend and type of good, in addition to outsourced services, encompassing local farms.
3	Capital goods	Capital goods	83,146,681	EGP	Data recorded on an annual basis, includes the total spend and type of good.
3	Waste generated in operations	Solid waste disposal	18	tons	Data recorded on an annual basis, includes the total weight and type of each waste material.
	Reduced emissions	PV Panels	1,292,030	KWh	Recorded data includes the type of renewable energy replacement, which in this case are diesel generators, along with the total renewable energy generated
LOCAL FARMING					
Detailed data were directly collected from 10 local farms within Juhayna's network of 117 farms . These farms produced a combined total of 47,337 tons of milk, representing 22% of the overall 216,114 tons sourced from all local farms. This collected data was incorporated into Juhayna's Purchased Goods reporting.					
1	Stationary combustion	Diesel used in machinery	242,383	liters	Data recorded monthly.
		Passenger vehicles	Diesel 18,100	liters	Data recorded monthly.
1	Mobile combustion	Transport vehicles	Petrol 16,200		Data recorded monthly.
			Diesel 22,300	liters	Data recorded on a yearly basis.
1	Fugitive emissions	Refrigerants leakage	270	kg	Data recorded on a yearly basis and included refrigerant type
1	Agricultural emissions	Fertilizers	38,400	kg	Data recorded on a yearly basis, includes fertilizer name, type, quantity, and nitrogen content.
		Enteric Fermentation & Livestock Management	10,143	count	Data recorded on a yearly basis, includes the count of cows, along with their weights categorized by different age groups
2	Purchased energy	Purchased electricity	5,637	MWh	Data recorded on a yearly basis, based on average monthly consumption per farm.
3	Downstream transportation	Vans	2,683,648	km	Data recorded on a yearly basis, includes distance travelled.
		R-HGVs	720,476	km	
	Reduced emissions	PV Panels	144,000	KWh	Recorded data includes the type of renewable energy replacement at Al-Mobarak Farm, which in this case is the electricity grid along with the total renewable energy generated





SCP	ACTIVITY	DATA	UNITS	RESOLUTION
MANUFACTURING				
1	Stationary combustion	Natural gas	9,094,292	m ³ Data recorded monthly for natural gas consumption.
		Diesel used in machinery	120	liters Data recorded on a yearly basis.
1	Mobile combustion	Transport vehicles	Diesel 7,855,601	liters Data recorded monthly for fuel consumption and includes fuel type
		HFC-134a	159	
1	Fugitive emissions	Refrigerants leakage	HCFC-22 90	kg Data recorded on a yearly basis and includes refrigerant type
		R407A	60	
		R410A	60	
2	Purchased energy	Purchased electricity	56,470	MWh Data recorded monthly for electricity consumption.
		Water use	1,621,685	m ³ Data recorded monthly for water consumption.
3	Purchased goods and services	Purchased materials	61,439	pcs Data recorded on an annual basis, includes the total count and type of each material.
			239	tons Data recorded on an annual basis, includes the total weight and type of each good.
3	Capital goods	Capital goods	2,493,433,185	EGP Data recorded on an annual basis, includes the total spend and type of each good.
3	Waste generated in operations	Wastewater treatment	1,459,517	m ³ Data was calculated on a monthly basis for wastewater treatment, based on the assumption that the total discharge accounted for approximately 90% of the total water withdrawn.
		Solid waste disposal	653	tons Data collected on an annual basis, includes the total weight, categorized by each waste type
3	Employee Commuting	Employee Commuting + WTT	Buses 69,195,480	p.km Data recorded on a yearly basis, includes vehicle type, number of vehicles, and route distance. Data was collected through a survey.
	Reduced emissions	PV Panels	29,638	KWh Recorded data includes the type of renewable energy replacement, which in this case is the electricity grid, along with the total renewable energy generated

RELEVANCY AND EXCLUSIONS

The following table describes the GHG emissions sources that were excluded from Juhayna's GHG inventory due to several reasons, including: lack of data, and data that is beyond Juhayna's operation and control and hence considered technically infeasible to attain. The exclusion rationale per activity has also been specified.



