



2.1 Climate Action Material Topic

Climate change is a challenge faced by the entire world today. We are actively planning various climate actions, hoping that the implementation of internal operational strategies can help us be in line with world standards, move towards SDG13-Climate Action, and work with others to exert PharmaEssentia's influence and strive to mitigate climate change. In 2022, under the TCFD framework, we prioritized climate-related physical and transition-

al risk and opportunity identification as well as the GHG Inventories of our plants. In the future, we will continue to conduct scenario and quantitative financial impact analysis on major risk and opportunity projects, provide stakeholders with relevant and reliable financial measurement information, and work with others to help maintain the sustainable development of the environment.

GRI 3-3

<div data-bbox="152 544 286 667" data-label="Image"> </div> <div data-bbox="295 557 441 582" data-label="Section-Header"> <h3>Internal Policies</h3> </div> <div data-bbox="295 584 851 612" data-label="List-Group"> <ul style="list-style-type: none"> ● Environmental policies ● GHG Management Procedures </div> <div data-bbox="295 625 468 651" data-label="Section-Header"> <h3>External Guidelines</h3> </div> <div data-bbox="295 652 972 799" data-label="List-Group"> <ul style="list-style-type: none"> ● ISO14064-1: 2018 standard for GHG Inventories ● Climate Change Adaptation Act ● Corporate Governance 3.0 Evaluation System ● Items to be disclosed in the annual report of a publicly traded company ● Task Force on Climate-related Financial Disclosures (TCFD) ● Taiwan's 2050 NetZero commitment </div>	<div data-bbox="1070 544 1205 667" data-label="Image"> </div> <div data-bbox="1214 557 1456 582" data-label="Section-Header"> <h3>Short-term Targets for 2023</h3> </div> <div data-bbox="1214 584 2033 900" data-label="List-Group"> <ul style="list-style-type: none"> ● Continue operations for the 2022 GHG Inventories (included in the operation scope for Taichung Plant), and is expected to be verified by Q3 2023. ● Disclose information on climate change governance in the company's annual report and sustainability report in compliance with regulations and the company's governance 3.0 specification. ● Construct a complete TCFD framework in sequences, with the second phase to introduce operational processes related to significant climate-related risks and opportunities; evaluate how to integrate potential impacts of climate change into strategy planning, analysis, and risk management. ● Installation of the new magnetic levitation ice water machine at the Taichung Plant is expected to be completed in June 2023; installation of the new variable frequency air compressor is expected to be completed in March 2023. ● Implemented ISO 14001:2015 Environmental Management System. </div> <div data-bbox="1214 912 1525 938" data-label="Section-Header"> <h3>Medium-term Targets for 2024-2026</h3> </div> <div data-bbox="1214 940 2033 1227" data-label="List-Group"> <ul style="list-style-type: none"> ● Continue to conduct verification of the ISO14064-1:2018 Organizational GHG Inventories Management System. ● Track greenhouse gas emission control regulations, evaluate the company's operational risks, respond to regulatory control requirements in a timely manner, and revise management procedures and execution measures as needed. ● Complete the full construction of the TCFD framework; continuously integrate risks and opportunities related to significant climate-related issues into strategic objectives, financial planning impact analysis, and management; initiate analysis climate-related scenarios and financial impact to strengthen climate change response strategies. ● Continue to maintain ISO 14001:2015 Environmental Management System, utilize environmental impact assessment methods to reduce environmental impact risks, and seek related opportunities to achieve sustainability goals. </div> <div data-bbox="1214 1240 1538 1265" data-label="Section-Header"> <h3>Long-term Targets (2026 and beyond)</h3> </div> <div data-bbox="1214 1267 2020 1410" data-label="List-Group"> <ul style="list-style-type: none"> ● Implement the ISO14064-1:2018 Organizational GHG Inventories Management System, and pay attention to environmental assessment results, and follow-up on recommended improvements. ● Continuously optimize the TCFD framework, and roll out adjustments to company strategies and actions in strategic objectives, financial planning impact analysis, and risk management. </div>
<div data-bbox="152 831 286 954" data-label="Image"> </div> <div data-bbox="304 845 1135 994" data-label="Text"> <p>Aligned with the United Nations SDG 13 - Climate Action, we have sequentially introduced the TCFD framework for Task Force on Climate-related Financial Disclosures (TCFD), aiming to effectively manage the challenges and opportunities of climate change through climate governance, strategic planning, identification and risk management, and the establishment of indicators and targets. This provides reliable financial measurement information to stakeholders and contributes to the development of sustainable environments.</p> </div>	
<div data-bbox="152 1015 286 1137" data-label="Image"> </div> <div data-bbox="304 1035 985 1134" data-label="List-Group"> <ul style="list-style-type: none"> ● Board of Directors, Auditing Office, and Head of Corporate Governance ● ECCS - Environmental Friendliness Taskforce ● Taichung Plant - GHG Inventories Promotional Taskforce ● Taipei Headquarter - GHG Inventories Promotional Taskforce </div>	
<div data-bbox="152 1169 286 1292" data-label="Image"> </div> <div data-bbox="304 1190 1111 1410" data-label="List-Group"> <ul style="list-style-type: none"> ● Completed education and training on the Task Force on Climate-related Financial Disclosures (TCFD) and identified climate-related risks and opportunities. ● Continuously implemented and maintained ISO14064-1:2018 Organizational GHG Inventories Management System. ● Completed education and training on GHG Inventories. ● A total of 7 cross-functional departments and 22 employees participated in the GHG Inventories operation at the Taichung Plant. ● The Taichung Plant GHG Inventories project was executed, with external consultants and verification units commissioned at a cost of approximately NT\$307,000. </div>	



