

# WHA

## SUSTAINABILITY REPORT 2023



WHA Corporation Public Company Limited

**WE SHAPE THE FUTURE**

The Ultimate Solution For Sustainable Growth

# Table of Contents

## General Disclosure

Chairman of the Executive Committee and CEO Message	2
Awards and Memberships	6
About this Report	10
Getting to Know WHA Group	11
Sustainability at WHA Group	30
Sustainability Material Issues	32
Stakeholder Engagement	35

## Governance/ Economic Dimension

Code of Conduct	44
Risk and Crisis Management	53
Customer Relationship Management	68
Supply Chain Management	85
Innovation and Technology Management	94
Data Security	115



### **Social Dimension**

Human Resources Management	122
Labor Practice	125
Talent Attraction and Retention	127
Employee Development and Promotion of Advancement Opportunities	134
Human Rights	142
Occupational Health and Safety	160
Community Development and Stakeholder Engagement	180

### **Environment Dimension**

Environmental Policy and Management System	224
Waste Management	227
Air Emission Management	238
Climate Strategy	246
Energy Management	265
Biodiversity and No Deforestation	274
Water Management	280
GRI Content Index	289
Climate Change Scenario Analysis	294
Independent Assurance	296



# MESSAGE FROM THE CHAIRMAN OF EXECUTIVE COMMITTEE AND GROUP CHIEF EXECUTIVE OFFICER





“ 2023 was another year of remarkable success for WHA Corporation Public Company Limited and the subsidiaries company (WHA Group), achieving record-high operational results and successfully transitioning towards a digital society. This was accomplished despite facing global economic challenges such as geopolitical conflicts, the energy crisis in Europe, and the climate change crisis affecting the economy, society, and environment. ”

However, WHA Group has been closely monitoring external factors and remains committed to pursuing the short-term and long-term business strategies. The Group aims to reinforce the leadership in the logistics business, industrial estate development, utilities and power, and digital business sectors. The Group is also seeking additional business opportunities both in Thailand and abroad by leveraging digital innovation and technology to enhance customer experience and develop products and services aligned with sustainable growth principles. Simultaneously, The Group continues to integrate technology into the business operations to enhance competitiveness and fully transition into a Tech Company by 2024. The Group is dedicated to driving change and playing a crucial role in elevating the capabilities of both the Thai and global economies sustainably.

In 2023, WHA Group achieved record-breaking performance, continuing the trend from 2022. The Group reported total revenue and share of profit at THB 17,015 million, and net profit at THB 4,426 million, increasing 9% from the previous year for both items. Its normalized total revenue and share of profit was THB 17,003 million, and normalized net profit was THB 4,420 million, up 9% from the previous year for both items. Additionally, total assets have grown to THB 90,225 million, demonstrating continuous growth across all four business groups and the successful execution of clear and sustainable business expansion plans.

Additionally, WHA Group has announced the mission “WHA : WE SHAPE THE FUTURE” mission, aiming to create a sustainable future for Thailand. This concept builds on the sustainability development approach the Group has adhered to since the beginning, aligning with the “The Ultimate Solution for Sustainable Growth” mission. This mission emphasizes a balance between environmental, social, economic, and good governance principles to achieve sustainable growth for the organization and all stakeholders in the long term. Simultaneously, the Group continues the “Mission To The Sun” project, which includes the transformation of business to digital, the creation of new products and added value to meet customer needs, and the enhancement of the Group’s business to be more comprehensive. Examples include the Green Logistics project, which involves integrating green technology into the logistics business, such as the use of electric vehicles for transportation, electric vehicle charging stations powered by renewable energy, and the use of digital technology as the central control system for electric vehicle operations. These initiatives significantly impact the environment positively and help reduce the country’s logistics costs in the long term. Moreover, the Group has set a target to fully operate under the principles of a circular economy by 2050 (100% Circularity by 2050). This will be achieved through the implementation of three key principles: Design & Resource, Green Products, and Operation Excellence. In 2023, all four business groups presented over 40 circular economy projects.

WHA Group is committed to operating with continuous environmental awareness and recognizing that climate change is a critical and urgent global issue. The Group closely monitors this issue and has proactively implemented internal measures, as well as driven various projects through the Group’s products and services, to slow the impact of global climate change. WHA Group has consistently achieved carbon neutrality since 2021 and aims to reach net zero greenhouse gas emissions by 2050, following the Science Based Targets Initiative (SBTI). This ensures all stakeholders are confident in the Group’s management of climate-related risks. Over the past year, the Group has focused on reducing greenhouse gas emissions by improving

operational efficiency to maximize energy use and increasing the proportion of renewable energy in the activities. This includes installing solar energy systems at the Group’s water production and treatment plants. Additionally, the Group has launched a solar rooftop project to continually enhance the capacity to produce and sell solar energy to customers, reducing greenhouse gas emissions by 51,497 tCO<sub>2</sub>e. Furthermore, the Group emphasizes efficient water management to ensure sufficient water supply for customers, minimizing dependence on natural water sources. This is achieved by treating wastewater for reuse and enhancing the value of treated wastewater using technology to produce demineralized water for industrial purposes, offering an alternative water source and promoting sustainable water management for the Group’s customers. In 2023, the Group reduced reliance on natural sources by over 7.3 million cubic meters, equivalent to the water usage of more than 200,000 people, thereby fostering sustainable water management for all stakeholders, particularly nearby communities, and significantly reducing environmental impact.

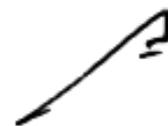
In addition to conducting business with respect for the environment, WHA Group also considers the community, which is one of the key stakeholders and is inevitably affected by the Group’s operations. WHA Group aims to support and create the most positive outcomes for the surrounding communities and society while ensuring that the business activities do not negatively impact society, particularly regarding environmental quality and safety of life. WHA Group has aligned the sustainable social development activities with the United Nations’ Sustainable Development Goals (SDGs), focusing on projects that create shared value in various dimensions, including community development, education promotion, environmental conservation, and designing the Group’s industrial estates to include social spaces that provide opportunities for surrounding communities to grow alongside the Group’s business. Some of the notable projects include WHA Clean Water for Planet project for water management in constructed wetlands, the WHA E-Job Pool project to create new employment opportunities within industrial estates,

WHA Pan Kan project, and the development of a vehicle management system within the Group's industrial estates. Additionally, WHA Group leverages innovation and technology to improve well-being, particularly in health. The Group has developed the Digital Health Tech project to enhance access to healthcare services and solutions for employees, customers, and businesses through a health application called WHAbit. This digital tool enables users to manage their health comprehensively, such as accessing past health records anytime, anywhere, and consulting with doctors via video calls. It is evident that, besides the community, WHA Group places significant importance on our personnel, who are crucial stakeholders for the organization's success. The Group has devised strategies for workforce management that encompass a vision for the future of work, preparing employees to face future challenges. This includes restructuring the organization, developing and enhancing employee capabilities, integrating technology to reduce workload, and creating an innovative work environment. For instance, the WHA Tower office building is designed as a "Work-Life Solution" that supports a flexible work environment, fostering creativity, new ideas, and happiness in the workplace.

WHA Group remains committed to conducting business with integrity, fairness, and transparency to continuously elevate good corporate governance and meet the needs of stakeholders throughout the supply chain. The Group has a clear risk management and internal control system to build stakeholder confidence through transparent and auditable operations. This adherence is enshrined in the Group's anti-corruption and anti-bribery policy, which all parties involved are strictly required to follow. This policy covers all of the Group's stakeholders to ensure that the Group operates under governance principles with effective risk prevention measures against corruption and bribery. The Group's commitment to these principles is evidenced by the prestigious sustainability awards received in 2023, such as the Best Sustainability Excellence Award and the Commended Sustainability Award for WHAUP in the Sustainability Excellence category from the Stock Exchange of Thailand. Additionally, the Group received the highest "AAA" rating in the SET ESG Ratings for 2023 and was

included in the S&P Global Sustainability Yearbook Member for 2024. Furthermore, WHA Group achieved an "Excellent" CG Scoring of 5 stars from the Thai Institute of Directors (IOD) by the Stock Exchange of Thailand for the sixth consecutive year. Other notable recognitions include the CEO of the Year 2023 award from Bangkok Business Newspaper, the AMCHAM CSR Excellence Awards at the platinum level for the 14th consecutive year, the Eco-Excellence and Eco-Champion awards from the Eco Innovation Forum 2023, and the Best Employer from Kincentric Thailand. These awards underscore the Group's dedication to employee development, progress, and fostering strong employee engagement.

Finally, as the Chairman of the Executive Committee and CEO of WHA Corporation Public Company Limited, and on behalf of the Board of Directors and the management team, I would like to extend my sincere gratitude to all parties who have continuously supported the Group's business. I deeply appreciate the trust and cooperation from all sectors. WHA Group will remain committed to developing our areas of expertise, leveraging innovation and technology to maximize benefits. WHA Group will continue to improve and adapt our operations to effectively respond to changes in the business world, driving sustainable growth throughout the supply chain to enhance the quality of life for society. WHA Group aim to be a crucial force in driving transformative changes that will lead our organization, Thailand, and the global community beyond crises toward balanced development in economic, social, and environmental. Lastly, WHA Group committed to adhering to good governance to ensure the greatest benefits for all stakeholders, in line with our commitment to being "The Ultimate Solution for Sustainable Growth".



**Ms. Jareeporn Jarukornsakul**

Chairman of Executive Committee / Group Chief Executive Officer  
WHA Corporation Public Company Limited

## 2023 AWARDS & MEMBERSHIPS

### SET AWARDS 2023



#### BEST SUSTAINABILITY EXCELLENCE AWARDS

WHA Corporation Public Company Limited (WHA Group) received the “**Best Sustainability Awards**” in the Sustainability Excellence category at the SET Awards 2023.



#### COMMENDED SUSTAINABILITY AWARDS

WHA Utilities and Power Public Company Limited (WHAUP) received the “**Commended Sustainability Awards**” in the Sustainability Excellence category at the SET Awards 2023.



These two awards reflect the organization’s commitment and approach to sustainable development and growth by leveraging innovation and technology to maximize benefits, as well as operates with good corporate governance principles and emphasizes the importance of all stakeholders to create sustainable value in economic, social, and environmental aspects, advancing towards sustainable development and growth.



#### HIGHEST RATING OF “AAA” IN SET ESG RATINGS 2023

WHA Corporation Public Company Limited (WHA Group) and WHA Utilities and Power Public Company Limited (WHAUP) have been selected for the list of sustainable stocks in the Property & Construction sector and the Resources sector by the Stock Exchange of Thailand for the fourth consecutive year. The Group received an “AAA” rating, the highest level, in the 2023 SET ESG Ratings. This reflects our business strategy aimed at generating sustainable returns and our commitment to responsible business practices towards the environment, society, and governance (ESG), progressing towards becoming a Tech Company.

#### THAILAND TOP CEO OF THE YEAR 2023

Ms. Jareeporn Jarukornsakul, Group CEO, was selected as the “**CEO of the Year 2023**” by the Bangkok Business Newspaper. This recognition was based on sustainable development, transformative business adaptations, innovation that propels future business growth, and overall performance. This selection reflects the outstanding achievements of WHA Group throughout 2023, as well as the Mission To The Sun project in preparation for becoming a Tech Company in 2024, and positioning Thailand as the World’s Best Investment Destination for global investors.



## AMCHAM CSR EXCELLENCE AWARDS

WHA Industrial Development Public Company Limited (WHAID), a subsidiary of WHA Group, received the AMCHAM CSR Excellence Award 2023 for Outstanding Social and Environmental Responsibility from H.E. Robert F. Godec, the U.S. Ambassador of Thailand. WHA Group has been awarded the “Platinum Level” for 14 consecutive years, honoring companies that promote sustainable development according to the BCG Economic Model. The award recognizes the WeCYCLE project, which upcycles water hyacinths from the artificial wetlands under WHA Clean Water for Planet initiative, and recycled PET bottles donated by businesses in WHA industrial estates, schools, and



communities around the estates. These materials are transformed into various products following the circular economy principles, creating jobs and income for the communities surrounding WHA industrial estates.



## ECO INDUSTRIAL TOWN AWARDS

WHA Industrial Development Public Company Limited (WHAID) received six awards for being an Eco-Industrial Estate at the Eco Innovation Forum 2023. These awards include two Eco-Excellence Awards for WHA Chonburi Industrial Estate 1 (WHA CIE 1) and WHA Eastern Industrial Estate (Map Ta Phut) (WHA EIE). Additionally, WHAID received four Eco-Champion Awards for Eastern Seaboard Industrial Estate (Rayong) (ESIE), WHA Chonburi Industrial Estate 2 (WHA CIE 2), WHA Eastern Seaboard Industrial Estate 2 (WHA ESIE 2), and WHA Eastern Industrial Estate (Map Ta Phut) (WHA EIE).

## KINCENTRIC BEST EMPLOYER AWARD THAILAND 2023

WHA Corporation Public Company Limited (WHA Group) received the Best Employer Thailand 2023 award from Kincentric, a leading global human resources consulting firm, in collaboration with Sasin Graduate Institute of Business Administration, Chulalongkorn University. This award demonstrates the Group’s commitment to fostering employee engagement through comprehensive human resource management strategies across all dimensions. These include corporate culture, skill development, creating a work environment conducive to change, and preparing



employees for the future. This aligns with the concept of Human Progress, as reflected in the excellent employee engagement evaluation results.



### EIA MONITORING AWARDS 2023

WHA Group's industrial estates received two EIA Monitoring Awards 2023. WHA Eastern Seaboard Industrial Estate 2 (WHA ESIE 2) and WHA Eastern Seaboard Industrial Estate 3 (WHA ESIE 3) were honored with the Outstanding Award at EIA Monitoring Awards 2023 for the excellent compliance with environmental impact assessment measures. This recognition highlights the Group's tangible commitment to environmental management and its focus on sustainable business development.

### CHIEF INNOVATION OFFICER AWARD 2023

WHA Corporation Public Company Limited (WHA Group) and WHA Utilities and Power Public Company Limited (WHAUP) have been honored with the Chief Innovation Center Award for our significant role in driving Thailand's innovation ecosystem and supporting Thai innovation towards becoming a **"Nation of Innovation"**. We received commemorative pins and certificates of honor from Dr. Pun-Arj Chairatana, Director of the National Innovation Agency (Public Organization). The Group has consistently promoted and supported Thailand's innovation ecosystem and innovation



system. The Group have also been at the forefront of applying technology and innovation to develop new products and services under the **"Mission To The Sun"** initiative, which benefits all stakeholders of the organization, including customers, employees, shareholders, business partners, and Thai society as a whole.

### PRIME MINISTER AWARD: INNOVATION FOR GLOBAL CHALLENGE 2023

WHA Corporation Public Company Limited (WHA Group) has been honored with the Prime Minister Award: Innovation for Global Challenge in the Competitiveness category. The award was presented by Mr. Don Pramudwinai, Deputy Prime Minister and Minister of Foreign Affairs, at the Startup x Innovation Thailand Expo 2023 (SITE 2023). This award is given to organizations that promote and elevate Thailand's innovation and innovation ecosystem. It recognizes organizations that enhance competitiveness in the current global context. This award reflects the Group's commitment to creating positive change in the environment, society, and economy of Thailand for sustainable growth, reaffirming our intention to be **"The Ultimate Solution for Sustainable Growth"**.



## MEMBERSHIPS

1. American Chamber of Commerce in Thailand (AMCHAM)
2. Australian-Thai Chamber of Commerce (AustCham Thailand)
3. British Chamber of Commerce Thailand (BCCT)
4. German-Thai Chamber of Commerce (GTCC)
5. Franco-Thai Chamber of Commerce (FTCC)
6. Thai-Italian Chamber of Commerce (TICC)
7. Danish - Thai Chamber of Commerce (DTCC)
8. Belgian-Luxembourg/Thai Chamber of Commerce (BeLuThai)
9. New Zealand Thai Chamber of Commerce (NZTCC)
10. South African-Thai Chamber of Commerce (SATCC)
11. European Association for Business and Commerce (EABC)
12. Thai European Business Association (TEBA)
13. The Thai Chamber of Commerce and Board of Trade of Thailand (TCC)
14. Japanese Chamber of Commerce, Bangkok (JCC)
15. Malaysian-Thai Chamber of Commerce (MTCC)
16. Singapore-Thai Chamber of Commerce (STCC)
17. Thai-Chinese Chamber of Commerce (Thai CC)
18. Thailand-Vietnam Business Council (TVBC)
19. Thai Auto-Parts Manufacturers Association (TAPMA)
20. Thai Industrial Estate and Strategic Partner Association (TISA)
21. The Federation of Thai Industries (FTI)
22. The Federation of Thai Industries, Rayong
23. The Federation of Thai Industries, Saraburi
24. Thai Photovoltaic Industries Association (TPVA Thailand)
25. Water and Environment Institute for Sustainability (WEIS)
26. Thailand Carbon Neutral Network (TCNN)
27. Thailand CCUS Alliance (TCCA)



## ABOUT THIS REPORT

WHA Corporation Public Company Limited (“WHA Group” or “The Group”) has published a sustainability report annually since 2019 to communicate the Group’s management approach to stakeholders as well as to demonstrate practices of running business in a sustainable manner in terms of the governance/ economic, social and environment. This report is WHA Group’s 5<sup>th</sup> sustainability report, which covers the period from 1<sup>st</sup> January to 31<sup>st</sup> December 2023, aligning with the financial disclosure in WHA Group’s 2023 Form 56-1 One Report.

The report has been prepared in accordance with Global Reporting Initiative Standards 2021 (GRI 2021) since 2022. WHA Group has used a process to assess key sustainability issues that align with the Double Materiality Principle under the Global Reporting Initiative (GRI) framework and the organization’s Enterprise Risk Management guidelines, which are

effective and comprehensive. The assessment identified seven significant sustainability issues, including Corporate Governance and Ethics, Customer Relationship Management, Technology and Innovation, Occupational Health and Safety, Water Management, Energy Management, Climate Strategy. The report also highlights the progress and performance of WHA Group’s sustainable development goals aligned with the United Nations Sustainable Development Goals (UN SDGs). The information in this report encompasses the business operations of WHA Group, including its subsidiaries in Thailand and Vietnam, where WHA Group holds a majority stake of over 50% and has managerial authority.

To ensure accurate and complete compliance, WHA Group hires LROA (Thailand) Limited to conduct an independent verification of the Group’s performance annually. The certification statement is provided under the section “Independent Assurance Statement” of this report.

For more information, please contact Investor Relations Department

**WHA Corporation Public Company Limited (WHA Group)**

777 WHA TOWER, 23<sup>rd</sup> - 25<sup>th</sup> Floor,

Moo 13, Debaratna Road (Bangna-Trad) KM.7, Bang Kaeo, Bang Phli, Samut Prakarn 10540

Tel: (662) 719-9555

E-mail: [Sustainability@wha-group.com](mailto:Sustainability@wha-group.com)



# GETTING TO KNOW WHA GROUP

## VISION

“Be recognized as a market leader in aligning vertical integrated logistics facilities provider, total solution industrial estates, utilities, power, and digital infrastructure platforms of high quality capturing throughout value chain in Asia”.



## MISSION

- 1 To fulfill requirement of the key major business partners, shareholders and stakeholders
- 2 To focused on innovative and effective strategic, business, finance, service quality, safety, environment, community, and good governance disciplines
- 3 To create a last-long relationship with strategic alliance
- 4 To provide unrivalled quality products with knowledge and expertise leading to win-win-win solutions
- 5 To maintain financial discipline to maximize return on equity
- 6 To develop world class logistics facilities, industrial estates, utilities, power and property customer solutions
- 7 To differentiate a comprehensive platform for both infrastructure data center as well as customized service solutions for leading MNCs and Thai conglomerates
- 8 To develop, engage talent and experience team and enhance organizational core competency

## CORE VALUES



### ADVANCED

Think, plan, and initiate new things to deliver values that help create sustainable growth for customers and contribute to the organization's breakthrough.



### CHAMPION

Determined to create success in everything we do, not stuck on failure or success in the past but striving to push ourselves beyond the limits to overcome new challenges and create a sense of unity together.



### RESOURCEFUL

Determined to continuously develop ourselves to gain deep and thorough knowledge in what we do, diligently working to enhance our skills and experiences to boost confidence and deliver value to others professionally.



### INTEGRITY

Living with honesty, integrity, firm in our commitments to earn trust and confidence from others, and collaboratively build and maintain transparency in our working culture.



WHA Corporation Public Company Limited (“WHA Group” or “The Group”) was established on September 25, 2007, by visionary entrepreneurs in the logistics real estate management business. Initially, the company aimed to develop and lease high-quality warehouse, distribution center, and factory projects. With rapid and robust business growth, WHA Group was listed on the Stock Exchange of Thailand on November 8, 2012. Subsequently, in the first quarter of 2015, the Group expanded into industrial estate development and utility and power businesses by acquiring shares of WHA Industrial Development Public Company Limited (“WHAID”) (formerly known as Hemaraj Land and Development Public Company Limited), making WHA Group the major shareholder of WHAID. This led to another acquisition offer to delist WHAID from the stock market, resulting in WHA Group holding a 98.54% stake. WHAID was officially delisted from the Stock Exchange of Thailand on March 2, 2016. Afterward, WHA Group restructured its utility and power business under WHA Utilities and Power Public Company Limited (“WHAUP”), which was listed on the Stock Exchange of Thailand on April 10, 2017. Additionally, in 2015, WHA Group established WHA Connect Company Limited (now renamed WHA Connect Company Limited) to provide digital services to meet customer needs, including data center services, FTTx fiber optic network services, and telecommunications tower leasing. In 2022, WHA Group further restructured its business by establishing WHA Digital Company Limited to develop and operate digital projects, transferring the FTTx fiber optic network services and telecommunications tower leasing businesses under WHAID.

WHA Groups is now a leading player in logistics, industrial estates, utilities and power and digital services not only in Thailand, but also in the Southeast Asia region. Committed to support Thailand’s national policies to foster economic growth, WHA Group established industrial clusters in the automotive, electronics and petrochemical sectors in Eastern Seaboard which has now become a key player in the development of Eastern Economic Corridor (EEC) with the goal to create new high-tech cluster industries. WHA Group abides by the regional regulations prescribed under the Ministry of Industry, Industrial Estate Authority of Thailand (IEAT), Stock

Exchange of Thailand, Ministry of Natural Resources and Environment as well as international standards such as the UN SDGs.

WHA Group has mapped out a business strategy to become the most desirable partner for companies that would like to start or expand their businesses in the country, or elsewhere in Southeast Asia. In 2022, there was a revision to the partnership commitment provided to customers by WHA Group. The previous commitment of being “Your Ultimate Solution Partner” was changed to “The Ultimate Solution for Sustainable Growth.” This change was made to reaffirm WHA Group’s dedication to assisting clients in driving their businesses towards sustainable development. Leveraging its capabilities and expertise, WHA Group, with its core competency in developing and delivering high-quality projects, aims to meet the diverse needs of each customer effectively. By incorporating Digital Innovation, utilizing technological advancements in each business group, WHA Group strives to enhance its ability to meet customer requirements. In 2023, WHA Group announced its mission, “WHA : WE SHAPE THE FUTURE”, a concept aimed at creating a sustainable future for Thailand through the potential of its four main business groups. And in near future, WHA Group has plans to expand its business both horizontally and vertically, aiming to become a Global Company and eventually a Tech Company by 2024. Throughout this journey, WHA Group remains committed to offering a wide range of services and comprehensive conveniences to customers through its operations in the four core business groups.

As of 2023, WHA Group received an “AAA” rating, the highest level, in the SET ESG Ratings by the Stock Exchange of Thailand (SET). This marks the fourth consecutive year since 2020 that WHA Group has been included in the list of sustainable stocks. Additionally, WHA Group is a member of the Dow Jones Sustainability Indices (DJSI) in the Real Estate Management & Development sector, as announced in The Sustainability Yearbook 2024 by S&P Global. This recognition reflects the Group’s commitment and dedication to advancing and driving its business towards sustainability.



## Logistics

The Company is committed to be a leading company as a warehouse project developer, distribution center, and high-quality factory with Built-to-Suit concept located in a strategic location around Bangkok, Eastern Economic Corridor, and other provinces.

The Company is able to fully meet the needs of its customers due to its project location, project design with international standards and quality of construction. This could reduce the cost of customer operations and increase long-term competitive advantages.



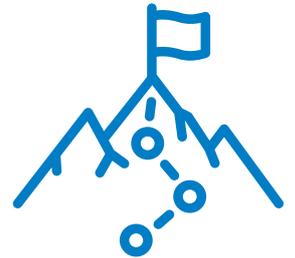
**2.95** Million sq.m.

Under Ownership & Management.

**200+**

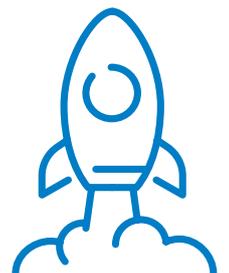
Well-known  
Tenants Profile

on **62** Strategic Locations.



Partnership with **PTTGC**<sup>/1</sup> to create synergy and enhance business capability, competitiveness, as well as customer service through share acquisition of

**GCL**<sup>/2</sup>



<sup>/1</sup> PTT Global Chemical Public Company Limited.

