



# **Table of Contents**

01	About this Report
	About this Report
5.3	Leadership Messages
02	QAFCO at a Glance
	QAFCO's Profile
	Milestones and Achievements
	Economic Performance
	2024 ESG Highlights

### 03 Driving Sustainability Forward

QAFCO's Materiality Assessment	16
QAFCO's Sustainability Plan	18
QAFCO's Value Chain	27
QAFCO's Five Year Sustainability Plan	32
Sustainable Governance	33

### 04 Commitment to Sustainable Practices 38

Energy, GHG Emissions and Air Quality	39
Water Management	46
Waste Management	48
Biodiversity	50

### Empowering People, Enriching lives 51

Supply Chain	52
Customer Satisfaction	54
Health, Safety and Wellbeing	55
Economic Performance	58
Employment Practices	59
Empowering Communities	62

06	Appendix	65
$\top$	GRI Context Index	66
	Definitions of Material Topics	70
	ESG Data Tables	73
	Abbreviations	76

# **About this Report**

4

5

About this Report

01

Leadership Messages

# **About the Report**

This report highlights Qatar Fertiliser Company's (QAFCO) commitment to sustainability, detailing specific initiatives and achievements that reflect the company's dedication to environmental, social, and governance (ESG) principles. By integrating ESG practices into its operations, QAFCO aims to align its business strategies with sustainability goals.

Prepared in accordance with the Global Reporting Initiative (GRI) Standards, this report aims to provide an overview of QAFCO's ESG performance for 2024. It highlights the alignment of QAFCO's Sustainability Goals (QSGs) with the United Nations Sustainable Development Goals (UN SDGs), demonstrating QAFCO's commitment to sustainable growth that resonates with its internal and external stakeholders, including QatarEnergy and Industries Qatar.

#### **Reporting Boundary**

This report includes detailed data from QAFCO's operational sites, such as production facilities and administrative offices. The scope of this report covers all operations, which are solely located in Qatar. QAFCO also holds a 70% stake in the Gulf Formaldehyde Company (GFC) and fully owns the Qatar Melamine Company (QMC).

#### **Board Responsibility Statement**

The report underscores management's accountability by clearly defining the roles and responsibilities of key stakeholders, as well as the internal management and governance frameworks. This transparency strengthens accountability and fosters a culture of continuous improvement. QAFCO's dedication is evident in its proactive management and oversight of sustainable practices, and broader sustainability objectives. The Corporate Sustainability Department, in coordination with the wider business, develops the company's sustainability plan. The Board of Directors (BoD) then oversees its implementation.

#### **Design Motif Explanation**

The visual elements in this report are drawn from a minimal, geometric leaf motif. This design foundation inspired three core icons: a human symbolizing social impact, a scale representing balance and governance, and a wheat/tree form representing growth and environmental sustainability.



#### **Safe Harbor Statements**

QAFCO includes Safe Harbour Statements within its report to provide insight regarding anticipated performance, while emphasizing the consideration of evolving conditions as stakeholders interpret future expectations.

#### **Reporting Period and Cycle**

This annual ESG Report covers QAFCO's performance from January 1 to December 31, 2024, aligning with the company's fiscal year and annual financial report.

#### Feedback

QAFCO values stakeholder feedback and encourages suggestions and engagement through a dedicated channel at <u>esg@qafco.com.qa</u>. This commitment to transparency reflects QAFCO's dedication to continuous improvement and openness in its sustainability reporting.



# **Leadership Messages**

### Message from our Chairman

QAFCO is committed to creating value sustainably and, accordingly, continued its mission to contribute to global food security and mitigating its own impact on the environment.

The role of nitrogen fertilizers such as urea is essential for farmers to be able to grow enough food for the world's growing population. Achieving SDG-2, Zero Hunger, is a goal that is beyond a single company or organization and requires a collective effort.

However, QAFCO shall continue to support this goal through the production of urea, the world's dominant nitrogen fertilizer, for global markets. As the world's largest single site producer of ammonia and urea, QAFCO's reliable, highquality production supported global food security. QAFCO's efforts are focused on building long-term value within the industry, supporting Qatar's economy and sustainable local spending.

During 2024, QAFCO was honoured to be assigned to execute QatarEnergy's World-Class Urea Project on its behalf. The Project aims to increase Qatar's urea production capacity to more than 12 million tonnes per annum (mtpa) which would more than double the current capacity and make Qatar the world's largest urea exporter.

QAFCO also commenced production Diesel Exhaust Fluid (DEF) to local customers in 2024. DEF can help reduce emissions from diesel engines and support local import substitution. Additionally, QAFCO is proud to announce that, with the guidance from QatarEnergy, it has successfully completed Phase-1 of the European Carbon Border Adjustment Mechanism (CBAM) implementation on time. This involved reviewing the first draft of European guidelines on carbonintensive imports and identifying areas for improvement. QAFCO continues to invest in and build the capacities of its employees. The company is dedicated to their well-being by providing ongoing training, health and safety programs, and encouraging a positive work environment. QAFCO also maintains high standards of governance, ensuring transparency, accountability, and ethical practices in all its operations.

The company remains focused on addressing key risks and opportunities, taking action, and measuring the impact of its initiatives. Looking ahead, QAFCO is ready to continue making progress in sustainability, while also growing and contributing to Qatar's economy.

Ahmad Helal Al-Mohannadi Chairman QAFCO Board

# **Leadership Messages**

### Message from our CEO

QAFCO is committed to the safe, efficient and environmentally responsible operation of its assets to produce high-quality ammonia and urea for global markets. With a vision **to be the world's leading urea producer by 2030, driving towards a greener earth**, QAFCO is dedicated to integrating ESG principles and sustainable value-creation into all aspects of its operations.

QAFCO is pleased to highlight several key accomplishments in its sustainability journey. In 2024, the company produced 3.71 million metric tonnes of ammonia and 5.82 million metric tonnes of urea, providing essential nutrients for agriculture. Since 2021, QAFCO has reduced its overall greenhouse gas (GHG) emissions by 4.73%. These achievements are part of QAFCO's 2025–2029 sustainability plan, which is designed to meet its 15 QAFCO Sustainability Goals (QSGs). These efforts help reduce QAFCO's environmental impact and support the United Nations Sustainable Development Goals (UN SDGs), contributing to global food security.

That being said, QAFCO is aware that there is still much work to be done. Below are some of the key achievements of 2024 that deserve highlighting.

#### **Progress in Sustainability Efforts:**

In 2024, QAFCO made notable progress in environmental sustainability through key investments and strategic initiatives. The QAFCO 7 Project reached 70.93% completion, showcasing advancements in engineering, procurement, construction, and commissioning.

QAFCO's 5-6 is currently a Zero Liquid Discharge operation. The QAFCO 1-4 site Zero Liquid Discharge (ZLD) project at the QAFCO 1-4 site is on track for completion in 4th Quarter 2025. The completion of this project for QAFCO 1-4 site shall eliminate all liquid discharge from QAFCO.

QAFCO also progressed with the Carbon Border Adjustment Mechanism (CBAM), completing Phase-1 and forming a working group, with Phase-2 set to begin in 2025. Additionally, QAFCO commenced sale of Diesel Exhaust Fluid (DEF) domestically.

#### Abdulrahman M. Al-Suwaidi MD & CEO OAFCO

#### **Driving Responsible Growth:**

QAFCO's governance achievements are aligned with QatarEnergy's guidance for the sector, focusing on responsible growth and long-term sustainability. Central to QAFCO's strategy are 15 QAFCO Sustainability Goals (QSGs), aligned with 11 UN SDGs, outlining clear targets and initiatives for long-term sustainability.

#### **Strengthening Economic Impact:**

While the road ahead may present challenges, QAFCO is committed to working with technology providers to introduce innovative solutions which can improve its operations.

The dedication of QAFCO's team, the guidance of its leadership, and the trust of its shareholders have been essential to QAFCO's progress. Their effort enables QAFCO to navigate challenges and seize opportunities for growth.

Thank you for your support and commitment.

### **QAFCO at a Glance**

8

9

10

11

QAFCO's Profile Milestones and Achievements Economic Performance 2024 ESG Highlights

# **QAFCO's Profile**

QAFCO's sustained growth, over more than half a century, is a testament to its commitment to value creation, innovation and excellence, solidifying its reputation as a trusted global supplier of high-quality urea. Since its founding in 1969, QAFCO has been a cornerstone of Qatar's industrial landscape, playing an important role in the nation's economy. As the world's largest single-site exporter of urea, QAFCO contributes to Qatar's ambitious vision for industrial growth.

From a single ammonia plant to a world-class ammonia and urea complex, QAFCO's evolution has positioned Qatar as a major player in the global urea market. QAFCO is fully owned by Industries Qatar (IQ) and strategically aligned with QatarEnergy in a partnership that highlights QAFCO's integral role in Qatar's industrial strategy, providing enhanced resource access and strengthening its global presence. Beyond ammonia and urea, QAFCO has expanded into melamine and urea formaldehyde production, with a 70% stake in Gulf Formaldehyde Company (GFC) and full ownership of Qatar Melamine Company (QMC).

As part of its efforts to enhance sustainability, QAFCO is undertaking the Blue Ammonia Project, which includes the development of the QAFCO-7 facility. Set to be the world's largest blue ammonia plant, this facility will be located in Mesaieed Industrial City and is expected to start operations by the second quarter of 2026. The Blue Ammonia Project consists of QAFCO-7, the ammonia plant which belongs to and is operated by QAFCO, and the carbon capture and storage (CCS) project, which belongs to QatarEnergy and is operated by QAFCO on its behalf. Together, QAFCO-7 and the CCS project will sequester approximately **1.5 million** tonnes of CO<sub>2</sub> annually.

### **Mission, Vision and Values**

QAFCO's journey is rooted in a mission, vision, and values that emphasize the company's dedication to sustainability, excellence, and making a positive global impact. The company operates with a mission to produce high-quality ammonia and urea, safely and efficiently, while maintaining a focus on sustainability.

### **Mission:**

QAFCO aims to operate its assets safely, efficiently and in an environmentally responsible manner to produce high-quality ammonia and urea.

### Vision:

Be the world's leading urea producer by 2030, Driving towards a greener earth.



Values:

QAFCO is driven by four core values:

**Excellence:** Continuous improvement to enhance efficiency

Safety: Committed to safety in all aspects of life

Integrity: Actions based on transparency, honesty, and fairness

Teamwork: Respect, empower, and work together as one family to achieve shared goals



# **Milestones and Achievements**

#### **Journey Begins**

QAFCO was established as Qatar's first large-scale petrochemical initiative, setting the stage for the country's industrial diversification.

#### **Expanding Horizons**

QAFCO expanded its operations with QAFCO-2 in 1979 and QAFCO-3 in 1997, significantly increasing production capacity.

#### **Reaching New Heights**

2012: QAFCO-6 inaugurated.

**2019**: QAFCO marks a golden milestone – 50 years since its establishment in 1969, reflecting on its journey and long-standing contribution to Qatar's fertilizer industry.

### 1969

### 1979-1997

### 2012-19

### 1973

#### **First Fertiliser Milestone**

QAFCO'S first fertilizer plant, QAFCO-1 began production, laying the foundation for future growth.

#### **Diversification and Innovation**

2003-11

**2003:** GFC's formation as a new subsidiary diversified QAFCO's portfolio.

2004: QAFCO-4 was inaugurated.

**2011:** QMC was incorporated and QAFCO-5 was launched.

### 2020-26

#### **Current Years & Forward**

**2020:** QAFCO became a 100% subsidiary of IQ, and acquired 100% ownership of QMC.

**2022:** QAFCO 7 Project – the world's largest 'Blue Ammonia' initiative – announced, with operations expected to start in 2026.

**2024:** QatarEnergy appointed QAFCO to execute the Urea Expansion Project on its behalf, the project will double Qatar's urea production capacity making Qatar the world's largest exporter of urea.

