VIENNA ENERGY FORUM

JUHAYNA GROUP

OUTLINE

- ABOUT JUHAYNA
- STATISTICS
- SUSTAINABILITY JOURNEY
- ENERGY PROJECTS IMPLEMENTED
- RESULTS ACHIEVED
- CHALLENGES
- FUTURE PLANS

ABOUT JUHAYNA

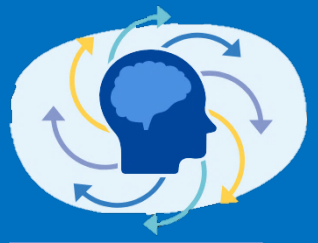
JUHAYNA FOOD INDUSTRIES is a leading Egypt-based manufacturer specialized in the production, processing and packaging of **DAIRY, JUICE, and COOKING PRODUCTS.**

1987

2021

OUR FOURTH CATEGORY

PLANT BASED



Consumer

CONSUMER'S KEY DRIVERS FOR PLANT-BASED PRODUCTS

1 Health Reasons

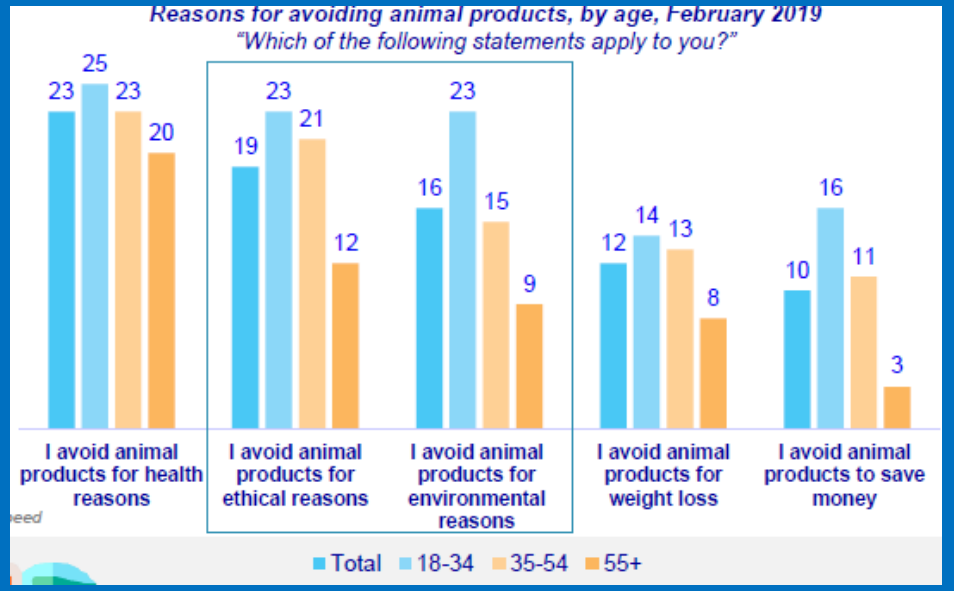
- Lifestyle: want to reduce **dairy consumption**
- **Weight** management
- Gut health: cow's milk may **cause lactose intolerance** or a **protein allergy**

2 Environmental Reasons

More sustainable, environmentally friendly

3 Ethical Reasons (animal rights)

Vegan



Source: https://clients.mintel.com/report/power-to-the-plants

JUHAYNA TODAY

4 Operating Factories

200+ SKU's

38 Distribution Centers

1,000 Vans & Trucks

136,000 Points of Sales

7,000 Livestock

9M Packs/day

JUHAYNA'S SUSTAINABILITY JOURNEY

HOW DID WE START?

- We have been aligning our operations with sustainable **ENVIRONMENTAL, SOCIAL AND GOVERNANCE FRAMEWORKS.**
- We adopted creating shared value **(CSV);** a principle that lives within the core of our business model and is embedded in the way we work.
- Our focus has been set on forming strategic collaborations with industry peers, business partners and other key stakeholders to promote long term solutions that positively impact the societies where we operate.
- In 2017, we became a participant of **UN Global compact** the world's largest corporate sustainability initiative supporting companies in aligning strategies and operations with ten principles on human rights, labor, environment and anti-corruption.
- In all our communication we highlight how our CSV pillars link to **United Nations Sustainable Development Goals**(SDGs). This connection has helped us better understand our socioeconomic contribution in areas where we operate.

We took our efforts a step further and published our first **SUSTAINABILITY REPORT** for the period 2016 -2018

Which allowed us to make necessary strategic adjustments to our internal and external policies and helped achieve the balance between our ambitious expansion and the development of our community along the way.