<sup>/2</sup> GC Logistics Solutions Company Limited



“ **#1 LOGISTICS FACILITIES DEVELOPER OFFERING A VARIETY OF PREMIUM FACILITIES UNIQUELY SERVICING OUR CLIENTS’ NEEDS** ”



Successful Asset Monetization into **WHART** with Total Value of

THB **3.6** Billion.



Supporting and accelerating the adoption of

**Electric Vehicles**

within the nation’s transportation sector.



**WHA Office Solutions**

Offering **7**<sup>/1</sup> Offices

in Prime Locations Covering Over

**120,000**<sup>/1</sup> sq.m.

<sup>/1</sup> Including properties available for rent and projects under development.

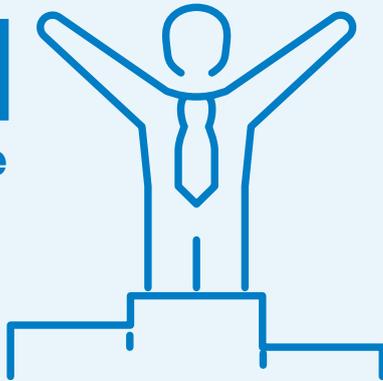


## Industrial Development

Industrial Development Hub is operated through the Company's subsidiary, WHAID Group, responsible for developing industrial estates and/ or zones and selling of land to enterprises who demand to make their investment in industrial estates / zones and industrial promotional zones. Enterprises can gain special privileges provided by Industrial Estate Authority of Thailand and / or Thailand Board of Investment. Another crucial role of WHAID Group is to act as a center for providing utilities and facilities for clients inside the industrial estates/ zones e.g. electricity, water supply, wastewater treatment, waste disposal, telephone, internet and coordinating with the authority on environmental control.



No. **1**  
Market Share



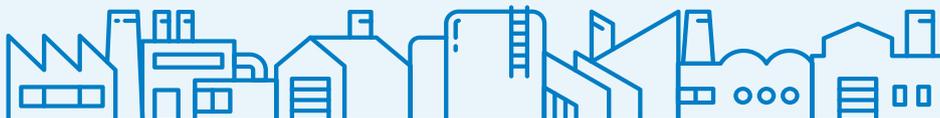
with **2,767** <sup>/1</sup> rai Land Sales  
as well as the backlog awaiting  
ownership rights transfer totaled over

**1,038** rai.  
Attracting numerous leading  
companies<sup>/2</sup>.

<sup>/1</sup> Land Sales in Thailand and Vietnam (excluding MOU and LOI of 524 rai)

<sup>/2</sup> Such as Changan Auto Southeast Asia, China's leading automotive groups, Fu Wing Interconnect Technology (Nghe An), a subsidiary of Foxconn Interconnect Technology, the world's largest electronics equipment manufacturer, and with Sunny Optical Technology, a major manufacturer of mobile phone lenses and related components.

**13** Operating Industrial Estates / Zones and others  
in pipeline.  
(12 in Thailand and 1 in Vietnam)



**“ NUMBER 1 INDUSTRIAL  
ESTATE DEVELOPER DELIVERING  
WORLD-CLASS SOLUTIONS TO  
INDUSTRIAL CUSTOMERS ”**

Real Estate development over

**77,600** <sup>/2</sup> rai.

<sup>/2</sup> Including operate and under development in Thailand and Vietnam.

Develop the

**Smart Eco Industrial  
Estates.**



Thriving in

## WHA Industrial Zone 1 - Nghe An Phase 2

After receiving positive feedback from investors in WHA industrial zone 1 - Nghe An Phase 1 alongside

**3** other industrial zone projects in Vietnam's **pipeline.**



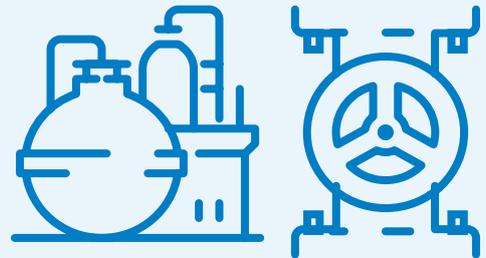


## Utilities and Power

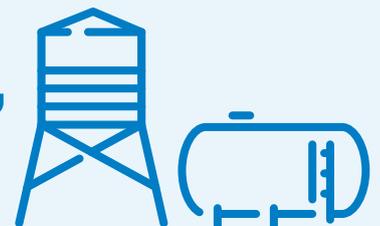
Utilities & Power Hub is operated through the Company's subsidiary, WHAUP Group, the provider of utilities in the WHAID Group's industrial estates/ zones i.e. raw water, industrial water, and wastewater treatment. WHAUP Group also has investments in power businesses, through joint ventures with both domestic and foreign power plants, who have expertise in the power business field. Our power plants include both Conventional Fuel and Renewable Energy power plants.



**155** Million m<sup>3</sup>  
**Water Utilities Sales  
and Management.**



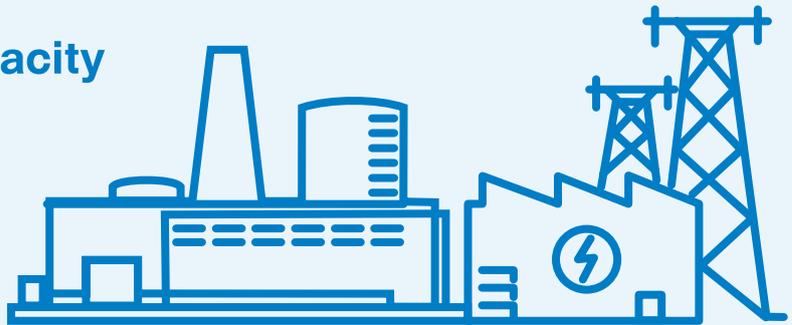
Continue to expand  
**the Value-added water products,**  
as well as develop the  
**Smart Water Platform.**



“ **INTEGRATED INDUSTRIAL UTILITIES & POWER PROVIDER WITH SUSTAINABLE BUSINESS GROWTH** ”

A total installed capacity approximately

**733** equity MW.



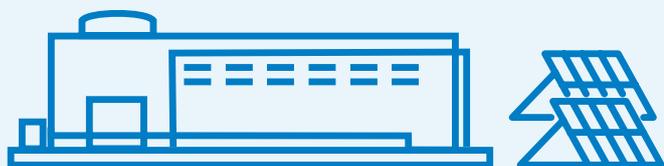
Obtain a right to develop

**5 solar projects**

with a Feed-in Tariff scheme (FiT)

Phase 1 with the installed capacity totaling

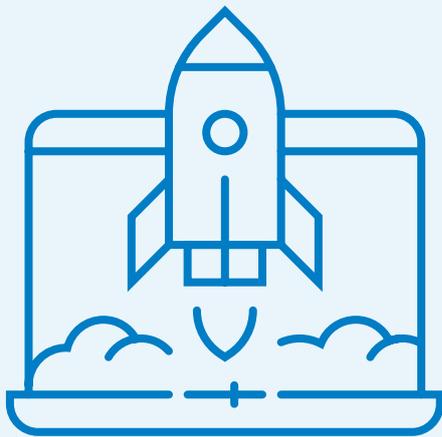
**125** equity MW.





## DIGITAL BUSINESS

Digital Business is a digital solution provider operating through the Company's subsidiary, WHA Digital Company Limited who also leads digital transformation. The aim is to become a Technology company by 2024 by restructuring of its organization, new strategies, upskilled human capital, innovative corporate culture, and business process improvement to gain competitive advantages and to thrive in the digital era. It also incorporates various technologies to improve its capabilities in reaching out to customers, as well as creating new value-added products to enhance customer satisfaction.



Launched

# MISSION TO THE SUN

Consisting of 9 Programs i.e. Green Logistics, Digital Health Tech, and Circular, etc.



“ **DIGITAL SOLUTION  
PROVIDER STRENGTHENING  
WHA GROUP AND  
LEADING DIGITAL  
TRANSFORMATION** ”



which enables comprehensive health management and offering application services to industrial customers.

**Developing an application -  
Green Mobility Platform**

that integrates various services for electric vehicle business customers.



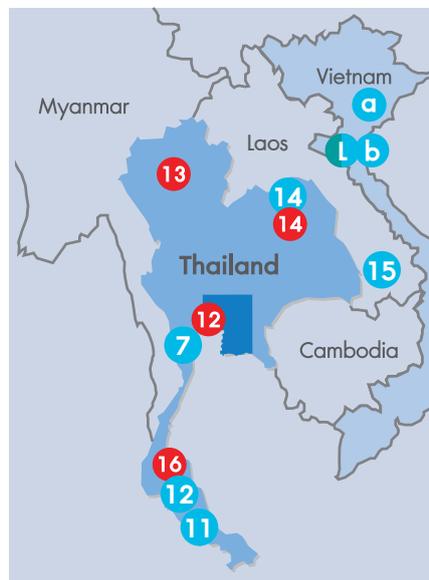
Spearhead Digital Transformation to Become a

**TECHNOLOGY  
COMPANY**

in 2024.

# WHA 50+ STRATEGIC LOCATIONS IN THAILAND AND VIETNAM

WHA is a key player in the development of the Eastern Economic Corridor (EEC).



1 Warehouse Farm
1. WHA Mega Logistics Center Bangna-Trad km.18
2. WHA Mega Logistics Center Bangna-Trad km.19
3. WHA Mega Logistics Center Bangna-Trad km.23 (Project 1, 2 & 3)
4. WHA Mega Logistics Center Chonlaharnpichit km.3 (Project 1 & 2)
5. WHA Mega Logistics Center Chonlaharnpichit km.4
6. WHA Mega Logistics Center Chonlaharnpichit km.5
7. WHA Mega Logistics Center Ladkrabang
8. WHA Mega Logistics Center Wangnoi 61
9. WHA Mega Logistics Center Saraburi
10. WHA Mega Logistics Center Panthong, Chonburi (Project 1 & 2)
11. WHA Mega Logistics Center Laemchabang (Project 1 & 2)
12. WHA Mega Logistics Center Rama II, km.35
13. WHA Mega Logistics Center Lampoon
14. WHA Mega Logistics Center Khon Kaen
15. WHA Mega Logistics Center Kabinburi
16. WHA Mega Logistics Center Suratthani
17. WHA Mega Logistics Centers Wangnoi 62
18. WHA CENTRAL Mega Logistics Center Wangnoi 63
19. WHA Mega Logistics Center Lum Luk Ka
20. WHA E-Commerce Park
21. WHA Mega Logistics Center Theparak KM. 21

2 Built-to-Suit Factories and Warehouses
1. Consumer Goods Distribution Center
2. Healthcare Air-Con Distribution Center
3. Hazardous Goods Distribution Center
4. Ladkrabang Logistics Center (2 Phases)
5. Manufacturing in WHA SIL - Diaper Manufacturing - Camera Part Manufacturing
6. Consumer Goods Distribution Center
7. Manufacturing in Industrial Estate - Aerospace Manufacturing - Motorbike Manufacturing
8. WHA Ready Built Factory Park 1 @Hi-tech Kabin
9. Manufacturing in WHA CIE1 - Automotive Part Manufacturing
10. Factory in WHA ESIE 1 - Automotive Part Factory

3 Industrial Estates/Lands
A. WHA Chonburi Industrial Estate 1 (WHA CIE 1)
B. WHA Chonburi Industrial Estate 2 (WHA CIE 2)
C. Eastern Seaboard Industrial Estate (Rayong) (ESIE)
D. WHA Eastern Seaboard Industrial Estate 1 (WHA ESIE 1)
E. WHA Eastern Seaboard Industrial Estate 2 (WHA ESIE 2)
F. WHA Eastern Seaboard Industrial Estate 3 (WHA ESIE 3)
G. WHA Eastern Seaboard Industrial Estate 4 (WHA ESIE 4)
H. WHA Eastern Industrial Estate (Map Ta Phut) (WHA EIE)
I. WHA Rayong Industrial Land (WHA RIL)
J. WHA Rayong 36 Industrial Estate (WHA R36)
K. WHA Saraburi Industrial Land (WHA SIL)
L. WHA Industrial Zone 1 - Nghe An Vietnam

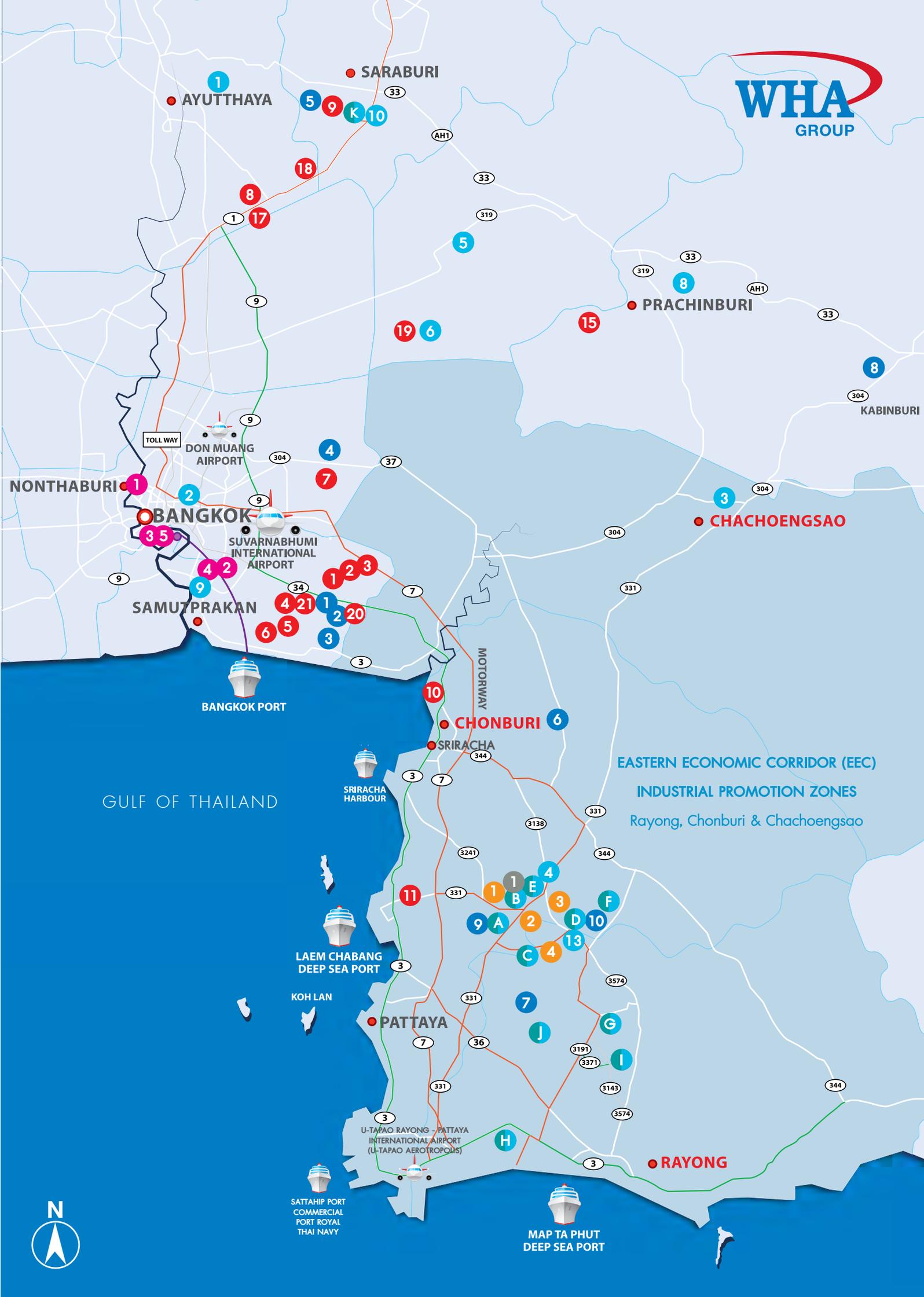
4 WHA Utilities & Power
WHAUP's water treatment plants and wastewater treatment plants are located in all WHA's Industrial Estates and also projects in Ha Noi and Nghe An, Vietnam a. Ha Noi b. Nghe An

WHAUP's power projects are located in the following provinces:
1. Ayudhya
2. Bangkok
3. Chachoengsao
4. Chonburi
5. Nakhon Nayok
6. Pathum Thani
7. Petchaburi
8. Prachinburi
9. Samut Prakarn
10. Saraburi
11. Songkhla
12. Suratthani
13. Rayong
14. Udonthani
15. Attapeu, Laos

5 WHA Logistics Parks
1. WHA Logistics Park 1 (WHA LP 1)
2. WHA Logistics Park 2 (WHA LP 2)
3. WHA Logistics Park 3 (WHA LP 3)
4. WHA Logistics Park 4 (WHA LP 4)

6 Digital Platform
1. SUPERNAP (Thailand)

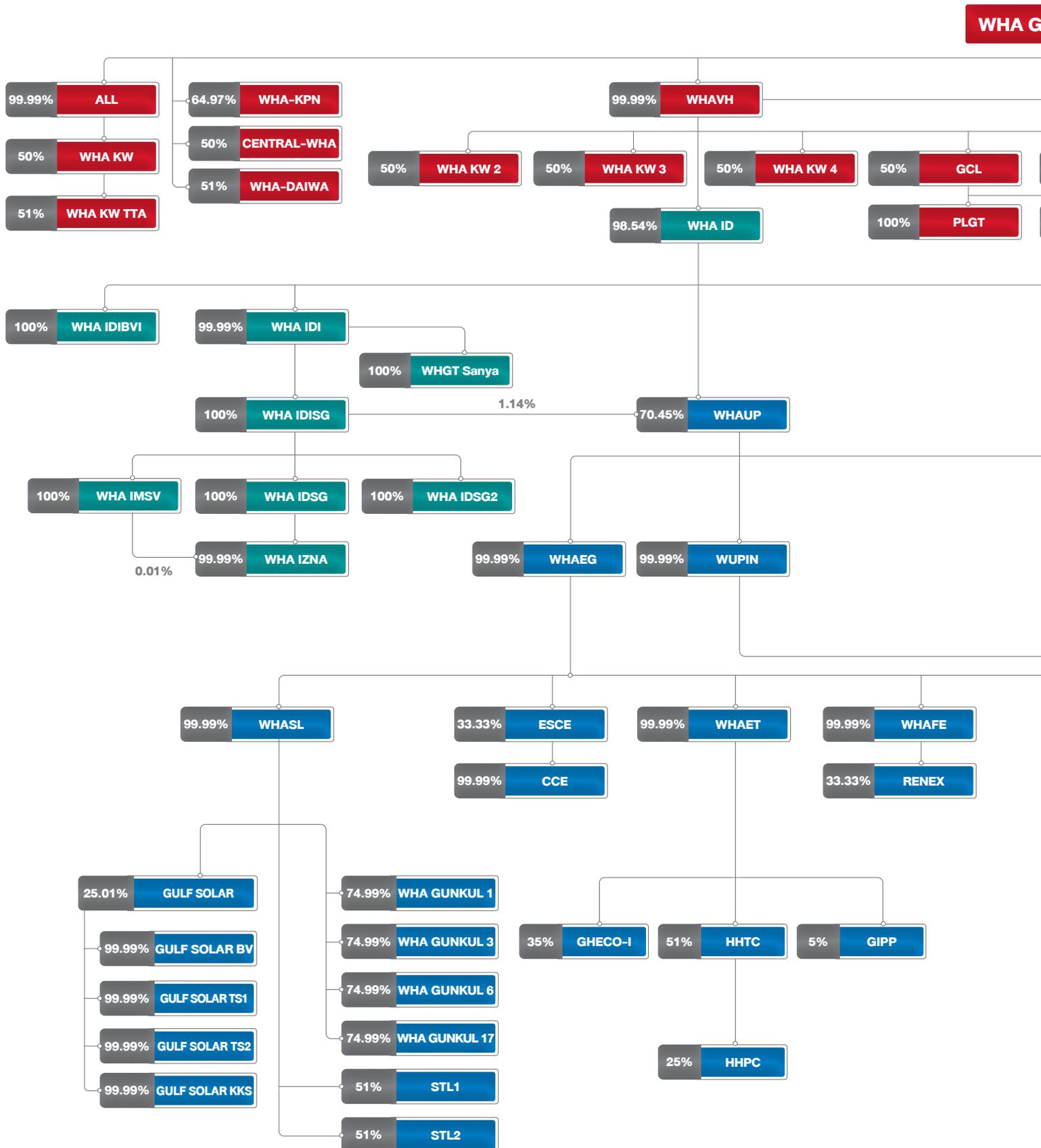
7 Business Complex
1. SJ Infinite I
2. WHA Tower and WHA Bangna Business Complex
3. TusPark WHA Incubation Center
4. @Premium
5. WHA KW