# **Economic Performance**

QAFCO is committed to producing high-quality fertilizers and creating value for its stakeholders, including shareholders, customers, and farmers. In 2024, QAFCO achieved a new record for urea exports of **5,694,704 MT**, surpassing their previous record of 5,688,632 MT set in 2022. Additionally, QAFCO reached its highest daily export capacity for prilled bag urea, setting a new record of **3,348.65 MT**, surpassing the previous record of 3,318.85 MT from 2010. The following are highlights of QAFCO's economic performance in 2024:

Direct economic value generated **QAR 7.3 billion** 

Total wages and benefits provided to employees

QAR 675.7 million

Total economic value distributed



Taxes to governments

QAR 742.2 million

# 2024 ESG Highlights - Environment

#### **QAFCO 7 Progress**

In 2024, the QAFCO 7 Project achieved an overall progress of 71%, with significant milestones in engineering, procurement, and construction phases. The project successfully completed critical safety and efficiency tests, installed major equipment, and made substantial progress in infrastructure development.

#### **Transforming Effluents into Resources** through the ZLD Project

QAFCO's ZLD Project at the QAFCO 1-4 site will recover 142 m<sup>3</sup>/hr of effluents, producing 129 m<sup>3</sup>/hr of demineralized water and 12 m<sup>3</sup>/hr of irrigation water. The construction of the ZLD began in 2023 and has made significant progress, with completion on track for O4 2025.

#### **CEMS Implementation**

In 2024, QAFCO installed 21 Continuous Emission Monitoring Systems (CEMS) units across its plants (QAFCO 1-6). These units monitor Sulfur Dioxide (SO<sub>2</sub>), Nitrogen Oxides (NOx), and ammonia slip, ensuring regulatory compliance, monitoring plant performance, and assessing environmental impact. The implementation of CEMS contributes to QAFCO's sustainability goals by providing accurate, real-time data on emissions. This enables better decision-making and effective environmental impact mitigation.



#### **CBAM Implementation**

Initiated in 2023 with guidance from QatarEnergy, this project aims to ensure compliance with European regulations on carbon-intensive imports. In 2024, QAFCO completed Phase-1 of the EU Carbon Border Adjustment Mechanism (CBAM) implementation, which included reviewing the standard's first draft, identifying gaps, and establishing a CBAM working group. QAFCO submitted its first CBAM report to QE in 2023 and the second in 2024. Phase-2, which starts in the end of 2024, will involve a detailed gap analysis and action plan for CBAM.



#### **Diesel Exhaust Fluid Production and** Sales

In 2024, QAFCO began selling Diesel Exhaust Fluid (DEF) to two local customers, following approval from the Ministry of State for Energy Affairs. DEF is a 32.5% urea solution that reduces emissions from diesel engines. This initiative supports import substitution by leveraging Qatari natural gas and reduces NO<sub>x</sub> emissions by up to **90%**.



#### **Energy Consumption Minimization**

In 2024, QAFCO's implementation of an Advanced Process Control (APC) system at ammonia 3, 4, 5, and 6 plants led to an incremental production of 28.5 MT/d and a reduction of **0.2 GJ/MT** in specific energy consumption.



# 2024 ESG Highlights - Environment

#### **Environmental Index Achievement**

In 2024, QAFCO achieved a **98%** Environmental Index, by successfully controlling two sources of its wastewater effluent to meet legal requirements. This reflects QAFCO's compliance with Qatar's environmental regulations, which are part of the country's broader efforts to improve its overall environmental performance.

#### **Carbon Reduction Milestone**

As part of its Technical Road Map Projects and sustainability plan, QAFCO has focused on reducing carbon emissions from its facilities. In 2024, QAFCO successfully reduced its greenhouse gas emissions by **56,808** tonnes of CO<sub>2</sub> (eq) compared to 2023. These results reflect the direct impact of the projects initiated under the roadmap.

#### **Sustainable Farming**

In 2024, QAFCO provided **90** free irrigation water analyses to local farmers, promoting sustainable farming practices and enhancing water-use efficiency. This initiative supports Qatar's goals of reducing food import dependency and building a self-sufficient agri-food sector under Qatar National Vision 2030.



#### **Qatarization Goals**

QAFCO achieved a Qatarization rate of **25.09%**.

#### Technical Road Map Project (QTRM)

In 2024, QAFCO's updated Technical Road Map Project (QTRM) focused on improving sustainability and efficiency. Achievements included reducing carbon emissions, optimizing energy use, and upgrading technologies like low NO<sub>x</sub> burners and electric motors in ammonia plants.





# 2024 ESG Highlights - Social

#### **Education and Career Fairs**

In 2024, QAFCO participated in career fairs, engaging with over **500 students** to provide guidance on career opportunities in the fertilizer industry.

#### **First Housing Town Hall**

Launched in 2024, the First Housing Town Hall enhanced communication and fostered a sense of community among employees living in QAFCO's housing facilities. The event provided a platform for employees to voice concerns, share feedback, and engage with leadership, significantly improving communication and strengthening community ties. Employees' needs and expectations were communicated, and QAFCO identified actions to close gaps.



# 2024 ESG Highlights - Governance

### Procurement Budget Spent on Local Suppliers

In 2024, **94.91%** of QAFCO's procurement spending was allocated to local suppliers, up from **92.32%** in 2023. This increase highlights QAFCO's growing support for the local economy.

#### **Code of Conduct Compliance**

QAFCO has zero tolerance to any form of corruption, fraud, or trading in influence. Notably, QAFCO reported **0** corruption incidents in 2024.

#### **Excellence in Sustainability Award**

In 2024, QAFCO received the Excellence in Sustainability Award during the 5th Gulf Petrochemicals and Chemicals Association (GPCA) Supply Chain Awards. This award recognizes QAFCO's commitment to sustainable practices, environmental responsibility, and resource efficiency, setting benchmarks in advancing sustainability goals.



#### **Process Safety Training**

In 2024, QAFCO conducted a series of Process Safety (PS) Training sessions, including Layer of Protection Analysis (LOPA), Management of Change (MOC), Process Hazard Analysis (PHA), and Pre-Startup Safety Review (PSSR), with **116 employees** completing LOPA training and **166 employees** completing MOC, PHA, and PSSR training.



# 03

# Driving Sustainability Forward

QAFCO's Materiality Assessment	16
QAFCO's Sustainability Plan	18
QAFCO's Value Chain	27
QAFCO's Five Year Sustainability Plan	32
Sustainable Governance	33

# **QAFCO's Materiality Assessment**

### **Stakeholder Engagements**

In 2022, QAFCO conducted a materiality assessment through surveys and stakeholder engagement meetings to understand the priorities of both internal and external stakeholders. Internal stakeholders included key departments within QAFCO, while external stakeholders comprised departments from QatarEnergy, Muntajat, and Industries Qatar, totaling 30 departments and 93 respondents.

Building on this, in 2023, QAFCO held over 18 meetings with stakeholders across key departments to re-evaluate and update the material topics. These updated topics were aligned with external stakeholders from QatarEnergy.

In 2024, QAFCO leveraged the outcomes of the materiality assessments conducted in 2022 and 2023 to ensure the company focuses on the most impactful ESG topics for its operations and stakeholders.

#### **QAFCO's Materiality Process**

QAFCO defines material topics as key ESG topics that are evaluated and prioritized according to their impact on the business and stakeholders. To ensure QAFCO's sustainability priorities align with evolving stakeholder expectations and industry best practices, the materiality assessment is updated every 2-3 years. Based on the 2022 and 2023 approach, QAFCO followed the following steps to determine their materiality topics:

### Materiality Approach (Steps)

#### Identify actual and potential impacts

For 2024, QAFCO we utilized the material topics identified and assessed in 2023. The peer benchmarking exercise, analysis of the operating environment, and regulatory considerations conducted in 2023 were deemed sufficient for the current year. Topics were mapped across QAFCO's value chain and aligned with international standards such as the GRI and UN SDGs.

### Prioritize the most significant impacts for reporting

QAFCO developed a scoring methodology using a 1 to 5 rating scale for various criteria. Business impact focused on Risk and Likelihood, while stakeholder impact considered Scale, Scope, Irremediability, Severity, and Likelihood. Topics were categorized as 'moderate,' 'high,' or 'critical.'

#### Integration

Validated material topics were integrated into QAFCO's sustainability approach and reporting framework. These topics were incorporated into the Sustainability Plan to address ESG concerns and ensure continuous improvement.

#### **Understand the Organization's Context**

01

02

03

04

05

06

Meetings with internal stakeholders from key departments were held to understand QAFCO's organizational context and key material topics.

#### Assess the significance of impacts

Material topics were prioritized based on their significance to QAFCO's business and stakeholders. Insights from stakeholder meetings were used to rank topics according to their impact on strategic objectives and evolving stakeholder expectations.

#### Validation and approval

Prioritized topics were validated through internal reviews and discussions with senior management, and the final list was approved by the Board of Directors (BoD).

# **QAFCO's Materiality Assessment**

### **Materiality Assessment Results**

In 2024, QAFCO continued to utilize the materiality assessment results from 2023. The comprehensive evaluation conducted in 2023 provided a solid foundation for identifying and prioritizing key material topics for the current year. As a result, no new topics were added, and the focus remained on the previously identified material topics. Based on the outcomes of a materiality assessment, QAFCO developed its sustainability plan by aligning the UN SDGs with the company's core ESG material topics.

Based on the materiality assessment exercise conducted, the following material topics were identified and divided into tiers:



For a detailed understanding of QAFCO's approach and the initiatives undertaken in 2024 to manage material topics, including associated risks and opportunities, please refer to the specific sections in this report. These sections offer an in-depth account of QAFCO's strategies and actions aligned with its ESG commitments.

QAFCO is committed to sustainability, recognizing the importance of environmental, social, and economic impacts. As the world's largest single-site producer of ammonia and urea, QAFCO plays an important role in global food security by supplying essential agrinutrients.

QAFCO's ESG approach for 2024 emphasizes key UN SDGs, detailing the company's sustainability goals, metrics, targets, projects, and initiatives. The Sustainability Plan, generated from the materiality assessment results, aligns with the UN SDGs and materiality topics identified as Critical, High, and Moderate.

QAFCO established 15 QAFCO Sustainability Goals (QSG) that align with 11 UN SDGs. This alignment ensures that QAFCO addresses the most pressing ESG concerns, driving continuous improvement and sustainable growth.

### Aligning QAFCO's Sustainability Plan to the UN SDGs and to its Material Topics

The table below illustrates how QAFCO's ESG plan aligns with the UN SDGs and materiality topics.





QAFCO aims to reduce its environmental impact by reducing Scope 1 GHG emissions from process and combustion sources, as well as SO<sub>2</sub> and NOx emissions. QAFCO has set a target to reduce its GHG intensity by 15% by 2035 against the 2021 baseline.

#### **QAFCO's Contributions**

The company is implementing the QAFCO Technical Roadmap (QTRM) approach which includes projects that aim to enhance production, improve energy efficiency and reduce GHG emissions.

QAFCO is committed to preventing fugitive emissions. The company proactively identifies fugitive emission sources to reduce total fugitives.

#### **QAFCO's Contributions**

Current initiatives include monitoring and addressing sources of fugitive emissions, phasing out Ozone-Depleting Substances (ODS) per the Montreal Protocol, and preparing for the Kigali Amendment to phase down hydrochlorofluorocarbons (HCFCs).

Moreover, in October 2024, QAFCO began DEF sales to two local customers, following approval in March 2024. DEF use in Qatar is expected to reduce NO<sub>x</sub> emissions by up to 90%. Additionally, it will reduce dependency on imports.

**Material Topic Mapping Emissions and Energy Management**  **Material Topic Mapping** 

Emissions and Energy Management



#### QSG 3 – Reduce Operations Water Consumption & Eliminate Water Discharge to Sea

QAFCO is improving the utilization of water as a resource and aims to achieve zero liquid discharge to sea by 2025.

