

PharmaEssentia pledges to minimize negative environmental impacts during product production processes and life cycle stages. We established environmental health and safety policies as well as environmental management indicators that include future targets for waste intensity, energy intensity, and greenhouse gas emissions intensity; incorporated the Task Force on Climate-Related Financial Disclosures (TCFD) framework to identify material climate risks & opportunities and formulate response measures; and regularly track progress on indicators and response measures.





#### Material Topics

- Evaluation of Environmental Impacts from Drug Production Processes

#### Main Stakeholders

- Shareholders and Investors
- Media
- NPOs/NGOs

## 4.1 Environmental Impact and Management in Production Process

Material Topics	Description of Impacts	Policies and Commitments
<div> </div> <div>Evaluation of Environmental Impacts from Drug Production Processes</div>	PharmaEssentia is a research-oriented biopharmaceutical company with R&D and manufacturing based in Taiwan as well as sales locations spread across Europe, the US, Japan, Singapore, China, and Korea. We work with local suppliers in all authorized markets on drug packaging, warehousing, distribution, and other components, and use various management systems to reduce negative environmental impacts from product R&D, production, and transportation processes.	PharmaEssentia promulgated the Environmental Health and Safety Policy in 2018 to ensure employee health and safety, protect the environment, and prevent disasters. Environmental management is implemented through greenhouse gas management procedures, waste management procedures, chemical hazard management procedures, and other procedural documents. Additionally, our Taichung Plant has incorporated the ISO 14001 Environmental Management System to mitigate environmental impacts, enhance environmental management efficiency, and reduce negative environmental impacts from production and operational processes.
Responsible Unit	Response Measures and Management Actions	
<p><b>Taipei Headquarters:</b> Occupational health and safety promotion team</p> <p><b>Taichung Plant:</b> Greenhouse gas inventory promotion team (GHG promotion team)</p> <p><b>Material sustainability issues:</b> Compiled and managed by the Executive Center for Corporate Sustainability Environmentally Friendly Team</p>	<ul style="list-style-type: none"><li>PharmaEssentia invested NT\$9.39 million in environmental costs in 2024</li><li>Education and training: As of 2024, a total of 27 employees have obtained ISO 14064-1 internal auditor certification</li><li>TCFD/greenhouse gas inventory training hours: A total of 101 persons received 202 hours of training</li><li>General personnel response training for toxic and chemical substances of concern: 16 people obtained certification, including 9 employees from our Taichung Plant and 7 employees from our Taipei Headquarters</li></ul>	
Evaluation Mechanisms		
(Channels and Systems for Tracking Effectiveness of Response Measures and Management Actions)		
<ul style="list-style-type: none"><li>Short, medium, and long term management indicators: Waste intensity, energy intensity, and greenhouse gas emissions intensity</li><li>Internal audits:<ul style="list-style-type: none"><li>Non-periodic audits of waste treatment vendors</li><li>Periodic inspections of internal waste storage areas</li></ul></li></ul>	<ul style="list-style-type: none"><li>Periodic assessments of unit waste generation intensity</li><li>External audits: Inspect legality of routine items in accordance with regulations established by environmental authorities</li><li>Quarterly on-site promotion meetings with Taichung City Department of Environmental Protection and Central Taiwan Science Park Administration, as well as engagement through communication meetings</li></ul>	

## Environmental Management Indicators and Investments



### Targets and Achievements in 2024

- Waste intensity (ton/million TWD): 0.32%, a reduction of 51% compared to 2023
- Energy intensity (GJ/million TWD): 4.78, a reduction of 32% compared to 2023
- Greenhouse gas emission intensity (tCO<sub>2</sub>e/million TWD): 0.5, a reduction of 43% compared to 2023
- Completed quarterly inspections of waste storage areas in 2024
- Waste recycling and reuse volumes in 2024 were increased by 10.28% compared to 2023
- Waste management: Zero pollution incidents
- Pollution prevention assessments: Zero pollution incidents
- Participated in 49.5 hours of external training (including promotion meetings) hosted by Taichung City Department of Environmental Protection and Central Taiwan Science Park Administration in 2024
- No major environmental violation incidents



### Targets

#### Short-Term Targets (1-2 Years):

- Complete PharmaEssentia Zhubei Plant in 2025 and apply for green building certification
- Lower waste intensity (ton/million TWD) to less than 0.01
- Increase ratio of waste recycling and reuse volumes to overall waste volumes to reduce waste incineration/landfill volumes

#### Mid-Term Targets (3-5 Years):

- Continue to maintain and increase waste transferred to solid recovered fuel (SRF) vendors for reuse
- Incorporate ISO 14001 at Taipei Headquarters in 2027