SATTAHIP PORT  
COMMERCIAL PORT  
ROYAL THAI NAVY

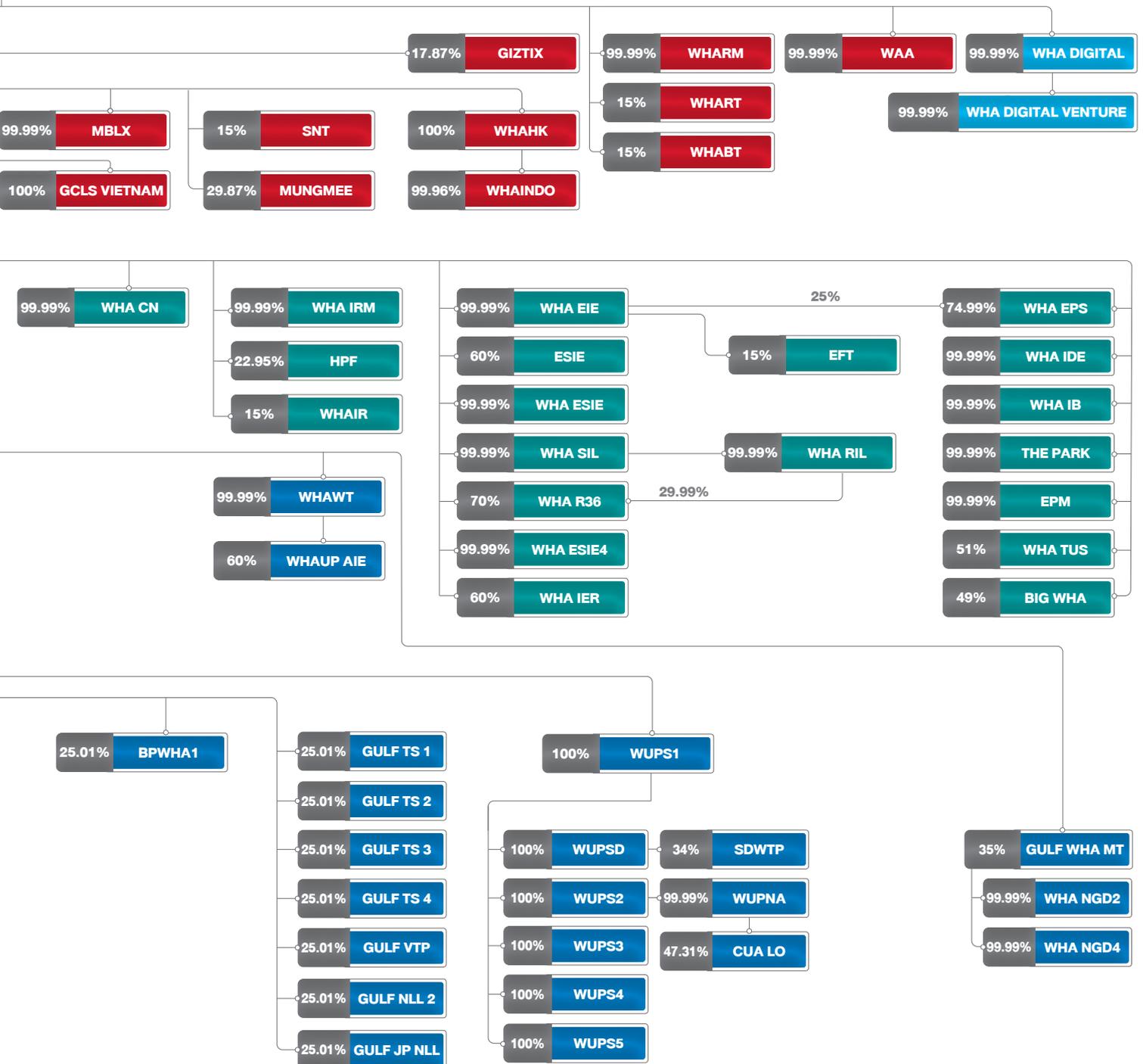
MAP TA PHUT  
DEEP SEA PORT

## WHA GROUP SHAREHOLDING STRUCTURE



As of 31 May 2024

**GROUP**



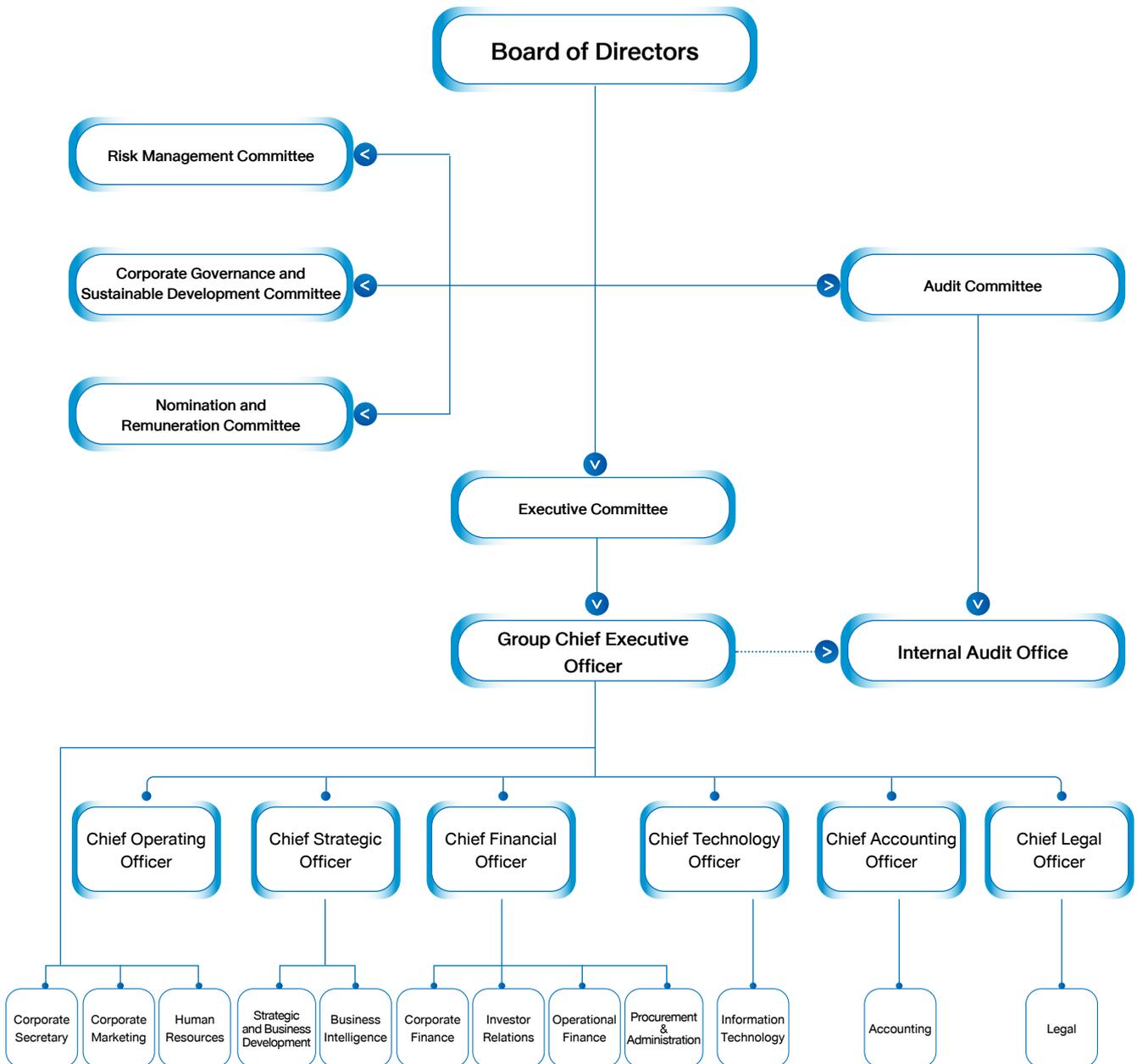
Company Name WHA	
● WHA	WHA Corporation Public Company Limited
● WHAVH	WHA Venture Holding Company Limited
● WAA	Warehouse Asia Alliance Company Limited
● ALL	WHA Alliance Company Limited
● WHA KW	WHA KW Alliance Company Limited
● WHAHK	WHA Corporation (Hong Kong) Company Limited
● WHAINDO	PT. WHA International Indonesia
● WHA-KPN	WHA KPN ALLIANCE Company Limited
● CENTRAL-WHA	CENTRAL-WHA ALLIANCE Company Limited
● WHA-Daiwa	WHA Daiwa Logistics Property Company Limited
● WHA KW 2	WHA KW 2 Company Limited
● WHA KW 3	WHA KW 3 Company Limited
● WHA KW 4	WHA KW 4 Company Limited
● WHA KW TTA	WHA KW TTA Company Limited
● MBLX	Mobilix Company Limited
● WHARM	WHA Real Estate Management Company Limited
● WHART	WHA Premium Growth Freehold and Leasehold REIT
● WHABT	WHA Business Complex Freehold and Leasehold REIT
● GCL	GC Logistics Solutions Company Limited
● PLGT	PL Global Transport Company Limited
● GCLS VIETNAM	GC Logistic Solutions (Vietnam) Company Limited
● GIZTIX	Giztix Pte. Ltd.
● MUNGMEE	Mungmee Ecommerce Company Limited
● SNT	Supernap (Thailand) Company Limited
Company Name WHA DIGITAL	
● WHA DIGITAL	WHA Digital Company Limited
● WHA DIGITAL VENTURE	WHA Digital Venture Company Limited
Company Name WHAID	
● WHA ID	WHA Industrial Development Public Company Limited
● WHA EIE	WHA Eastern Industrial Estate Company Limited
● ESIE	Eastern Seaboard Industrial Estate (Rayong) Company Limited
● WHA ESIE	WHA Eastern Seaboard Industrial Estate Company Limited
● WHA SIL	WHA Saraburi Industrial Land Company Limited
● WHA RIL	WHA Rayong Industrial Land Company Limited
● WHA R36	WHA Rayong 36 Company Limited
● WHA ESIE4	WHA Eastern Seaboard Industrial Estate 4 Company Limited
● WHA EPS	WHA Eastern Pipeline Services Company Limited
● WHA IDE	WHA Industrial Development Engineering Company Limited
● WHA IB	WHA Industrial Building Company Limited
● THE PARK	The Park Residence Company Limited
● EPM	Eastern Seaboard Property and Marina Services Company Limited
● WHA IDIBVI	WHA Industrial Development International (BVI) Company Limited
● WHA IDI	WHA Industrial Development International Company Limited
● WHA IDISG	WHA Industrial Development International (SG) Pte. Ltd.
● WHA IDSG	WHA Industrial Development (SG) Pte. Ltd.
● WHA IDSG2	WHA Industrial Development 2 (SG) Pte. Ltd.
● WHA IZNA	WHA Industrial Zone Nghe An Joint Stock Company
● WHA IMSV	WHA Industrial Management Services Vietnam Company Limited
● WHA IRM	WHA Industrial REIT Management Company Limited
● HPF	Hemaraj Industrial Property and Leasehold Fund
● WHAIR	WHA Industrial Leasehold Real Estate Investment Trust
● WHA IER	WHA Industrial Estate Rayong Company Limited
● WHA TUS	WHA TUS Company Limited
● BIG WHA	BIG WHA Industrial Gas Company Limited
● WHGT SANYA	Wei Hua Guo Tai (Sanya) Business Consulting Company Limited
● WHA CN	WHA Connect Company Limited
● EFT	Eastern Fluid Transport Company Limited

### Company Name WHAUP

• WHAUP	WHA Utilities and Power Public Company Limited
• WHAWT	WHA Water Company Limited
• WHAUP AIE	WHAUP Asia Reclamation Water Company Limited
• WUPIN	WHA Energy 2 Company Limited
• WUPS1	WHAUP (SG) 1 Pte. Ltd.
• WUPS2	WHAUP (SG) 2 Pte. Ltd.
• WUPS3	WHAUP (SG) 3 Pte. Ltd.
• WUPS4	WHAUP (SG) 4 Pte. Ltd.
• WUPS5	WHAUP (SG) 5 Pte. Ltd.
• WUPSD	WHAUP (SG) 2DR Pte. Ltd.
• SDWTP	Cua Lo Water Supply Joint Stock Company
• CUA LO	Duong River Surface Waterplant Joint Stock Company
• WUPNA	WHAUP Nghe An Joint Stock Company
• WHAEG	WHA Energy Company Limited
• WHASL	WHA Solar Company Limited
• WHAET	WHAUP International Company Limited
• BPWHA1	B.Grimm Power (WHA) 1 Limited
• ESCE	Eastern Seaboard Clean Energy Company Limited
• CCE	Chonburi Clean Energy Company Limited
• Gheco-I	Gheco-One Company Limited
• GIPP	Glow IPP Company Limited
• HHTC	Houay Ho Thai Company Limited
• HHPC	Houay Ho Power Company Limited
• Gulf WHA MT	Gulf WHA MT Natural Gas Distribution Company Limited
• WHA NGD2	WHA Eastern Seaboard NGD2 Company Limited
• WHA NGD4	WHA Eastern Seaboard NGD4 Company Limited
• Gulf Solar	Gulf Solar Company Limited
• Gulf Solar BV	Gulf Solar BV Company Limited
• Gulf Solar TS 1	Gulf Solar TS1 Company Limited
• Gulf Solar TS 2	Gulf Solar TS2 Company Limited
• Gulf Solar KKS	Gulf Solar KKS Company Limited
• Gulf TS1	Gulf TS1 Company Limited
• Gulf TS2	Gulf TS2 Company Limited
• Gulf TS3	Gulf TS3 Company Limited
• Gulf TS4	Gulf TS4 Company Limited
• Gulf VTP	Gulf VTP Company Limited
• Gulf NLL 2	Gulf NLL2 Company Limited
• Gulf JP NLL	Gulf JP NLL Company Limited
• WHA Gunkul 1	WHA Gunkul Green Solar Roof 1 Company Limited
• WHA Gunkul 3	WHA Gunkul Green Solar Roof 3 Company Limited
• WHA Gunkul 6	WHA Gunkul Green Solar Roof 6 Company Limited
• WHA Gunkul 17	WHA Gunkul Green Solar Roof 17 Company Limited
• STL1	Stella Power 1 Company Limited
• STL2	Stella Power 2 Company Limited
• WHAFE	WHA Future Energy Company Limited
• RENEX	RENEX Technology Company Limited

## Organization Structure

As of 31 December 2023, the Company’s Organization Structure is as follow:



## WHA GROUP VALUE CHAIN

Business Group	Upstream Level	Business Transactions	Downstream Level
<b>Logistics Business</b> 	<ul style="list-style-type: none"> <li>• Land purchasing.</li> <li>• Real estate management.</li> </ul>	<ul style="list-style-type: none"> <li>• Real estate rental/leasing and sales.</li> <li>• Asset management.</li> </ul>	<ul style="list-style-type: none"> <li>• Project repairs/maintenance.</li> <li>• Post-sales customer services.</li> </ul>
<b>Industrial Development Business</b> 		<ul style="list-style-type: none"> <li>• Land sales for industry business operations.</li> <li>• Asset management.</li> <li>• Fiber to the x optical cable (FTTx)</li> </ul>	
<b>Utilities and Power Business</b> 	<ul style="list-style-type: none"> <li>• Raw water procurement.</li> <li>• Fuel &amp; solar energy purchasing.</li> </ul>	<ul style="list-style-type: none"> <li>• Water production</li> <li>• Waste Management</li> <li>• Electricity Production</li> <li>• Solar Rooftop Installation</li> </ul>	
<b>Digital Business</b> 	<ul style="list-style-type: none"> <li>• IT product &amp; service purchasing.</li> </ul>	<ul style="list-style-type: none"> <li>• Service Management</li> </ul>	

## SUSTAINABILITY AT WHA GROUP

WHA Group has announced the implementation of its 5-Year Sustainability Framework since 2020 to push for the setting of practice guidelines for corporate development aimed at sustainability and in line with the business direction of WHA Group under our commitment to be **“The Ultimate Solution for Sustainable Growth”**, advancing towards **“WHA : WE SHAPE THE FUTURE”** mission. The mission aims to create prosperity, livelihoods, and income for people and society for better living standards, ultimately aiming to create sustainable and stable growth for people, society, and Thailand. This will be achieved through the potential of a comprehensive and robust ECO System of all 4 main business groups of WHA Group, in advancing the development of business and industrial solutions to stimulate investment both domestically and internationally. This will be a key

driver of Thailand’s economy, making it efficient and sustainable. To achieve these intended goals, WHA Group has developed a development framework anchored in good governance, emphasizing the importance of human resource development as a vital force driving the business according to the planned strategies. This includes adapting to digital transformation and conserving natural resources. The long-term sustainability objectives of the organization are closely related to key sustainability issues that hold significance for WHA Group and its stakeholders. Additionally, WHA Group conducts analyses of risks and opportunities arising from global trends and potential future issues to ensure confidence that the development strategies are efficient and suitable for the circumstances.





## Business Direction

### “The Ultimate Solution for Sustainable Growth”



Corporate Value



### NATURAL RESOURCE

- Double the reclaimed industrial water for industrial use from **30,200** cubic meter / day in 2020 to **60,400** cubic meter / day by 2025
- Optimize proportion of waste to landfill and incineration approach by 2025



Corporate Value



### DIGITALIZATION

- Revenue generation and cost reduction from innovation projects
- 100%** data breach prevention in terms of data leaks, thefts or losses of both inbound and outbound data are achieved in 2025



Corporate Value



### HUMAN RESOURCES

- Maintain Human Capital Return on Investment at **14%** in 2025
- 7.2%** overall turnover rate in 2025
- 5%** talent turnover rate in 2025



Corporate Value



6 CLEAN WATER AND SANITATION



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



8 DECENT WORK AND ECONOMIC GROWTH



16 PEACE, JUSTICE AND STRONG INSTITUTIONS



### GOVERNANCE

- 100%** acknowledgement and communication of Code of Conduct to subsidiary, employees and suppliers/contractors by 2025
- 100%** employees at all levels are trained on risk management by 2023
- Maintain market share for industrial development at **32%**
- 90%** customer satisfaction score



Corporate Value

Investments in various projects are subject to potential risks. These risks might have impact on the business operations of WHA Group. Furthermore, sustainability development in terms of the environment, society and corporate governance are considered an important issue currently attracting increasing interest. For this reason, WHA Group schedules consideration of sustainability from the first stage of investment planning in each business group. WHA Group gives primary consideration to these issues in setting the direction of its business operations and uses the information to accompany its investment decisions concerning various projects in order to build long-term value. In addition, expressing our intention in sustainable investments also builds confidence and trust among stakeholders, because environmental, social and corporate governance issues are given consideration at every stage of the project development process and at every stage in conducting business.



# SUSTAINABILITY MATERIALITY ISSUES

WHA Group establishes an annual assessment to identify and address key sustainability materiality issues. This ensures that the reported key issues are aligned with the Group’s operations and the expectations of stakeholders, as well as with the current economic, social, and environmental context. The assessment of key sustainability materiality issues follows the Double Materiality Principle, which evaluates the impact of the company’s operations on society or the environment, and the impacts of sustainability issues on the organization’s value. This approach is in line with the Global Reporting Initiatives (GRI) standards.)

In this regard, the assessment and identification process of key sustainability materiality issues cover factors in three dimensions: governance/economic, social, and environmental (ESG). These will be measured based on the impact or influence of each key issue on stakeholders and the Group’s business operations. This assessment and identification process of key sustainability materiality issues will help the Group plan its operations and manage organizational risks in line with global changes. It will also enable the Group to respond to the expectations of all stakeholders in a balanced manner. Accordingly, the Board of Directors has considered and approved the key sustainability materiality issues, along with the key insights in this report.

## MATERIALITY ASSESSMENT PROCESS

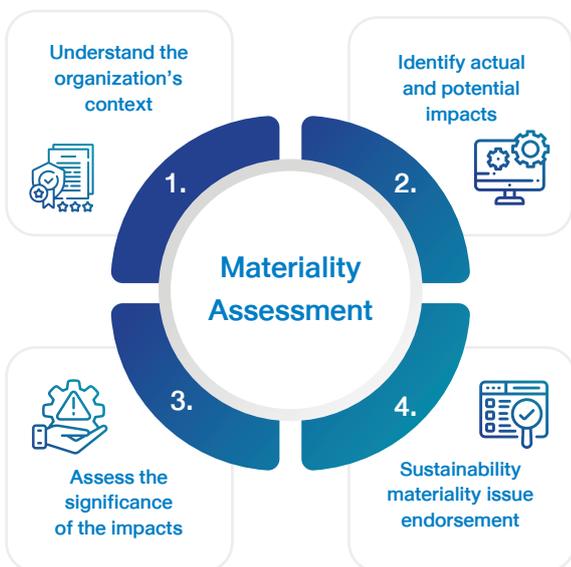
### 1. UNDERSTAND THE ORGANIZATION’S CONTEXT

WHA Group studies data related to the operational context of the company, considering internal factors such as operational patterns, value chain concerns, stakeholder groups, risk assessment results, business strategy patterns, and sustainability strategies of WHA Group. The study also considers external factors, such as global trends, organizational risk factors, relevant standards, and requirements, such as the United Nations Sustainable Development Goals (UN SDGs), and global trends related to the four main business groups. Additionally, the study examines and identifies the key stakeholders who are of significant importance to WHA Group.

### 2. IDENTIFY ACTUAL AND POTENTIAL IMPACTS

WHA Group studies and identifies key stakeholders who are important to the business operations of WHA Group throughout the supply chain. These stakeholders can be divided into groups that are important both internally and externally, including employees, shareholders/investors, customers, supplier/creditor, government/regulator, community, financial institution, and media. Subsequently, WHA Group conducts engagement activities with key stakeholders through in-depth interviews to gather feedback, expectations, and concerns regarding the operations of WHA Group, which may have positive or negative impacts on each stakeholder group.

Based on the study in the two previous steps, WHA Group is able to analyze and compile issues that are expected to be important and have an impact, or are expected to impact stakeholders and the sustainability of the Group. This information is used to assess the impacts that have occurred and are likely to occur, and to prioritize them in the next steps.



### 3. ASSESS THE SIGNIFICANCE OF THE IMPACTS

WHA Group adheres to the Double Materiality Principle to assess and prioritize the importance of the compiled issues, as follows:

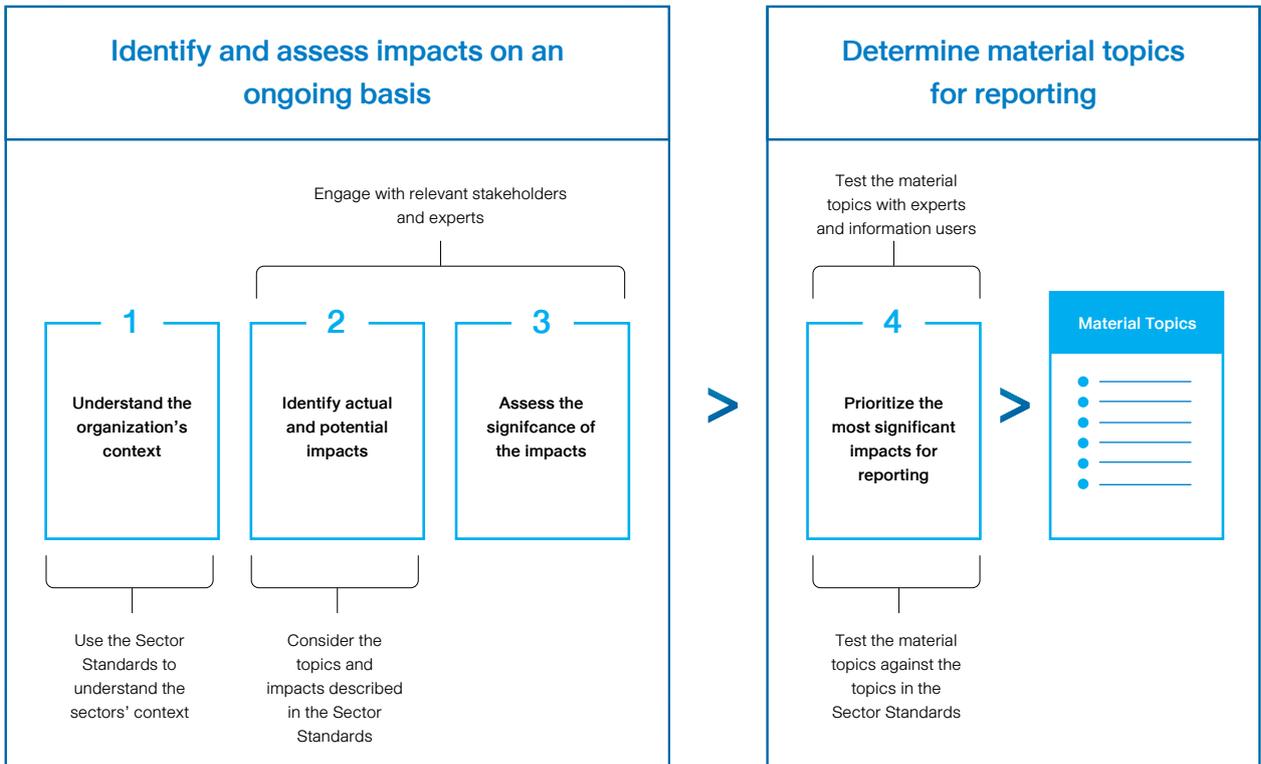
- 3.1 Representatives of stakeholders assess the impact level of key sustainability issues on each stakeholder group, both positively and negatively, based on the severity and likelihood of impact. The severity level is determined by the impact level, the size of the impact, and the ability to remedy the impact when it occurs.
- 3.2 Representatives of WHA Group executive assess the impact level of these issues on enterprise value, following the organization’s Enterprise Risk Management guidelines, to evaluate severity and likelihood, and prioritize key sustainability materiality issues.

The results gathered from the representatives of stakeholders and representatives of executive will be analyzed together to prioritize key

sustainability materiality issues based on the Double Materiality Principle. Subsequently, the Group will review the prioritization with independent experts to ensure completeness, transparency of the identification and assessment process, and the prioritization of key sustainability materiality issues. They will also provide feedback on the list of key sustainability materiality issues analyzed.

### 4. SUSTAINABILITY MATERIALITY ISSUES ENDORSEMENT

The assessment results of the impact of sustainability materiality issues on the economic, environmental, and social aspects, including human rights, from the business operations of WHA Group (ESG Impact), the results of the impact of sustainability materiality issues on the business operations of WHA Group (Impact to Business), as well as the views of experts, were presented to the Group’s committee. The committee reviewed, approved, and prioritized the most significant sustainability material issues, according to the Double Materiality Principle, for disclosure in the 2023 sustainability report.



# 2023 SUSTAINABILITY MATERIAL ISSUES

Report Dimension	Sustainability Material Issues	Key Stakeholders and Impact Boundary		SDGs	Page
		Internal	External		
 Governance/ Economic	Corporate Governance and Ethics	Employee	<ul style="list-style-type: none"> <li>• Supplier/Creditor</li> <li>• Government/Regulator</li> <li>• Financial Institution</li> <li>• Customer</li> <li>• Media</li> </ul>		44-52
	Customer Relationship Management	Employee	<ul style="list-style-type: none"> <li>• Customer</li> </ul>	 	68-84
	Technology and Innovation	Employee	<ul style="list-style-type: none"> <li>• Financial Institution</li> <li>• Shareholder/Investor</li> <li>• Media</li> </ul>	 	94-114
 Social	Occupational Health and Safety	Employee	<ul style="list-style-type: none"> <li>• Customer</li> <li>• Community</li> <li>• Supplier/Creditor</li> </ul>	  	160-179
 Environment	Water Management	Employee	<ul style="list-style-type: none"> <li>• Customer</li> <li>• Supplier/Creditor</li> <li>• Government/Regulator</li> <li>• Community</li> </ul>	  	280-288
	Energy Management	Employee	<ul style="list-style-type: none"> <li>• Customer</li> <li>• Supplier/Creditor</li> <li>• Government/Regulator</li> <li>• Community</li> <li>• Financial Institution</li> <li>• Shareholder/Investor</li> </ul>	   	265-272
	Climate Strategy	Employee	<ul style="list-style-type: none"> <li>• Customer</li> <li>• Supplier/Creditor</li> <li>• Government/Regulator</li> <li>• Community</li> <li>• Financial Institution</li> <li>• Shareholder/Investor</li> </ul>	   	246-264 271-272

# STAKEHOLDER ENGAGEMENT

With the firm commitment of WHA Group to become “The Ultimate Solution for Sustainable Growth”, through the mission “WHA : WE SHAPE THE FUTURE” mission, which focuses on creating a future for all stakeholders involved in business operations. WHA Group honors all stakeholders’ views in order to build good relationships with transparency, leading to a strong foundation for sustainable business growth. Stakeholder engagement is a critical activity that enables the Group to be kept informed of the stakeholders’ expectations and concerns. WHA Group’s four business hubs are strategically operated to play out roles in offering integrated solutions to the customers, driven by the commitment.

Therefore, WHA Group has developed a plan or guidelines for stakeholder engagement covering all operations of WHA Group. The objective is to manage the expectations of stakeholders and analyze and prioritize stakeholder groups to identify the impact of each stakeholder group on WHA Group projects or operations from various perspectives. Additionally, the stakeholder engagement management process will help WHA Group mitigate negative impacts and be efficient, whether in terms of environmental impact, livelihood, or health and safety of stakeholders. It will also leverage positive aspects to maximize benefits and build confidence among all stakeholder groups in the value chain.

## MANAGEMENT APPROACH

1. Managing stakeholder is crucial in reducing negative impacts and generating positive outcomes for the benefit of society and the business operations of WHA Group. Therefore, WHA Group has developed a stakeholder management framework for the entire organization. The objective is to effectively manage the expectations of each stakeholder group. The framework includes establishing appropriate relationships with each stakeholder group and ensuring that operational activities rotate within each of the four business hubs comprehensively.
2. WHA Group analyzes and prioritizes stakeholder groups to identify how each group impacts WHA Group projects or operations from various perspectives. The framework for stakeholder engagement management includes:
  - Gathering both direct and indirect stakeholder groups to classify and prioritize the key stakeholders is important. WHA Group has established guidelines for stakeholder prioritization, considering two primary factors, impact and dependence. These factors are used to determine the importance and ranking of stakeholders who have significant relevance to WHA Group.