#### **QAFCO's Contributions**

The Zero Liquid Discharge (ZLD) Project will focus on finalizing its goal of recovering 142 m<sup>3</sup>/hr of effluents, producing 129 m<sup>3</sup>/hr of demineralized water and 12 m<sup>3</sup>/hr of irrigation water. This initiative aims to ensure compliance with the Ministry of Environment and Climate Change (MoECC) regulations and enhance environmental sustainability at the QAFCO 1-4 site.

#### QSG 4 - Restore Marine Life

QAFCO aims to support the restoration of biodiversity by making biodiversity a priority for the future.

#### **QAFCO's Contributions**

QAFCO is committed to minimizing its ecological footprint through scientific research and strategic initiatives. Recognizing biodiversity as a potential risk, the company collaborates with universities and conducts environmental studies to guide its conservation efforts.

Biodiversity



#### QSG 5 – Ensure Plant Efficiency

QAFCO is enhancing energy efficiency by replacing the AVON system, upgrading the ammonia synthesis converter cartridge, and electrifying the Ammonia 1 & 2 revamp. While the options for Ammonia 1 & 2 are still under evaluation, the goal is to improve energy consumption efficiency (GJ/MT Ammonia) and achieve a gas consumption factor improvement of 1.16 by 2030.

#### **QAFCO's Contributions**

The AVON replacement Project aims to enhance the efficiency of the urea 2 Plant CO<sub>2</sub> compressor train by replacing the AVON Gas Turbine with a more reliable and efficient electric motor. In 2024, the project improved total energy consumption for urea 2 plant, reducing it by 1.14 GJ/MT.

#### QSG 6 - Improve Waste Management

QAFCO aims to improve waste management and recycling.

#### **QAFCO's Contributions**

The company continuously improves its waste management and treatment processes to minimize the need for disposal and maximize reuse and recycling. QAFCO's efforts align with regulatory requirements, and all non-hazardous waste shipments are reported to the Ministry of Environment and Climate Change regularly.

In 2024, QAFCO implemented several initiatives to reduce waste. The Smart Inventory Management Initiative minimized waste by optimizing stock levels and improving inventory accuracy, which reduced overstocking and waste. The Digital Asset Lifecycle Information Management optimized asset performance and energy use, reducing maintenance downtime and waste.

**Material Topic Mapping** 

**Emissions and Energy Management** 

Waste Management



#### **QSG 7 – Develop Higher Efficiency Fertilizers**

QAFCO aims to assess higher efficiency fertilizers to improve nutrient use efficiency.

#### **QAFCO's Contributions**

Fertilizers are important for mitigating biodiversity impact and preventing soil degradation. QAFCO is assessing the different operations of Enhanced Efficiency Fertilizers (EEF) with biodegradable coatings. The study is expected to be completed by 2025 and aims to quide further EEF development.

#### OSG 8 - Restore Oatar's Life on Land

QAFCO aims to increase biodiversity conservation initiatives for the State of Qatar's life on land. The company aims to explore and identify potential opportunities in 2025.

#### **QAFCO's Contributions**

QAFCO is working to restore Qatar's land by developing fertilizers that improve nutrient use efficiency and reduce nitrogen pollution. These efforts support sustainable agriculture and help preserve plant habitats. The company also collaborates with universities on environmental studies to align its operations with conservation goals. Through scientific research and targeted initiatives, QAFCO aims to contribute to the Global Biodiversity Framework and support the preservation of Qatar's natural habitats.

**Biodiversity** 

8 DECENT WORK AND ECONOMIC GROWTH

7 AFFORDABLE AND

# **QAFCO's Sustainability Plan**

4 QUALITY

**GOOD HEALTH** 

AND WELL-BEING



QAFCO strives to ensure an injury-free workplace, healthy staff, and secure assets. The company achieved a total lost time incident rate (LTIR) of **0** and aims to maintain this target.

#### **QAFCO's Contributions**

2 ZERO HUNGER

QAFCO integrates HSE practices into its culture, ensuring a safe and sustainable environment. The company enhances safety and efficiency through digital initiatives, training, and process safety measures, while continuously monitoring HSE performance and learning from incidents. In 2024, QAFCO achieved a Process Safety Total Incident Rate of 0 and a Total Recordable Incident Rate of 0.

#### QSG 9 – Promote Sustainable Infrastructure

13 CLIMATE ACTION

14 LIFE BELOW WATER 15 LIFE ON LAND

12 RESPONSIBLE CONSUMPTION

SUSTAINABLE CITIES

AND COMMUNITIES

QAFCO is committed to optimizing resource use in our buildings, aiming to reduce electricity consumption from **19,386** MWh in 2024 to **17,677** MWh by 2029, and water consumption from **21,463** cubic meters in 2024 to **17,378** cubic meters by 2029.

#### **QAFCO's Contributions**

QAFCO is dedicated to improving energy efficiency by identifying and addressing areas to reduce energy and water consumption. They initiate projects to seize these opportunities. Additionally, QAFCO integrates sustainable practices into their operations, increasing green spaces, reducing water usage, and ensuring cleaner air for employees on its premises. QAFCO also has a Green Building Initiative, which involves renovating and modifying buildings during the routine maintenance.

Emissions and Energy Management



#### QSG 12 - Support Qatar's Food Security

QAFCO collaborates with agriculture, academic, and governmental sectors to address food security in Qatar.

#### **QAFCO's Contributions**

In 2024, QAFCO advanced sustainable agricultural practices and food security in Qatar through strategic collaborations and initiatives.

This approach has supported universities receiving grants from the Qatar National Research Fund on projects to develop smart agricultural technologies and improve crop productivity.

QAFCO also provided free irrigation water analyses to local farmers and conducted training sessions on efficient farming practices. These efforts support Qatar's national food security goals while focusing on environmental sustainability.

#### QSG 11 - Strengthen Qatar's Academic Sector

QAFCO supports Qatar's academic sector by offering development opportunities, promoting research, and nurturing Qatari talent. QAFCO signed a Memorandum of Understanding (MoU) in 2023 with the International Fertilizer Association's Sustainable Fertilizer Academy for virtual training, targeted for completion in 2025.

#### **QAFCO's Contributions**

In 2024, QAFCO strengthened Qatar's academic sector through various initiatives. These included launching a Talent Development Program, providing internships and sponsorships through MoUs with colleges and universities like Qatar University, and participating in education and career fairs. Additionally, QAFCO organized activities to promote environmental education and sustainable agriculture.



#### **QAFCO's Contributions**

In 2024, QAFCO enhanced its sustainable governance by improving transparency and accountability. Key committees, including the newly established Sustainability Committee, oversee the sustainability agenda and ensure alignment with corporate objectives.



#### QSG 14 - Support Qatar's Economy

QAFCO aims to develop its Qatari employees and nurture their talent to ensure the availability and readiness of future leaders for the organization. QAFCO plans to achieve a Qatarization rate of **28.9%** by 2029.

#### **QAFCO's Contributions**

QAFCO is committed to driving sustainable economic growth in Qatar by offering knowledge transfer revenue and career opportunities for Qatari Nationals. In 2024, QAFCO achieved a Qatarization rate of **25.09%** against a target of **25.70%**. QAFCO focused on attracting, developing, and retaining Qatari talent through recruitment campaigns, sponsorships, and on-the-job development programs.

#### QSG 15 - Promote Sustainable Local Spending

13 CLIMATE

QAFCO significantly contributes to Qatar's economy through its local procurement strategies and community investments. In 2024, QAFCO's local procurement spending stood at 94.91%, surpassing its 2029 goal of 94%.

14 LIFE BELOW WATER 15 LIFE ON LAND

#### **QAFCO's Contributions**

11 SUSTAINABLE CITIES AND COMMUNITIES 12 RESPONSIBLE CONSUMPTION

QAFCO is aligning with QatarEnergy to ensure local spending by requiring In Country Value (ICV) for competitive tenders and ensuring a standard of living and work for contractors through the Contractor Welfare Procedure, which involves random audits.

Responsible Supply Chain Management

### **Environmental and Social Impacts**

The following graph presents QAFCO's entire value chain identifying the internal and external stakeholders within the remit of this assessment. It demonstrates where the material topics intersect with these stakeholders and outlines the resulting positive and negative environmental and societal impacts.



#### **01 Raw Material Procurement**

#### Impacts on Environmental and Social Receivers

#### **Environment**

Marine disruptions, air quality degradation.

#### Social

- Economic development, wealth, job creation.
- Interference with livelihood marine activities.

#### **02 Production**

#### Impacts on Environmental and Social Receivers

#### **Environment**

- Energy efficiency, emission control.
- Emissions, resource use.

#### Social

- Economic growth, job creation.
- Workers safety and health concerns.

#### **Types of Impact**

QAFCO obtains natural gas, the main ingredient for ammonia production, from QatarEnergy.

#### **Impacted Stakeholders**

QatarEnergy

#### **Types of Impact**

QAFCO's production capacity is sustained by six ammonia and urea plants, with essential steam and other utilities provided by the QAFCO Utility Plant. Additionally, power and water are supplied by KAHRAMAA.

QAFCO's production process begins with natural gas being converted into ammonia in its ammonia plants. This ammonia is then transformed into urea, which is the main product. A portion of the urea is used by Qatar Melamine Company to produce melamine, while another portion is directed to Urea Formaldehyde Concentrate (UFC) plants. The Gulf Formaldehyde Company produces UFC, which is crucial for making urea and is also used to produce formaldehyde for various industrial applications. Additionally, QAFCO produces aqueous ammonia, which is used primarily for nitrogen oxide (NO<sub>x</sub>) reduction.

Energy management prioritizes efficiency and heat recovery to reduce environmental impact, while advanced emission control technologies minimize greenhouse gases and pollutants.

#### **Impacted Stakeholders**

- Employees (specifically technicians and engineers)
- QMC
- GFC



### **03 Quality Control**

#### Impacts on Environmental and Social Receivers

#### **Environment**

- Product safety and compliance.
- Increased time and resource use.

#### Social

- High-quality products, consumer trust.
- Failure to comply with quality standards may lead to potential reputational damage, in adherence of the relevant laws and regulations.

### **04 Packaging and Storage**

#### Impacts on Environmental and Social Receivers

#### **Environment**

- Use of high-quality material.
- Waste generation.

#### Social

- Safety standards, job creation.
- Potential safety risks for workers in loading areas.

#### **Types of Impact**

QAFCO implements quality control measures throughout the production process to ensure their products meet international standards.

#### **Impacted Stakeholders**

- Employees (specifically Quality Control for the final product is conducted by Laboratory Section)
- Regulatory bodies
- Surveyors
- Customers

#### **Types of Impact**

Most of the finished products are sold and stored in bulk until distribution, with only 3.13% being sold in bags.

#### **Impacted Stakeholders**

- Employees
- Suppliers
- Customers





#### **05 Distribution**

#### Impacts on Environmental and Social Receivers

#### **Environment**

- Efficient logistics to reduce overall fuel consumption and emissions.
- Emissions from transportation, risk of spills.

#### Social

- Job creation, economic growth.
- Health risks due to transportation emissions.

#### **Types of Impact**

Products are transported to domestic and international markets using ships and trucks. QatarEnergy is responsible for selling QAFCO's products through distributors.

#### **Impacted Stakeholders**

- QatarEnergy
- Shipping Companies
- Customers



### 06 Waste Management and Water Treatment

#### Impacts on Environmental and Social Receivers

#### **Environment**

- Proper disposal of hazardous waste, recycling efforts, compliance with regulations.
- Energy-intensive, residual waste.

#### Social

- Community health and safety.
- Operational risk from handling and treatment of waste.

#### **Types of Impact**

The Mesaieed Industrial City (MIC) Hazardous Waste Treatment Center manages and treats hazardous waste generated by QAFCO's operations. Additionally, QAFCO treats wastewater before its release.

#### **Impacted Stakeholders**

- Environment Team
- Regulatory Bodies
- Community
- MIC



#### **07 End Users**

#### Impacts on Environmental and Social Receivers

#### **Environment**

- Agricultural efficiency, industrial applications.
- Potential water pollution, air pollution, GHG emissions, soil degradation.

#### Social

- Food security, economic growth.
- Health risks on communities.