Management Evaluation Mechanism

- Conducted internal auditor training courses on the ISO14064-1 GHG Inventories management system.
- Obtained the ISO14064-1:2018 verification.
- Assessed against the Corporate Governance 3.0 evaluation indicators.
- Assessed against the Task Force on Climate-related Financial Disclosures (TCFD) framework criteria.
- Implemented the ISO 14001 environmental management system.

2022 Evaluation Results

- Conducted 4 sessions of GHG Inventories management and internal auditor training courses at the Taichung Plant, with a total of 63 participants and 189 hours of training.
- Certified 13 new internal auditors at the Taichung Plant, in addition to 14 existing ones, for a total of 27 qualified members.
- Obtained ISO14064-1:2018 verification for 2020 and 2021 at the Taichung Plant.
- Conducted 2 sessions of GHG Inventories management and internal auditor training courses with Panco Healthcare, with a total of 52 participants and 312 hours of training, at PharmaEssentia Headquarters.
- Conducted TCFD education and training with Panco Healthcare, with a total of 100 participants and 250 hours of training, at PharmaEssentia Headquarters.
- Conducted the TCFD Environmental Sustainability Risk Questionnaire Identification across 31+ departments at PharmaEssentia Headquarters and our subsidiary, Panco Healthcare; 18 questionnaires were sent and the response rate was 100%; 10 significant risks and 7 significant opportunities were identified.
- Adjusted the cooling tower water level to increase the efficiency of using recycled water in the water tower. Water usage decreased by 8 tons/day compared to before the adjustment, reducing the overall water usage at the Taichung Plant by approximately 14.8%.



Climate Change Governance Framework TCFD Governance

To actively support Taiwan's commitment to NetZero by 2050, in 2022, PharmaEssentia completed its first climate change risk and opportunity identification, laying the foundation for the first stage of climate governance. The Board of Directors is the unit at the highest level of sustainable governance, supervisory management, and decision-making, systematically reviewing the impact and implications of climate change from top to bottom. The ECCS and five functional taskforces (composed of executives and executives from all departments) are responsible for identifying climate-related risks and opportunities, implementing and promoting climate-related plans, and the ECCS's Environmental Friendliness Taskforce adheres to the regulations for a listed company's sustainable development roadmap and formulates the annual GHG Inventories disclosure schedule for the Taichung Plant. Starting from the second quarter of 2022, the progress of the GHG Inventories project has been included in the company's ESG sustainable execution progress. The ECCS will provide business reports to the Board of Directors every quarter. At the same time, important product manufacturing partners, warehouses, and distribution channels in the United States have committed to their own ESG public disclosure.

