

# Egyptian Propylene & Polypropylene

## Sustainability Report 2023

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CEO & Managing Director

## CEO Statement

I am delighted to introduce Egyptian Propylene and Polypropylene's first Sustainability Report, highlighting our continued achievements and solid commitment to sustainable economic and social development. Through this report, we aim to demonstrate some of our work as a responsible business to foster sustainable growth and create lasting positive impacts in our communities and to our stakeholders.

*"We are dedicated to build a sustainable future for our country and the environment, where every citizen can thrive and fulfill their dreams"*



# About Egyptian Propylene and Polypropylene

## Our Company

Egyptian Propylene & Polypropylene (EPP) is Egypt's and North Africa's largest and only integrated producer. EPP was established in 2005 by the late and renowned Egyptian businessman Mr. Farid Khamis, a pioneer in Egypt's carpet industry, who long served as the company's Chairman. Since our establishment, we have committed ourselves to providing the Egyptian and global markets with world-class polypropylene products and services. Additionally, we support local businesses with key import substitutes that position Egypt as a key global supplier across our geographic footprint.

EPP is strategically located in Egypt, with our production facility on the Mediterranean in the coastal city of Port Said, connecting Asia and Europe via the Suez Canal. Our facilities have an annual polypropylene production capacity of 350,000 metric tons. We produce propylene through propane dehydrogenation (PDH) using the STAR process technology licensed by Uhde — the first commercial use of the technology in the world. Our polypropylene plant uses LyondellBasell's leading Polypropylene Spheripol Technology to convert propylene to polypropylene.



## About Egyptian Propylene and Polypropylene

### Our Mission

To be the manufacturer and global supplier of choice for high-quality grade propylene and polypropylene products to best serve our global clients and stakeholders.

### Our Operations

EPP started production at its 350,000 MT/year polypropylene in 2010. The plant produces a wide range of polypropylene products of homopolymers, random copolymers, and copolymers suitable for a wide variety of applications and industries. The complex is composed of two process units with its supporting offsites and utilities. The Propane Dehydrogenation Unit utilizes UHDE's STAR Technology, while the Polypropylene Unit utilizes LyondellBasell's Spheripol process. The company also invested in its own jetty in 2018 to facilitate the import of cheaper propane gas as feedstock for its operations.



# Health, Safety and Environment Policy

The Management of Egyptian Propylene & Polypropylene (EPP) recognizes its employees as the company's most valuable assets. The company has therefore committed to abide by a policy of Prevention / Elimination of all undesirable incidents, which may result in loss of lives / injuries to personal or damage to property, through the company's diverse operations. Continual improvements in occupational safety, health and Environment performance will be achieved by abiding to set objectives, measuring performance and communicating results. Managements at all levels are highly committed to Safety, Health and Environmental performance of the company.

EPP invests in the successful implementation and continuous improvement of our comprehensive plans and initiatives below:

1. Integrate all business processes with Occupational Safety, Health and Environment aspects.
2. Evaluate risk of occupational injuries & illness and impact on environment and execute action to eliminate such risk.
3. Develop, implement and maintain a sustainable plan of OHSE-MS encompassing the best occupational Safety, Health and Environment practices at all workplaces.
4. Comply with all legal and industry requirements and constantly update them
5. Design, adopt, operate and maintain technology, plants and other facilities within the designated safety and environment criteria throughout their working life.
6. Set clear annual OHSE objectives and milestones for implementation and initiate periodic review for effectively achieving them.
7. Evaluate contractors, and service providers and emphasis placed on their obligation with OHSE requirements.
8. Prevent environmental risks, that negatively affect employees and stakeholders; including pollution prevention, sustainable resources usage, and to protect the surrounding environment.
9. Improve and implement environmental management systems (minimizing the usage - reuse - recycling); to improve the OHSEMS, and a commitment to continuously meet and exceed laws and new standards, or any other new requirements, through inspection and periodic review.
10. Commitment to provide safe working conditions; to prevent work injuries and occupational diseases.
11. Commitment to consultation and participation of EPP's workforce
12. Communicate OHSE policy to all employees, and engaging them to commit to raising HSE awareness.
13. Apply this policy and make it available to all stakeholders and interested parties.