- Plan and define strategies for engaging with stakeholders that are suitable for the identity of each group. This can involve activities such as meetings, survey design, communication through letters, conducting interviews during visits, and more. After that, assign responsible individuals and determine appropriate timeframes. Additionally, provide guidance on managing other risks that may occur during stakeholder engagement activities, such as addressing protests or unfavorable environmental conditions like rain or flooding, in order to keep WHA Group informed of stakeholder expectations and concerns regarding business management.
- **Analyze:** Assess and analyze the issues, concerns, risks, and opportunities that stakeholders are interested in. This should be done based on risk management principles, evaluating the impacts and opportunities. This will help identify the necessity and prepare appropriate response processes.
- **Manage:** Monitor and implement actions according to the stakeholder engagement processes. This involves maintaining communication with all stakeholder groups, as well as responding to issues and addressing various problems following the complaint handling procedures.
- **Review and Improve:** Reviewing the effectiveness and efficiency of the stakeholder engagement activities, and presenting them to the Corporate Governance and Sustainable Development Committee for their continuous acknowledgment at least every quarter. This includes communicating

the operational results to the stakeholders of the Group through sustainability reports to ensure stakeholders' confidence in the continuous development of the Group's stakeholder engagement processes.

In addition to that, WHA Group also convenes monthly meetings with the Corporate Social Responsibility (CSR) Committee, comprising high-level executives of the organization and relevant stakeholders. These meetings take place once a month and aim to present suggestions, complaints, and various issues related to the community. The purpose is to collectively find solutions and prevent recurring incidents, ensuring the organization's sustainable coexistence with the community.

WHA Group has established a process for receiving complaints from all stakeholders, both internal and external, to identify issues and implement effective measures to address the concerns or complaints of stakeholders. Employees or external stakeholders can report problems, suggestions, and complaints to WHA Group, which has an internal audit department that handles complaints and reports them to the audit committee, which reports to the board of directors every quarter to inform them of the issues. And assess, correct, remedy, and develop strategies to meet the expectations and complaints of stakeholders efficiently. It also reports on the progress of actions to relevant government agencies, such as the environmental monitoring committee of the industrial estate, for example.

## WHISTLEBLOWING CHANNEL

### Channels for Employees

Website: [https://www.wha-group.com/th/corporate-governance/corporate-governance?form=whistle\\_blowing#contact](https://www.wha-group.com/th/corporate-governance/corporate-governance?form=whistle_blowing#contact)

#### Email:

- Chief Executive Office: [ceo\\_office@wha-group.com](mailto:ceo_office@wha-group.com) or
- The Audit Committee: [auditcommittee@wha-group.com](mailto:auditcommittee@wha-group.com)
- Suggestion Box: Human Resources Department

### Channels for External Stakeholders

Website: <https://www.wha-group.com/en/corporate-governance/corporate-governance>

#### Email:

- Chief Executive Office: [ceo\\_office@wha-group.com](mailto:ceo_office@wha-group.com) or
- The Audit Committee: [auditcommittee@wha-group.com](mailto:auditcommittee@wha-group.com)



In 2023, WHA Group determine and prioritized eight key stakeholders that are equally important including, employee, shareholder/investor, customer, supplier/creditor, government/regulator, community, financial institution, and media.



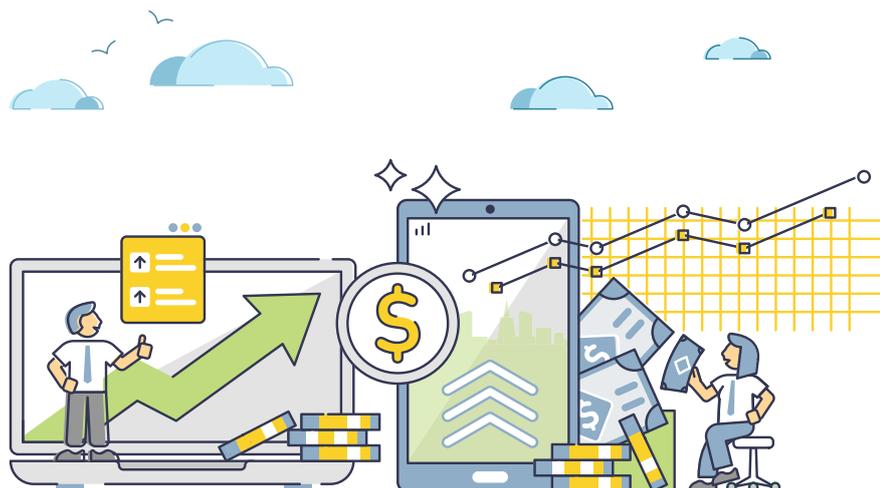
### THE STAKEHOLDER ENGAGEMENT REVIEW PROCESS

- Obtaining opinions, expectations, and concerns of stakeholders through various engagement methods and channels provided by WHA Group.
- Reporting concerns received from stakeholder engagement channels to the heads of relevant departments within WHA Group and the sustainable development committee, which consists of managers and personnel responsible from the relevant departments, to acknowledge, assess, and develop effective and appropriate response strategies to ensure that stakeholder expectations are met.
- Reporting the results of stakeholder engagement processes to management as important information for decision-making in business expansion and developing future stakeholder engagement strategies.

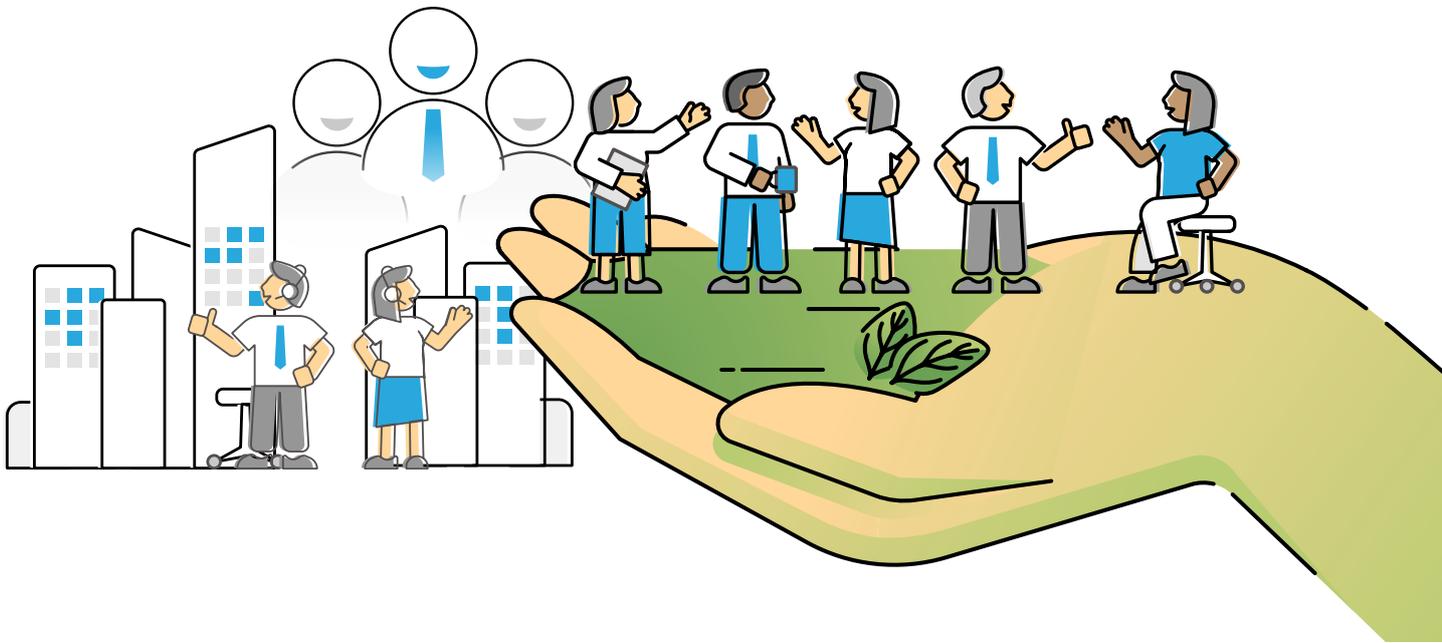
### RESULTS FROM STAKEHOLDER ENGAGEMENT

Stakeholder	Engagement Approach	Stakeholders' Expectation	2023 Performance Summary
<b>EMPLOYEE</b> 	<ul style="list-style-type: none"> <li>• Various all time communication channels (email, supervisor, intranet etc.)</li> <li>• Communication channels through WHA Connect</li> <li>• Annual CEO Town Hall</li> <li>• Quarterly Executive Sharing</li> <li>• Annual employee satisfaction and engagement survey</li> <li>• Suggestion box</li> <li>• Whistle blowing channel</li> </ul>	<ul style="list-style-type: none"> <li>• WHA Group outlook</li> <li>• Business trends and updates</li> <li>• Update on news and knowledge sharing</li> <li>• Training and career development program</li> <li>• Work environment</li> <li>• Compensation, welfare, and benefits</li> <li>• Management of occupational health and safety</li> <li>• Business continuity plan</li> <li>• Progress in career path</li> </ul>	<ul style="list-style-type: none"> <li>• Update the performance and business outlook</li> <li>• Share business trends and updates via WHA's communication channels</li> <li>• Develop and improve training programs to enhance the skills of employees, including both general and specific skills, for both new and current employees.</li> <li>• Develop and provide suitable training programs regularly</li> <li>• Communicate on corporate values and strategy</li> <li>• Regularly review and improve employees' compensation and benefits</li> <li>• Promote good occupational health and safety culture</li> <li>• Update and communicate business continuity plan via various communication channels in a timely manner</li> <li>• Conduct business continuity plan rehearsals to ensure practices and requirements are strictly and effectively followed</li> </ul>

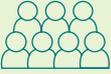
Stakeholder	Engagement Approach	Stakeholders' Expectation	2023 Performance Summary
<p><b>EMPLOYEE</b></p> 	<ul style="list-style-type: none"> <li>• Monthly management meeting</li> <li>• Organizing operational workshops to gather feedback on sustainability issues from all stakeholders.</li> </ul>	<ul style="list-style-type: none"> <li>• Receiving equal treatment without discrimination</li> <li>• Flexible working</li> </ul>	<ul style="list-style-type: none"> <li>• Establishing a Nomination Remuneration and Compensation Committee (NRC) to oversee the appointment of executive-level employees based on qualifications, skills, and abilities, without any restrictions or discrimination based on gender, age, skin color, race, nationality, or cultural background.</li> <li>• Assigning tasks to individuals who possess suitable qualifications and capabilities.</li> </ul>
<p><b>SHAREHOLDER/ INVESTOR</b></p> 	<ul style="list-style-type: none"> <li>• Annual general meeting</li> <li>• Annual Report and Sustainability Report</li> <li>• Roadshow</li> <li>• Analyst meeting</li> <li>• Outlook meeting</li> <li>• Investor site visit</li> <li>• Opportunity Day</li> <li>• Various all time communication channels (e.g. telephone, email, website etc.)</li> <li>• Whistleblowing channel</li> </ul>	<ul style="list-style-type: none"> <li>• Business performance, such as returns, benefits and profits</li> <li>• Business transparency</li> <li>• Changes in business management and risk management</li> <li>• Sustainability performance</li> <li>• Sustainable growth and expansion of the business with safe working systems and standards in place, ensuring continuous management to operate the business without interruptions.</li> <li>• Effective risk management in response to rapid changes in global climate conditions.</li> <li>• Equal treatment and practices among shareholders</li> </ul>	<ul style="list-style-type: none"> <li>• Improve business competitiveness and business directions to be up-to-date</li> <li>• Ensure good corporate governance</li> <li>• Establishing processes for identifying, assessing, and controlling operational risks, capital risks, and profit risks of the company, both existing and emerging risks. And developing emergency response plans and procedures to ensure business continuity in the event of unforeseen circumstances.</li> <li>• Take part in Thai Private Sector Collective Action Against Corruption (CAC)</li> <li>• Conduct enterprise risk management and establish short and long-term plan</li> <li>• Provide information on flooding risk prevention</li> <li>• Manage sustainability material topics</li> <li>• Ensure environment and social compliance</li> <li>• Promote innovation and sustainability initiatives</li> <li>• Manage and meet the needs of stakeholders equally, without any discrimination</li> </ul>

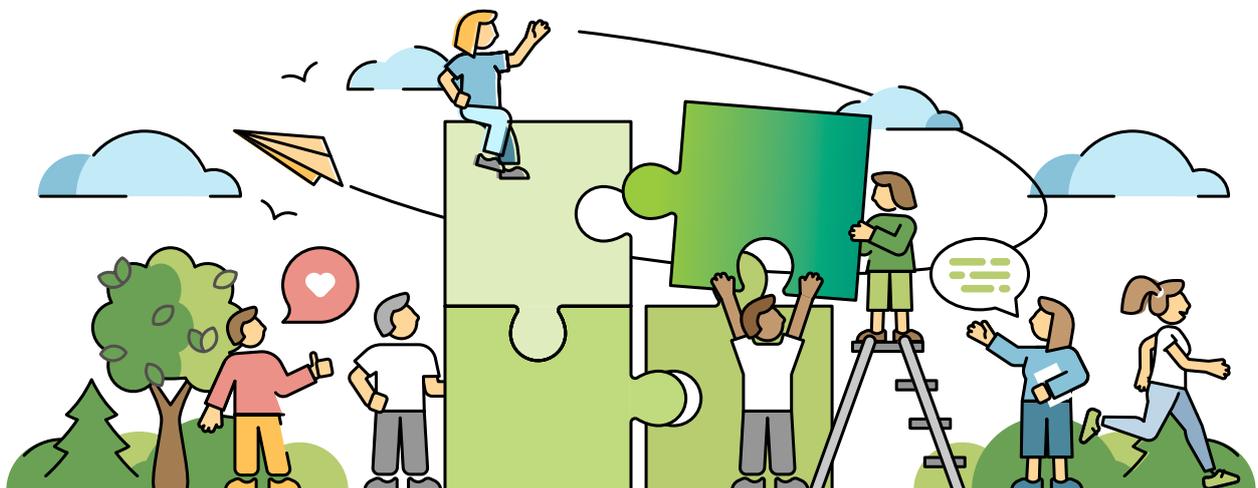


Stakeholder	Engagement Approach	Stakeholders' Expectation	2023 Performance Summary
<p><b>Customer</b></p> 	<ul style="list-style-type: none"> <li>• Roadshow/ marketing events/ webinar</li> <li>• Quarterly business meeting/ video conference</li> <li>• Annual customer satisfaction survey</li> <li>• Quarterly customer clubs</li> <li>• Quarterly WHA Connect magazines</li> <li>• Various all time communication channels (i.e. telephone, email, key contact personnel, social media etc.)</li> <li>• Company visits, including virtual tours of industrial estates through a 360° virtual tour system</li> <li>• Whistleblowing channel</li> </ul>	<ul style="list-style-type: none"> <li>• Product and service inquiry</li> <li>• Quality of after sale services</li> <li>• Environment management, compliance and standards</li> <li>• Risk and crisis management</li> <li>• Efficient energy management (cost reduction)</li> <li>• Effective waste management practices</li> <li>• Presenting innovative and environmentally responsive products that address environmental challenges</li> <li>• Avoiding environmental issues with neighboring communities</li> <li>• Ensuring good corporate governance and business ethics to promote a positive image for customers.</li> </ul>	<ul style="list-style-type: none"> <li>• Provide product and service information on website and other media</li> <li>• Provide prompt response to customers' inquiry</li> <li>• Establish effective customer relationship management</li> <li>• Continuously improve customer relationship management from customer's comments / suggestions</li> <li>• Strictly comply with related laws and regulations and apply international environmental management standards where possible to improve customer trust</li> <li>• Conduct risk and crisis assessment and implement appropriate mitigation actions</li> <li>• Inform customers of relevant risks and crisis management plans and measures</li> <li>• Utilizing new technologies and innovations for environmental management</li> <li>• Planning energy usage and implementing energy storage for future use</li> <li>• Reducing the quantity of materials used and waste generated in production processes</li> <li>• ISO 14001 standard to ensure that business operations have no adverse impact on the environment and communities.</li> <li>• Developing technology to enhance customer convenience, such as the 360° virtual tour system, LBMS application, and vehicle data management system.</li> </ul>



Stakeholder	Engagement Approach	Stakeholders' Expectation	2023 Performance Summary
<p><b>SUPPLIER/ CREDITOR</b></p> 	<ul style="list-style-type: none"> <li>• Supplier event</li> <li>• Supplier site visit</li> <li>• Telephone</li> <li>• Email</li> <li>• Self-evaluation and onsite visits</li> <li>• Whistleblowing channel</li> </ul>	<ul style="list-style-type: none"> <li>• Transparency in procurement process</li> <li>• Business opportunities and collaboration</li> <li>• Compliance with WHA Group's standard</li> <li>• On-time payment and following the contract agreement</li> <li>• Environment, social and governance management</li> <li>• Material quality and its environmental impacts</li> <li>• Labor conditions (i.e. human rights)</li> <li>• Workplace's occupational health &amp; safety</li> </ul>	<ul style="list-style-type: none"> <li>• Developed procurement policy and procedure</li> <li>• Conduct Suppliers-day</li> <li>• Communicate on WHA Group's procurement policy</li> <li>• Conduct supplier assessment and provide feedback/ corrective action plans to guide suppliers for improvement</li> <li>• Follow the contract agreement</li> <li>• Disclose information according to the agreed condition</li> <li>• Communicate concerns related to environment, social and governance criteria</li> <li>• Evaluate supplier criteria to ensure that environmental, social and governance concerns are in line with standards</li> <li>• Ensure environmental management compliance are strictly followed</li> <li>• Develop screening process to ensure that it complies with the Supplier Code of Conduct</li> <li>• Assessing human rights risks and ensuring compliance to prevent violations of labor rights or human rights issues.</li> <li>• Supporting the Building Social Impact Initiatives (BSI) task force to create a safe environment, access to health care, education, and protection for children and families living in construction worker camps.</li> </ul>
<p><b>GOVERNMENT/ REGULATOR</b></p> 	<ul style="list-style-type: none"> <li>• Meeting on occasion</li> <li>• Various all time communication channels (i.e. telephone, email and Line application)</li> </ul>	<ul style="list-style-type: none"> <li>• Conducting business in compliance with laws and regulations</li> <li>• Stakeholder impact management</li> <li>• Corporate governance and transparency</li> <li>• Conducting business with integrity, awareness, and implementation by all employees at all levels of the organization</li> <li>• Serving as a role model organization for other organizations</li> <li>• Conducting business without creating negative environmental impacts.</li> </ul>	<ul style="list-style-type: none"> <li>• Strictly comply with relevant laws and regulations</li> <li>• Managing the needs of stakeholders, including ensuring ethical business practices, in order to instill confidence in stakeholders.</li> <li>• Corporate governance and transparency Ensure good corporate governance and implementation of business code of conduct</li> <li>• Environmental, Social, and Governance (ESG) risk management.</li> <li>• Emphasizing long-term financial planning and organizational flexibility.</li> </ul>

Stakeholder	Engagement Approach	Stakeholders' Expectation	2023 Performance Summary
<p><b>COMMUNITY</b></p> 	<ul style="list-style-type: none"> <li>Public hearing and meeting</li> <li>Community activities</li> <li>Community engagement survey</li> <li>Local community representatives</li> <li>Site visits</li> <li>Whistleblowing channel</li> </ul>	<ul style="list-style-type: none"> <li>Business operations' impacts on communities' well-being (i.e. traffic, safety, water shortage, air pollution, waste water, waste, etc.)</li> <li>Environmental management performance</li> <li>Developing communities and promoting community activities (i.e. education promotion, health promotion, and community enterprise promotion)</li> <li>Community engagement</li> <li>Ensuring that business operations do not impact the geographical conditions of communities and their way of life.</li> </ul>	<ul style="list-style-type: none"> <li>Conduct regular community feedback survey to ensure there is no impact on local community</li> <li>Implement mitigating actions where business operation activities affect community's well-being (i.e. use of vehicle management system to improve traffic problem)</li> <li>Involve surrounding communities in crisis management and emergency drill</li> <li>Ensure compliance with environmental related laws and standards</li> <li>Regularly implement community development project (e.g., as collaborating with educational institutions to develop youth skills aligned with labor market demands and promoting health and medical equipment support to local hospitals and healthcare facilities)</li> <li>Share WHA Group's expertise with local communities</li> <li>Provide effective and prompt response to community complaints</li> <li>Conduct community meeting to understand communities' needs and suggestions</li> <li>Conduct public consultations and report on the results of Environmental Impact Assessments (EIA) to gather feedback and develop preventive and control measures.</li> <li>Support the local economy by fostering community engagement and preserving cultural traditions and customs (e.g., promoting community products through the WHA Pan Kan project).</li> </ul>



Stakeholder	Engagement Approach	Stakeholders' Expectation	2023 Performance Summary
<p><b>FINANCIAL INSTITUTION</b></p> 	<ul style="list-style-type: none"> <li>• Various all-time communication channels (i.e. email, phone, line application, conference, etc.)</li> <li>• Annual greetings</li> <li>• Quarterly analyst meetings</li> </ul>	<ul style="list-style-type: none"> <li>• Business performance and outlook</li> <li>• Compliance with the law</li> <li>• Business transparency</li> <li>• Changes in business management and risk management</li> <li>• Sustainability performance</li> <li>• Green initiative</li> <li>• Continuous business operations</li> </ul>	<ul style="list-style-type: none"> <li>• Improve and keep business competitiveness and business directions up-to-date</li> <li>• Ensure good corporate governance</li> <li>• Strictly comply with Disclosure Policy</li> <li>• Notify significant updates or changes in a timely manner</li> <li>• Manage sustainability material topics</li> <li>• Promote innovation and sustainability initiatives</li> <li>• Assess sustainability issues along with investment decision process</li> <li>• Investing in environmentally friendly projects.</li> <li>• Seeking funding opportunities that prioritize green issues and related aspects</li> <li>• Implementing Business Continuity Planning (BCP) to ensure preparedness for crises</li> </ul>
<p><b>Media</b></p> 	<ul style="list-style-type: none"> <li>• Various weekly or bi-weekly communication channels (i.e. press release, photo captions, executive interview and news article)</li> <li>• Annual press conference, press tour/visits and annual greetings</li> <li>• Quarterly Group interviews</li> <li>• Bi-annual press briefings</li> </ul>	<ul style="list-style-type: none"> <li>• Business outlook/ Business direction</li> <li>• Strengthening relationships</li> <li>• Updates on products and services</li> <li>• CSR initiatives and environmental management</li> <li>• Business outlook</li> <li>• Financial results</li> <li>• Technological advancements</li> </ul>	<ul style="list-style-type: none"> <li>• Hold annual press conference to update business plan and directions</li> <li>• Frequently update on the development of company's activities through media channels</li> <li>• Disclose accurate and real information</li> <li>• Maintain good and long-term relationships with the media</li> </ul>





# GOVERNANCE / ECONOMIC DIMENSION



## CODE OF CONDUCT

In an era of fierce business competition, coupled with pressure from all sectors to improve environmental management, and with the world's trend towards full-fledged technology, leading companies worldwide are turning to business practices based on transparency and ethical principles. These practices include environmental impact mitigation and social responsibility towards all stakeholders, whether internal or external to the organization, such as employees, shareholders, customers, investors, creditors, competitors, and partners. As a result, WHA Group has established oversight bodies to ensure that the company's personnel, considered a key factor in building confidence among stakeholders and directly affecting the business's existence, perform their duties with honesty, transparency, and adherence to business ethics and WHA Group's corporate governance policies. These actions help ensure that the organization's operations do not create negative impacts or cause harm and aim to maintain benefits for WHA Group and relevant stakeholders, to build economic, social, and environmental balance, which is a crucial foundation for sustainable business growth.

WHA Group is well aware that good corporate governance, by conducting business transparently on ethical principles, is a crucial foundation for sustainability. Therefore, WHA Group has always emphasized good corporate governance to strive towards sustainable growth, mindful of the balance between economic, social, and environmental dimensions, and prepared to adapt and cope with various changes swiftly. The Group has a direction to operate ethically, adhere to responsibilities towards stakeholders, emphasize transparent, honest, and lawful business conduct, and strictly follow the regulations under the principles of good corporate governance, efficient adaptability to risk management, and anti-corruption measures. WHA Group has established a code of conduct that defines the scope of behavior that the board of directors, executives, and employees should and should not do to maintain the interests of all stakeholders in balance with human

rights principles. It emphasizes building confidence and increasing trust from stakeholders both inside and outside the organization. Furthermore, it certifies that WHA Group and all relevant parties will operate with caution, avoiding negative impacts on all dimensions from the Group's operations to external stakeholders.