ACTIVITY	DESCRIPTION	EMISSIONS (mtCO ₂ e)	STATUS
1 Purchased goods and services	The emissions reported under this category are associated with the consumption of packaging materials (Tetra-pak) and supplies such as commodities used across our facilities, including wood pellets, plastics, paper and board, and others (ink, gloves, uniforms, face masks), in addition to emissions from water consumption.	814,615	Relevant, calculated
2 Capital goods	This activity includes the emissions from embodied carbon in Juhayna's owned assets, buildings, etc.	1,522	Relevant, calculated
3 Fuel and energy-related activities (not included in Scope 1 and 2)	The reported value corresponds to the Well to tank (WTT) emissions which result from production of a fuel, including resource extraction, initial processing, transport, fuel production, distribution and marketing, and delivery. WTT emissions included all fuel burning activities accounted for under Scope 1: - On-site diesel consumed in our farms to generate electricity, and natural gas consumed in our factories and distribution centers. In addition to fuel consumed in owned vehicles.	12,307	Relevant, calculated
4 Upstream transportation and distribution	The emissions under this category are associated with the direct fuel burning by the distribution fleet that transports the raw milk from our owned farms and from our local network of farms to our manufacturing facilities.	4,278	Relevant, calculated
5 Waste generated in operations	The reported figure includes emissions from solid waste generated in the four factories, Al-Farafa Farm, and Distribution Centers. It also encompasses emissions from the treatment of wastewater discharged from these facilities.	1,007	Relevant, calculated
6 Business travel	This activity includes emissions from business travel by air and by land. In addition, it also includes emissions from hotel stays in different countries. Emissions in this category include Well-To-Tank (WTT) emissions.	25	Relevant, calculated
7 Employee commuting	The reported value for emissions corresponds to the emissions generated from employee commuting. This data is based on survey results provided by employees at our four factories, distribution centers, and headquarters. The survey collects information on various factors, including vehicle type, fuel type, number of vehicles, and route distance.	18,045	Relevant, calculated
8 Upstream leased assets	Juhayna does not have any upstream leased assets.	-	Not relevant, explanation provided
9 Downstream transportation & distribution	It corresponds to emissions associated with the downstream land and marine shipping of our products only (exports emissions).	337	Relevant, calculated
10 Processing of sold products	Juhayna sells finished food products ready for direct consumption, which do not require any further industrial processing.	-	Not relevant, explanation provided
11 Use of sold products	Emissions from this category could include energy use at retail outlets by Juhayna's refrigerators, which were not evaluated yet, due to limited data availability from retail outlets	-	Relevant, not yet calculated
12 End of life treatment of sold products	Out of Juhayna's operational boundaries and scope.	-	Not relevant, explanation provided
13 Downstream leased assets	Juhayna does not have any downstream leased assets to any third party.	-	Not relevant, explanation provided
14 Franchises	Not relevant to Juhayna's business model; hence it has been excluded.	-	Not relevant, explanation provided
15 Investments	Not relevant to Juhayna's business model; hence it has been excluded.	-	Not relevant, explanation provided



QUALITY ASSURANCE

STATEMENT

ABOUT MASADER

Masader is an innovative interdisciplinary consulting, design and engineering sustainability firm based in Cairo, aiming at leveraging positive impact across the MENA region and globally. It specializes in Resource Efficiency, Sustainable Management of Natural Resources and Integrated Sustainability Solutions. Since 2015, Masader has led 100+ projects across the areas of energy, environment, climate change & carbon footprint, circular economy, green building (LEED), as well as corporate sustainability strategies, reporting and certification.

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To the Juhayna Board of Directors',

We have been appointed by **Juhayna** to conduct carbon footprint calculations pertaining to **Juhayna's** operational activities for the period **1st of January 2023** to the **31st of December 2023**. The scope extends to Juhayna's two owned farms, as well as the local farms from which Juhayna procures its milk supply. Furthermore, it encompasses the operations of Juhayna's five factories, along with its 29 distribution centers and headquarters building.

AUDITORS' INDEPENDENCE AND QUALITY CONTROL

We adhere to integrity, objectivity, competence, due diligence, confidentiality, and professional behavior. We maintain a quality control system that includes policies and procedures regarding compliance with ethical requirements, professional standards, and applicable laws and regulations.

AUDITORS' RESPONSIBILITY

In conducting the carbon footprint calculations, we have adopted the Greenhouse Gas Protocol Guidelines, IPCC Guidelines for Greenhouse Gas Inventories, and finally ISO 14064-1:2018 specification with guidance at the organization level for quantification and reporting of GHG emissions and removals.

**Dr. Abdelhamid Beshara, Founder and Chief Executive Officer
MASADER, ENVIRONMENTAL & ENERGY SERVICES S.A.E CAIRO,
December 2024**

It is our responsibility to express a conclusion about the quality and completeness of the primary data collected/ provided by **Juhayna**. We have performed the following quality assurance/ quality control tasks:

- Several rounds of data requests were performed whenever the received information was not clear;
- All data presented in this report were provided by the reporting entity and revised and completed by our technical teams;
- For data outliers, meetings were held to investigate the accuracy of the data and new data was provided when requested;
- Any gaps, exclusions and/or assumptions have been clearly stated in the report.

CONCLUSION

Based on the aforementioned procedures, nothing has come to our attention that would cause us to believe that **Juhayna's** raw data used in the carbon footprint calculations have not been thoroughly collected, verified, and truly represent **Juhayna's** resource consumption in the reporting period related to all categories/aspects identified in this report. We do not assume and will not accept responsibility to anyone other than **Juhayna** for the provided assurance and conclusion.

Abdelhamid Beshara



environmental & energy services
masader