Strategy Planning and Execution GRI201-2 TCFD Strategy

In response to the issue of climate change and to support SDG 13 - Climate Action, PharmaEssentia has gradually developed a comprehensive strategy to address climate change and its impacts. In 2022, we formally adopted the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) framework and actively identified and took action to address the challenges and opportunities presented by climate change.

We have established Environment Policies as an internal guideline for preventing and responding to environmental impacts, and also created a GHG Management Procedures. Starting with our main production base, the Taichung Plant, we have conducted greenhouse gas inventories and completed third-party verification for the years 2019 to 2021.

We have made climate change a core topic and developed adaptation strategies in response to actual occurrences of climate disasters in recent years. Various climate actions concerning different environmental factors have been implemented, and we hope to build a comprehensive governance and strategy for climate change to ensure the sustainability of our operations in a changing climate.

Category	Physical Risks		Transition Risks	
	Immediate Disasters	Long-Term Disasters	Policy and Regulations	
Risk Opportunity	Extreme weather events: heavy rain, typhoons, blizzards, earthquakes, pests	Changes in average temperature Water resource stress	Carbon tax/fee Fuel tax/energy tax Total quantity control/emissions trading Mandatory reporting	Product labeling regulations and standards Uncertainty in new regulations International conventions/voluntary agreements
Factors Likelihood	Occurred	Possible	Occurred	Occurred
Impact				
Timeframe	Short-term	Long-term	Short-term	Medium-term
Potential Financial Impact Potential Opportunity Potential Cost	<ul style="list-style-type: none"> Heavy rain may increase the risk of flooding at the Taichung Plant, increasing repair costs A blizzard in the United States could result in delayed shipments Extreme weather events can lead to damage to local operations, equipment, and personnel, increasing operating costs Disruption of raw material sources may hinder production and transportation of products, affecting operational revenue 	<ul style="list-style-type: none"> Increased temperatures affect the employees' working environment, increasing occupational safety and health risks Decreased availability of water resources affects pharmaceutical production, even interrupting production processes Long-term climate change results in reduced energy supply and increased operational costs 	<ul style="list-style-type: none"> Carbon taxes in overseas markets and the introduction of carbon fees and energy-related taxes in Taiwan increase operational costs Investments in greenhouse gas emission inspections, verifications and disclosures extend to product carbon footprints throughout the product life cycle, increasing operational costs 	<ul style="list-style-type: none"> Investments in response to emerging regulations and international conventions as well as setting carbon reduction targets increases operational costs
Response/Adaptation Actions	<ul style="list-style-type: none"> Investing in insurance to reduce property damage, and increasing flood prevention measures in the factory can mitigate flood risks. ▶ 5.4 Product Quality and Safety Maintaining a safe stock level of at least 4 months in the US can ensure a stable supply chain and reduce the risk of delays caused by weather events. ▶ 5.4 Product Quality and Safety Expanding drug registration in various regions can diversify the risk of weather events affecting production. ▶ PharmaEssentia's Company Introduction Committing to reducing energy intensity and dependence on energy sources can help mitigate climate change risks. ▶ 2.1 Climate Action Expanding production bases and improving raw material procurement can improve supply chain resilience. ▶ 5.2 Sustainable Supply Chain Management 	<ul style="list-style-type: none"> Implementing energy-efficient measures to reduce carbon emissions can reduce the company's contribution to global warming. ▶ 2.1 Climate Action The Taichung Plant recycles and reuses 8.724 million liters of process water. ▶ 2.2 Water Stewardship and Biodiversity Panco Healthcare has set up a rainwater collection tower in its medical facility to utilize water resources efficiently. ▶ 2.2 Water Stewardship and Biodiversity 	<ul style="list-style-type: none"> Conducting a GHG Inventories, analyzing emission levels and hotspots, and obtaining third-party verification ahead of regulatory requirements can help mitigate climate change risks. ▶ 2.1 Climate Action Implementing energy-efficient measures in administrative offices can reduce energy demand and carbon emissions. ▶ 2.1 Climate Action Replacing old air compressors and chillers with more efficient ones can increase energy efficiency and reduce energy consumption. ▶ 2.1 Climate Action 	