## MANAGEMENT APPROACH

### ORGANIZATIONAL STRUCTURE ALIGNED WITH GOOD CORPORATE GOVERNANCE FRAMEWORK

Transparency in business operations is a crucial attribute that significantly contributes to an organization's success and sustainability. It is a key role in building trust among customers, business partners, and investors. Furthermore, it is a primary factor enabling organizations to grow sustainably and remain stable in the long term. Therefore, WHA Group emphasizes managing the organization transparently and ethically, in accordance with relevant laws and the good corporate governance principles of the Securities and Exchange Commission (SEC) and the Stock Exchange of Thailand (SET), as well as the OECD Principles of Corporate Governance. WHA Group also provides opportunities for all executives and employees to participate freely in the development and driving of the organization under a framework of good governance. Additionally, it places importance on practices that promotes diversity among personnel, including directors, executives, and employees. In 2023, WHA Group restructured our organization by appointing an independent Chairman of the Boards separate from the Group CEO to ensure clarity in the separation of powers, duties, and responsibilities between strategy setting and governance, distinct from operational management. Furthermore, roles and responsibilities were clearly divided between the Board of Directors and the management, with a clear balance of power. The corporate governance structure includes the following committees:

## BOARD OF DIRECTORS

The Board of Directors plays a crucial role as leaders within the organization, whether it is in setting the vision, mission, strategic plans, and budgets for the management to implement to achieve business objectives, or in overseeing the management's operations to ensure they align with the policies assigned, with fairness, transparency, and compliance with laws, regulations, and various policies, including the code of conducts. Therefore, the Board of Directors is appointed by the shareholders through a transparent process. Each director possesses knowledge, expertise, and diverse relevant experiences, aligned with the organization's strategies and sustainable business goals. Additionally, the Board of Directors must devote sufficient time to their duties, exhibit leadership, have a vision, be independent in decision-making, and be able to guide and instill confidence in stakeholders that the Group's business operations and activities are conducted correctly and ethically, as well as being independent from the management of the company through a clear division of responsibilities between the Board of Directors and the management.

Aside from governing business, another key characteristic that all members of the boards possess are their carefulness and vision for sustainable business operations. This includes planning, policy-setting, and overseeing operations to align with a sustainable development framework - ESG (Environmental, Social, and Governance). The Boards oversees business with consideration for its impact on society and the environment, respect rights, and hold responsibility towards shareholders and all stakeholders. They also operate the business with the overall societal benefit in mind. Performance and operations regarding ESG issues are regularly reported to the Board of Directors. For example, WHA's Net Zero Roadmap is reported to the Board of Director as part of a climate change agenda on 10 May 2024 with 100% board members attended.

## CORPORATE GOVERNANCE AND SUSTAINABLE DEVELOPMENT COMMITTEE

The Board of Directors has assigned the Corporate Governance and Sustainable Development Committee the responsibility to communicate and implement corporate governance and sustainable development activities with management to monitor progress, review, and improve the corporate governance practices of relevant employees, including business partners, to comply with the established policies. The Corporate Governance and Sustainable

Development Committee will monitor and report the progress of high-level management and the development team on sustainable development according to the established plan. The committee will organize at least four meetings of the Corporate Governance and Sustainable Development Committee annually to monitor progress and evaluate the results (Due Diligence) in sustainable operations. Additionally, the company has appointed an Environmental Committee consisting of senior management and relevant employees from various departments to work on environmental quality management, energy conservation, and biodiversity conservation.

The Corporate Governance and Sustainable Development Committee plays a vital role in overseeing compliance with principles and laws related to transparent business operations to ensure a balance of power. Additionally, it is responsible for considering, reviewing, and improving corporate governance policies to align with the business environment and to guide the organization's operations. The committee also acts as a representative in communicating and conducting activities related to corporate governance, including sustainability activities, with executives, employees, and external parties. It ensures the development of sustainable practices in accordance with laws and international standards (including but not limited to environmental issues, climate change, human rights, occupational health and safety, and economic, environmental, and social impacts). The committee considers materiality issues for the Group and addresses other important issues that may affect the company and related parties. This encompasses all employees and managers in the organization to ensure transparent and sustainable business operations.

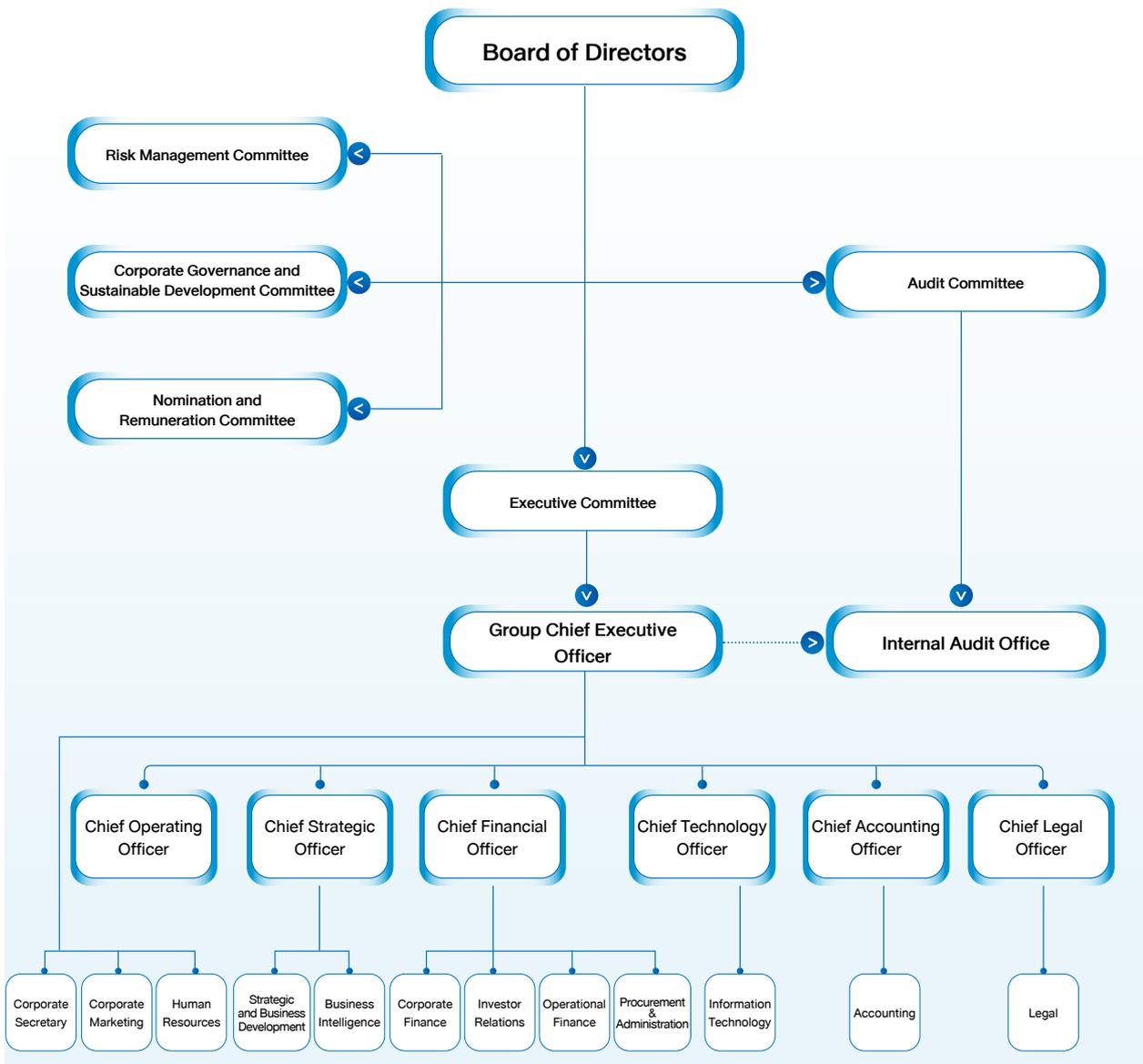
Executives and the sustainable development working group regularly reports progress on sustainable development to the Corporate Governance and Sustainable Development Committee. This report includes updates on key sustainability issues, anti-corruption efforts, environmental and social initiatives, and responses to climate change, etc. In 2023, the sustainable development working group reported progress to the committee four times, with all committee members present at each meeting (100% attendance rate), The meeting also includes Board of Director members to oversee sustainable development operations. which reached the target as set. The committee reviewed and approved the Materiality Issues in the first meeting of 2023 which held on February 2, 2023.

### NOMINATION AND REMUNERATION COMMITTEE

When presenting and selecting candidates for appointment to the board of directors, consideration should be given to the perspectives of the nominees towards the individuals they are being nominated to. The selection and nomination process should be free from interference and conflicts of interest, with the focus on the abilities and qualifications of the candidates. The company’s board has established a Nomination and Remuneration Committee (NRC) to propose qualified individuals based on their skills and abilities, without discrimination based on gender, age, race, nationality, or cultural background, to serve as directors and senior executives. In addition

to its role in selecting and nominating board members, the NRC is responsible for proposing criteria and guidelines for determining the compensation of the board, executives, and all employees. The criteria are clear, fair, appropriate, and consistent with labour market conditions, the nature of the business, and the industry. The committee meets at least four times a year and reports its findings to the boards for approval.

The information regarding the selection, appointment, and composition of the Board of Directors and senior executives is detailed in the “Corporate Governance” and “Corporate Governance Structure” sections in Form 56-1 One Report 2023.



## THE PERFORMANCE EVALUATION OF THE BOARD OF DIRECTORS

WHA Group has established a process for evaluating the performance of the Board of Directors and its sub-committees, both through individual self-assessment and collective evaluation, to review and enhance their work, address issues, and overcome challenges regularly. Additionally, the Boards evaluates the performance of the Group CEO annually, focusing on leadership, strategy formulation and implementation, ESG practices (environmental, social, and governance), financial planning and performance, relationship with the Boards and external organizations, management and employee relations, succession planning, product and service knowledge, and personal attributes. The results of assessment is used to determine the compensation of the Group CEO.

WHA Group has a policy to promote and support the continuous development of knowledge, skills, and experiences of the Board of Directors for sustainable development. This includes training and seminars on topics of interest both inside and outside the organization. For example, the Group supports training courses organized by Thai Institute of Directors (IOD) and encourages to visit business group both domestically and internationally.

Additional information on the evaluation of the Board's performance in 2023, the evaluation of the Group CEO's performance, and the development of knowledge through training courses can be found under the "Corporate Governance" section in the Form 56-1 One Report 2023.

## POLICY ON REMUNERATION

WHA Group has implemented a remuneration policy for the Board of Directors and senior executives that is tied to their performance in managing the organization's impact on the economy, social, and environment. This policy aims to incentivize senior management to prioritize and actively address these three impacts in their decision-making and actions.

More information on the composition, roles, and responsibilities of the Board of Directors and sub-committees, attendance ratio, remuneration for directors and top executives appear in the topic

"Corporate Governance Structure" in Form 56-1 One Report 2023.

The process and steps for considering compensation policies are overseen by the Nomination and Remuneration Committee, which comprises independent directors. This committee plays a crucial role in reviewing and improving the compensation policies and structures for the Board of Directors, sub-committees, and senior executives to align them with the current labor market conditions. They also compare them with other companies in the same industry. The Nomination and Remuneration Committee can independently perform its duties through a comprehensive and appropriate compensation review and analysis process, considering the opinions of stakeholders (including shareholders) without any conflicts of interest. The remuneration of the directors is then reviewed by the Board of Directors for submission to the shareholders' meeting for approval. Further details can be found in the Form 56-1 One Report 2023.

## THE CODE OF CONDUCT AND PRACTICE GUIDELINES OF WHA GROUP ("CODE OF CONDUCT")

WHA Group places great importance on and adheres strictly to relevant laws and regulations governing our business operations in all countries where it operates. The Group aims to ensure that our board members, executives, and all employees respect and comply with laws, as well as local customs, traditions, and cultures. Additionally, the Group respects human rights and international standards, staunchly opposes all forms of corruption, and adheres to policies and guidelines against corruption and collusion strictly. The Group has established risk management and auditing processes and supports the creation of a corporate culture that is committed to honesty, integrity, and fairness. This commitment is emphasized from the Board of Directors and executives to all employees through the implementation of good corporate governance practices by the Securities and Exchange Commission, the Stock Exchange of Thailand, and international standards, such as the United Nations Global Compact, of which the Group is a member. This is reflected in the establishment of the Group's corporate governance policy and code of conduct.

A group-wide the Code of Conduct was consented to the Corporate Governance and Sustainable Development Committee and approved by the Board of Directors. The primary objective is to foster business practices, honesty, legal principles, ethics, and a sense of responsibility towards environmental, social, and governance (ESG). These principles encompass not only the directors, executives, employees, but also extend to suppliers, contractors, subsidiaries, and associated companies under WHA's authority. The code of conduct has been prepared in both Thai and English to ensure that stakeholders, both domestic and international, can study, comprehend, and effectively implement it. Furthermore, the code of conduct undergoes an annual review in 2023 to ensure its relevance and alignment with the prevailing social context. To facilitate easy access to this vital information, WHA Group has disclosed the Code of Conduct publicly available through the Company's website and intranet, ensuring convenience for employees and external stakeholders.



#### WHA Code of Conduct and Practices

**TH:** <https://www.wha-group.com/Uploads/eIFinder/pdf/cg/20240305-wha-code-of-conduct-and-practices-th.pdf>

**EN:** <https://www.wha-group.com/Uploads/eIFinder/pdf/cg/20231206-wha-code-of-conduct-and-practices-en.pdf>

The code of conduct of WHA Group is applicable to all personnel, irrespective of their hierarchical level. To ensure adherence to the code of conduct and guidelines, WHA Group has introduced a digital acknowledgment process. Furthermore, comprehensive training programs are offered to effectively communicate these policies to employees, suppliers, contractors, subsidiaries, and joint ventures, ensuring their comprehension and acknowledgment.

Furthermore, in the evaluation of the performance of employees within WHA Group, the employee performance appraisal system also considers adherence to the code of conduct. This ensures that employees, in particular, are expected to strictly adhere to this code of conduct. In 2023, no complaints, violations, or instances of non-compliance with the business code of conduct were found.

## ANTI-CORRUPTION

WHA Group aims to ensure that all relevant personnel have the knowledge, understanding, and a strong emphasis on combating all forms of corruption. They are also aware of their duties and responsibilities and can effectively apply practices related to anti-corruption, the whistleblowing process, and are regularly monitored and reviewed for compliance with policies and guidelines. Therefore, WHA Group has established "The Anti-Corruption Policy and Practices", which undergo regular reviews to ensure relevance and effectiveness. This policy is applicable to all WHA Group personnel, including directors, executives, employees, suppliers, distributors, contractors, subsidiaries, and joint ventures. Its primary objective is to prevent the abuse of power, fraudulent activities, bribery, and to ensure that all business operations are conducted in full compliance with the law. Detailed guidelines pertaining to these principles are explicitly outlined within the Code of Conduct and Practices, Supplier Code of Conduct, and the Anti-Corruption Policy.

The Board of Directors has assigned the Audit committee with the responsibility of overseeing and examining operations in compliance with the Anti-Corruption Policy. This includes the review of the policy itself, the assessment of the internal control system concerning anti-corruption measures, the monitoring and mitigation of the risk of illicit activities and fraudulent behaviour, the prevention of fraud and corruption within the company, and the handling of complaints and reports of corruption from relevant parties. The Internal Audit Department conducts risk assessments related to corruption to identify and implement measures for risk reduction. This scope extends to stakeholders external to the organization, as well as business interactions with customers and significant business partners.

In addition, WHA Group has established the anti-corruption policy in writing, including guidelines for acceptable and unacceptable practices, to avoid the risks of corruption. Examples include:

- Policies on giving and receiving gifts
- Policies on charitable donations, giving, and/or receiving support
- Hospitality practices
- Political contribution practices
- Procurement practices
- Guidelines for hiring government employees

Furthermore, WHA Group has announced and communicated our anti-corruption policies, including various penalties in case of violations, to all employees. Every employee has signed to acknowledge and comply with these policies as part of the company's work regulations. Regular training is provided to review and enhance employees' understanding and knowledge of the anti-corruption policies every year.



### Anti-Corruption Policy and Practices

**TH:** [www.wha-group.com/Uploads/elFinder/pdf/cg/20240305-wha-anti-corruption-policy-and-practices-th.pdf](https://www.wha-group.com/Uploads/elFinder/pdf/cg/20240305-wha-anti-corruption-policy-and-practices-th.pdf)  
**EN:** <https://www.wha-group.com/Uploads/elFinder/pdf/cg/20230116-wha-anti-corruption-policy-and-practices-en.pdf>

For the board of directors, WHA Group conducts orientation sessions for new directors to communicate the anti-corruption policies, and conducts annual reviews to refresh their understanding. In 2023, all directors (12 members, 100%) reviewed and fully understood the anti-corruption policies of the company.



### No Gift Policy

**TH:** <https://www.wha-group.com/Uploads/elFinder/pdf/cg/20231208-wha-no-gift-policy-th.pdf>  
**EN:** <https://www.wha-group.com/Uploads/elFinder/pdf/cg/20231208-wha-no-gift-policy-en.pdf>

To emphasize the commitment to combating corruption and collusion, for the benefit of all business formats, WHA Group has announced our commitment to the Thai Private Sector Collective Action Against Corruption (CAC) since 2014 and became a certified member in 2017. In 2023, the Group passed the second CAC re-certification, on June 30, 2023 for another three years. Additionally, WHA Utilities and Power (WHAUP), the subsidiary, was certified in 2019 and renewed its certification in 2022. More information about the anti-corruption and collusion policies and practices, as well as the certification as a member of the Thai Private Sector Collective Action Against Corruption, can be found in the "Corporate Governance" section in Form 56-1 One Report 2023.

On December 7, 2023, WHA Group announced a policy to cease receiving gifts and to promote public relations activities for all relevant parties, both internally and externally, including board members, executives, employees, subsidiaries, joint ventures, partners, and business allies, under the "No Gift Policy" project. This is to promote adherence to corporate governance principles and create a transparent working culture throughout the business. Employees are expected to strictly adhere to this policy. In 2023, no cases of employee corruption or collusion were found.

The Anti-Corruption Policy outlines clear guidelines aimed at mitigating the risks associated with fraud and corruption. These guidelines address various areas, including the giving or receiving of gifts, charitable contributions, sponsorships, financial support, political involvement, procurement procedures, and the recruitment of government personnel. The policy extends beyond the scope of the Code of Conduct to ensure comprehensive coverage. In the event of a violation or non-compliance with this policy, the Group has established well-defined disciplinary measures that encompass offenses ranging from minor to serious. Such offenses include bribery, fraud, unauthorized disclosure of WHA Group's confidential information or intellectual property, or any actions that significantly affect the reputation of WHA Group.

## WHISTLEBLOWING

Whistleblowing is the process by which individuals within an organization or other stakeholders who have information or suspicions about legal violations, misconduct, or corruption within the organization decide to report that information to the relevant group for appropriate action or legal compliance. Whistleblowing is important for promoting transparency, honesty, and preventing corruption in various aspects of an

organization and society. It is a way to help identify and address problems promptly. Additionally, there are laws that protect and support whistleblowers. In order to enhance oversight and anti-corruption efforts, WHA Group has established a dedicated whistleblowing or complaint channel. This channel enables employees and stakeholders, both internal and external, to easily report suspected cases, provide leads, or make suggestions/complaints regarding misconduct, corruption, violations of laws and regulations, corporate governance policies, the Code of Conduct, or the anti-corruption policy. To foster a transparent working environment and instill confidence in whistleblowers, the Group has implemented a policy that strictly prohibits any form of demotion, punishment, or retaliation against employees who report fraud and corruption, even if it means potentially losing business opportunities. Additionally, all parties involved in receiving whistleblowing information are obliged to maintain strict confidentiality and refrain from disclosing it to others, unless mandated by legal obligations, administrative orders, or court directives.

In the event of whistleblowing or complaints, the Internal Audit Department will gather information and

conducts a preliminary assessment. Subsequently, the findings are presented to the management for further consideration and then reported to the Audit Committee and the Board of Directors. Whenever there are any clues or complaints, the Internal Audit Department will report to the Audit Committee. The Audit Committee, in turn, provides quarterly reports to the Board of Directors, ensuring their awareness of the issues and enabling them to develop effective and appropriate strategies to address stakeholder expectations and complaints, and remediation. WHA Group has also established a review process for related workflows and implemented measures to address any violations that may occur, ensuring that such violations do not happen again.

In 2023, there were no incidents of misconduct by the organization’s personnel, and no whistleblowing reports or complaints were filed. This is in line with the goals that had been set.

More information about the process and procedures to be followed when receiving a whistleblower is stated in the “The Code of Conduct and Practices” in Form 56-1 One Report 2023.

**CHANNELS FOR EMPLOYEES**

**Website:**

[https://www.wha-group.com/th/corporate-governance/corporate-governance?form=whistle\\_blowing#contact](https://www.wha-group.com/th/corporate-governance/corporate-governance?form=whistle_blowing#contact)

**Email:**

Group Chief Executive Officer: ceo\_office@wha-group.com or  
 The Audit Committee: auditcommittee@wha-group.com

**Suggestion Box:**

Human Resources Department

**CHANNELS FOR EXTERNAL STAKEHOLDERS**

**Website:**

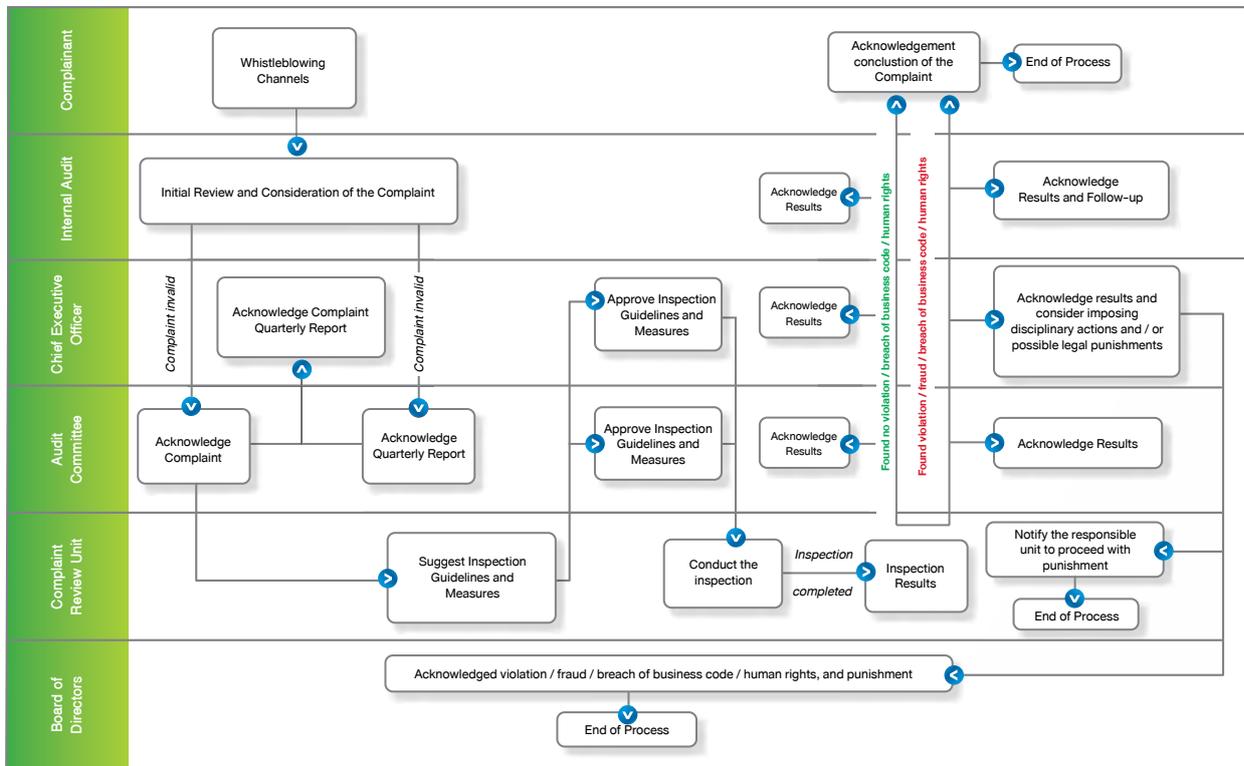
[https://www.wha-group.com/th/corporate-governance/corporate-governance?form=whistle\\_blowing#contact](https://www.wha-group.com/th/corporate-governance/corporate-governance?form=whistle_blowing#contact)

**Email:**

Group Chief Executive Officer: ceo\_office@wha-group.com or  
 The Audit Committee: auditcommittee@wha-group.com



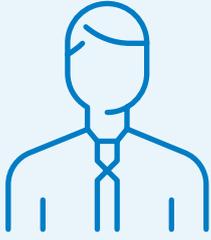
PROCEDURES AND STEPS FOR PROCEEDING UPON RECEIPT OF WHISTLEBLOWING OR COMPLAINT



In 2023, WHA Group organized training and activities to raise awareness of the principles of corporate governance among employees as follows.

- As part of their orientation program, all new employees are required to complete mandatory trainings on the Code of Conduct and Anti-Corruption Policy.
- WHA Group’s Corporate Secretary Department, in collaboration with the Human Resources Department, organized a training session on December 12-14, 2023 to review knowledge through the course “The Code of Conduct and Anti-Corruption.” This course covered various important topics, including the prevention of insider trading, reporting of securities holdings, conflict of interest prevention, stakeholder

reporting, and channels for whistleblowing and complaints in public relations. After the training, the company recorded the sessions as videos for employees to access as part of a self-learning program through an online system. This was done to enhance the effectiveness of training and development. Furthermore, the company opened opportunities for all employees to provide feedback and suggestions to improve the courses. The Group also communicated the Code of Conduct to business partners and contractors through various channels, such as the Group included the policy in contracts to ensure that business partners and contractors are aware of and comply with the relevant business ethics thoroughly.