#### **Types of Impact**

Ammonia and urea are used in agriculture as fertilizers, and in various industrial applications. Melamine produced by QAFCO is used in the production of laminates, adhesives, and other industrial products. Additionally, QAFCO produces aqueous ammonia, which is primarily used for nitrogen oxide (NO<sub>x</sub>) reduction, and urea formaldehyde concentrate, which is an additive used to the urea product to improve its strength.

#### **Impacted Stakeholders**

- Customers
- QatarEnergy
- Industries Qatar

#### **08 Farmers stage**

#### Impacts on Environmental and Social Receivers

#### Environment

- Improved crop yields, efficient use of fertilizers.
- Potential runoff leading to water pollution.

#### Social

- Increased agricultural productivity, food security.
- Health risks from improper handling of fertilizers.

#### **Types of Impact**

Nitrogen fertilizers play a critical role in global food production, with estimates indicating that they are essential for feeding nearly half of the world's population. Farmers worldwide rely on QAFCO's highquality fertilizers to enhance crop yields, ensuring food security for millions. By providing essential nutrients to plants, these fertilizers support sustainable agricultural practices and help meet the growing demand for food. However, responsible usage is crucial, as improper application can pose environmental and health risks. QAFCO remains committed to promoting best practices in fertilizer use to maximize benefits while minimizing potential impacts.

#### **Impacted Stakeholders**

- Farmers
- Local Communities





# **QAFCO's Five Year Sustainability Plan**

#### Key focus areas from 2025 to 2029

- Reducing greenhouse gas emissions
- Improving air quality
- Managing water consumption and discharge
- Restoring marine life
- Enhancing plant efficiency
- Managing waste
- Develop higher efficiency fertilizers
- Restoring life on land in Qatar
- Promoting sustainable infrastructure
- Ensuring health, safety, and security
- Strengthening the academic sector
- Securing food supplies
- Improving corporate governance
- Supporting Qatar's economy
- Encouraging sustainable local spending

This plan addresses key areas such as energy and emissions management, product stewardship, health, safety, and wellbeing. QAFCO is mobilizing resources across technology, human resources, capital, and financial investments to achieve these goals, ensuring that every department contributes to the broader sustainability vision. With well-defined targets, actionable initiatives, and strong enablers, QAFCO integrates sustainability into every aspect of its business model.

An assessment evaluated the UN SDGs based on impact and relevance to the organization and stakeholders. The methodology involved ranking the UN SDGs based on these criteria, considering both relevance and impact, and categorizing them into five levels: critical, high, moderate, minimal, and negligible.



#### Ranking for the SDGs adopted by QAFCO

### Importance Ranking



### **Sustainable Governance**

To ensure the continued success and improvement of the Sustainability plan, QAFCO is committed to enhanced transparency and accountability to its shareholders and stakeholders, as part of a policy of sustainable corporate governance.

QAFCO's governance Bodies and Committees are comprised of:



QAFCO understands that engaging all levels of the organization is vital for the governance and execution of the sustainability plan and the sustainability of the organization. To ensure this engagement, the company refined its governance framework to structure how sustainability is overseen throughout the organization.

### **Sustainability Governance**

Industries Qatar

**Board of Directors (BoD)** 

**QAFCO Executive Management** 

**Corporate Sustainability Team** 

QAFCO's Sustainability Plan governance involves all organizational levels, aiming to oversee and implement sustainability efforts.

Sustainability Committee

QAFCO's BoD holds the ultimate responsibility for overseeing the company's sustainability agenda. They approve the sustainability plan, monitor its progress, and provide strategic oversight. Supporting this governance framework, the Corporate Governance Committee ensures the implementation of strong governance structures, evaluates the Board's performance, and facilitates capacity building through targeted training.

The Board Audit Committee is responsible for ensuring the integrity of financial reporting, conducting comprehensive audits, including those related to ESG, and ensuring compliance with all regulatory frameworks. The Enterprise Risk Management (ERM) Committee plays a crucial role in integrating ESG risks into QAFCO's risk management framework, assessing potential threats, and advising on the effectiveness of risk mitigation strategies.

QAFCO's Executive Management Team, operating under the directives of the BoD, is responsible for driving the execution of its sustainability objectives, performing quarterly reviews of progress, and resolving any operational challenges. The Corporate Sustainability Team serves as the central authority for developing, updating, and overseeing the execution of the Sustainability Plan, setting strategic goals, targets, and initiatives.

In 2024, QAFCO established the Sustainability Committee to further improve governance by enabling new initiatives and tracking their progress. The Sustainability Committee was established to review business practices and track the progress of approved sustainability initiatives. The Committee aims to continue to drive initiatives that align with QAFCO's corporate sustainability objectives, which include the replacement of chillers and chilled water networks in buildings. These objectives aim to achieve the usage of an environmentally safe refrigerant and improve the energy efficiency of these buildings. Additionally, recycling bins will be implemented in QAFCO's Doha Offices to enhance recycling rates.

Across the organization, QAFCO employees are actively involved in implementing sustainability projects within their respective areas, ensuring that the company's sustainability governance mechanisms drive continuous improvement and align with broader ESG commitments.

#### **Sustainability Committee**

Senior Sustainability Specialist, Chairperson

#### **Members**

- Head of Operations
- Head of Technical
- Head of Strategy
- Head of Public Relations
- Head of Legal
- Head of Environment
- Head of ER & Security
- Head of Supply Chain
- Head of Office Administration

### **Sustainable Governance**

### Cybersecurity

As QAFCO's digital presence continues to expand, it is increasingly crucial to establish robust governance to safeguard information, data, and physical assets (including production assets) from cyber-based threats. To comply with Qatar cyber security requirements, QAFCO has undertaken several key initiatives including the following:



These initiatives reflect QAFCO's commitment to maintaining a secure digital environment and protecting its assets from cyber threats.

### **Sustainable Governance**

### **Environmental Compliance**

Aligned with the Qatar National Vision (QNV) 2030, QAFCO is dedicated to sustainable operations spanning Human, Social, Economic, and Environmental Development. In 2024, QAFCO achieved 98% compliance with the Consent to Operate (CTO) requirements issued by the Ministry of Environment and Climate Change (MoECC), which regulates environmental practices and enforces national standards. QAFCO monitors wastewater quality to meet MoECC standards. Through on-site treatment and regular analysis of parameters such as pH, BOD, COD, and heavy metals, QAFCO ensures that the process wastewater discharged into the sea remains within regulatory limits underscoring commitment, demonstrating QAFCO's commitment to environmental responsibility.

### **Business Ethics and Code of Conduct**

QAFCO's Code of Conduct reflects its commitment to human rights and high ethical standards, supported by the BoD and CEO. This Code is accessible online to employees, suppliers, and customers, ensuring widespread awareness and compliance. Completion of the annual Code of Conduct training is mandatory for all employees to keep them informed about its guidelines while promoting the values of Excellence, Teamwork, Safety, and Integrity within the company. Participants receive a certification upon completion. QAFCO's commitment to business ethics has led to the establishment of a reporting channel for any deviations from the Code, such as fraud or misconduct with QAFCO supporting and protecting any who report misconduct.

### Certifications

QAFCO demonstrates its unwavering commitment to operational excellence, sustainability, and safety by maintaining a comprehensive suite of internationally recognized certifications. These certifications reflect QAFCO's strict adherence to global standards and its dedication to continuous improvement in Health, Safety, Environment, and Quality (HSEQ). QAFCO currently holds the following certifications:

- ISO 9001:2015 Quality Management
- ISO 14001:2015 Environmental Management
- ISO 45001:2018 Occupational Health and Safety
- ISO 50001:2018 Energy Management

- ISO/IEC 17020:2012 Conformity Assessment
- ISO/IEC 17025:2017 Laboratory Competence
- RC 14001:2023 Responsible Care
- IFA Protect & Sustain Product Stewardship Program Certification
## **Sustainable Governance**

### Whistleblowing

QAFCO has a dedicated whistleblowing initiative that allows employees and stakeholders to report any known or suspected violations anonymously and confidentially. The initiative is specifically for reporting unethical work practices among contractors or staff associated with QAFCO, QMC, or GFC. The process involves detailing the misconduct, identifying the individuals involved, and providing any evidence to support the claims. All information received is treated with strict confidentiality, to ensure the trust of employees and stakeholders to speak up when ethical concerns arise. QAFCO does not tolerate any

form of retaliation against a whistleblower who, in good faith, reports potential misconduct, makes a complaint, or cooperates in an investigation. If a retaliation complaint is confirmed, appropriate disciplinary measures will be taken to address the issue and uphold the integrity of the whistleblowing process.

### **Approach to Risk Management**

QAFCO's risk management process includes hazard identification, risk assessment, control measures, and continuous follow-up. QAFCO provides training and conducts regular internal audits to ensure compliance. The management system follows the Plan-Do-Check-Act (PDCA) cycle for continuous improvement, with risks reviewed after every incident and annually. QAFCO offers health and safety risk management, incident investigation, and occupational health services, including preemployment health assessments and returnto-work assessments. Relevant employees from the HR, Legal, Risk and Cybersecurity, and HSEQ departments ensure compliance with procedures, and incidents are investigated to prevent recurrence.

## 04

## Commitment to Sustainable Practices

Energy, GHG Emissions and Air Quality	39
Water Management	46
Waste Management	48
Biodiversity	50

From operational practices to strategic oversight, QAFCO aims to effectively manage energy, greenhouse gas (GHG) emissions, and air quality. QAFCO is strategically implementing measures to enhance energy efficiency. These efforts are considered in all future projects and are also taken into account for improvements to current assets.

In 2024, QAFCO updated its Technical Road Map Project (QTRM) to enhance growth, energy efficiency, and emissions reduction. Projects currently in the pipeline include improving the efficiency of its ammonia 1 and 2 plants, replacing gas turbines with electric motors, and using low NOx burners.

QAFCO works towards various certifications and alignment with international standards. The company holds ISO 14001 certification and complies with the ISO 50001 standard to enhance energy performance and reduce greenhouse gas emissions.

### **Energy Management**

The total energy consumption has seen a decrease of 1.33% since 2021. Additionally, energy intensity has dropped by 0.76% over the same period.

Indicator —				
Total Energy Consumption (GJ)	185,274,458	186,753,166	183,917,051	182,816,494
Energy Intensity (GJ/Tonne)	29.10	29.16	29.22	28.88
Q1-6 Ammonia Plants (GJ/MT)	39.37	39.38	39.58	39.59
Q1-6 Urea Plants (GJ/MT)	5.16	5.12	5.20	5.02

### **Advanced Process Control (APC) Implementation**

In 2024, QAFCO implemented APC in ammonia plants 3, 4, 5, and 6, resulting in an incremental production increase of 28.5 metric tonnes per day (MT/d) and a reduction of 0.2 gigajoules per metric tonne (GJ/MT) in specific energy consumption.

This solution has provided tangible benefits in maximizing ammonia production and optimizing energy use.

### Carbon Border Adjustment Mechanism (CBAM)

In 2023, QAFCO, guided by QatarEnergy, initiated a reporting process in line with the Carbon Border Adjustment Mechanism (CBAM). The company reviewed the standard, identified key gaps, and established a working group and steering committee. Through a gap analysis and engagement of a specialized consultant, QAFCO is advancing its readiness and ensuring a structured approach to compliance.

**Implementation Progress:** 

• Phase-1: Completed and presented to management in 2024.

QAFCO has reviewed its environmental performance in line with CBAM requirements, focusing on emissions from the production of ammonia and melamine. This supports continued access to key international markets and alignment with evolving global requirements.