Impact Low medium-low Medium Medium-High High

Note 1: Impact levels are defined as low (meaning operations are not affected), low to medium (meaning operations are affected but not changed), medium (meaning operations are affected and may change), medium to high (meaning operations are significantly affected, leading to changes in operations), and high (meaning operations are significantly affected, leading to operational disruptions).

Category	Opportunity	
	Resource Efficiency	Energy Sources
Risk and Opportunity ⚠️ Risk ★ Opportunity	★ Use more efficient production and distribution processes. ★ Reduce water usage and consumption. ★ Transition to more efficient buildings	★ Use low-carbon energy sources. ★ Adopt energy-related incentive policies. ★ Use new energy technologies. ★ Participate in carbon trading markets.
Factors Likelihood	Possible	Possible
Impact	●●●●●	●●●●●
Timeframe	Medium-term	Medium-term
Potential Financial Impact - Potential Opportunity + Potential Cost	+ Improving resource efficiency in the pharmaceutical production process reduces operational costs and enhances production resilience. + Adopting green/smart building designs in new facilities reduces daily operating costs and improves natural resource efficiency	+ Introducing renewable/low-carbon energy sources reduce potential carbon costs. + Using government incentives related to green energy reduces initial investment costs. + Establishing carbon capital and participating in carbon trading markets reduces exposure to rising energy prices. + Optimizing pharmaceutical processes and using green transportation to replace high-carbon emission transportation reduces carbon emissions and product carbon footprints for the entire organization, thereby reducing operational carbon costs.
Response/Adaptation Actions	<ul style="list-style-type: none"> ● Replacing old air compressors and chiller units with high-efficiency ones can improve energy efficiency and effectiveness, contributing to climate action. ▶ 2.1 Climate Action ● Implementing energy-efficient measures, such as energy monitoring systems, optimized task force process control, and waste heat recovery can improve energy efficiency and reduce carbon emissions. ▶ 2.1 Climate Action ● The Taichung Plant recycles and reuses 8.724 million liters of process water, with the goal of protecting water resources and biodiversity without harming the surrounding wildlife and plants. ▶ 2.2 Water Stewardship and Biodiversity ● The Pan-Asia Medical facility has installed a rainwater harvesting system to make the most of water resources. ▶ 2.2 Water Stewardship and Biodiversity 	<ul style="list-style-type: none"> ● The new Zhubei Plant is designed to meet the qualifications for the green building label, aiming to reduce the organization's carbon footprint and secure green building subsidies. ● Reducing waste and hazardous material production can lower the product's carbon footprint. ▶ 2.3 Waste Management ▶ 2.4 Hazardous Material Management

Impact ●●●●● Low ●●●●● medium-low ●●●●● Medium ●●●●● Medium-High ●●●●● High

Note 2: Time frames are defined as short-term, lasting 1-3 years; medium-term, lasting 3-10 years; and long-term, lasting over 10 years.

Risk Management TCFD Risk Management

We aim to integrate climate governance into our sustainable management and operational planning. We conduct enterprise risk identification and management in following with the enterprise risk management framework released by the COSO organization and the World Business Council for Sustainable Development (WBCSD) in 2018. With this framework as our foundation, we have explored responses to climate-related issues in-depth through the transition and physical risks and opportunities proposed by the TCFD.