## 1.347.650

### Safe man hours in 2023



## Certifications:

EPP's operations are certified both locally and internationally, a testament to its compliance and commitment to the highest global standards.



Our goal is to give our customers around the world the best products and services we can

## About This Report

Our first sustainability report includes activities in 2023 offering a comprehensive overview of our commitment to environmental stewardship, social responsibility, and circularity within the petrochemicals industry. As the largest and leading manufacturer in Egypt and North Africa, we recognize the importance of transparent communication regarding our sustainability practices and their impacts. This report highlights our ongoing efforts to minimize our environmental footprint through innovative technologies, resource efficiency, emission and waste reduction initiatives. Furthermore, we explore into our commitment developing a safe and inclusive workplace culture, promoting community engagement, and contributing to the well-being of society at large. Through hard data collection, analysis, and stakeholder engagement, this report serves as a testament to our dedication to sustainable development and continuous improvement in all aspects of our operations.

## Contact Details

We value your feedback and welcome your comments, suggestions and questions regarding this report. For more information or feedback, please email us at: [Info@epp-eg.com](mailto:Info@epp-eg.com)





EPP has introduced new strategies to offer a range of fully decarbonized products, integrating both environmental and financial sustainability. Recent projects and process optimizations play a key role in advancing the journey toward decarbonization.



## Emission

EPP is dedicated to minimize its environmental impact and follow industry best practices.

We closely monitor our annual emissions from all sources. Through hard monitoring and preventive maintenance, we ensure our equipment operate efficiently and minimize pollution risk. Protecting the Climate through the Use of Lighter, More Energy-Efficient Materials, Leading to Reduced Greenhouse Gas Emissions Throughout Product Lifecycles.



## Energy Efficiency

EPP is continuously seeking ways to improve efficiency and decrease unnecessary energy use, aiming to reduce reliance on fossil fuels. We are actively transitioning to cleaner energy sources.



## Water Treatment

EPP utilizes external wastewater treatment facilities to manage the wastewater generated by its operations. This includes both sanitary and industrial wastewater. The quality of wastewater is monitored through the industrial self-monitoring reporting system.



## Waste Management

EPP's waste management integrated into our operational systems. We are committed to strict initiatives to conserve resources through waste reduction and proper and responsible disposal.

# Sustainability / DE-Carbonization

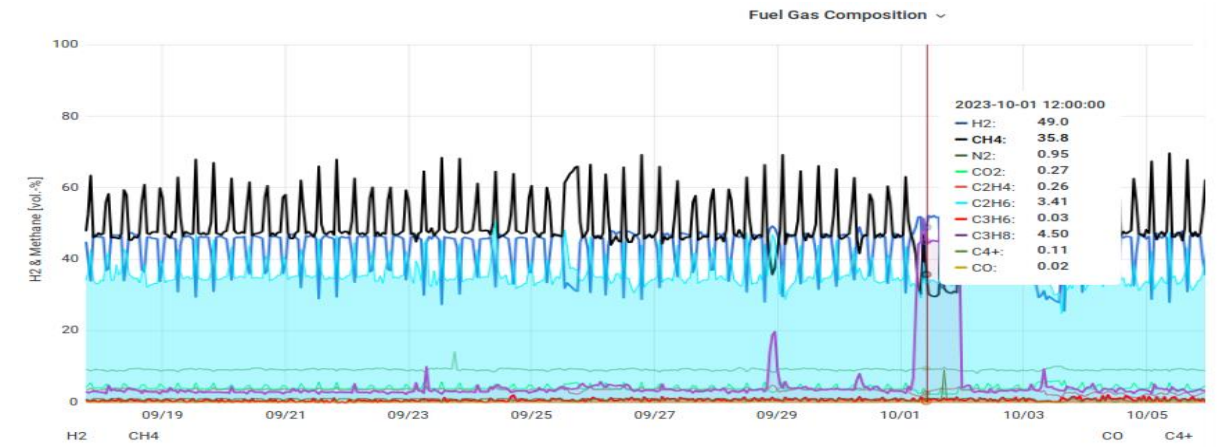
## Flare Gas Recovery

During EPP's scheduled December 2022 turnaround, safety valves have been adjusted to prevent gas releases to the flare, improving our de-carbonization by reducing CO<sub>2</sub> emissions of 41 MT (metric tons) per day resulting in 2023 reduction of 36800 MT CO<sub>2</sub> equivalent.