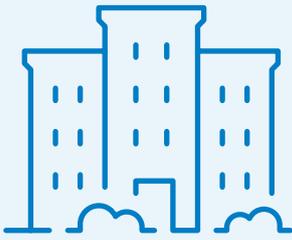
Employee that has been communicated with and informed about the Code of Conduct of WHA Group.

Performance against target 2023

**100**%

Long term target

**100**%  
for every year



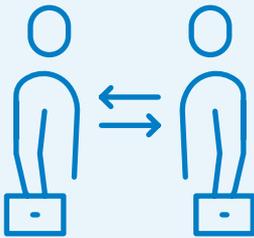
Subsidiaries/Associated companies of WHA Group that have been communicated with and informed about the Code of Conduct of WHA Group.

Performance against target 2023

**100**%

Long term target

**100**%  
for every year



Supplier/contractors of WHA Group who have been communicated with and informed about the Code of Conduct of WHA Group.

Performance against target 2023

**100**%

Long term target

**100**%  
for every year

Since establishment, WHA Group has adhered to legal requirements and placed great importance on conducting business in accordance with ethical principles. This includes ensuring that all employees are informed of the company’s business ethics, conducting rigorous checks on corruption and collusion in all forms, establishing a whistleblowing process, and regularly reviewing policies and best practices. As a result, WHA Group has been recognized as an organization that operates transparently, benefiting the organization directly. This has instilled pride in employees, leading to outstanding performance, a positive image, and a good reputation. It has also earned the organization trust from society as a whole, reducing the risk of corruption, collusion, and legal violations. This ethical approach has contributed to the Group’s growth and minimized negative impacts on the environment and society.

WHA Group emphasizes and adheres to conducting business with integrity and transparency, always considering the interests of all stakeholders. This commitment is reflected in the positive results achieved in 2023, where WHA Group had strong corporate governance and no cases of corruption. However, WHA Group remains committed to developing, reviewing, and improving policies, processes, and corporate governance practices to align with changing business environments. The Group support policies promoting equality and fairness at all levels of the organization, conduct performance reviews, and evaluate outcomes to ensure alignment with both business and ESG goals.

The Group also aim to enhance and develop plans to be a sustainable organization free from corruption going forward.

## RISK AND CRISIS MANAGEMENT

In the present day, businesses face various risks and uncertainties in their operations due to changes in the economic, social, and environmental landscape, as well as advancements in information technology that bring new threats. These threats include cyber attacks, disasters from climate change, and evolving laws and regulations, particularly in sustainable business practices (ESG). The risks that may significantly impact industrial estates include economic, environmental, and technological factors, which can affect businesses and stakeholders such as employees, shareholders or investors, and customers. Leading companies worldwide are monitoring these risks and increasingly implementing proactive and reactive risk management strategies.

Therefore, WHA Group emphasizes the importance of risk management as a crucial component of governance to help the organization achieve our operational goals. This includes defining control activities to prevent or mitigate risks to an acceptable level, implementing systematic assessment, control, and monitoring, as well as developing impact management plans to prevent damage that could affect the business, society, the environment, and stakeholders.

To build confidence among key stakeholders, WHA Group has integrated risk management into our core operations, starting from the establishment of the organization's mission and strategy. This includes updating governance policies to be contemporary and aligned with sustainable business practices, as well as enhancing business ethics and operational practices. This includes measures to combat corruption and collusion, considerations for climate change, transparency in board operations, personal data protection, anti-money laundering efforts, and managing key risks in business operations such as strategic, operational, emerging, and ESG risks.

In addition, WHA Group has established a risk management committee to proactively set policies, guidelines, risk management frameworks, and annual risk management plans. This includes promoting a risk

management culture and awareness of responsibility in compliance with the risk management policy at all levels, from the board and management to all employees, to actively participate in effective risk management. Furthermore, WHA Group plans to utilize innovations and technologies to enhance the efficiency of our risk management operations.

### MANAGEMENT APPROACH

#### RISK MANAGEMENT AND IMPACT MANAGEMENT

WHA Group has implemented an effective and proactive risk management policy to enhance our ability to adapt to change, increase mobility, and respond effectively to uncertain situations. This policy is designed to ensure uninterrupted business operations within WHA Group.

To ensure that various risks that may impact the organization are appropriately managed in line with WHA Group's commitment to effective risk management, the Board of Directors has appointed a Risk Management Committee consisting of the Group's executives and members from the Board. This committee oversees the overall risk management process of the Group. Additionally, to ensure that each business unit within the Group can manage its risks in line with the Risk Management Committee's practices, a task force has been appointed. This task force includes senior executives and department heads from the Logistics, Industrial Development, Utilities & Power, and Digital business groups. Their operations are separated from the business units, and the task force regularly meets to monitor risk information from all business groups, identify potential risks, impacts, and business opportunities. These include social, environmental, and economic issues, and the findings are reported to the Group's Risk Management Committee for presentation to the Board of Directors quarterly. Furthermore, WHA Group has reviewed our risk management processes through internal audit and external audit (the Risk Management Committee's members can be found in Form 56-1 One Report 2023).

## RISK MANAGEMENT POLICY AND FRAMEWORK

The board of directors has approved the organization's risk management policy and framework, which are reviewed annually. The objective is to establish a clear, appropriate, and sufficient Enterprise Risk Management Framework for WHA Group. This includes assigning roles and responsibilities and defining the burden of responsibility for those involved to effectively manage organizational risks.

WHA Group has established a risk management framework aligned with the Committee of Sponsoring Organizations of the Treadway Commission (COSO) guidelines, focusing on Enterprise Risk Management (ERM). This framework is also in line with the Thai Corporate Governance Code for Listed Companies - 2017. It aims to enable the board of directors, executives, and employees at all levels, covering every business unit within WHA Group, to effectively manage risks. This includes considering the level of risk appetite and risk tolerance when evaluating various risks to make informed business decisions.

Furthermore, WHA Group integrates risk criteria into the investment decision-making process at the initial stages of project/product planning and development. Each project's risk must be at an acceptable level before proceeding with the decisionmaking process. All project investments require approval from the Risk Management Committee (RMC). The risk assessment criteria in the initial stages of project/product planning and development include the cost of development, the % increased interest expense of total cost, average interest cost, IBD-to-Equity ratio, IBD-to-EBIDA ratio, revenue from leases, and revenue from sales REIT.

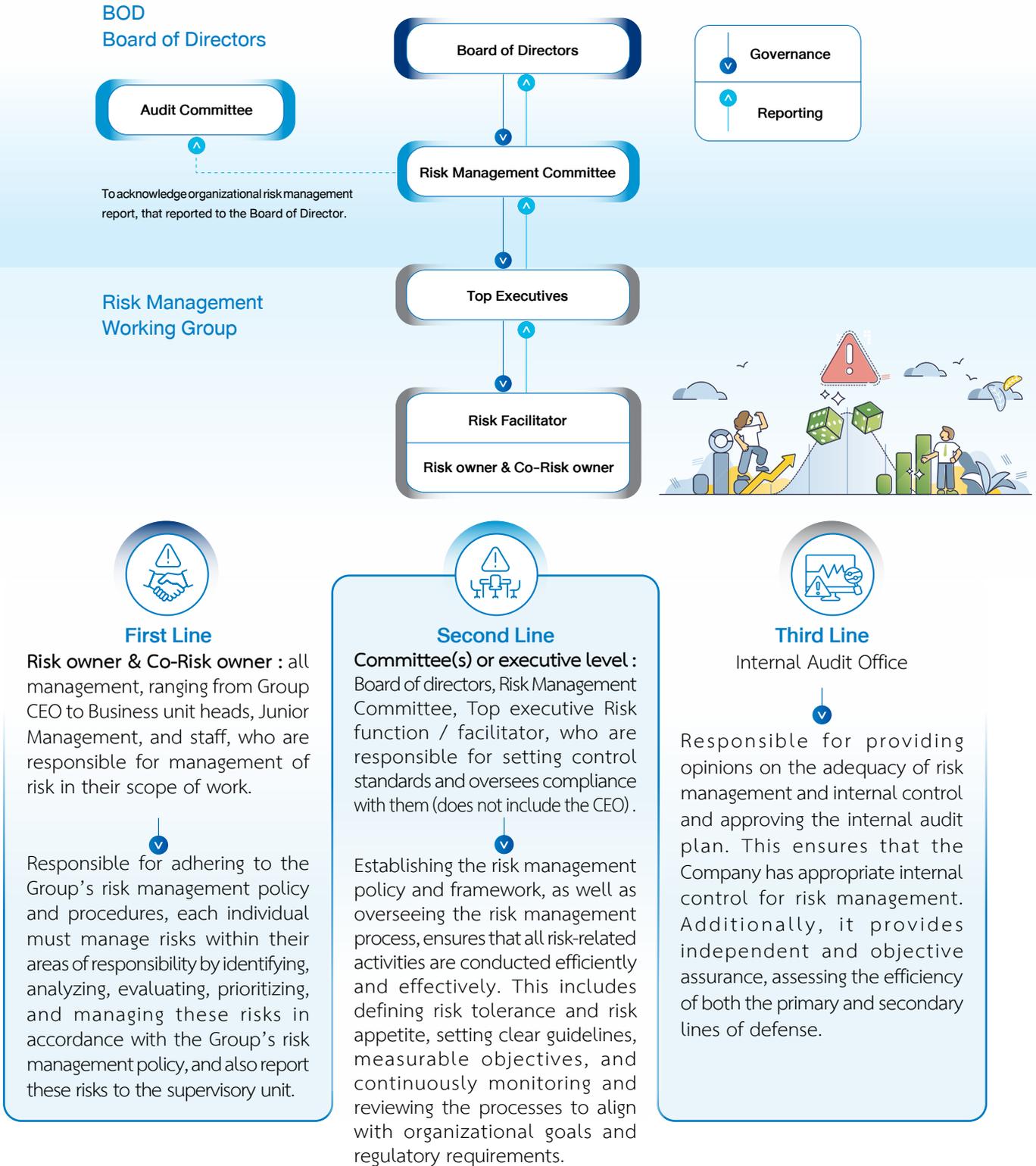
## ENTERPRISE RISK MANAGEMENT STRUCTURE AND RESPONSIBILITIES

The risk management framework of WHA Group defines the roles and responsibilities and the delegation of responsibilities for those involved in the risk management process, as well as the designation of decision-makers in managing the organization's risks. Additionally, the structure of managing risk information and reporting includes the following details:

- **Board of Directors**  
Board of Directors responsible for establishing the risk management policy and overseeing the risk management process to be conducted efficiently and in accordance with international standards and aligned with the Group's strategies and to appoint Risk Management Committee in order to assist and support the Board of Directors' performance.
- **Risk Management Committee**  
Risk Management Committee (RMC) establish risk management framework, and business continuity management which are consistent with the objectives, major goals, and strategies, to be used as main practical guidelines and oversee the Group's risk management process, as well as companies in the Group or other businesses in which the Group invest significantly to comply with the policy. In addition, Risk Management Committee monitors the progress of the risk management plan and key risk indicators to promote continuous improvement and development of systems and mechanisms for managing risk within the organization. This includes coordination and provision of key risk and internal control information to the audit committee to assess the adequacy of the risk management and internal control systems. This information can also be used to support the consideration and approval of internal audit plans, ensuring confidence that WHA Group has an appropriate internal control system for risk management. The Risk Management Committee meetings held at least four times a year to review risk exposure of the Group based on impact and likelihood of specific-risk, and establish a risk management framework and business continuity management accordingly (see key organization's risk section for full detail of the Group's risk exposure).
- **Risk Management Working Group**  
Risk Management Working Group ("RWG") consists of the Top Executives, Executives from several departments, Risk owner and Risk Facilitator. The RWG is in charge of monitoring operations related to enterprise risk management according to the risk management policy and framework assigned by the Risk Management Committee. To ensure that the risk information is updated and adjusted appropriately in response to significant changes or important risks that arise during the year, the Risk Management Working Group presents risk management reports to the Risk Management Committee at least four times per year.

## THREE LINES OF DEFENSE MODEL FOR RISK MANAGEMENT

WHA Group implemented Three Lines of Defense (3LOD) framework to enhance communication about risk management and control. This includes clearly defining the important roles and responsibilities of personnel involved at each level of the 3LOD framework as follows:



Each level of defense within the 3LOD framework has distinct roles and responsibilities within the organization’s governance framework. Therefore, the participating personnel are tasked with ownership in the risk management and control processes, as well as independent auditing. WHA Group expects all relevant units to have sufficient awareness and receive adequate communication regarding the approaches. This ensures that the organization effectively manages risk (Full detail of Risk Management Policy, Framework, and Structure can be found in Form 56-1 One Report 2023).

## ENTERPRISE RISK MANAGEMENT PROCESS

WHA Group has linked our enterprise risk management system with materiality topics and policies, laws, regulations, and standards of WHA Group, covering governance, environmental, social, risk management and internal control systems, and compliance or GRC (Governance, Risk and Compliance) to prevent and mitigate risks and reduce the impact of risk factors throughout the organization, enabling the organization to achieve our strategic objectives and main goals in various areas. The organization's risk management process consists of 8 steps as follows:



### 1. Objective Setting

- Business Context Analysis
- Define Objectives, Organizational Goals align with Strategic Goals
- Define the Risk Appetite



### 2. Risk Identification

- Identify Risks and Risk Factors, both Internal and External
- Identify Risks covering all types of risks, including strategic risks, operational risks, financial risks, compliance risks, sustainability (ESG Risks), human rights risks, fraud & corruption risks and emerging risks.



### 3. Risk Assessment

- Evaluate Risks by assessing the likelihood of the risk occurring (Likelihood) and the impact of the risk (Impact)
- Apply tools to assess the severity of impacts, such as Sensitivity Analysis and Scenario Analysis



### 4. Risk Prioritization

- Prioritize risks by ranking their importance
- Create a Risk matrix (4x4) by categorizing the prioritized risks into 4 levels: very high, high, medium, low



### 5. Risk Response

- Define response strategies for risks
- Mitigate risks to an acceptable level of risk (Risk Appetite) and deviation of the acceptable level of risk (Risk Tolerance)



### 6. Risk Recording and Reporting

- Risk Register through Corporate Risk Management System (RMTS) application
- Define Key Risk Indicators
- Risk Report



### 7. Monitoring Review and Improvement

- Review risk and performance results
- Continuously improve Enterprise Risk Management



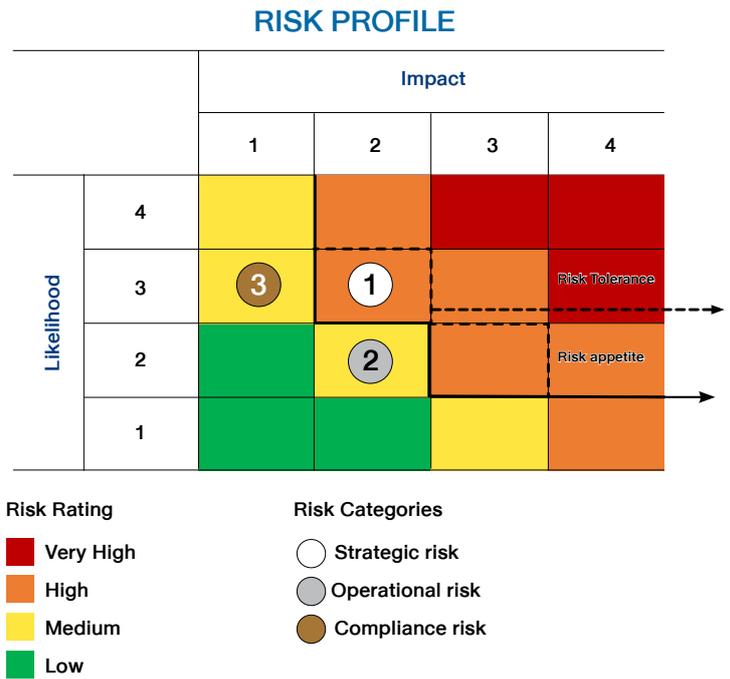
### 8. Communication and Consultation

- Prepare risk management policy announcements
- Communicate and provide advice on risk management



## KEY ORGANIZATION’S RISKS

WHA Group requires an assessment of risks considering both internal and external factors that may prevent the Group from achieving our objectives. This includes all aspects of risks, including strategic, operational, financial, and compliance risks, along with measures to respond to mitigate potential impacts to maintain risks at acceptable levels. The risk assessment process begins with defining objectives and goals, identifying risks that may impact the achievement of objectives and goals, assessing risks, and prioritizing them based on the likelihood and impact of their consequences. (identified risk exposure). Furthermore, the Group establishes our Risk Appetite and Risk Tolerance levels to determine the acceptable level of risk for each type of risk. Additionally, WHA Group reviews risk exposure on a regular basis, at least four times a year. Examples below are three identified risks of specific exposure (consider likelihood and magnitude) include mitigation actions.



## RISK TOLERANCE

### 1. Strategic Risk

#### Risk Exposure:

Changes in economic, political, and legal policies that may impact the company’s business expansion plans and operating results in foreign countries.

**Impact :** Opportunities of WHA Group for business expansion and operational performance depend on economic, political, social, and legal policies, especially significant if the economic conditions change significantly, including risks related to volatility, inflation, exchange rate fluctuations, and risks arising from other companies’ default in the future. These changes could affect overall interest rates or changes in social and legal frameworks, negatively impacting business operations, financial status, performance, investments, and production capacity of various industries, which are the current customer base of WHA Group, or decisions to invest, which could have a negative impact on the Group’s business.

#### Risk Management Approach:

WHA Group evaluates investment projects based on the Equity Internal Rate of Return (IRR) to determine the feasibility. It conducts detailed feasibility studies and sensitivity analyses to understand the potential impacts of various factors. For joint venture projects, WHA Group has a comprehensive policy for selecting partners based on their knowledge, capabilities, experience, expertise, financial status, and past performance. It also assesses and verifies the credibility of potential partners and the countries where investments are planned. Additionally, the Group continuously monitors and manages operational risks by deploying personnel in foreign countries to support business development and control operations, reducing the risk of potential issues.

## RISK APPETITE

### 2. Operational Risk

#### Risk Exposure:

The cybersecurity data security risk from cyberattacks in various forms

**Impact:** As of now, WHA Group aims to enhance operational efficiency by leveraging digital technology to increase business value. Therefore, there is a growing reliance on information technology systems, from sales to data analysis, customer relationship management, accounting and finance management, and other operations. WHA Group is aware of the security risks posed by various systems, stemming from ever-evolving cyberattack formats. These risks may lead to data leaks, losses, or system downtime, impacting operations, financial losses, credibility, and the image of WHA Group.

#### Risk Management Approach:

WHA Group oversees and promotes the management of digital transformation and cyber security risks by establishing cyber security policies and information technology usage regulations for the overseas companies, in accordance with the ISO 27001 standard framework of the Group. This ensures that all employees adhere to the same practices. Additionally, WHA Group develops a cyber security risk management plan that covers critical operations, such as implementing Multi-factor authentication systems to manage access to critical organizational information and establishing a Security Operation Center (SOC) to respond promptly to threats. Furthermore, it raises employees' awareness of technology usage through continuous training and activities, such as annual Cybersecurity Awareness campaigns, to ensure employees have the correct knowledge and understanding of safe technology use. WHA Group also conducts simulated phishing email campaigns to test employees' awareness and has a disaster recovery plan in place to prepare for emergencies.

### 3. Compliance Risk

#### Risk Exposure:

Changes in laws, regulations, and building regulations

**Impact :**

The risks arising from changes in laws and regulations, both currently in effect and those being prepared or trending for future implementation, can pose obstacles to WHA Group's business operations. These changes may impact on the Group's business strategy and operations directly, affecting our image and potentially resulting in legal penalties or missed business opportunities. Therefore, WHA Group emphasizes the importance of managing risks and opportunities arising from changing laws and regulations, especially those related to our business strategies and operations. Examples include construction regulations such as the Ministerial Regulation on Controlled-Use Building Construction, B.E. 2566 (2023), the Ministerial Regulation on Structural Design and Material Specifications for Building Structures, B.E. 2566 (2023), and the Ministerial Regulation on Minimum Wage Increase in 2024, which have led to increased costs in design and development due to the changing requirements.

#### Risk Management Approach:

WHA Group has been monitoring changes in laws, regulations, and directives to analyze and plan for adjustments to minimize potential impacts. This includes developing and updating a new legal compliance system to accommodate important updates to licenses or laws at the national level. This ensures that employees can act in accordance with the law, reducing the risk of non-compliance.

## RISK MANAGEMENT CULTURE

In addition to establishing a framework for risk management and good corporate governance, WHA Group also emphasizes raising awareness, attitudes, and behaviors related to risk management among all levels of personnel, whether employees, directors, or senior executives. This is considered a key mission of the organization to drive an effective risk management culture within the company. The Group is currently in the process of transitioning to a top-down incentive system by incorporating risk management into the Key Performance Indicators (KPIs) of executives and risk owners. Risk owners include all management, ranging from Group CEO to Junior Management, and staff, who are responsible for management of risk in their scope of work.

This approach will promote communication and practices that directly focus on risks and create practical methods for implementing risk management. For example, the use of a common risk language, defining acceptable risk levels, and setting standardized risk assessment criteria. The approach also defines the roles and responsibilities of those accountable for specific risks and ensures that risk management is included in the agenda of key meetings of each subsidiary company. The approach encourages sharing risk management experiences between departments and companies to continuously communicate best practices and benefits. Additionally, risk management is incorporated into the organization's training curriculum to raise awareness and develop skills among personnel in identifying, controlling, and mitigating risks related to their roles and responsibilities. This includes company directors, executives, and employees, ensuring everyone can participate in effective risk management and strengthen the organization's risk management culture. Furthermore, all employees and external parties can use WHA Group's whistleblowing and complaint channels to report issues they believe pose a risk or could become a risk in the future. These reports will be investigated, addressed, and appropriate measures will be taken accordingly. (More details of whistleblowing and complaint are in Code of Conduct and Practices section of this report).

## EMERGING RISK

WHA Group recognizes that emerging risks have the potential to significantly impact business operations. As part of our comprehensive risk management process, the Group actively monitors, assesses, and addresses these emerging risks. In this regard, WHA

Group aims to identify potential challenges and develop mitigation plans to minimize any adverse impacts. Within the scope of emerging risks, WHA Group specifically focuses on three key areas: Risk from Digital Disruption, Risk from Climate Policy, Risk from Geopolitical Tensions.

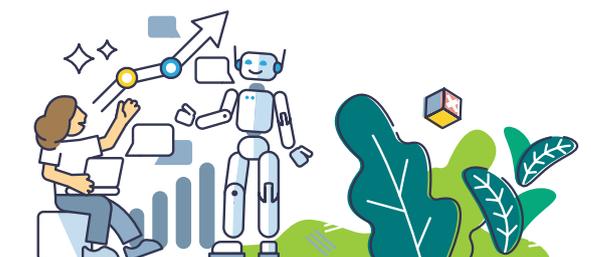
### 1. RISK FROM DIGITAL DISRUPTION



#### RISK DESCRIPTION

In an era where technology plays a crucial role in advancing businesses rapidly, various technologies such as clean technology, blockchain, remote working, and artificial intelligence (AI) can significantly enhance operational efficiency and environmental impact. However, these technologies can also introduce uncertainties to business operations, especially for businesses slow to adapt to technological changes. This can result in an inability to keep pace with a competitive technology-driven market. Therefore, lack of readiness and risk management for efficient technological changes can potentially reduce business prospects, leading to service delays, inferior products and services compared to competitors, loss of profits, and erosion of confidence and key customer bases. Furthermore, the changing consumer behaviors post-COVID-19 crisis, with increased use of technology and the internet, have led to rapid growth in the e-commerce market and a trend towards greater reliance on online services. Therefore, businesses that fail to adapt by leveraging technology to meet customer demands may suffer financial repercussions, damage to reputation, and loss of customer trust, resulting in reduced revenue.

#### IMPACT ON BUSINESS FROM DIGITAL DISRUPTION AND BUSINESS MODEL



WHA Group does not only consider the risks from technological changes but also consider numerous business opportunities.

### Risks

- Failure to adapt to technological changes may affect WHA Group's competitiveness as products and services may not meet the constantly changing consumer demands.
- Additionally, WHA Group may miss out on significant business opportunities, if it cannot fully leverage the potential of rapidly growing technologies.

### Opportunities

- WHA Group can turn the risk of technological changes into opportunities by leveraging various digital technologies and innovations across our business to respond to and benefit from new opportunities in the digital age.

WHA Group is currently encountering fresh challenges in meeting customer expectations. As a result, it is imperative for WHA Group to enhance our products and services, fostering innovation and digital empowerment. By doing so, WHA Group can effectively address the evolving expectations and needs of customers. This involves the crucial task of tailoring products and services to cater to a wide array of customer preferences and requirements.