### Greenhouse Gas (GHG) Emissions

QAFCO's Scope 1 emissions come from gases including Carbon Dioxide (CO<sub>2</sub>), Methane (CH<sub>4</sub>) emissions, and Total direct Nitrous Oxide (N<sub>2</sub>O), while Scope 2 emissions are from generation of imported electricity. A key component of QAFCO's sustainability strategy is the reduction of GHG emissions. The company's Sustainability Plan emphasizes reducing Scope 1 GHG emissions, particularly those from production processes and combustion sources. In 2024, QAFCO reduced Scope 1 emissions by **5.74%** but saw a 22.73% increase in Scope 2 emissions compared to 2021. Overall, total GHG emissions decreased by **4.70%** from the base year. Between 2021 and 2024, Direct (Scope 1) GHG emissions intensity decreased by **5.74%**, while Indirect (Scope 2) GHG emissions intensity increased by 22.78%. As part of its long-term goals, QAFCO targets a **15%** reduction in GHG emissions intensity by 2035.

Total Quantity of Emissions (Metric — tonnes)				2024
Scope 1	5,361,081	5,014,789.60	5,114,188.57	5,053,164.73
Scope 2	203,170	210,935	226,966	249,464
Total	5,564,251	5,225,724.60	5,341,154.57	5,302,629

As part of the QTRM and Sustainability Plan, QAFCO has launched initiatives to reduce carbon dioxide emissions from its operational assets. These projects aim to operate all assets in an environmentally responsible manner while maintaining production levels. Since the kick-off of these initiatives, QAFCO has reduced its GHG emissions by **105,566** tonnes of CO<sub>2</sub> in 2023 and further reduced emissions by **56,808** tonnes of CO<sub>2</sub> in 2024 compared to the previous year.

Launched in 2023, the transition to Compressed Natural Gas (CNG) buses program was established to improve environmental sustainability and reduce greenhouse gas emissions. A total of 20 buses were transitioned to CNG, aligning with both QAFCO and QatarEnergy's sustainability vision. The program saw the successful conversion of 19 buses in 2023 and the final bus in 2024, marking the completion of the transition.

### **QAFCO7 Achievements**

In partnership with QatarEnergy, QAFCO is constructing a blue ammonia facility with an annual production capacity of **1.2 million** tonnes in Mesaieed Industrial City. The project, expected to begin operations by mid 2026, includes interconnections to existing plants and incorporates a carbon capture and storage (CCS) project to capture **70%** of CO<sub>2</sub> emissions. This initiative supports job creation and strengthens Qatar's position in global low-carbon ammonia production. In 2024, the QAFCO 7 project reached an overall completion rate of 70.93%.

The execution of the QAFCO 7 project takes into consideration sustainability and proper resource management. As a result, in 2024, QAFCO-7 reduced its average power consumption to **40 MWh** over the last six months of 2024, compared to 54 MWh during the same period in 2023. This reduction was achieved through efforts such as replacing old air conditioning units and installing energy-efficient lighting.

### **Air Quality**

From 2021 to 2024, the Nitrogen Oxides (NOx) emissions increased by approximately 14%, while Sulfur Oxides (SOx) emissions rose by around 22%, and VOC emissions increased by 336%. OAFCO has installed continuous emissions monitoring systems across QAFCO1 - 6 in 2024. These systems are designed to consistently track SO<sub>x</sub> and NO<sub>x</sub> levels.

Total Quantity of Emissions	- 2021 -	— 2022 —		
NOx (Metric Tonnes)	2,465	2,420	2,172	2,804.32
SO <sub>x</sub> (Metric Tonnes)	1,424	1,332	1,004	1,741
VOC (kg)	246	357	865	1,071.48

QAFCO has established a five-year agreement for Methane Leak Detection and Repair (LDAR) starting in 2023. The LDAR program is designed to monitor, estimate, and control methane (CH4) and VOC emissions from QAFCO-operated facilities by measuring leaks and fugitive emissions, conducting a comprehensive site-wide inventory, and upgrading the database for complete source mapping. In 2024, QAFCO reduced total fugitive emissions to 63,326 kg/year and aims for 74,352 kg/year by 2029.

In line with its commitment to sustainability and reducing emissions, QAFCO began selling Diesel Exhaust Fluid (DEF) to local customers in October 2024. DEF plays a crucial role in reducing emissions from diesel engines by transforming harmful nitrogen oxides (NOx) into harmless nitrogen and water vapor. This initiative contributes to reducing NOx emissions by up to 90%. In 2025, QAFCO plans to formalize supply agreements with local customers and explore expansion across the GCC region.



### **Continuous Emission Monitoring System** (CEMS) Implementation

In 2024, QAFCO installed 21 Continuous Emission Monitoring Systems (CEMS) units across QAFCO 1 - 6 to meet CTO requirements. These units continuously monitor SOx, NOx, and ammonia concentrations from plant operations. A Relative Accuracy Test Audit (RATA) confirmed that the units function according to United States Environmental Protection Agency (USEPA) standards, and all units passed the test.

The CEMS project aims to monitor emissions from all combustion sources with a heat input of 25 MW or more. The solution provides localized emission monitoring at each plant. The approach included:

- Establishing a centralized monitoring station to oversee all 21 emission sources.
- Utilizing time-shared units to optimize the number of CEMS units.
- Deploying additional ammonia analyzers at reformers stacks with DeNOx systems.

The benefits of CEMS include regulatory compliance, monitoring plant performance, calculating emissions, and assessing the environmental impact of operations.

## Water Management

QAFCO primarily uses water for cooling processes, drawing from various sources to ensure efficient and sustainable operations. The main sources are from seawater and third-party providers, including Kahramaa and Wastewater Treatment Plant.

- Between 2021 and 2024, seawater withdrawal increased by approximately 1.82%, reflecting its role as the primary source. This change is likely due to variations in production levels and temperature, requiring more cooling water.
- Third-Party Providers: Water sourced from third-party providers increased by about 11.70%, indicating a growing proportion of contribution is coming from alternative sources.

QAFCO is committed to achieving zero discharge of processed water into the sea, thereby safeguarding the marine environment. The methods used include recycling and reusing effluents to produce demineralized and irrigation water.

Indicator (Million M <sup>3</sup> )				2024
Water Withdrawn from the Sea	1,296.3	1,327.2	1,306	1,319.79
Water Withdrawn from Third-party	0.94	0.98	1.18	1.05
Total Water Withdrawn	1,297.3	1,328.1	1,307.6	1,320.84
Water Consumed	18.30	18.30	18.80	18.25

### Water Usage and Compliance

QAFCO primarily uses seawater for cooling and producing desalinated water, with most of the water withdrawal dedicated to cooling purposes. The desalinated water is recycled and reused within operations. QAFCO has enhanced its cooling water systems to meet environmental standards and continues to monitor process wastewater quality against both the Ministry of Environment and Climate Change standards. Key parameters such as pH, Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Total Suspended Solids (TSS), Ammonia Nitrogen (NH3-N), free residual chlorine, and heavy metals are checked on a monthly basis. In 2024, QAFCO achieved a 98% Environmental Index by controlling two sources of its wastewater effluent to meet legal requirements.

### **Effluents Management**

At QAFCO, effluents consist of water used in various stages of ammonia and urea production, which may contain residual chemicals and by-products from these processes. QAFCO has implemented operational modifications during plant startup and shutdown phases, which have reduced water discharge into the sea. In addition, treated sanitary wastewater from its facilities is reused as irrigation water for the greenbelt within its premises.

## Water Management

### **QAFCO Zero Liquid Discharge Project Progress**

QAFCO initiated the ZLD Project to comply with the Ministry of Environment and Climate Change (MoECC) regulations, which ban the discharge of treated industrial effluents into the sea. The project aims to eliminate processed wastewater discharge and achieve Zero Liquid Discharge by 2025 at the QAFCO 1-4 site. In 2024, QAFCO remained on schedule, advancing the plant's construction and focusing on timely completion.

Once completed, the ZLD plant will recover **142** m<sup>3</sup>/hr of effluents, producing **129** m<sup>3</sup>/hr of demineralized water and **12** m<sup>3</sup>/hr of irrigation water, reducing QAFCO's reliance on external water sources.

The project involves multiple departments, over 100 employees, and external contractors and technology providers. Achieving ZLD by the target date will set a new industry standard for environmental initiatives in the fertilizer sector, improve operational efficiency, and reduce water consumption.

Ongoing reviews and collaboration with stakeholders aim for the plant to meet all standards, setting a benchmark for future environmental efforts. The project is on track for delivery by Q4 2025.

## Waste Management

QAFCO is working to improve its waste management and treatment processes. Although this year presented some challenges, QAFCO remains committed to minimizing disposal needs and enhancing reuse and recycling efforts. The company continues to align its operations with regulatory requirements, reporting non-hazardous waste shipments to the Ministry of Environment and Climate Change, and managing hazardous waste at approved facilities.

From 2021 to 2024, QAFCO saw a 3.55% increase in waste generation. However, the waste diverted from disposal decreased by 51.36%, indicating a need for enhanced diversion strategies. The total waste directed to disposal also increased by about 16.06%, highlighting a continued focus area for QAFCO to further enhance sustainable waste practices. QAFCO is actively working to mitigate the impacts of waste through various initiatives, including the elimination of waste where possible, recycling, and digitalization.

### **Waste Generated and Disposed**

Indicator (Tonnes)				2024
Total Waste Generated	5,210	5,562	6,572	5,395
Total Waste Diverted from Disposal	526	627	961	286
Total Waste Directed to Disposal	4,684	4,935	5,611	5,109

### **Hazardous Waste Management**

QAFCO continues to recycle **100%** of the hazardous waste generated, in compliance with environmental standards.

### Hazardous Waste Generated and Recycled



QAFCO aims to handle, store, and dispose of hazardous waste safely to comply with environmental standards, including ISO 14001 for environmental management. In 2024, **228** MT of hazardous waste was successfully recycled. QAFCO is committed to increasing recycling efforts to minimize landfill use and reduce its environmental footprint. By enhancing recycling processes, the company aims to divert more waste from disposal, thereby reducing the reliance on incineration and landfilling.

## Waste Management

### **Digitalization for Sustainability**

QAFCO is adopting digital initiatives to support sustainable practices. These efforts include:

### **Digital Notepad Project**

The Digital Notepad project is on track in 2024, aiming to provide more efficient solutions for reading, note-taking, and document review. The deployment will lead to reductions in paper consumption, cost savings and environmental benefits. Looking ahead to 2025, QAFCO plans to extend the deployment to additional senior staff members and implement the next version of the device.

### **SAP System Goes Live**

In February 2024, QAFCO's SAP system went live across all business areas to enhance IT sustainability, governance, and workforce enablement. This improved energy efficiency through cloud infrastructure and automated approvals, reducing paper-based transactions. Reports are currently live, and training is managed digitally.

36

## **Biodiversity**

QAFCO is committed to addressing its environmental and ecological impact through scientific research and meaningful initiatives. This effort aligns with the Global Biodiversity Framework (GBF) by enhancing conservation efforts. To achieve its ecological conservation goals, QAFCO collaborates with universities and conducts environmental studies. Recognizing biodiversity as a potential risk, the company aims to mitigate its impact through targeted research and initiatives. By identifying appropriate biodiversity projects, QAFCO aims to contribute to the GBF's objectives, mobilizing resources for scientifically supported programs. In 2025, QAFCO plans to identify specific projects to advance biodiversity conservation.

## Empowering People, Enriching lives

Supply Chain	52
Customer Satisfaction	54
Health, Safety and Wellbeing	55
Economic Performance	58
Employment Practices	59
Empowering Communities	62

## **Supply Chain**

As part of QatarEnergy's Tawteen Program, QAFCO focuses on developing local suppliers and maximizing in-country value (ICV). In 2024, 92.32% of QAFCO's procurement spending was allocated to local suppliers, a 12.59% increase from 2021. While the majority of local supplier representatives are Qatari nationals, some operate on behalf of international companies, facilitating the provision of goods and services from global sources. QAFCO continues to enhance their ICV and local economic impact, however, sourcing specialized materials like turbines locally remains a challenge. This leads QAFCO to import such items when local alternatives are unavailable. OAFCO is committed to working closely with QatarEnergy to meet ICV targets and improve local sourcing, aiming to further boost their ICV score.