## Recovery of Unloading Compressor Purge Gas

An achievement of annual reduction of 9900 metric ton CO<sub>2</sub> equivalent by addressing the capture of released gases during unloading of propane feed charge through unloading compressors. As 275 MT from 12000 metric ton propane cargo were flared but currently recovered which amounts to a reduction 825 metric ton of CO<sub>2</sub> equivalent emission reduction per ship unloading monthly and overall annual reductions of 9900 metric ton CO<sub>2</sub> equivalent. The propane and propylene feed contain gases that do not condense and are usually released into the flare, which is planned to be redirected for reuse. About 70% of these gases will become part of the propylene product and propane recycle. The remaining gases is used as fuel, as this is seen as the best way to make the most of EPP resources.



## Catalyst waste material

The waste reduction of 59.65 metric ton from catalyst waste materials is disposed every Three years, and potentially extended to 6 years for disposal outside Egypt, primarily comprise heavy metal compounds such as aluminum, zinc, tin, calcium, and trace amounts of platinum (with recovery rates up to 92-96%). Efficient management and disposal practices are essential to minimize environmental impact and ensure compliance.

## Chilling Train

Utilization optimization of chilling train resulted in yearly reduction of 1864 metric ton of CO<sub>2</sub> equivalent by shutting down a 1 MW compressor for 6 months. The refrigeration package originally had three main compressors running at full load throughout 2023, underwent optimization. The optimization involved reducing one-third of the load by decreasing the cooling in one of the largest chillers.

## Recovery of Medium Pressure Steam

Improvement in the PDH steam system reduced CO<sub>2</sub> emissions by 430 metric ton annually.

The Heat Pump turbine was releasing 50 MT per hour of unnecessary steam in the atmosphere. This surplus steam led to an elevated production of Reverse Osmosis (RO) water and an increase in power consumption. To address these unnecessary releases, EPP implemented an optimization strategy involving Steam Dump Condenser (SDC) technology investment.



## BERTH Project

The berth project has shortened the propane unloading compressor's operation from 10 to 4 days, saving 7000 megawatt-hours (MWh) yearly. Specifically, the compressor, handles 12000 metric ton per batch at 150 metric ton per hour. The project executed in 2018, reduced the charging time to 4 days, cutting power consumption by 7000 MWh annually and lowering CO<sub>2</sub> emissions by 1631 metric ton CO<sub>2</sub> equivalent in 2023.

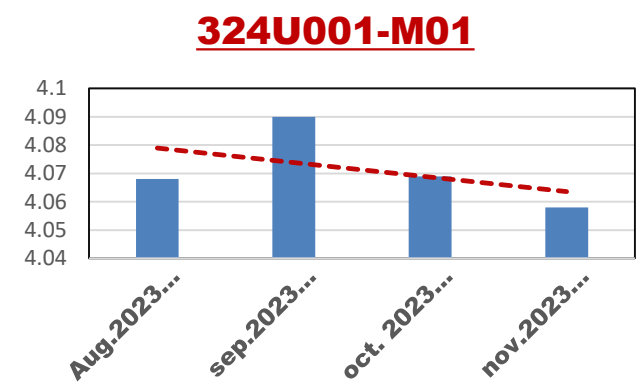
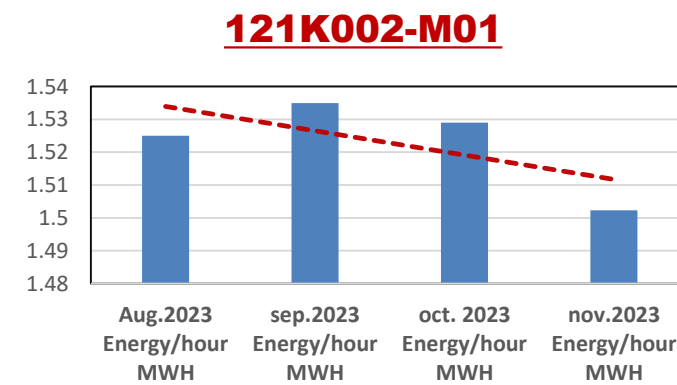


## Air Separation Unit (ASU) Power Reduction

Reducing the power consumption of the Air Separation Unit (ASU) by 7.5%, which is equal to saving 3150 megawatts per year and cutting down 734 metric ton of CO<sub>2</sub> equivalent annually. The ASU has MAC/PAC compressors, and most of the unit's electricity was being used by the MAC (Main Air Compressor). The MAC Recycle valve was frequently open, causing an electric overload. EPP managed to adjust the recycle valve and improve efficiency.