At the same time, WHA Group is dedicated to developing and offering smart solutions along with cutting-edge technologies to our customers. The Group's industrial development business plans to use this opportunity to expand our customer base by offering innovative technology-driven services and modern infrastructure to customers. The utilities and power business segment has also planned and implemented the use of clean technology to meet customer demands while prioritizing environmental sustainability.

## RISK MANAGEMENT APPROACH FOR BUSINESS DIGITAL DISRUPTION AND BUSINESS MODEL



WHA Group has set a goal to manage technological changes and business model innovations, viewing the development of digital technology as both a risk and a business opportunity. This strategy aims to effectively navigate technological changes, including Digital Transformation. Aiming to become Tech Company

by 2024, the Group has diversified digital innovations in all types of businesses, focusing on improving and developing products and services. The Group also focusing on adapting to new innovations and technologies, as well as improving and developing internal processes and systems to respond to and seize various opportunities from entering the digital age. To achieve these goals, the Group has implemented important risk management strategies as follows:

- Establishing a strong internal management system to enhance competitiveness in the technology era through the integration of goals related to the application of digital innovations in WHA KPI and the ORACLE HCM Cloud human capital management system, among others.
- Recruiting experts in technology as part of the organization continuously and seeking opportunities to collaborate with leading technology companies both domestically and internationally.
- Integrating digital innovation application into business operations as KPIs in evaluating the performance of all employees, as well as organizing projects that allow employees to participate in developing new innovations to enhance business competitiveness under the Innovation Bootcamp project.
- Providing training on technology-related topics, such as training for innovation leaders and organizing seminars on various innovation topics for all employees.
- Utilities & Power business (WHAUP) has set a goal to enhance its capabilities with new utility products, such as the Smart Water project, which uses technology to reuse used water for maximum benefit, and the Smart Energy project, which aims to reduce electricity costs and increase reliability for operators within industrial estates, as well as energy innovation. network systems for smart electricity distribution SMART Microgrid, etc.
- Industrial Development business (WHAID) has set a goal to expand its customer base while maintaining existing customers by pushing for development into smart industrial estates through various innovation projects, such as Centralized Control Room, Supervisory Control and Data Acquisition (SCADA) technology, and i-Store Self Storage personal asset storage services, among others.
- Logistics business has implemented various technology projects, such as the LBMS application for building maintenance services and the SMART Logistics project.

## 2. RISK FROM CLIMATE POLICY



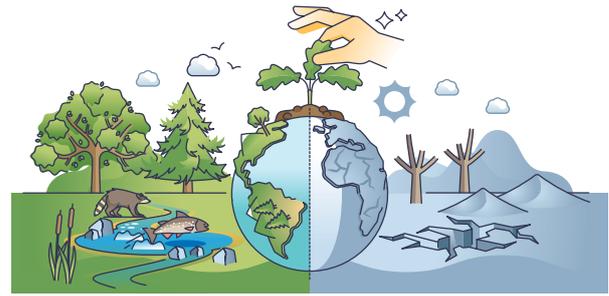
### RISK DESCRIPTION

Thailand is facing significant challenges in achieving sustainable development due to climate change. In 2022, Thailand announced a long-term commitment to carbon neutrality by 2050 and net-zero emissions by 2065. This commitment has intensified significantly, leading the government to issue guidelines for reducing the country's greenhouse gas emissions for 2021-2030. These guidelines include 15 measures, of which 5 measures (electricity production, industrial energy consumption, energy consumption in commercial buildings, waste management, and management of other industrial wastewater) are expected to impact WHA Group's business operation.

Moreover, the Excise Department is planning to introduce a carbon tax in the fiscal year 2025, or possibly as early as the end of 2024. This move will make Thailand the second country in ASEAN, after Singapore, to implement such a tax. Initially, the tax will be levied on oil and oil products linked to greenhouse gas emissions. This policy will steer Thailand towards becoming a carbon-neutral society. However, the business sector must unavoidably face impacts as well.

WHA Group are expected from the change in climate policy in terms of costs of carbon, materiality cost, operations, and maintaining the leadership status in industrial estate development. This presents both a challenge and an opportunity for WHA Group that must be prepared to be ready for the forthcoming changes.

## IMPACT ON BUSINESS FROM CLIMATE POLICY



Similarly to the issue of changes resulting from the development of digital technology, WHA Group does not only see the risks from climate change but also sees the business opportunities that can arise. The Group has conducted an analysis of risk factors to identify the significant impacts of climate policy changes on business operations, including Qualitative Scenario Analysis tool. This tool examines the results of policies addressing climate change from the year 2000 to 2100 and can have significant impacts on key business areas as follows:

- Legal and regulatory changes may increase the cost of construction materials, which may have long-term impacts on the Group's business strategies and goals, as well as increased operating costs from regulations related to climate change. The estimated financial impact of operating costs is less than 10% of development costs.
- WHA Group expects a decrease in EBITDA after the carbon tax deduction, ranging from 0.02% to 5.2%, depending on the scenario and timeframe.
- Legal and regulatory changes may also reduce the demand for products and services of WHA Group. This is expected to impact on the financial income of the Group by reducing rental income by less than 10 Million Baht per quarter and income from REITs by less than 400 Million Baht per year.
- Policy changes that may occur may lead to requirements that require companies to discontinue the use of high-carbon assets, resulting in asset depreciation and cancellation of existing assets before the due date.
- Failure of WHA Group to comply with changing laws and regulations may result in legal penalties from the government.

Based on the analysis above, if WHA Group fails to respond to the expectations and needs of stakeholders regarding environmental responsibility and increasing awareness of climate change, it is expected to impact the Group in terms of costs, operations, reputation, leadership status in industrial development, or legal penalties. Additionally, the carbon tax will significantly impact the Group's revenue if there is no serious and decisive action taken to manage carbon emissions.

However, WHA Group is highly aware of the importance of climate change and understands that it comes with both risks and business opportunities. Therefore, the Group need to prepare for legal changes and regulations regarding greenhouse gas emissions. Additionally, WHA Group has developed energy-efficient building designs, uses energy produced from solar panels (Solar Rooftop), which are beneficial for both the Group and customers in reducing carbon footprints. The Group can also offer carbon credits to other companies to offset the carbon emissions. Furthermore, WHA Group has planned to continuously develop solar panel installation services to provide customers with reliable energy sources. The Group also promote the use of environmentally friendly construction materials to reduce waste and promote the reuse and recycling of construction materials.

### RISK MANAGEMENT APPROACH FOR CLIMATE POLICY ENFORCEMENT



To reduce risks and create sustainable business growth opportunities from climate change policies and measures, WHA Group has implemented key risk management strategies as follows:

- Studying and monitoring mechanisms to reduce greenhouse gas emissions at both national and international levels. This includes developing carbon market mechanisms, setting carbon credit prices, and carbon taxes to analyze economic impacts on the company and adjust business operation strategies.
- Adjusting investment strategies to achieve a balanced investment ratio in natural gas, coal-fired power plants, and renewable energy power plants. Also, developing greenhouse gas management strategies and reduction targets in line with the country's investment strategies and goals.

- Adjusting business operation strategies of the Group to be more suitable to current and future law and regulations. This includes focusing on developing various projects under the "Mission to the Sun" mission, such as reducing water usage in the industrial sector (e.g., projects to reuse water, smart metering projects), alternative energy projects (e.g., solar panel installations), environmentally friendly transportation (e.g., smart traffic management systems to reduce carbon dioxide emissions), and promoting the circular economy concept. These projects not only help address climate change but also reduce operational costs, enhance business flexibility, and promote sustainable business operations.
- Promoting use of construction materials that help reduce greenhouse gas emissions, using high-quality materials to reduce waste, and promoting the reuse and recycling of construction materials.
- Applying Internal Carbon Pricing as one of the guidelines for reducing greenhouse gas emissions within the organization.

### 3. RISK FROM GEOPOLITICAL TENSIONS



#### RISK DESCRIPTION

Given the situation of conflicts between countries, challenges from political factors, competition among countries, military conflicts between countries, as well as fluctuations in exchange rates and interest rates due to fragile economic conditions, all sectors are facing challenges in managing the new risks at both regional and business levels, which are complex, interconnected, and have wide-ranging international implications. WHA Group considers these events as one of the contexts for the new risks that are emerging and are likely to persist in the next 1-2 years, requiring the organization to closely monitor and supervise operations to prepare for various uncertainties that may arise.

## IMPACT ON BUSINESS FROM GEOPOLITICAL TENSIONS

In today's world, the economy, politics, and society are increasingly complex and interconnected. This means that the impacts of political conflicts, wars, and global economic factors inevitably affect the supply chain and the global economy, which cannot be avoided. For example, the increasing prices of energy and raw materials have an impact on companies' operational costs. Managing financial policies and treasury under conditions of currency fluctuations and economic stability at the international level also affect WHA Group in managing financial costs, including exchange rates and interest rates. WHA Group derives income and incurs expenses from sourcing raw materials and investing in projects, among other things.

However, the conflicts and tensions, especially the competition and division among major powers, can create new opportunities and challenges. For example, the movement of production bases and investments from China, Taiwan, and Europe to diversify business risks towards the Asian region. Thailand and Vietnam are countries that have benefited from this situation. WHA Group has gained business opportunities from the investment relocation in several industries, such as the automotive industry supported by electric vehicles (EVs), the electronics parts industry, and the renewable energy industry. The Asian region is striving towards sustainable energy independence.

## RISK MANAGEMENT APPROACH FOR GEOPOLITICAL TENSIONS

WHA Group considers and manages operations under the strategy of expanding the organization's growth both domestically and internationally. WHA Group manages risks and impacts starting from the selection of investment projects, which involves evaluating potential outcomes in both the short and long term. It also includes building business partnerships in the study area and closely monitoring the business environment through WHA Group's personnel in the area. Moreover, it involves considering exit strategies



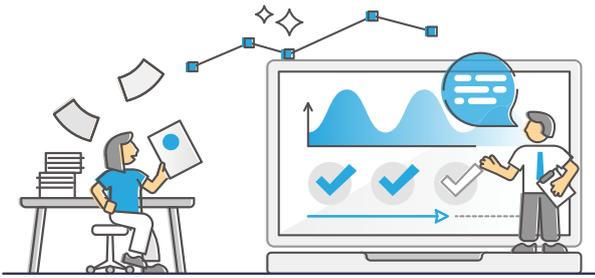
in suitable situations, as well as monitoring, compiling, and analysing significant global trends, including industry trends, market advancements, technological progress, and multifaceted policies. This is used to forecast commodity prices, production costs, and long-term business operations, and to devise measures that create flexibility and alternative markets and products. This enables WHA Group to adapt our business swiftly in uncertain situations. Additionally, it involves monitoring interest rates and financial costs to find suitable financial tools that provide maximum benefit to WHA Group.

## CRISIS MANAGEMENT AND ORGANIZATIONAL CONTINUITY MANAGEMENT

As a part of the organization's risk management, WHA Group conducted sensitivity analysis and stress testing to evaluate the consequences and impact of risks events. Accordingly, risk mitigation measures were prepared. The Group's sensitivity analysis and stress testing shows that flood and drought are important risks to our business as WHA Group houses numerous factories, manufacturing, and warehouses. Incidents such as flooding directly affects to operational disruption to our customers. WHA Group's utility services is dependent on the availability of natural resources (e.g., rainfall for water services), therefore, these impacts could affect our utilities services to customers.

Hence, WHA Group has initiated several projects to mitigate risks from drought and flood. For example, the rainwater drainage inside industrial estates which can drain the rainwater effectively during heavy rains as well as setting the working level of each water pump to work automatically at the different levels. Another example is the improvement of dykes to prevent outside water from the flooding area, and the on-site; reservoirs located nearby WHA Rayong 36; application for water allocation from Nong Pla Lai Reservoir, and water reclamation. More detailed information can be found in Climate Change chapter.

As a part of WHA Group's risk management system, a Business Continuity Plan (BCP) is developed to prepare for effective response during the time of emergency or crisis. It helps ensuring the smooth operation of all business hubs. The plan was reviewed and revised to cover all the events identified through risk assessment that could cause potential business disruptions, for instance: natural disasters, fire, pandemic, information security, etc.



WHA Group has conducted tests to evaluate the efficiency and effectiveness of our business continuity management plan within the main business units or during operational processes. The results of these tests have been used to improve the plan, ensuring accurate and precise responses to real-life incidents. In addition, with awareness of the increasing trend in cyber threats, WHA Group has arranged for security testing of data by the Information Technology department, covering Data Recovery and Backup Media Recovery. The test results have met the objectives, with the time required for data recovery falling within the estimated and anticipated range.

For the backup data recovery testing of each system, the latest backup data from the designated storage is selected and imported into the recovery process to ensure that the backup data can be successfully read and restored. The results of the backup data recovery testing for the ERP system, File Sharing system, and MS SQL Database indicate that the set objectives have been achieved as planned.

In addition, WHA Group performed BCP test for various scenarios including Emergency Plan for Chemical spill, Road accident and Flooding Prevention Plan. The testing covered procedures in the case of emergency as follows:

- Receiving notification report of the incidents
- Preventing the emergency incidents
- Coordinating and communicating
- Using tools and equipment
- Assessing the readiness of tools, equipment and time to respond to emergencies



According to the report, all related departments and relevant personnel can conform to instructions as stated in BCP Plan, hence the testing results are satisfied.

Furthermore, WHA Group has elevated the capabilities of Unified Operation Center (UOC) to control and manage utility services. Currently, the Group can remotely control and manage water and solar energy facilities from the UOC. Therefore, in emergencies or situations with movement restrictions, such as the lockdowns during the COVID-19 pandemic, the UOC serves as a secondary command center to control water and solar energy facilities, ensuring business continuity.

In 2023, WHA Group continued to prioritize risk management and crisis management to prevent impacts on the business and stakeholders. The focus was on promoting a risk management culture throughout the organization, at all levels, through key operational activities as follows:

### CODE OF CONDUCT & ANTI-CORRUPTION TRAINING

WHA Group is committed to conducting business with integrity, transparency, and in compliance with the law, as well as ethical business principles and good governance practices, to ensure that our operations are conducted ethically, morally, and responsibly towards society, the environment, and stakeholders. It emphasizes the importance of communicating these policies to all stakeholders at every level to ensure their understanding, awareness of roles and responsibilities, and adherence to guidelines, including the establishment of a Whistleblowing mechanism to create a sustainable organizational monitoring and culture. From December 12-14, 2023 WHA Group organized training to review knowledge through the “Business Ethics and Anti-Corruption Compliance”

course for all directors, executives, employees. The content covered important topics such as preventing internal data misuse, reporting securities ownership, preventing conflicts of interest, reporting gains and losses, and channels for whistleblowing. In 2023, training was developed in video animation format to make it more accessible and understandable. Furthermore, employee performance appraisal, WHA Group considers adherence to “Code of Conduct and Practices”. All participants were required to take a test to measure their understanding of Code of Conduct and Anti-Corruption Policy. If they did not pass the online test, they had to retake the training. The 2023 assessment results showed that all training participants (100%) passed the test and understood the policies. WHA Group had no violations of Code of Conduct and practices in 2023, no incidents or statistics of corruption and collusion within the organization, and no related whistleblowing or complaints.



## BOARD RISK AND SUSTAINABILITY COMMUNICATION

WHA Group has integrated the results of risk assessments, including sustainability issues, into the organization’s direction and strategy. In 2023, the management presented these risk and sustainability issues to the board of directors for consideration, providing information for both short-term and long-term organizational strategy discussions in the fourth quarter of 2023.

## TRAINING PROGRAMS AND ACTIVITIES TO PROMOTE A RISK MANAGEMENT CULTURE

To strengthen the risk culture, WHA Group has organized regular training programs and activities on risk management. These initiatives aim to enhance employee awareness and develop their skills in identifying, controlling, and mitigating risks related to their roles and responsibilities. Key training and activities include:

- To ensure that executives, risk management committees, and risk management working group are aware of the organization’s risk profile, newly emerging risks, risk mitigation measures, and overall risk management processes, the Risk Management Committee has arranged for trends and various changes to be reported both within and outside the organization at the company’s board meetings, achieving 100% reporting of risks.

- In 2023, WHA Group conducted training on risk management under the topic “Fraud Risk Assessment” for all executives and employees in the Group, with a total of 580 participants, representing 80%. This included organizing a Risk Management Workshop for operational staff and presenting the 2024 global risk report from the World Economic Forum (WEF) to the Board of Directors, executives, and all employees in the Group. The aim was to raise awareness and develop the skills of personnel in identifying, controlling, and reducing risks related to their roles and responsibilities, enabling them to participate effectively in risk management and strengthen the organization’s risk management culture.
- WHA Group regularly provides risk management education to non-executive directors through the Risk Management Program offered by the Thai Institute of Directors (IOD), such as the Risk Management Program for Corporate Leaders (RCL). These programs aim to promote an understanding of different types of risks, the roles of directors in managing risk, and the framework for risk management. See full details of the risk management education for non-executive directors in the Form 56-1 One Report 2023.

- Furthermore, WHA Group is committed to leveraging the organization’s digital expertise to develop and implement various digital innovations to promote an effective risk management culture. The Group has developed the Corporate Risk Management System (RMTS) and began testing it in the third quarter of 2023 to facilitate risk assessment and display the status of all key risks, along with efficient notification, verification, and tracking of risk management activities.

The commitment of WHA Group extends beyond merely implementing effective risk management frameworks and cultivating a culture of risk management among all levels of staff. It also aims to prevent potential impacts and damages to the business, such as operational interruptions, revenue losses, damage to reputation, and loss of confidence among stakeholders, including employees, shareholders or investors, and customers. These efforts are crucial for the sustainable operation of WHA Group’s businesses.

**หลักสูตรภาคบังคับสำหรับพนักงาน WHA ทุกคน**

**RISK การบริหารความเสี่ยง MANAGEMENT**

**Fraud Risk Assessment**

ประเด็นทุจริตที่องค์กรต้องรู้เท่าทัน และการประเมินความเสี่ยงทางทุจริต

การทุจริตและประพฤตินอกรอบในองค์กร ถือเป็นปัญหาสำคัญที่เกิดขึ้นได้ในทุกระดับ การบริหารความเสี่ยงด้านการทุจริตจึงเป็นการจัดการเชิงรุกที่ครอบคลุมถึงด้านการป้องกัน และตรวจจับการทุจริต เพื่อให้ผู้เท่าทันประเด็นทุจริตต่างๆ ที่อาจเกิดขึ้นในองค์กร และสามารถนำความรู้ที่ได้ไปใช้วางระบบป้องกัน และบรรเทาผลกระทบจากการทุจริตในองค์กร ให้เกิดประสิทธิผลต่อไป

- แนวโมเดลการทุจริตและการทุจริตในองค์กร
- สาเหตุของการทุจริต (Fraud Triangle)
- สัญญาณบอกเหตุ (Red Flag) ที่นำไปสู่การทุจริต และการป้องกัน
- การทุจริตในรูปแบบต่างๆ
- แนวทางการประเมินความเสี่ยงจากการทุจริต
- การจัดทำแผนการดำเนินงานในการป้องกันความเสี่ยงการทุจริต
- การตรวจจับความผิดปกติที่อาจนำไปสู่การทุจริต
- Workshop กรณีศึกษา: การป้องกัน และการแก้ไขกรณีเกิดทุจริต

คุณพรรณิ วรวิจิตรสถิต  
กรรมการอิสระ กรรมการตรวจสอบ  
ประธานกรรมการบริษัทและภาคพัฒนาอย่างยั่งยืน  
บริษัท ดันสวิตซ์เอเชีย จำกัด (มหาชน)

ลงทะเบียน

วันพุธที่ 11 ตุลาคม 2566  
เวลา 9:00 - 12:00 น.

ลงทะเบียนเพื่อใช้สิทธิ์ MS Teams  
จากระบบ Oracle HCMs

ศูนย์บริหารความเสี่ยง WHA | กรุงเทพมหานคร | Tel. 061-560-6780, Mitel | 9008

Additionally, effective risk management also helps mitigate the impacts of various risks on the environment and stakeholders of WHA Group, such as environmental risks and climate change that affect the surrounding communities. It also ensures the continuous operation of businesses within the industrial estates of WHA Group’s customers. Safety and occupational health management are also essential, as they impact the health, lives, and assets of employees, supplier, contractors, and the surrounding communities. Therefore, WHA Group is committed to advancing comprehensive risk management to prevent significant impacts on our important businesses and stakeholders.

Enterprise Risk Management Training		Director/ Management	Target 2023	Performance 2023
			<b>100%</b>	<b>100%</b>
		Employee	Target 2023	Performance 2023
		<b>100%</b>	<b>100%</b>	
	Supplier/ Contractor	Target 2023	Performance 2023	
		<b>100%</b>	<b>100%</b>	

To ensure an effective risk management system, WHA Group has established an external audit of risk management system, conducted by KPMG Phoomchai Business Advisory Ltd. at least annually. The external audit of risk management system in 2023 covered the following topics:

The company has defined its objectives clearly and adequate to be able to identify and assess risks related to achieving its objectives.

- The company comprehensively identifies and analyzes all types of risks that may affect the achievement of objectives throughout the organization.

- The company has assessed the importance of risks by considering both the chance of an event occurring and the impacts that may affect to achieve the objectives of the organization.
- The company has measured and operational plans to manage risks at an acceptable level.
- The company considers the potential for corruption in assessing risks to achieve the objectives of the organization.
- The company can identify and evaluate changes that may affect the internal control system.
- The company has communicated to all employees to understand and follow the policies and guidelines specified.

Additionally, WHA Group conducts internal audits on risk management by the Internal Audit Office. This process covers the entire risk management system of the Group according to the annual risk management plan. The internal audit is performed at least annually, and the results are reported to the Audit Committee.

The results of the 2023 audit are as follows:



WHA Group is well aware of the rapid and continuous economic, social, environmental, and technological changes happening today and in the foreseeable future. These changes bring about new opportunities and challenges for businesses in 2024 and beyond. Therefore, WHA Group is committed to advancing proactive risk management to keep pace with the evolving risk landscape. This involves monitoring economic, social, and environmental trends that pose risks and opportunities continuously to the organization. It also includes examining factors within the organization’s management and operations to improve risk management strategies and measures. WHA Group aims to promote a risk management culture within the organization and leverage innovations and technologies to enhance the efficiency of our risk management. Moreover, WHA Group has a business continuity management system development plan, which includes conducting Business Impact Analysis (BIA) and assessing critical risks that could disrupt business operations. This is to establish comprehensive and effective business continuity management for all business units, ensuring 100% efficiency.



## CUSTOMER RELATIONSHIP MANAGEMENT



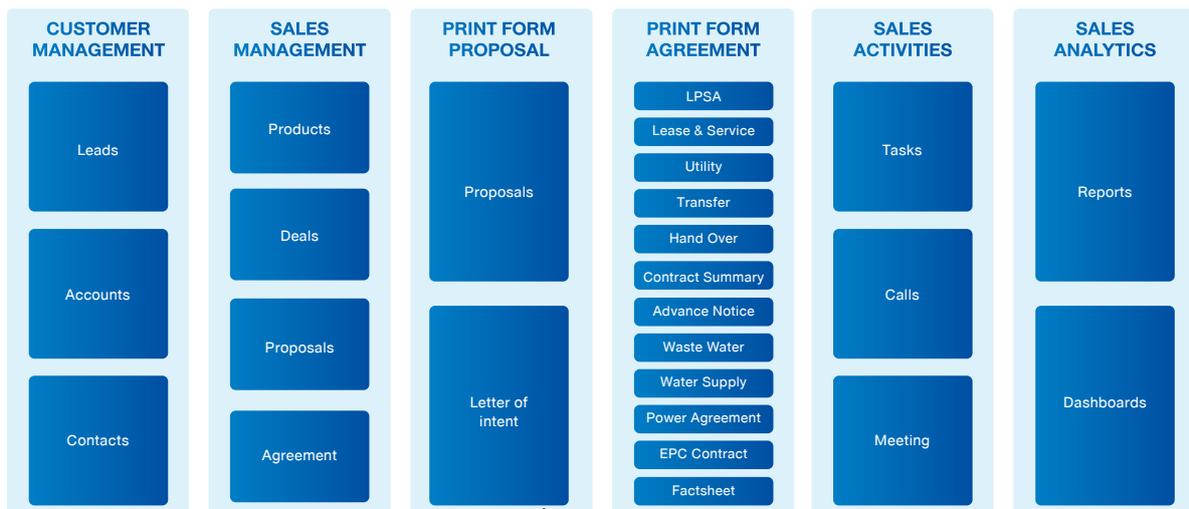
Currently, businesses are facing rapidly changing markets, including increased trade competition, technological advancements, new environmental risks, and the entry of new businesses. This has made maintaining good relationships with customers a key factor for sustainable business growth. By focusing on ensuring customers understand and receive sufficient information about WHA Group, developing customer relationship management systems will enable businesses to build long-term relationships with customers. This will also allow the Group to learn about customers' diverse needs to provide services or offer products that better meet customer's current and future needs, retaining existing customers, attracting new customers, and opening up opportunities for the organization to understand various dimensions of customer needs. This will enable the Group to design products that appropriately meet customer needs, reducing the impact of inappropriate operations that could result in human rights violations. This approach will help build a strong economic foundation for the business and society as a whole.