Percentage of the procurement budget spent on local suppliers



QAFCO's supplier screening process includes environmental and social assessments to comply with global standards and Qatar's Ministry of Environment and Climate Change requirements. The Supply Chain Policy and tender documents outline the minimum environmental and social standards for suppliers. Additionally, QAFCO is working on a Contractor Welfare Procedure to inspect and audit contractor accommodations. QAFCO's Contractor Welfare Procedure aims to provide safe and hygienic accommodations, nutritious meals, and medical care for contractors. Compliance with Qatar's labor laws and QAFCO's standards is required, with regular audits to maintain high welfare standards. Contractors are also encouraged to offer recreational facilities, internet access, and transportation services to enhance workers' quality of life.

In 2024, QAFCO received the Excellence in Sustainability Award at the 5th Gulf Petrochemicals and Chemicals Association (GPCA) Supply Chain Awards in Dubai, recognizing its efforts to integrate sustainable practices within its operations. One of the initiatives supporting this goal is the Smart Inventory Management Program, which focuses on improving stock management and reducing waste. By automating manual tracking, the program aims to enhance inventory accuracy, improve efficiency, and reduce the carbon footprint through better logistics and storage. It also helps increase supply chain transparency and supports ethical sourcing practices. Additionally, QAFCO launched the Sustainable Aviation Fuel Program.

QAFCO's Supply Chain Framework also emphasizes risk management and continuous improvement. Guided by its Health, Security, Safety and Environment (HSSE) Policy and Code of Conduct, the company collaborates closely with suppliers to address sustainability and HSSE risks.

Furthermore, QAFCO complies with the following certifications:

- Quality Management: ISO 9001:2015
- Environmental Management: ISO
  14001:2015
- Occupational Health and Safety: ISO 45001:2018
- Energy Management: ISO 50001:2018
- Conformity Assessment: ISO/IEC
   17020:2012
- Laboratory Competence: ISO/IEC 17025:2017
- Responsible Care: RC 14001:2013
- Product Stewardship Program
   Certification: IFA Protect & Sustain

## **Supply Chain**

### SAP® S/4HANA System going Live

In February 2024, QAFCO implemented the SAP® S/4HANA system across all business areas with the objective of enhancing IT sustainability, governance, and workforce enablement.

Key benefits include:

• Energy Efficiency:

SAP® S/4HANA uses cloud infrastructure, reducing energy consumption compared to traditional on-premise systems.

• Digital Workflows:

Automated approvals minimize paper-based transactions.

• Training:

Success Factors Learning Management System manages and tracks training sessions, monitoring employee skills development.

• Supplier Management:

Streamlines supplier onboarding, order tendering, service confirmation, invoice submission, and order tracking.

• Governance:

Governance, Risk, and Compliance (GRC) software controls role assignments and adherence to security policies.

• Disaster Recovery:

Cloud disaster recovery plan aims for rapid reinstatement of infrastructure, resources, and applications at a secondary site.

## **Customer Satisfaction**

QAFCO focuses on building long-term customer relationships by delivering quality products. The company emphasizes real-time monitoring and strict quality control processes to maintain high product standards from production to delivery. In 2024, QAFCO reported zero complaints related to product quality or shipment logistics. The company also gathers regular feedback from customers to align with their evolving needs and improve its services through customer satisfaction surveys every six months among end users and customers.

### **Customer Satisfaction Percentage**

QAFCO consistently achieved high customer satisfaction scores over the years, regularly surpassing the set target of 95%.



## Health, Safety and Wellbeing

QAFCO prioritizes health, safety, and the environment (HSE), aiming for a secure and sustainable workplace for all employees, contractors, and stakeholders. In 2024, QAFCO strengthened its safety culture and operational efficiency through digital initiatives, training programs, and enhanced process safety measures. The company also monitors safety performance and gains insights from incidents and observations. As part of its commitment to safety, the company has various certifications such as ISO 45001:2018 for Occupational Health and Safety and RC 14001:2015 for Responsible Care.

		2021	2022	2023	2024
Number of Fatalities		0	0	0	0
Total Recordable Incident Rate (TRIR) (Per 1 million work hours)	Employees & Contractors	0.16	0.44	0.39	0
Lost Time Incident Rate (LTIR) (Per 1 million work hours)		0	0.29	0	0

## Health, Safety and Wellbeing

### **Workplace Safety**

QAFCO has identified several key safety hazards along with their associated risks. These include:

Chemical Exposure: Can cause respiratory issues and skin burns.	Fire and Explosion Risks: Due to flammable materials.	Spills and Leaks: Pose environmental and health threats.	Physical Injuries: From slips, trips, and falls.
Machinery Hazards: Risks associated with operating machinery.	<b>Ergonomic Issues:</b> From repetitive tasks.	Inadequate Training: Leads to various safety risks.	

To address and mitigate these hazards, QAFCO provides safety measures and continuous training. The Health Safety Risk Management process supports effective hazard identification and control through assessments, registrations, and studies. Competency assessments aim to ensure that all employees are trained to follow best practices, with regular reviews of registered risks, follow-up actions, and key performance indicators (KPIs).

In collaboration with QatarEnergy, QAFCO conducted a Quantitative Risk Assessment (QRA) to systematically evaluate Major Accident Hazards associated with the loss of primary containment. The QRA focused on potential outcomes such as fire, explosion, and toxic gas dispersion. The QRA report identified major hazards and outlined site-specific recommendations, including safety enhancements related to thermal radiation, overpressure, and toxic gas release. Fifteen recommendations were provided to further elevate safety standards across QAFCO sites.

Additionally, QAFCO offers general and specialized training in areas such as the transportation of dangerous goods, permit to work, fire watch, confined space, process safety, and isolation. This training is complemented by internal audits to verify that the risk management process is followed correctly.

### **HSEQ Digital Portal**

In 2024, QAFCO made improvements to its safety systems by updating its HSEQ digital portal to better align with Health, Safety, Environment, and Quality requirements. These updates included changes to environmental modules like Waste Management and Chemical Risk Assessment, as well as the introduction of Security Management modules to strengthen operational control and safety. Additionally, the transition from paper-based to digital reporting for Management of Change (MOC) and Process Safety (PS) matters was implemented. This shift was supported by a series of meetings, workshops, and training sessions, with performance now being tracked through interactive dashboards.

## Health, Safety and Wellbeing

### **Employee Wellbeing**

QAFCO prioritizes employee wellbeing through a range of occupational health services and wellness initiatives. The Wellness Committee plays a pivotal role in organizing activities that focus on both mental and physical health. To identify the most common health issues in the workforce, a wellness survey was conducted.

QAFCO has implemented several initiatives. Health awareness sessions on ergonomics, posture, and workstation setup were held, educating employees on preventing musculoskeletal disorders. In 2024, QAFCO hosted an awareness session on "Common Health Issues Related to Ergonomics in the Workplace," where experts discussed proper posture, workstation setup, and the importance of movement. Interactive elements during the session allowed employees to practice techniques and receive personalized feedback.

To address mental health, stress management sessions were organized, and the Ramadan Nutrition Competition provided fasting-friendly nutrition and exercise guidance. Additionally, sports activities are promoted to support physical health, and these programs are available to both employees and their families.

QAFCO offers occupational health services including pre-employment health assessments for new hires, routine health surveillance to monitor ongoing employee health, and return-to-work assessments to facilitate a safe reintegration for employees after long-term absences due to illness or injury.



## **Economic Performance**

Urea, which contains 46% nitrogen, is an essential nutrient for crops. It helps improve yields, thereby supporting farmer livelihoods, and mitigates nutrient depletion in soil. QAFCO's revenues are influenced by market-driven fertilizer prices, which can fluctuate due to factors like supply, energy costs, crop prices, weather, and trade conditions.

QAFCO aims to balance profitability with environmental and social responsibility, returning capital to shareholders through dividends. The company adheres to Qatar's tax laws, with financial statements audited annually and approved by the general assembly. Any tax issues are reported to the relevant authorities.

From 2023 to 2024, QAFCO saw a **3.12%** decrease in direct economic value generated, which encompasses the total revenue from operations. Additionally, there has been a **30.06%** decrease in economic value distributed, referring to the economic value allocated to stakeholders. In 2024, QAFCO achieved new milestones in urea export, reaching **5,694,704** metric tonnes annually and **3,348.65** metric tonnes in a single day. The SAP system was implemented to improve and automate the Finance and Accounts activities. QAFCO is working on further optimizing and improving operational and financial performance.



### **Streamlining Finance and Account:**

SAP streamlined Finance and Accounts activities. Key measures included changes in accountability among various divisions, shifts in activities within the Finance Team to aim for better access control and conflict management, and enhanced access control through business roles and account ownership. Real-time analysis and reporting features have improved processing times for finance activities. The initiative also led to the automation of several manual tasks and embedded improved internal controls within the new ERP system.

### Improvement Inventory Management for Slow Moving and Obsolete Stock:

Stock items in the warehouse and spares may become obsolete over time and must be removed from inventory records. Slow-moving inventory includes stock items with minimal or no consumption for six years or more, contributing to wasted capital and resources by occupying warehouse space and incurring costs such as purchase price, freight costs, carrying costs, and opportunity costs.

The SAP implementation aimed to improve the calculation of slow-moving and obsolete stock provisioning based on the real aging of inventory items. With SAP, new stock items are properly aged based on their purchase date, while transferred stock items from the old ERP have an artificial age. As transferred stock items are consumed over time, their actual age will prevail, improving accuracy in provisioning and enhancing inventory management.

## **Employment Practices**

QAFCO is keen on improving its workplace environment by focusing on human rights, labor practices, diversity, inclusion, competency frameworks, and talent programs. From 2021 to 2024, the workforce remained consistent with the number of full-time. In 2024, QAFCO saw a small increase in total employees.

### **Breakdown of Total Workforce**

10,189,392

2024



2,332,654

7,856,738

## **Employment Practices**

### **Breakdown of New Hires**



## Gender Male Employees 2021 27 2022 29 2023 41 2024 98

#### New Hires by Age Group



### **Female Employees**



**Employee Turnover Rate (Percentage)** 

### Average Training Hour Per Employee



From 2021 to 2024, the average training hours per employee decreased by approximately 21.8%, from 24.0 hours to 18.77 hours.



## **Employment Practices**

QAFCO adheres to applicable laws and regulatory requirements regarding employees' working hours, vacations, and rest periods. The Code of Conduct, endorsed by the BoD and CEO, serves as a guide, emphasizing the highest ethical standards and compliance with labor laws. It is accessible online to employees, suppliers, and customers. In 2024, each employee received the Code of Conduct training. Annual training sessions are held to keep employees informed of the Code's provisions and expectations.

Employees use the whistleblowing channel for any deviations from the Code, such as fraud or misconduct. This channel enables thorough investigation of concerns and supports those who report issues, promoting a culture of accountability and transparency. QAFCO offers fair compensation based on an internally approved salary structure and supports its employees through recognition programs.

QAFCO is keen on improving its workplace environment through various initiatives aimed at talent development, technical competency, and employee engagement. In 2024, QAFCO concluded Cohort 1 of its Talent Development Program (TDP) and Mentorship Program for selective Qatari nationals. These programs support the succession planning process by developing participants' business acumen and leadership skills through hands-on learning and mentorship from Chief Officers. Cohort 2 is currently underway, continuing to prepare participants for growth and leadership roles.

To support people development, QAFCO conducted Technical Competency Assessments for all employees. This process provided key insights into capability strengths and gaps, laying the foundation for targeted developmental interventions. These assessments enable QAFCO to implement robust plans to enhance individual and team capabilities, supporting current and future business needs.

QAFCO is also committed to advancing Qatarization objectives by attracting, developing, and retaining Qatari nationals. The company rolled out various activities, including recruitment campaigns, sponsorships, and on-the-job development programs. Significant numbers of Qatari nationals have been developed and moved to established positions through tailor-made development programs. Partnerships with the education sector and local communities continue to support these objectives. Additionally, QAFCO held its first Town Hall to enhance communication and foster a sense of community among employees living in QAFCO's housing facilities. The event provided a platform for employees to voice concerns, share feedback, and engage with leadership on housing-related topics. This initiative improved communication between employees and management, strengthened community ties, and provided valuable insights into employee needs and expectations. The Housing Welfare Committee aims to improve the well-being of the residential community by addressing hygiene concerns and supporting tenants' collective interests. Through regular site visits, scheduled by the committee secretary, the committee actively monitors the area to maintain a clean and safe environment.