## Optimization of Regeneration Air Compressor

Improving the efficiency of the Regeneration Air Compressor by stopping a 1.4 MW compressor for 4 hours each day, leading to a yearly reduction of 3900 metric ton equivalent.



## Changing the fuel system of five forklifts from diesel to fuel gas

Transitioning the fuel system of five forklifts from diesel to fuel gas marks a significant step towards reducing our carbon footprint and promoting environmental sustainability within our operations. By embracing cleaner energy alternatives, we not only decrease harmful emissions but also contribute to the mitigation of air pollution and greenhouse gas emissions.



## Embracing Reusable Plastic Pallets for Sustainable Logistics

Replacing wooden pallets to reusable plastic pallets in transporting our world class product to our valuable customers is a responsible initiative for sustainability. Plastic pallets last longer, create less waste and do not need replacing as often. They are also resistant to damage from moisture and pests.

By using plastic pallets, we are more eco-friendly and contribute to saving trees.



## Corporate Social Responsibility (CSR)

CSR is at the heart of our corporate culture in EPP . We believe that businesses have a responsibility to positively impact society and the environment beyond their financial performance. Through our CSR initiatives, we aim to make a sustainable difference in the communities where we operate. This includes promoting environmental sustainability through initiatives such as reducing emissions, conserving natural resources, and investing in renewable energy. Additionally, we are committed to supporting social causes, such as education, healthcare, and poverty alleviation, to improve the quality of life for people in need. Our CSR efforts are not just about compliance; they are integral to our values and reflect our dedication to being a responsible corporate citizen in a global community.



- Increasing the number of families benefiting from monthly support by 50%, to reach 460 families.
- Supporting a larger number of medical centers with various devices, including 4 dialysis machines and a heart ultrasound machine.
- Introducing the provision of in-kind subsidies in the form of household electrical appliances to 55 families.
- Continuing support and development of 13 shelter institutions.
- Rewarding high school students for extra ordinary achievements.
- Provide 1,000 Ramadan cartons.



Sponsoring the talented and high-achieving individuals through Khamis social devopment institution is our duty and responsibility.



Providing support to medical centers with a range of equipment.



# Integrating Health and Sustainability

## Commitment to Employee Health and Well-being

In 2023, the Egyptian Propylene and Polypropylene (EPP) has implemented a comprehensive Medical Expenses Budget, demonstrating our dedication to the well-being of our employees and their families. This budget covers a wide spectrum of medical needs, including routine check-ups, specialized treatments, and access to essential medications. By prioritizing health and safety, we ensure that every individual within our company community can thrive in a supportive and healthy environment.

EPP allocated a total of 10,000,496 Egyptian pounds for the Medical Expenses Budget, addressing the healthcare needs of 757 employees and their families. Additionally, the family insurance cost amounted to 4,666,733 Egyptian pounds. In total, the expenditure on health and insurance reached 14,672,229 Egyptian pounds, reflecting our ongoing commitment to the health and well-being of our workforce.

Staff	
Staff headcount	757
Cost	10,000,496
Family	
Insured people	2,143
Cost	4,666,733
<b>Total Cost</b>	<b>14,672,229</b>

## Ramadan Celebrations

EPP hosted memorable Ramadan events in Cairo and Port Said, bringing together employees to celebrate, connect, and strengthen community bonds, highlighting the company's commitment to unity and inclusivity.