#### Long-Term Goals (More Than 5 Years):

- Complete Houli Plant and provide smart pharmaceutical manufacturing and warehousing services to Taoyuan Aerotropolis
- Incorporate green building concepts into new plans during the planning and designing stages, and aim to obtain green building certification

PharmaEssentia established environmental management indicators in response to potential environmental impacts from production processes, and regularly invests in pollution control and waste treatment processes. We continue to track progress, respond to government environmental regulatory requirements and external audit requirements, and optimize management actions. Our Taichung Plant incorporated the ISO 14001:2015 Environmental Management System in 2024 and formed a promotion team composed of members from related units. The team is responsible for executing management system processes, undergoing education and training, carrying out risk assessments, and adopting response measures. A third-party verification statement was

obtained from SGS in December 2024. In terms of greenhouse gas management, our Taichung Plant and Taipei Headquarters have both incorporated the ISO 14064-1:2018 Greenhouse Gas Inventory Management System. We completed external verifications for 2023 greenhouse gas inventories at year-end 2024 and have obtained a third-party verification statement. Greenhouse gas inventories for 2024 are currently ongoing. PharmaEssentia has formulated short, medium, and long term management targets for greenhouse gases, energy, and waste, and has adopted measures to enhance energy and waste handling efficiency in response to global market and production capacity demands, and to reduce environmental burdens from production processes.



Taichung Plant obtained ISO 14001 Environmental Management System SGS verification statement in 2024



Taipei Headquarters and Taichung Plant obtained ISO 14064-1 third-party verifications for 2023 greenhouse gas inventories



### PharmaEssentia Environmental Management Indicators

Management Items	Management Indicators	Unit	Target for 2024	Achievements in 2024	Short-term target (1 year)	Medium & long-term target (3-5 years)
Greenhouse gas inventory and energy consumption	Energy intensity	GJ/million TWD	≤ 5	4.78	≤ 5	≤ 5
	Greenhouse gas emissions intensity	tCO <sub>2</sub> e/million TWD	<1	0.5	<1	<1
Waste management	Waste intensity	ton/million TWD	<0.01	0.003	<0.01	<0.01

In terms of waste management and air pollution management, PharmaEssentia invested NT\$9.39 million in environmental costs (including pollution prevention equipment, biopharmaceutical waste treatment, management activities, and pollution prevention) in 2024, an increase of 71% compared to the previous year; NT\$6.23 million was used on PEG air pollution prevention process equipment, which reduced emissions of air pollutants. In terms of water resource protection, our Taichung Plant regularly applies for water pollution prevention permits; production, operations, and reports are completed in accordance with these permits, and regular sample test report results all adhered to standard limits.

PharmaEssentia continues to implement routine inspections and deficiency corrections in accordance with environmental regulations set by competent authorities. Our main environmental deficiencies in 2024 included failure to conduct daily boiler inspections, detached labels on waste facility pipelines, failure to label waste items and waste areas; all deficiencies have since been corrected. PharmaEssentia regularly attends on-site promotion meetings with Taichung City Department of Environmental Protection and Central Taiwan Science Park Administration to implement management measures and reduce negative environmental impacts.

### PharmaEssentia Environmental Investments in 2024

(Unit: TWD)

Indicator	Expenditures	Ratio
Pollution prevention equipment and costs	6,382,478	67.98%
Waste treatment costs	2,065,245	22.00%
Management activity costs	940,400	10.02%
Total	9,388,123	100.00%

## 4.2 Climate and Nature Actions

Enterprises are facing severe challenges due to impacts from global climate change, and the risks and challenges caused by climate change are significantly impacting corporate value chains. The Financial Stability Board (FSB) proposed the Task Force on Climate-Related Financial Disclosures (TCFD) in 2017, providing a set of guidelines to help enterprises identify climate-related risks and opportunities. PharmaEssentia adopted the TCFD guidelines for the first time in 2022 to identify climate-related risks and opportunities, and also used these guidelines in 2023 to further assess potential financial impacts caused by climate-related risks and opportunities under different scenarios. We conducted ISO 14064-1:2018 organizational greenhouse gas inventories to respond and adapt to climate change from a carbon management perspective. PharmaEssentia climate actions and implementations associated with the four aspects of climate governance, strategy, risk management, and metrics and targets according to TCFD guidelines are detailed below. In 2024, PharmaEssentia determined that there were no major changes to internal operations and external environments. We therefore continued to use the climate-related risks and opportunities identified in 2023, and updated related indicators and targets using results achieved in 2024. We plan to re-identify climate-related risks and opportunities in 2025.