The 2023 Employee Engagement Survey led to several career advancement initiatives. These included establishing a Talent Management structure, developing succession plans, and launching leadership programs. An online learning platform was introduced, and technical competency assessments were conducted. Throughout 2024, 53% of these actions were completed.

## **Empowering Communities**

QAFCO is an advocate for sustainable agricultural practices and focuses on supporting sustainable growth in Qatar's communities through initiatives that enhance local agriculture, environmental stewardship, and food security. An example of QAFCO's commitment is its support for local Qatari farmers through water testing services. QAFCO offers free water tests to ensure the quality of irrigation water meets environmental standards and suits the crops. By analyzing water samples through QAFCO Laboratory, farmers gain valuable insights, enabling them to treat and use water efficiently, thereby boosting crop yields and saving resources. This initiative helps farmers achieve long-term success and sustainability.

### Local and Global Food Security

Qatar faces significant challenges in food production due to its arid climate, limited arable land, and scarce water resources. To address these challenges, QAFCO has supported research on sustainable greenhouse technologies, providing valuable insights into optimizing greenhouse energy efficiency. QAFCO is committed to promoting sustainable agricultural solutions that contribute to Qatar's food security while ensuring environmental stewardship.

### **Farmer Training**

QAFCO's commitment to sustainable agriculture extends to training local farmers in advanced farming techniques. By providing education and resources on energy-efficient greenhouse systems and renewable energy integration, QAFCO empowers farmers to adopt innovative practices that enhance productivity and sustainability. Training programs focus on optimizing climate control, reducing energy consumption, and improving water management, ensuring that farmers are equipped with the knowledge and skills needed to thrive in Qatar's challenging agricultural environment.

In 2024, QAFCO, in collaboration with Hassad Food Company, conducted two specialized training sessions for farmers. The first session focused on fertigation best practices, equipping farmers with efficient nutrient management techniques to enhance crop yield while minimizing environmental impact. The second session covered irrigation design, promoting water-efficient farming methods crucial for conserving Qatar's scarce water resources.

### **Career Fair Participations**

In line with Qatar's Vision 2030 and the objective to be the employer of choice, QAFCO actively participated in several career fairs throughout 2024, including Carnegie Mellon University Qatar, the University of Doha for Science and Technology (UDST) Career Fair, Education City, and Qatar University. These events helped students explore career opportunities at QAFCO and positioned the company as an employer of choice. Additionally, the QAFCO Career Fair attracted local applicants from various fields. This annual event aims to connect QAFCO with a talented workforce, supporting Qatar National Vision 2030 by contributing to the development of local talent and addressing the nation's growing industrial needs.

### Sustainability Workshops and Farm Visits

To promote environmental awareness and sustainable practices, QAFCO organized multiple local farm visits and sustainability workshops for employees and their families. These workshops focused on home gardening, urban farming, and the importance of fertilizers in food security. The initiative reached approximately 300 participants and received positive feedback for its educational value. QAFCO also organized an educational farm visit to QATFA Farm in Shihaniya, bringing together 100 employees and their families to learn about sustainable farming practices in the desert.

### **Planting Activities**

QAFCO, in collaboration with various schools, organized planting activities to celebrate Global Fertilizer Day. These activities included planting saplings and educating students about the importance of fertilizers in food security. Events were held at Beverly Hills International School, Doha Academy School, and Middle East International School, involving active participation from teachers and students.

### **Qatar University Recognition Award**

Qatar University hosted an event on March 7, 2024, to honor 121 entities from various sectors across the country. QAFCO was recognized for its ongoing support in offering students valuable industry experience through internships and sponsorship opportunities.

## **Empowering Communities**

### **University Collaborations**

QAFCO aims to advance sustainable agricultural practices and food security in Qatar through strategic collaborations with the University of Doha for Science and Technology (UDST) and Hamad Bin Khalifa University (HBKU).

### • UDST University Collaboration:

QAFCO collaborated with UDST for the Qatar National Research Fund (QNRF) on the project "Development of Smart Agricultural Technologies to Optimize Resource Allocation to Ensure Food Security – A Pathway Towards Sustainable Vegetables and Date Palm Production in Qatar." As part of this initiative, QAFCO pledged In-Kind Co-Funding. This collaboration aims to develop smart agricultural technologies to optimize water, nutrient, and energy use in vegetable and date palm cultivation.

### • HBKU University Collaboration:

In 2024, QAFCO continued its engagement in fostering sustainable agricultural innovation through its collaboration with HBKU for the Qatar National Research Fund (QNRF) on the project "Combination of Purple Non-sulfur Bacteria (PNSB) and Gas to Liquid (GTL) Wax to Improve Crop Productivity in Qatar." PNSB are sustainable soil enhancers, while GTL technology converts natural gas into liquid hydrocarbons. QAFCO contributed 80 hours of specialized expertise from its Senior Agronomist during the second year of this 36-month initiative. This collaboration integrates biotechnological solutions to optimize crop yields while minimizing environmental impact.

## **Empowering Communities**

### Advancing Greenhouse Technology for Food Security in Qatar

Qatar faces significant challenges in food production due to its arid climate, limited arable land, and scarce water resources. To address these issues, QAFCO has supported research on sustainable greenhouse technologies, which aim to optimize energy efficiency and enhance local food production.

One key study, "Energy Utilization Assessment of a Semi-Closed Greenhouse Using Data-Driven Model Predictive Control," focused on improving energy use in greenhouses. Building on this, another study, "A Sustainable Agri-Photovoltaic Greenhouse for Lettuce Production in Qatar," explored the integration of solar energy with greenhouse farming. Preliminary results show that photovoltaic panels can reduce external energy reliance while maintaining optimal conditions for lettuce production.

By advancing sustainable farming technologies, QAFCO aims to reduce dependence on food imports, and contribute to Qatar's National Food Security Strategy.

Findings from the research indicate the following:

- A 30% reduction in energy consumption in semi-closed greenhouses through mode predictive control.
- A potential 40% decrease in water usage with optimized climate management.
- The feasibility of generating up to 60% of greenhouse energy needs through solar power.
- Lettuce yield under controlled environments increased by 25% compared to conventional open-field farming.

# **06** Appendix

GRI Context Index Definitions of Material Topics ESG Data Tables Abbreviations 66

70

73

### **GRI 2: General Disclosures 2021**

GRI Standard	Disclosure	Page No./ Section
GRI 2: General Disclosures	2-1 Organizational details	8
2021	2-2 Entities included in the organization's sustainability reporting	8
	2-3 Reporting period, frequency and contact point	4
	2-4 Activities, value chain and other business relationships	27 - 31
	2-5 Employees	59 - 61
	2-6 Workers who are not employees	59
	2-7 Governance structure and composition	33
	2-8 Nomination and selection of the highest governance body	33
	2-9 Chair of the highest governance body	33
	2-10 Role of the highest governance body in overseeing the management of impacts	33 - 34
	2-11 Role of the highest governance body in sustainability reporting	34
	2-12 Communication of critical concerns	37
	2-13 Statement on sustainable development strategy	18
	2-14 Mechanisms for seeking advice and raising concerns	18
	2-15 Compliance with laws and regulations	36
	2-16 Approach to stakeholder engagement	16
GRI 3: Material Topics 2021	3-1 Process to determine material topics	16
	3-2 List of material topics	17
	3-3 Management of material topics	38 - 64

GRI Standard	Disclosure	Page No./ Section
GRI 201: Economic	201-1 Direct economic value generated and distributed	58
Performance 2016	201-2 Indirect Economics Impacts	58
GRI 203: Indirect Economic Impacts 2016	203-1 Significant indirect economic impacts	58
GRI 204: Procurement Practices 2016	204-1 Proportion of spending on local suppliers	52
GRI 205: Anti-corruption 2016	205-1 Operations assessed for risks related to corruption	61
	205-2 Communication and training about anti-corruption policies and procedures	61
	205-3 Confirmed incidents of corruption and actions taken	14
GRI 206: Anti-competitive Behavior 2016	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	61
GRI 302: Energy 2016	302-1 Energy consumption within the organization	36
	302-3 Energy intensity	36
GRI 303: Water and Effluents	303-1 Interactions with water as a shared resource	46 - 47
2018	303-2 Management of water discharge-related impacts	46 - 47
	303-3 Water withdrawal	46 - 47
	303-4 Water discharge	46 - 47
	303-5 Water consumption	46 - 47
GRI 304: Biodiversity 2016	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	50
2010	304-2 Significant impacts of activities, products and services on biodiversity	50

GRI Standard	Disclosure	Page No./ Section
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	42
	305-2 Energy indirect (Scope 2) GHG emissions	42
	305-3 GHG emissions intensity	42
	305-4 Reduction of GHG emissions	42
	305-5 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	42
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	48 - 49
	306-2 Management of significant waste-related impacts	48 - 49
	306-3 Waste generated	48 - 49
	306-4 Waste diverted from disposal	48 - 49
	306-5 Waste directed to disposal	48 - 49
	GRI 306: Effluents and Waste 2016 (306-3 Significant spills)	48 - 49
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	60

GRI Standard	Disclosure	Page No./ Section
GRI 403: Occupational Health	403-1 Occupational health and safety management system	56 - 57
and Safety 2018	403-2 Hazard identification, risk assessment, and incident investigation	56
	403-3 Occupational health services	56 - 57
	403-4 Worker participation, consultation, and communication on occupational health and safety	56 - 57
	403-5 Worker training on occupational health and safety	56 - 57
	403-6 Promotion of worker health	56 - 57
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	56 - 57
	403-8 Workers covered by an occupational health and safety management system	56 - 57
	403-9 Work-related injuries	56 - 57
	403-10 Work-related ill health	56 - 57
GRI 404: Training and	404-1 Average hours of training per year per employee	60
Education 2016	404-2 Programs for upgrading employee skills and transition assistance programs	60
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	60
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs	61 - 62
	413-2 Operations with significant actual and potential negative impacts on local communities	
GRI 416: Customer Health and Safety 2016	416-1 Assessment of the health and safety impacts of product and service categories	56 - 57

## **Definitions of Material Topics -** Environment

### **Emissions and Energy Management**

Emissions and energy management involve strategies to monitor, reduce, and control pollutants, particularly greenhouse gases, while managing energy consumption. This approach improves air quality, reduces environmental impact, and supports sustainability goals. For QAFCO, effective emissions and energy management are critical due to their significant business impact and stakeholder importance. It ensures regulatory compliance, environmental sustainability, and helps avoid penalties and disruptions. Addressing climate risks like severe weather and sea level rise is essential for long-term viability.

### **Biodiversity**

Biodiversity management involves strategies to protect and enhance plant and animal specifies, genetic diversity, and ecosystems. For QAFCO, biodiversity is highly ranked due to its significant impact on both internal and external stakeholders. Protecting biodiversity, especially marine ecosystems and farmland, maintains ecosystem balance, crucial for marine species and sustainable agriculture. This commitment enhances QAFCO's reputation, ensures compliance with environmental regulations, and supports global sustainability goals.

### **Product Stewardship**

Product stewardship involves managing the entire lifecycle of products to minimize environmental impact and promote sustainability. For QAFCO, product stewardship enhances operational efficiency and regulatory compliance, building trust with stakeholders. It supports the company's positive reputation and long-term sustainability goals. Any failure in this area could significantly impact QAFCO, making it a high priority.

### Water Management

Water management refers to the strategies and practices implemented to efficiently use and protect water resources, including monitoring and reducing water consumption, treating and recycling wastewater, and protecting water quality. For QAFCO, water management is crucial due to its reliance on desalination. Mismanagement of effluents and brine discharge can disrupt operations, increase costs, and cause regulatory issues. Proper water management ensures operational stability and compliance, protecting marine environments and maintaining water quality. This makes it a high-impact area for QAFCO.