# Empowering Through Education: Our Training and Development Initiatives

Training and development play an essential role in the growth and success of any organization, and the Egyptian Propylene and Polypropylene Company (EPP) is no exception. By investing in continuous learning opportunities for its employees, EPP fosters a culture of innovation, excellence, and adaptability. These initiatives not only enhance individual skills and competencies but also contribute to the overall efficiency and competitiveness of the company. From leadership programs like the partnership with Dale Carnegie to specialized courses such as the “7 Habits of Highly Effective People” and civil defense training, EPP prioritizes the holistic development of its workforce. By equipping employees with the necessary knowledge and skills, EPP ensures they are well-prepared to tackle challenges, drive growth, and contribute to the company’s long-term success in the dynamic field of propylene and polypropylene production.

Course	Duration	Number of Attendees	Number of Days	Total Training Hours
Leadership Excellence	4 Months: July - October	94	4	2,914 Hours
The 7 Habits of Highly Effective People	2 Months: June – July	99	2	1,584 Hours
الحماية المدنية	4 Months: Oct - Jan	200	6	7,200 Hours



## Training and Development Initiatives: Leadership Development Program (Dale Carnegie)

Leadership development program (Dale Carnegie) EPP places a strong emphasis on training and development, as evidenced by its leadership development program in partnership with Dale Carnegie. Spanning four months, from July to October, the program caters to 94 attendees, comprising both managerial level staff and potential managers from various departments. This initiative underscores the company's commitment to nurturing talent and fostering growth across all levels of the organization, ensuring a skilled and empowered workforce poised for success in the dynamic field of propylene and polypropylene production.

Course	Duration	Number of Attendees	Number of Days	Total Training Hours
Leadership Excellence	4 Months Start: July End: October	94	4	2,914 Hours

### Participants

- 94 participants (Managerial level and Potential Managers)

This program is designed to enhance EPP Employees with the necessary leadership and management skills required for their growth and career progression within the company. Moreover, EPP focus on the development their employees and teaching them new tools as well as adding value and knowledge to them.

Department	Participant
Operations	70
Supply Chain	12
Finance	3
HR and Administration	6
IT	1
Legal	1
Commercial	1



# Training and Development Initiatives: Self and Business Development Program

In addition to the leadership development program, EPP provided another impactful training initiative in 2023: the "7 Habits of Highly Effective People." This self and business development program spanned two months, from June to July, with sessions held twice a week. A total of 99 attendees, all from managerial levels, participated in this enriching experience. By investing in programs that focus on personal and professional growth, EPP demonstrates its commitment to cultivating well-rounded leaders equipped with the skills necessary for success in today's competitive business landscape.

Course	Duration	Number of Attendees	Number of Days	Total Training Hours
The 7 Habits of Highly Effective People	2 Months: June – July	99	2	1,584 Hours

## Participants

- 99 participants (Managerial level)

Department	Participant
CEO Office	1
Admin Plant	1
QA	3
Commercial	1
Finance	12
HR & Administration	10
Internal Audit	4
Operations	41
QC	7
Supply Chain	18
Technical Office	1



## Training and Development Initiatives: Civil Defense Training

EPP organized a civil defense training course, running from October 2023 to January 2024, spanning six days. This comprehensive course aimed to equip 200 employees from various departments with essential knowledge and skills in civil defense preparedness and response. By prioritizing safety and emergency preparedness, EPP underscores its commitment to the well-being of its workforce and the surrounding community, ensuring a secure and resilient operational environment.

Course	Duration	Number of Attendees	Number of Days	Total Training Hours
Civil Defense	4 Months: Oct – Jan 24	200	6 Days	7,200 Hours

### Participants

- 200 from different departments

Legal Requirement to have employees trained

## Training and Development Initiatives: Summer Training

During the summer of 2023, EPP hosted a special training program. A member joined our commercial team, learning about market analysis, customer interactions through sales department . The experience was rewarding for everyone involved. Additionally, we welcomed several engineers to our plant, where they learned about safety, equipment maintenance, and production processes under the guidance of our experienced team. This hands-on experience provided them with valuable insights and practical skills. We enjoyed sharing our knowledge and hope they found the training as enriching as we did.



## Educational Engagement

On May 24, 2023, 22 students from Cairo University visited our EPP facility in Port Said, eager to learn. They explored the intricacies of EPP production, guided by our staff. Witnessing the journey from raw materials to final product assembly firsthand enhanced their understanding of industrial processes. This hands-on experience not only enriched their academic journey but also provided our company with the chance to engage with potential future talent. We look forward to potential partnerships and collaborations with academia as a result of this visit.



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