In terms of our current sustainable governance organization, the units responsible for handling climate risks includes the Board of Directors, the audit department, the Head of Corporate Governance, the Environmental Friendliness Taskforce of the ECCS, the GHG Inventories Promotional Task Force of the Taichung Plant (7 cross-functional departments), and external professional consultants. Led by the ECCS's 5 cross-functional taskforces, various department heads and colleagues have considered industry characteristics and operational status, analyzed the impact of various risks and opportunities on operations (such as potential carbon cost increases, the cost of responding to stricter environmental regulations, changes in market preferences that reduce customer trust, losses caused by climate disasters, cost reductions due to efficient production, and many other impacts), and jointly identified material risks and opportunities based on three dimensions: likelihood, impact degree, and occurrence time. Further analysis of the risks' potential financial impact on company operations is conducted, an analysis upon which we formulate PharmaEssentia climate adaptation strategy and enhance our organization's climate resilience.

Climate-Related Risk and Opportunity Identification and Management Process

Unified consensus on education and training

Explain the implications and impacts of climate change issues and strengthen colleagues' climate issue knowledge and consistency in discernment.

- Training Participants: PharmaEssentia, Panco Healthcare
- Number of Participants: 100 people

Identification of Climate Risks and Opportunities

Assessment of climate-related risks and opportunities, evaluating likelihood, impact and timing

- Involving 31+ departments
- Issuing 18 questionnaires
- Achieving 100% response rate for questionnaire collection

Ranking by significance/importance

- Identify 17 major risks and opportunities based on their likelihood and impact level and categorize them into 5 major categories.
- Analyze the potential occurrence timeline.

Potential Financial Impact Analysis

- Analyze the questionnaire responses and industry trends.
- Explore the potential financial impacts of the 5 major risk and opportunity categories on PharmaEssentia, as a basis for future climate governance.
- Develop corresponding adaptation/mitigation actions.

Future Promotion Plan (Next 3-5 Years)

- Continuously delve into the impacts and transformation opportunities of each type of risk.
- By exploring climate-related risks and opportunities, re-examine the impact of climate on corporate finance and performance.
- Take concrete actions to face the challenges and opportunities brought about by climate change.

Energy Use and Emissions Analysis

TCFD Indicator and Target

In addition to establishing a comprehensive governance, strategy, and risk management framework, we have also analyzed energy use and greenhouse gas emissions in the backend. Through management, implementation and tracking, we have continuously reduced both energy intensity and greenhouse gas emissions intensity for three consecutive years, effectively reducing the environmental impact of our operations.

As we expand our operations and plan to build a new plant, we anticipate an increase in both energy use and emissions. The new plant will be located in the Hsinchu Biomedical Science Park, where we hope to leverage the advantages of the Hsinchu Science Park and the ICT industry to create a cluster effect. *We will prioritize constructing an environmentally-friendly factory by applying for green building qualifications for the new plant.*

GHG Emissions Analysis

GRI 305-1~305-4



59%

Greenhouse gas emissions intensity Decreased



2021 Statement on GHG Inventories

We have established a greenhouse gas (GHG) task force at our main production base in Taichung Plant, which takes charge of managing our backend emissions. Using 2019 as the base year, we have developed a "Greenhouse Gas Management Procedure Manual" as a pilot for the Group's introduction of climate governance ISO 14064-1:2018 GHG Inventories. As of the end of 2022, Taichung Plant has completed the GHG Inventories for 2019-2021 and obtained certification from third-party organizations. The inventory data for 2022 is also going to be verified externally in Q3 2022, which will serve as the basis for tracking and setting targets for the Task Force on Climate-related Financial Disclosures (TCFD).

For PharmaEssentia, Category 1 - Direct Emissions Sources, including gas boilers, process emissions, diesel generators, fuel for official vehicles and various refrigerants, account for about 13% of emissions. Category 2 - Indirect Emissions from Purchased Electricity account for about 71% of emissions. Categories 3-6 include Category 3 - Indirect Emissions from Transportation (raw material transportation, product transportation, waste transportation, and employee travel), and Category 4 - Indirect Emissions from Use of Materials/ Services (upstream raw materials and waste disposal), which together account for about 16% of emissions. With the steady growth of commercial production, the greenhouse gas emissions intensity has been decreasing year by year over the past 3 years, with a **reduction of 59%** by the end of 2022 compared to the previous year.