- Started working on calculating our carbon emissions (CARBON FOOTPRINT REPORT 19')
- Expanded the scope of all existing policies to include Sustainability Principles and Frameworks
- Trained a core team of Sustainability Champions across the key functions to coordinate, with the Sustainability Department
- Applied energy efficiency programs

OUR SUSTAINABILITY STRATEGY

As we transform the way we operate, we further align our strategies with multiple sustainable environmental, social, and governance frameworks, which has resulted in the principle of creating shared value (CSV) becoming central to our development. This principle is now at the core of our business model and has helped us evolve our corporate and social strategies to improve our offerings to all stakeholders across our value chain and extend them beyond social contribution services. Our strive for positive change is now enrooted in all facets of our operations, while decreasing our footprint and increasing our social impact, we look to continue being an active member of our community.

SUSTAINABILITY REPORT 2019-2020

(To be published March 2021)

ENERGY PROJECTS IMPLEMENTED

Through UNIDO's technical support, the 4 companies have implemented the Energy Management System (EnMS) and System Optimization projects.

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

Industrial Energy Efficiency Project

In order to introduce a structured approach to energy management in operation, El Marwa Food Industries – Juhayna Group has joined hands with the GEF funded project, "Industrial Energy Efficiency in Egypt". This project is implemented by the UNIDO in partnership with the Egyptian Environmental Affairs Agency, Ministry of Industry, Trade and SMEs and the Federation of Egyptian Industries. The project has helped El Marwa to implement Energy Management System in alignment with ISO 50001 for an overall improvement in energy efficiency and improve environmental impact.

EGYPT

A Case Study of El Marwa Food Industries Juhayna Group

El Marwa EnMS Snapshot

Industry: Food Industries
Location:Industrial Zone, 6th of October City, Giza, Egypt
Product: : fruit purees, pulps and juice concentrates
Implementation cost: ~ 0.120 MEGP
EnMS Scope: Electricity & natural gas
Energy savings: ~ 101 MWh
Financial savings: ~ 65,000 EGP
GHG reduction: ~ 75 tons CO_2eq
Overall payback: ~ One year
Objectives period:
Time to implement EnMS: one year (2015/2016)
Project Status: end of planning phase of implementation
El Marwa Food Industries Company, member of Juhayna Dairy and Juice Industrial Group, produces 25,000 tons per year of tropical fruit purees and concentrates from one line and 10,000 tons per year of citrus concentrates from a second line. The products are supplied to juice factories in the group and to other produces in the domestic and abroad markets.
The company is certified in ISO 18001, ISO 22000 and FSSC 22000 (Food Safety System Certificate).

Implementing EnMS in El Marwa is the way out

Although El-Marwa for Food Industries uses equipment and extraction technology provided by the top suppliers in the field, the company management feels that the energy is used inefficiently and that consumption could be reduced significantly. Adoption of EnMS in the group has provided the management with the required tool to ensure the efficient use of energy and to identify, study and follow up energy saving opportunities; consequently, the framework to set objectives for the energy consumption. Applying the stringent procedures of EnMS to use energy efficiently contributes to confirming the leading competitive position of the group in the diary and juice sector.

El Marwa ambitious EnMS objectives

The company has finished identification of the energy saving opportunities which will be studied, prioritized and converted to action plan of measures and projects. Consequently, the objectives will be drafted and forwarded to the company management for approval.

UNIDO, a key player in EnMS success at El Marwa

With EnMS training provided by UNIDO and support of the consultant delegated by the project, the company has managed to:

- review of past available energy records
- quantify the significant energy users
- identify and document roles and responsibilities
- identify drivers and define baseline for each user

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

Industrial Energy Efficiency Project

In order to introduce a structured approach to energy management in operation, El-Dawleya for Modern Food Industries – Juhayna Group has joined hands with the GEF funded project, "Industrial Energy Efficiency in Egypt". This project is implemented by the UNIDO in partnership with the Egyptian Environmental Affairs Agency, Ministry of Industry, Trade and SMEs and the Federation of Egyptian Industries. The project has helped El-Dawleya to implement Energy Management System in alignment with ISO 50001 for an overall improvement in energy efficiency and improve environmental impact.

EGYPT

A Case Study of El-Dawleya for Modern Food Industries – Juhayna Group

El-Dawleya EnMS Snapshot

Industry: Food Industries
Location:Industrial Zone, 6th of October City, Giza, Egypt
Product: fruit juice of different concentrates and flavors
Implementation cost: ~0.216 MEGP
EnMS Scope: Electricity, natural gas & water
Annual Energy savings: ~7.6 GWh
Annual water savings: 126,000 m^3
Financial savings: ~ 7.5 MEGP
GHG reduction: ~ 4,541 ton CO_2eq.
Overall payback: ~5 years
Objectives period: 5 years
EnMS Status: ISO 50001 Awarded May 2018
Time to implement EnMS: 18 months
El-Dawleya for Modern Food Industries Company, member of Juhayna Dairy and Juice Industrial Group, produces 15,000 tons/ day (3 million packs/ year) of fruit juice of different concentrates and different flavors in packs of 200ml, 500ml and 1 liter. The plant is built over an area of 33'000 m2 and employs 170 staff members.
The company is certified in ISO 14001, ISO 22000 and 22000 FSSC (Food Safety System Certificate), OHSAS 18001 and ISO 50001.