### Waste Management

Waste management refers to the strategies and practices implemented to reduce, recycle, and responsibly dispose of waste to minimize environmental impact. For QAFCO, waste management is highly ranked due to its significant impact on stakeholders. Effective waste management reduces pollution, protects public health, ensures regulatory compliance, and enhances QAFCO's reputation. It also leads to cost savings and improved productivity. Responsible waste management minimizes environmental and regulatory risks, ensuring compliance. Failure in this area could result in financial penalties and reputational harm, justifying its high rating

## **Definitions of Material Topics -** Social

### Health, Safety, and Wellbeing

This topic covers health, safety, and wellbeing, recognizing safe work conditions as a human right. It includes preventing physical and mental harm, promoting worker health, ensuring process safety, and addressing global diseases and pandemic preparedness like COVID-19. For QAFCO, health and safety are critical due to their impact on operational continuity and employee welfare. Incidents can cause severe delays, legal issues, and reputational harm. This makes health and safety a top priority.

### **Responsible Supply Chain Management**

This topic pertains to the organization's process for procuring products and services. It encompasses the impacts related to procurement practices and how the organization manages these impacts. For QAFCO, responsible supply chain management is important but has a moderate impact on external stakeholders compared to core operations. It supports sustainability and operational efficiency but has a limited effect on direct revenue or critical operations since QAFCO does not import raw materials. Issues are more likely to cause delays rather than major disruptions. Additionally, QAFCO avoids importing from countries with human rights violations.

### **Food Security**

This topic focuses on food security within an organization's supply chain. It covers efforts to ensure access to safe, nutritious, and sufficient food, as well as strategies to enhance sustainable agricultural practices, improve food distribution, and mitigate risks related to supply disruptions. Additionally, it addresses initiatives to support long-term food resilience and combat hunger in vulnerable communities. For QAFCO, food security is highly relevant to stakeholders, reinforcing confidence in its contributions to global food stability. As a fertilizer producer, ensuring a stable food supply aligns with QAFCO's core business and market relevance. This makes food security a high-impact area for business sustainability and reputation. Balancing climate impact with efficient fertilizer production is crucial for national and international food security.

### **Employment Practices and Inclusion**

Employment practices and inclusion cover job creation, working conditions, training, performance reviews, and transition assistance. For QAFCO, these practices impact workforce retention and productivity. While they may increase hiring costs, the effects are generally internal and do not pose significant risks to business continuity. Stakeholders value fair employment practices and inclusivity for workforce satisfaction and social responsibility. However, the direct impact on stakeholder trust and loyalty is moderate, as these factors primarily influence internal dynamics rather than external stakeholders.

## **Definitions of Material Topics -** Governance

### **Business Integrity**

This topic addresses the organization's business policies and practices, including its approach to anti-competitive behavior. It also covers adherence to governance codes, standards, and internal controls to ensure transparency, accountability, and good governance. Business integrity is crucial for QAFCO due to its significant impact on both business operations and stakeholders. It ensures compliance, enhances operational efficiency, and protects the company's reputation, which is vital for long-term viability. For stakeholders, it builds trust, attracts investors, and strengthens customer confidence, enhancing QAFCO's reputation in the community. This dual focus on integrity supports sustainable success and stakeholder satisfaction.

### **Corporate Governance**

This topic covers the organization's governance structure, including its composition, roles, and remuneration. It also addresses how the organization manages its impacts and integrates them into its strategy and operations. For QAFCO, corporate governance is highly impactful for both business operations and stakeholders. It fosters a culture of integrity and compliance, leading to better decision-making and operational efficiency. Robust governance practices enhance QAFCO's reputation, attract investors, and ensure regulatory compliance. Effective governance is essential for maintaining accountability and strategic direction, preventing management issues that could affect the business's integrity and sustainability.

### **Economic Performance**

This topic focuses on the company's creation and distribution of wealth. It includes the economic value generated and distributed, defined benefit plan obligations, government financial assistance, and the financial implications of climate change. For QAFCO, economic performance is crucial for investing in growth and sustainability initiatives. Strong financial health ensures resilience and competitiveness, making it vital for long-term viability. It impacts both internal and external stakeholders by ensuring job security and growth opportunities for employees and attracting and retaining investors through demonstrated financial stability and potential growth.

## ESG Data Tables - Environment

GRI Disclosure Number	Indicator	Unit	2021	2022	2023	2024
GRI-306-2	Hazardous Waste Generated	Tonnes	588	945	1,000	228
GRI-306-2	Hazardous Waste Recycled	Tonnes	588	945	1,000	228
GRI-306-2	Total Waste Diverted from Disposal	Tonnes	588	945	1,192	961
GRI-306-2	Total Waste Generated	Tonnes	5,210	5,561	6,572	5,395
GRI-306-2	Total Waste Directed to Disposal	Tonnes	4,402.70	4,653	5,611	5,109
GRI-305-1	Scope 1 Emissions	Metric Tonnes	5,361,081	5,014,789.60	5,114,188.57	5,053,164.73
GRI-305-2	Scope 2 Emissions	Metric Tonnes	203,170	210,935	226,966	249,464
GRI-305-7	Nitrogen Oxides (NOx)	Metric Tonnes	2,465	2,420	2,172	2,804.32
GRI-305-7	Sulfur Oxides (SOx)	Metric Tonnes	1,424	1,332	1,004	1,741
GRI-305-7	voc	Kg	246	357	865	1,071.48
GRI-303-5	Water Consumed	Million M <sup>3</sup>	18.30	18.30	18.80	18.25
GRI-303-3	Water Withdrawn from the Sea	Million M <sup>3</sup>	1,296.3	1,327.2	1,306	1,319.79
GRI-303-3	Water Withdrawn from Third-party	Million M <sup>3</sup>	0.94	0.98	1.18	1.05
GRI-303-3	Total Water Withdrawn	Million M <sup>3</sup>	1,297.3	1,328.1	1,307.6	1,320.84
GRI-302-3	Energy Intensity	GJ/Tonne	29.10	29.16	29.22	28.88
GRI-302-1	Q1-6 Urea Plants	GJ/MT	5.16	5.12	5.20	5.02
GRI-302-1	Q1-6 Ammonia Plants	GJ/MT	39.37	39.38	39.58	39.59
GRI-302-1	Total Energy Consumption	GJ	185,274,458	186,753,166	183,917,051	182,816,494

## ESG Data Tables - Social

GRI Disclosure Number	Indicator	Unit	2021	2022	2023	2024
GRI-405-1	Female Employees	Number	50	56	63	65
GRI-405-1	Male Employees	Number	1,164	1,154	1,149	1,200
GRI-403-9	Number of Fatalities - Employees & Contractors	Number	0	0	0	0
GRI-403-9	Total Recordable Incident Rate (TRIR) (Per 1 million work hours)	Percentage	0.16	0.44	0.39	0
GRI-403-9	Lost Time Incident Rate (LTIR) (Per 1 million work hours)	Percentage	0	0.29	0	0
GRI-401-1	Female New Hires	Number	4	7	9	6
GRI-401-1	Male New Hires	Number	27	29	41	98
GRI-401-1	Total New Hire	Number	31	36	50	104
GRI-401-1	Employee Turnover Rate	Percentage	1.92	1.49	1.49	1.98
GRI-102-8	Full-time Employees	Number	1,214	1,210	1,212	1,265
GRI-102-8	Part-time Employees	Number	0	0	0	0
GRI-102-8	Permanent Employees	Number	1,214	1,210	1,212	1,265
GRI-404-1	Average Training Hours per Employee	Average	24	21.20	16.90	18.77
GRI-401-1	New Hires Between 31-50 Years Old	Number	13	14	25	77
GRI-401-1	New Hires Over 50 Years Old	Number	2	2	3	0
GRI-401-1	New Hires Under 30 Years Old	Number	16	20	22	27

### **ESG Data Tables -** Governance

GRI Disclosure Number	Indicator	Unit	2021	2022	2023	2024
GRI-102-8	Full-time Employees	Number	1,214	1,210	1,212	1,265
GRI-102-8	Part-time Employees	Number	0	0	0	0
GRI-102-8	Permanent Employees	Number	1,214	1,210	1,212	1,265
GRI-102-8	Total number of hours	Number	6,359,844	6,865,939	10,358,548	10,189,392
GRI-102-8	Number hours - employees	Number	2,208,354	2,229,121	2,292,115	2,332,654
GRI-102-8	Number hours - contractors	Number	4,151,490	4,636,818	8,066,433	7,856,738
GRI-404-1	Average Training Hours per Employee	Average	24	21.20	16.90	18.77
GRI-401-1	New Hires Between 31-50 Years Old	Number	13	14	25	77
GRI-401-1	New Hires Over 50 Years Old	Number	2	2	3	0
GRI-401-1	New Hires Under 30 Years Old	Number	16	20	22	27

## **Abbreviations**

Terms	Definitions
APC	Advanced Process Control
BoD	Board of Directors
BOD	Biochemical Oxygen Demand
CBAM	Carbon Border Adjustment Mechanism
CCS	Carbon Capture and Sequestration
CEMS	Continuous Emission Monitoring System
CEO	Chief Executive Officer
CNG	Compressed Natural Gas
COD	Chemical Oxygen Demand
C00	Chief Operating Officer
CSO	Chief Strategy Officer
C-TPAT	Customs-Trade Partnership Against Terrorism
СТО	Consent to Operate
DEF	Diesel Exhaust Fluid
EES	Employee Engagement Survey
ERM	Enterprise Risk Management
ERP	Enterprise Resource Planning
ESG	Environmental, Social and Governance
EV	Electric Vehicle
GCC	Gulf Cooperation Council
GFC	Gulf Formaldehyde Company
GHG	Greenhouse Gas
GBF	Global Biodiversity Framework

Terms	Definitions
GRI	Global Reporting Initiative
GTL	Gas to Liquid
GPCA	Gulf Petrochemicals and Chemicals Association
HBKU	Hamad Bin Khalifa University
HCFC	Hydrochlorofluorocarbon
HPEs	High-Potential Employees
HSE	Health, Safety and Environment
HSSE	Health, Security, Safety and Environment
IAM	Identity and Access Management
ICV	In Country Value
IFA	International Fertilizer Association
IQ	Industries Qatar
ISO	International Organization for Standardization
KPI	Key Performance Indicator
LDAR	Leak Detection and Repair
LOPA	Layers of Protection Analysis
LTIR	Lost Time Incident Rate
LNG	Liquefied Natural Gas
MIC	Mesaieed Industrial City
MoC	Management of Change
MoECC	Ministry of Environment & Climate Change
MoU	Memorandum of Understanding

Qatar Fertilizer Company

## Abbreviations

Terms	Definitions
MTPD	Metric Tonnes Per Day
NH3-N	Ammonia Nitrogen
NOx	Nitrogen Oxides
ODS	Ozone-Depleting Substances
ОТ	Operational Technology
PDU	Power Distribution Units
рН	Potential Hydrogen
PHA	Process Hazard Analysis
PNSB	Purple Non-Sulfure Bacteria
PS	Process Safety
PSSR	Pre-Startup Safety Review
QAFCO	Qatar Fertiliser Company
QMC	Qatar Melamine Company
QNRF	Qatar National Research Fund
QNV	Qatar National Vision
QRA	Quantitative Risk Assessment
QSG	QAFCO Sustainability Goals
QTRM	QAFCO Technical Roadmap
RATA	Relative Accuracy Test Audit
SFA	Sustainable Fertilizer Academy
SOx	Sulfur Oxides
TDP	Talent Development Program
TRIR	Total Recordable Incident Rate
TSS	Total Suspended Solids

Terms	Definitions
UFC	Urea Formaldehyde Concentrate
UDST	University of Doha for Science and Technology
UN SDGs	United Nations Sustainable Development Goals
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound
ZLD	Zero Liquid Discharge
ZTA	Zero Trust Architecture



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