Greenhouse Gas Emissions Statistics at PharmaEssentia Taichung Plant in the Past 3 Years

		2019 (Base Year)	2020	2021	2022 (Self-Reported Figures)
Category 1		707.2290	503.2129	510.9479	569.4792
Category 2	ton-CO ₂ e	3054.9956	3094.3151	3029.609	3085.5974
Category 3-6		822.8025	814.5347	785.3639	711.5122
Total	ton-CO ₂ e	4,585.0271	4,412.0630	4,325.9210	4,366.5900
Intensity	ton-CO ₂ e/g	74.80	102.56	67.95	27.70
	Compared to the previous year	-	37%	-34%	-59%

Note 1: The data in this table is within the scope of the Taichung Production Manufacturing Plant of PharmaEssentia.

Note 2: GHG Inventories follows the ISO14064-1:2018 standard, and the data from 2019 to 2021 has obtained an SGS verification statement.

Note 3: The types of greenhouse gases included in the GHG Inventories include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃).

Note 4: The emission coefficient method is used for statistical analysis, and the emission coefficients for externally purchased electricity follow the carbon emission coefficient for electricity announced by the Bureau of Energy of the Ministry of Economic Affairs. The coefficients for 2020 and 2021 were 0.502 (kgCO₂e/kWh) and 0.509 (kgCO₂e/kWh), respectively. The greenhouse gas emission coefficient required for natural gas emissions is based on the global warming potential (GWP) of various GHGs in the IPCC AR6 (2021) report.

Note 5: The intensity is measured by the total production volume (g) of products per year.

Note 6: The inventory for 2022 is still in progress, and the emissions from Categories 3 to 6 have not yet included the transportation of raw materials, employee business travel, electricity consumption in central laboratories, water consumption, and wastewater generation.



Energy Use Analysis GRI 302-1/302-3

Our company's energy consumption is mostly composed of two categories: externally purchased electricity and natural gas. To comply with the Good Manufacturing Practice (GMP) requirements for maintaining a certain level of cleanliness and quality control during non-production periods, our reduction in baseline electricity consumption is limited. Therefore, we have implemented multiple energy-saving measures and regularly reviewed the effectiveness of equipment, appliances, and electricity-saving initiatives. Through tracking mechanisms and differential analyses, we have formulated improvement strategies to continuously move towards our goal of reducing energy consumption intensity. The main reason for the decrease in our energy intensity is due to the increase in production volume. As of 2022, our products have been launched in 38 countries/markets, and as our global market expansion plans continue to unfold, our production volume continues to increase. As a result, our energy intensity has also decreased over the past three years, **with a reduction of 62%** compared to the previous year as of 2022.

Our US subsidiary actively planned its operations after obtaining a pharmaceutical license in 2021. We use data collection on resource usage as the basis for energy management, and plan to expand the scope of data collection to align with that of PharmaEssentia Headquarters in the future.

PharmaEssentia and Panco Healthcare's Energy Consumption in the Past 3 Years

		2020	2021	2022
Purchased electricity (GJ)	Renewable energy use (GJ)	0.00	0.00	0.00
	Non-renewable energy use (GJ)	24,839.53	27,277.60	23,454.71
Natural gas (GJ)	Natural gas (GJ)	8,395.93	7,339.11	9,045.06
Petroleum (GJ)	Petroleum (GJ)	-	-	19.58
Total (GJ)	Total energy use (GJ)	33,235.46	34,616.71	32,519.36
Intensity	Energy intensity (GJ/g)	772.56	543.77	206.29
	Comparison with the previous year	-	-30%	-62%

Note 1: Energy consumption data includes PharmaEssentia and Panco Healthcare.
 Note 2: The renewable energy consumption data in this table has been corrected in the 2021 sustainability report after being verified by an external organization. The original renewable energy consumption (2,789.56 GJ) was found to include non-renewable energy sources and has been added to the non-renewable energy consumption (2,789.56 + 24,488.04 = 27,277.60 GJ).
 Note 3: Starting from 2022, the petroleum (including diesel and gasoline) category has been included in the statistics.
 Note 4: Energy intensity is a metric that measures the intensity of energy use and greenhouse gas emissions per unit of product output (g) produced annually.