Implementing EnMS in El-Dawleya is the way out

Although El-Dawleya for Modern Food Industries uses state of the art technology of the field, the company management is striving for higher efficiency and optimized utilization of resources. Adoption of EnM has provided the management with the required tool to ensure the efficient use of energy and to identify, study and follow up energy saving opportunities; consequently, the framework to set objectives for the energy consumption. Applying the stringent procedures of EnMS to use energy efficiently contributes to confirming the leading competitive position of the company in the juice sector.

El-Dawleya ambitious EnMS objectives

Short term (2018)

- Electricity: reduce consumption by 10 % (base line 2015-2016)
- Natural gas: reduce consumption by 5 % (base line 2015-2016)
- Water: reduce consumption by 10 % (base line 2015-2016)

Long term (5 years)

- Reduce consumption of all resources 2 % each year.

UNIDO, a key player in EnMS success at El-Dawleya

With EnMS training provided by UNIDO and support of the consultant delegated by IEE project, the company has started to quantify the energy users based on assumptions; since there were no sub-meters. UNIDO and the company management agreed to adopt a rather aggressive approach; where the energy team has been divided into three sub-teams: the first sub-team

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

Industrial Energy Efficiency Project Compressed Air System Optimization

Typically over 75% of the lifetime costs of compressed air system are energy related. This case reviews the optimisation of compressed air system at EgyFood factory, in order to identify opportunities for saving the energy consumption by that system. The study reveals compressed air system opportunities assessed in this plant, 491,510 kWh (or EGP 319,475 in 2017 and then EGP 390,000 onwards) per annum could be saved at a low investment cost.

EGYPT

A Case Study of EgyFood Company

EgyFood Snapshot

Industry: Food
Location: Giza, Egypt
Product: Jucies and Dairy products
Implementation cost: Low
System: Screw Air Compressors
Annual energy savings: ~ 491.5 MWh
Financial savings: ~ 319,475 EGP/year
GHG reduction: ~265.5 tCO_2eq
Overall payback: < 1 month

Juhayna EgyFood Industries is one of the pioneer companies in Egypt working on the production of dairy, juice, and cooking products established in 1983 and has expanded its presence in the Middle East. The company is one of the pioneer companies in Egypt, working on the production of dairy and juice products. EgyFood was founded in 2014 in 6th of October, Giza. It has a production of high-quality yoghurts and yoghurt drinks including Rayeb and Zabado.

CASO at EgyFood and the IEE Project

The Industrial Energy Efficiency Project (IEE) is a programme developed and initiated by UNIDO to promote energy efficiency in industry as part of its primary objective "promoting and accelerating inclusive and sustainable industrial development in developing countries and economies in transition."
The Compressed Air Systems Optimisation (CASO) Project forms part of the IEE Project and has the specific objectives of developing local personnel to become competent in the application of energy efficiency in industry in order to unlock the potential for energy savings within their respective local industries.
The Egyptian Company for Food industries (EgyFood) is considered as a pilot plant for the IEEP in the MSO as well as other components. They are in the process of developing an Energy Management System (EnMS) with the assistance from the IEEP, and the MSO serves pretty well in developing saving opportunities for the company. It needs to reduce operating costs to remain competitive in the global market. The mandated electricity tariff increases have also contributed to this need.
Since compressors consume a large proportion of electrical energy, EgyFood company has focussed on motor system improvements.

Through UNIDO technical support, potential energy and cost savings are calculated for the installation of Solar Water Heaters (SWH)

	Energy saved (GJ/Y)	Fuel Saved (m3 /Y)	Expenses Saved (LE/ Y)
Juhayna Egy foods	1,807	56,835	177,324
Juhayna El-Marwa	1,453	38,242	119,316
Juhayna El-Dawlya	1,186	37,583	117,260
Juhayna EL-Masrya	2,252	129,464	403,926
Total			**817,825**

SAVINGS

ELECTRICITY (KW)	7,715,842
GAS (M3)	635,175
WATER (M3)	86,500

SAVINGS IN MONEY

ELECTRICITY	9,644,802.82
GAS	1,905,525
WATER	519,000

TOTAL

12,069,327.82

CHALLENGES

MAIN CHALLENGE FOR 2020 WAS

CORONA VIRUS

- WORKING HOURS WERE REDUCED, WHICH LED TO CONSUMING MORE ENERY. YET, LESS PRODUCTION

FUTURE PLANS

- BY 2022, ALL OF OUR FACTORIES ARE EXPECTED TO HAVE MADE A FULL TRANSITION TO THE USE OF LED LIGHTING

- SOLAR SHADES WILL BE INSTALLED AT EGYFOOD BY THE END OF 2021


THANKS