Resource Usage Statistics Table for US Subsidiary in 2022

Resource Use Category	Original Amount		Converted Amount	
	Usage	Unit	Usage	Unit
Electricity	1,596,640	kwh	5,747.90	GJ
Water Resources	715,830	Gallons	3.78	ML
Natural Gas	6,431	Therms	678.51	GJ

Note: The statistics for electricity and natural gas for the US subsidiary are from January 2022 to December 2022, while the statistics for water resources are based on the billing cycle, from October 2021 to July 2022.

Energy-Saving And Carbon Reduction GRI 302-4/305-5

PharmaEssentia has implemented multiple energy-saving measures to reduce operational and production energy consumption and greenhouse gas emissions, and continues to better energy conservation and carbon reduction in administrative areas. These measures include advocating for the unplugging of unused electrical appliances, turning off electrical power during long vacations, and using public transportation for business trips. Using 2021 as the basis, despite laboratory expansion and an increase in the number of employees, electricity consumption was reduced by 3.91%, and water consumption was reduced by 4.72%. In the Taichung Plant, adjusting the cooling tower water level and increasing the use of recycled water in water cooling towers have increased water usage efficiency, resulting in a reduction in water consumption by 8 tons per day and a decrease in overall water usage at the Taichung Plant by approximately 14.8%. Furthermore, PharmaEssentia plans to complete the installation of a variable frequency air compressor by March 2023 and a magnetic levitation ice water machine by June 2023. The company is also evaluating the adoption of an energy monitoring system to reduce electricity consumption as well as improve task force process control/optimization and waste heat recovery, so that the usage of natural gas can be reduced and energy efficiency can be improved.

Air Pollutant Emissions Statistics GRI 305-6~7

Our company uses boilers in our production processes, primarily fueled by natural gas. The combustion of natural gas in the boilers results in air pollutants, such as nitrogen oxides, sulfur oxides, and particulate matter. However, the concentration of these pollutants in our emissions is below the regulatory limits set by environmental laws, so we do not need to install any pollution control equipment. We are also committed to not using or emitting any substances that are controlled under the Montreal Protocol, which aims to protect the ozone layer, or any persistent organic pollutants (POPs). We comply with regulations set by the Environmental Protection Administration (EPA) by conducting regular inspections and reporting on our fixed air pollution sources. We outsource this inspection to an EPA-approved testing institution, Jichuan Environmental Technology Co., Ltd., which conducts inspections in accordance with the regulations. The results of the inspection show that our air pollutant emissions are below regulatory limits and that we have not violated any environmental regulations. We are dedicated to fulfilling our environmental responsibilities in our production processes.

Air Pollutants Emissions Statistics of PharmaEssentia in the Past 3 Years

Air Pollutants	(Unit: kg)		
	2020	2021	2022
Nitrogen Oxides (NOx)	415.7	352.41	444.2
Sulfur Oxides (SOx)	29.6	0	34
Volatile Organic Compounds (VOCs)	13.3	734.31	9.3
Hazardous Air Pollutants (HAPs)	Estimation of Non-Detects	168.54	434.2
Particulate Matter (PM)	7	14.77	7.8
Hydrochloric Acid	-	-	93.4

Note 1: The data in this table only applies to PharmaEssentia Taichung Plant; Panco Healthcare has no emissions of air pollutants listed in this table.
 Note 2: The emissions of nitrogen oxides (NOx), sulfur oxides (SOx), and particulate matter (PM) were not measured in 2022 and are estimated based on the data from 2020. Hydrogen chloride emissions are included in the 2022 data.