The trend of incorporating new technologies to manage and respond to customer needs is becoming increasingly important. Automation, for example, can enhance work efficiency, allowing businesses to keep pace with digital transformations. Additionally, the application of Artificial Intelligence (AI) can boost efficiency in customer relationship management. By using technology to accurately collect customer data in one place, organizations can tailor their interactions with customers to meet their specific needs. This saves time and resources, which can be redirected to more important or complex activities, such as building and maintaining customer relationships or listening to customer feedback.

WHA Group recognizes that our operations play a crucial role in supporting our customers’ operations. In cases where WHA Group is unable to meet customer needs or experiences disruptions in service, leading to customer businesses being halted, the impact is not only on WHA Group and our customers but also extends to other stakeholders, such as the people who consume the products and services of WHA Group, and employees who are directly affected. To ensure that such events do not occur, WHA Group continuously monitors business trends and develops our operations to respond to these changes, reducing risks and promoting collaborative development with customers. In 2023, WHA Group integrated technology and innovation into our business operations, particularly in customer relationship management. This facilitated the growth and expansion of the business through collaboration on a platform that includes all customers and stakeholders of the Group. Additionally, it helped elevate efficiency, speed, and reliability, reducing errors caused by humans. Investments in various smart technologies, such as Automation, Robotics, 5G, AI, and Machine Learning, have been made to enhance efficiency and reduce operational costs in the long term. Furthermore, WHA Group has developed a Smart Warehouse operating

system that meets global standards to meet new demands and enhance the quality of our products and services. WHA Digital, the digital arm of WHA Group, has also integrated new technologies to improve products and services, such as display systems for monitoring solar panels and equipment performance, analytical tools, automated systems, and smart devices, to better meet customer needs.

In terms of managing and responding to customer needs comprehensively, WHA Group has utilized a Customer Relationship Management (CRM) System, which helps to respond to customer needs quickly and efficiently. This enables employees in various departments to work together conveniently and reduces unnecessary work processes. All data is centralized and stored in one place through data storage technology, allowing employees responsible for different departments to access customer data of WHA Group comprehensively. This helps to reduce unnecessary contact processes, making customer relationship management and customer satisfaction efforts faster, more accurate, and more efficient. Additionally, WHA Group has planned to be prepared for changes in business and technology environments in the future. The CRM System consists of the following components:



## MANAGEMENT APPROACH

WHA Group places great importance on responding to customer needs comprehensively. Therefore, the Group has a customer relationship management policy in place and have established a Customer Development Department. This department is responsible for managing customer relationships, understanding and acknowledging customer needs and feedback, and devising strategies to respond to customer needs appropriately. In 2023, WHA Group continued to adhere to the commitment of “The Ultimate Solution for Sustainable Growth” provided to customers. This reaffirms WHA Group’s dedication to assisting customers in driving the businesses towards sustainability through comprehensive services.



WHA Group’s core competency lies in the best in-class facilities, prime logistics locations and the ability to provide an integrated one stop service solutions that fully meet the needs of our customers. The built-to-suit concept is the strategy which WHA Logistics has adopted for its customers seeking a custom warehouse, or factory that meets world-class designed infrastructures and full accommodated operations for lease. WHA Industrial Development (WHAID) is a leading developer of industrial estates and industrial parks in Thailand, providing developed lands for factories, ready built factories and warehouses for customers. With the aspiration to provide complete services for the customers, WHA Group established WHA Utilities and Power (WHAUP) and WHA Digital Platform to provide utilities and digital services, respectively. WHAUP represents Thailand’s largest

private provider for industrial water production and distribution, which includes raw water, process water, and clarified water together with conventional and renewable energy. Moreover, WHA Digital Platform is a one-stop shop for digital infrastructures that offer comprehensive information technology solutions for the customers. Altogether with the provision of the fully integrated solutions, WHAID has become Thailand’s leading industrial estate developer, dominating the industrial estates’ market share at a leading position. Hence, WHA Group will continue to pursue our best efforts to serve our customers through service developments and improvements, which corresponds with the Group’s mission to become “The Ultimate Solution for Sustainable Growth”. As a result, sustaining our leading position in the market.



In 2023, WHA Group implemented new technologies to the Customer Relationship Management (CRM) system as part of our development plan to transition into a Tech Company. This system enables WHA Group to respond to customer needs promptly and efficiently. The application's goal is not only to strengthen customer relationships and experiences, but also to improve customer's profile, increase WHA employee's productivity, reduce manual working's processes and errors and enhance data accuracy and security. With this database, it allows to share the customer data across WHA group which is enable WHA's employee to focus on customer relation management and customer satisfaction.



WHA Group communicates through electronic media such as “WHA E-Connection” and via email, Facebook, LinkedIn, and website. These platforms are available in Thai, English, Japanese, and Chinese. Additionally, WHA Group publishes the quarterly magazine “WHA Connect” in both Thai and Japanese to promote news and activities of the group, including events beneficial to customers such as training, seminars, and social activities. To enhance communication with customers, WHA Group utilizes these channels to ensure effective, accessible, accurate, and convenient communication for customers of all four business groups.

Furthermore, to ensure two-way communications are achieved, WHA Group conducts regular customer visits, phone calls, emails, appointment of a focal personnel for attaining customers' concerns or requests, provision of a grievance mechanism, etc. Feedbacks or complaints received through the provided channels are processed in accordance with the Group's Customer and Public Complaint Procedure. Upon receipt of a complaint, the Department Manager from the respective business hubs will be informed, and a competent staff will be further assigned to investigate, address and document the filed complaints. Subsequently, the complaints and progress on corrective actions are proposed to the Quality Committee during management review meeting that occurs once a year.



WHA Group conducts a customer satisfaction survey on an annual basis as customer satisfaction plays a crucial role in generating profits for the business, especially given the current scenario where changes in customer behaviour and needs have a significant impact. Retaining existing customers and acquiring new ones pose considerable challenges. Consequently, building trust serves as the foundation for effective customer relationship management and is a key strategy for strengthening WHA Group’s long-term business growth while instilling confidence among all stakeholders in the value chain. The customer satisfaction survey conducted by WHA Group evaluates the outcomes of customer relationship management for WHAID and WHAUP. It covers various aspects such as satisfaction with service quality, infrastructure (including utilities, energy, and internet services), and

cleanliness of common areas in industrial estates. In 2023, a survey was conducted among WHA Group’s customers. The Customer Development Department is responsible for collecting and analyzing customer data. In the event of any complaints, thorough investigations into the root causes are conducted, and guidelines are established to prevent similar cases from recurring in the future. The survey results are presented during executive meetings, facilitating the efficient handling of various complaints and enabling the adjustment of business strategies to enhance product and service development. Satisfaction levels, comments, and complaints are collected through multiple communication channels provided by WHA Group, including telephone, LINE, email, and LBMS applications.



Based on the 2023 Customer Satisfaction Survey, including complaints reported through the communication channels and processes as outlined. It was found that there are issues that can be developed to improve customer satisfaction as follows,

Key Area of Concerns	Mitigation Measures Implemented
<p><b>Traffic management inside and outside the industrial estates</b></p>	<p><b>Inside the industrial</b></p> <ul style="list-style-type: none"> <li>• Install a VMS (Vehicle Management System at the entrance and exit of the industrial estate), which is a camera that counts the number of vehicles over time in order to analyze traffic volumes and manage traffic in the industrial estate. The system has continuously developed and improved.</li> <li>• In 2023, install two additional Smart Traffic Management system at high-traffic intersections, especially during rush hour, to enable the system to automatically open and close the traffic signal based on vehicle density.</li> <li>• In 2023, the traffic problems in industrial estates were effectively improved and resolved, resulting in a substantial decrease in traffic complaints. This accomplishment can be attributed to the implementation of VMS technology and an intelligent traffic control system.</li> </ul> <p><b>Outside the industrial</b></p> <ul style="list-style-type: none"> <li>• Cooperate with local governments to improve roads near critical industrial estates.</li> <li>• Help improve the area outside the industrial estate, which is critical for keeping traffic flowing and safe.</li> <li>• Follow up on and coordinate external road construction projects that affect operators, and also inform them.</li> </ul>
<p><b>Power outage at certain times</b></p>	<p><b>Inside the industrial</b></p> <ul style="list-style-type: none"> <li>• There are officers of the Provincial Electricity Authority stationed at various job sites. To help coordinate and solve problems in a timely manner.</li> <li>• Regularly develop and inspect the electrical system to proactively prevent any potential electrical problems in the future.</li> </ul>

WHA Group is determined to create projects with the highest satisfaction for the customers, and also demonstrate a strong dedication to environmental and societal consideration. Furthermore, WHA Group also takes into consideration the individuals who reside within the company’s projects or buildings. This includes individuals who work or perform tasks within facilities such as warehouses, office buildings, and industrial estates developed by WHA Group. The aim is to provide these individuals with convenience, comfort, and a high quality of life, along with good health and well-being. Additionally, it is essential to ensure that there are no environmental impacts or pollutants occurring within the projects or buildings of WHA Group that could adversely affect the health of the users. Therefore, WHA Group has established measures and guidelines for the design and construction of various projects and structures. These measures aim to achieve a balance between maximizing the maximum economic benefits derived from clients’ business operations and promoting a high quality of life for users. This initiative is aimed at establishing sustainable outcomes for all stakeholders. WHA Group has implemented measures and operational plans for each project as follows:



## GREEN BUILDING

WHA Group is committed to policy in designing and constructing warehouses with a strong emphasis on environmental sustainability. One notable approach is the adoption of precast systems during the construction process. This practice effectively mitigates environmental issues such as waste accumulation, noise pollution, dust, and traffic congestion at the construction site. Additionally, WHA Group adheres to the Leadership in Energy and Environmental Design (LEED) standard when designing the building, ensuring alignment with recognized environmental benchmarks. Furthermore, WHA Group places significant importance on the well-being of warehouse users, especially those working within the facility. This includes promoting good health, maintaining hygiene standards, and ensuring the overall comfort of individuals within the building. WHA Group has implemented a range of measures and design features to enhance the quality of our facilities. For instance, indoor air quality has been optimized through the implementation of an efficient air circulation system in accordance with ASHRAE

standards. The control of temperature, humidity, and the HVAC system has been carefully managed using efficient building materials to prevent excessive heat. Moreover, a priority has been placed on utilizing energy-efficient building materials to counteract heat, thereby ensuring a comfortable environment for occupants. To address specific concerns, low-emissivity (low-e) glass has been employed to minimize UV radiation, and the Metal Sheet Type has been replaced with Colorbond to enhance cooling. To tackle dust-related issues, a fresh air filling system has been incorporated. Natural light channels have been strategically installed, complemented by ample LED lighting throughout the building to meet standardized lighting requirements. Entrance and exit zones have been equipped with dust-trapping mats, while the use of Low-voc paints further promotes a healthier indoor environment by containing fewer volatile organic compounds, which are non-toxic to occupants and contribute to improved indoor air quality.



## OFFICE SOLUTIONS

Presenting WHA Tower, a recently launched premium business complex available for rent. Situated along Bangna-Trad Road, WHA Tower serves as the gateway to the Eastern Economic Corridor (EEC) while also being in close proximity to central Bangkok, Suvarnabhumi Airport, bustling commercial hubs, international schools, and universities. The convenience of public transportation systems, reachable within a mere 3-minute walk, further enhances its strategic location. This advantageous positioning ensures easy accessibility to public transportation, facilitating seamless travel. Additionally, with swift connections to the Outer Ring Road, Bangkok-Chonburi Motorway, and other vital arterial routes, both staff and clients benefit from straightforward access via direct routes and public transit.



The convenience of public transportation systems, reachable within a mere 3-minute walk, further enhances its strategic location. This advantageous positioning ensures easy accessibility to public transportation, facilitating seamless travel. Additionally, with swift connections to the Outer Ring Road, Bangkok-Chonburi Motorway, and other vital arterial routes, both staff and clients benefit from straightforward access via direct routes and public transit.

WHA Group adheres to a policy of designing and constructing office buildings that are environmentally friendly. This encompasses blending natural elements seamlessly with modern architecture, resulting in aesthetically pleasing designs. WHA Tower is an airy work area with a height of 2.9 meters from floor to ceiling and is equipped with three-layers of large glass that can allow natural light into the office to enhance the workspace ambiance and it is an efficient glass that can prevent heat by 70%, which aids in reducing the dependency on air conditioning and electricity usage. The installation of LED light bulbs contributes to a remarkable 50% reduction in electricity consumption.

Additionally, the utilization of a chilled water air conditioning system guarantees both the comfort of occupants and energy savings, promoting thermal comfort. Furthermore, there are fully equipped convenience stores and restaurants offering a variety of foods, including fruits and healthier choice options, ensuring that employees and tenants have easy access to fresh, healthy food. Additionally, the landscaping is designed with green spaces both inside and outside the buildings, featuring rooftop gardens or gardens accessible to residents, along with water features, to enhance the connection to environment for those inside the buildings.



Furthermore, WHA Tower prioritizes convenience by providing shuttle services to the nearby public transportation systems, including the BTS Skytrain, as well as access to adjacent shopping centers, catering to the needs of employees and tenants. This approach contributes to energy conservation and reduces greenhouse gas emissions, aligning with sustainable practices. WHA Tower demonstrates a commitment to inclusivity by addressing the needs of various user groups, including individuals with disabilities and vulnerable populations. This is achieved through the integration of universal design principles to accommodate diverse needs. Examples include wheelchair-accessible ramps for building entry and dedicated restrooms for individuals with disabilities, gender-inclusive restroom. Additionally, the Group has designed the interior of the office buildings to provide convenience for all users. This includes wide walkways for the convenience and safety of wheelchair users, rooms for breastfeeding to accommodate users who need to take care of infants, and inside the passenger lifts, there are buttons for wheelchair users. There are also braille markings, as well as a floor announcement system and door opening-closing system inside the lifts for visually impaired users. The flexible work environment of WHA Tower is designed to encourage creative thinking and follows the Work Life Solutions framework. The layout promotes movement within the building, featuring staircases that encourage inter-floor walking, reducing reliance on elevators and encouraging physical activity among occupants while conserving energy. In addition to the physical design aspects, WHA Tower supports holistic well-being, including both physical and mental health. Various activities are encouraged to enhance overall health, such as YOGA class, fostering a positive and balanced lifestyle.

WHA Tower building also considers the quality of life, health, and occupational well-being of employees and tenants by the installation of touchless access control systems, temperature detection systems for individuals entering the building, as well as state-of-the-art security measures including high-standard security devices and surveillance systems that operate 24/7. These security features encompass fire detection systems, license plate recognition systems for vehicle access, and continuous

CCTV monitoring. Furthermore, WHA Tower employs quality control measures for factors such as air quality and lighting to ensure they meet continuous standard requirements. The design also focuses on maintaining acoustic comfort by ensuring that the building's system components adhere to established noise standards, preventing sound disturbances that could affect occupants. This approach aims to provide tenants and users to influence cognitive and emotional well-being through a variety of prevention and treatment effort.

## Smart Eco-Industrial Estates

Smart Eco-Industrial Estates WHA Group is dedicated to developing eco-industrial estates with a strong emphasis on both environmental sustainability and social responsibility. This dedication is rooted in the recognition that a significant number of individuals are interconnected with the company's industrial estates. This encompasses not only those employed within the factory premises but also pedestrians and nearby residential communities. In light of this interconnectedness, the company has devised projects and implemented measures to comprehensively uphold and monitor environmental quality, safety, and occupational health. This comprehensive approach is aimed at elevating the quality of life and living conditions for all stakeholders, thereby fostering a superior standard of living, as follows:

### BIOPHILIC DESIGN

WHA Group has designed the industrial estates that seamlessly integrates the environment within the area. As part of this design, green spaces have been designated within the industrial estates. These green spaces offer benefits to both those within the industrial estates and the surrounding community. They provide occupants with access to green areas that can be utilized for various purposes, while also serving as a means to enhance environmental quality for the benefit of the surrounding residents.

### AIR QUALITY CONTROL

WHA Group conducts regular air quality monitoring in the vicinity of our industrial estate and surrounding communities. The measurements include Total Suspended Particulates (TSP), Particulate Matter with a diameter not exceeding 10 microns (PM10), Particulate Matter with a diameter not exceeding 2.5 microns

(PM2.5), Nitrogen Oxides (NOx), and Sulfur Dioxide (SO<sub>2</sub>). These monitoring activities are conducted at least twice a year within a radius of 5 kilometers from the industrial estate, both within the industrial park and in the nearby community areas. In addition to the regular monitoring, WHA Group has established an automated Air Quality Monitoring Station (AQMS) that continuously monitors air quality and meteorological data in the industrial estate. The AQMS provides real-time data and sends the results to the Environmental Monitoring and Control Center (EMCC), which serves as an environmental surveillance and control center. The collected air quality data mentioned above is reported to relevant government agencies such as the Ministry of Natural Resources and Environment, the Industrial Estate Authority of Thailand, and the Office of Natural Resources and Environmental Policy and Planning. These reports are part of the Environmental Impact Assessment (EIA) Monitoring Report, which is submitted twice a year. In 2023, WHA Group has successfully achieved the targets set in the Environmental Impact Assessment (EIA) evaluation. The air quality indicators in the general atmosphere are within the specified standards.

## WATER QUALITY CONTROL WITHIN THE BUILDING AND INDUSTRIAL ESTATE

WHA Group is well aware of the importance of access to good utilities, especially clean water, which can affect the health of users. Therefore, the Group has implemented monitoring and inspection to control the quality of water inside the WHA Tower office building and particularly within the industrial estate of WHA Group. There is regular daily analysis of the quality of raw water and processed water products, with monthly summaries, to ensure that all relevant parties, including employees of WHA Group, tenants, and employees, have access to clean water resources.

## WHA CUSTOMER CLUB

WHA Group established multiple customer clubs which are considered as communication channels to closely interact with customers to address their interests or concerns. Two customer clubs highlighted in 2023 include:

1. WHA Investor Club is opened for all customers that are situated in WHA Group's industrial estates. Members of the Club will receive monthly/quarterly newsletters and invitations to attend variety of training seminars. In 2023, a total of 3 online webinars were facilitated for the club members, including:
  - "HR Meets the Professional - Elevate Total Rewards to the Next Level."
  - SEDEX V6.1 and RBA V7.1.1 Audit Preparation Seminar, Audit SEDEX, and RBA in 2023
  - A Path to Net Zero, Smart Energy Efficiency Strategy for Industry 5.0
2. The Japanese Club – Established for over 24 years, since its founding in 2000. Currently, its members consist of Japanese entrepreneurs from 130 industrial factories in the WHA Industrial Estates in Chonburi and Rayong provinces. Regular monthly meetings are held at the Eastern Seaboard Industrial Estate (Rayong) office. In 2014, the group expanded to include WHA Saraburi Industrial Land (WHA SIL) with 23 industrial factories. The club holds meetings every two months at the WHA SIL Office, Sriracha, to exchange information on various topics such as changes in laws, factory management, new laws related to operations in Thailand, wages, benefits, waste management, energy production from waste, and serves as a meeting point for Japanese people working in the group's industrial estates.
3. Eastern Seaboard Industrial Estate Human Resources Club (ESIE HR Club): established in 1997, the ESIE HR Club aims to assist and provide convenience to customers of WHA Group interested in opening industrial factories in Thailand. It aims to build customer confidence by providing assistance in every step of the investment process, including labor management, welfare, wages, and fostering good relationships from the beginning of the project. The ESIE HR Club has members from over 150 companies in WHA Group's industrial estates. The club holds regular member meetings every month at the Eastern Seaboard Industrial Estate (Rayong) office meeting room. It disseminates information on labor laws, or other useful information related to human resource management, as well as organizes training projects by expert HR trainers.

4. Eastern Seaboard Labor Relation Club (ESLR Club): established in 2005, the ESLR Club currently has members from 140 companies in WHA Group's industrial estates. The club serves as a labor information service center for members interested in information regarding labor unions, various regulations, and cooperation or recommendations regarding labor disputes or other issues related to labor agreements. The club holds member meetings every month at the Eastern Seaboard Industrial Estate (Rayong) office meeting room to accurately and comprehensively disseminate information to its members.
5. WHA Safety Club: Established in 2018, WHA Group, in collaboration with the Industrial Estate Authority of Thailand, set up the WHA Safety Club. The members are safety officers from establishments located in WHA Group's 10 industrial estates in Chonburi and Rayong provinces. The club organizes regular meetings in all industrial estates of WHA Group, three times a year, with the objective of providing knowledge, exchanging knowledge and information on regulations, and promoting various activities related to safety and environmental work in industrial factories. This is to promote good standards of safety and environmental management systems and foster good relationships between departments.

In 2023, WHA Group collaborated with the Faculty of Public Health, Mahidol University, to organize training courses on health and safety for all members of the WHA Safety Club. There were four courses in total, including:

- Health risk assessment
- Chemical hazards and health screening for risk factors



- Air ventilation in industrial facilities
- Process Safety Management: a key element to achieve PSM

## LOGISTICS AND BUILDING MAINTENANCE SERVICE (LBMS)

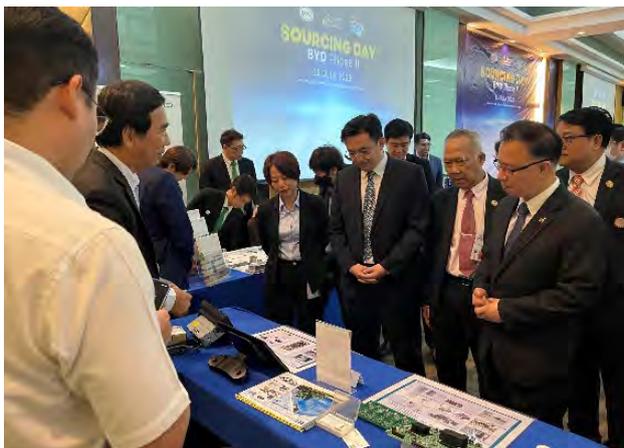
Since 2021, WHA Group has developed and piloted the Logistics and Building Maintenance Service (LBMS) application. This application aims to enhance the use of building maintenance and logistics services, providing support for quality control and assurance, as well as insurance claim. It can be accessed through smartphones and computers, enabling convenient and efficient utilization. The implementation of the LBMS application has resulted in significant improvements. Customer response time has been reduced by 50 percent, leading to time and cost savings for customers across various tasks. Notably, customers can conveniently, quickly, and systematically track the status of their requests. The primary goal of the LBMS application is to provide prompt responses to customer needs while ensuring convenient and efficient status tracking. In 2023 alone, the LBMS application was used over 1,600 times, emphasizing WHA Group's commitment to digital transformation in our business operations. WHA Group continues our ongoing development of applications to maximize satisfaction of Built-to-Suit & Ready-built warehouse customer.

## VEHICLE MANAGEMENT SYSTEM (VMS)

Due to complaints about traffic problems and accidents within the industrial estate, WHA Group has developed a continuous traffic control system to enhance the safety and security of vehicles entering and exiting the industrial estate. The Group installed an automatic traffic light control system with vehicle counting equipment capable of recognizing license plates and controlling traffic lights based on the traffic status at that time. This helps reduce the amount of fuel used, thereby reducing air pollution, which is beneficial to the health of customers and users within the industrial estate. Additionally, the VMS system can significantly reduce the fatality rate from traffic accidents. In 2023, a VMS system was installed at additional main entrance points, resulting in a total of 73 VMS systems within the industrial estate.

### VIRTUAL TOUR 36

WHA Group has developed a cutting-edge 360-degree virtual tour system on the group’s website using drone technology to collect data, photos, and relevant videos. The objective is to provide a seamless virtual connection for investors worldwide to have a clear view of WHA Group’s industrial estates in Thailand and Vietnam. This includes office buildings, factories, and warehouses, as well as the WHA Tower building. This allows customers and investors to virtually tour the area in real-time from anywhere in the world and explore the area before actual visits.



### SUPPORT ENTREPRENEURS TO START BUSINESSES IN THAILAND

WHA Group, in collaboration with the BOI and BYD Component (Thailand) Co., Ltd., organized a business matching event on July 11, 2023, to support investment in Thailand by electric vehicle manufacturers from China. The event also aimed to provide opportunities for manufacturers of components, products, and services to participate in business negotiations. A total of 165 companies and entrepreneurs participated in the event, which featured business matching in 7 main groups, including:

- POWERTRAIN
- COMPONENTS of HV BATTERY
- EQUIPMENT
- SERVICES DEPARTMENT
- ADMINISTRATIVE SERVICE
- MAINTENANCE REPAIR AND OPERATION (MRO)
- LOGISTICS

Furthermore, this event helped to build confidence and promote investment growth in Thailand. It emphasized that Thailand not only has the potential to be a regional hub for electric vehicle production but also has the ability to advance to a global level in the future.

## WHA GROUP INTERVIEWS SHOWCASING POSITIVE CUSTOMER RELATIONSHIPS

### FORD MOTOR COMPANY (THAILAND) LIMITED

The installation of Solar Carpark with a generation capacity of 7.7 MW and a total rooftop space of 59,000 square meters which considered the largest in Thailand



Mr. Silvio Illi, Director of Manufacturing, Ford Asean, said “We aim to run a sustainable business to help build a better world, where all people are free to move and pursue their dreams. Ford is committed to develop its car production process worldwide while using 100% clean energy within 2035 and reaching carbon emission neutrality by 2050. It targets to reduce CO2 emissions by 143,000 tons during the contract’s 25-year term.”

“At present, two Ford production and assembly plants in Rayong under Ford Thailand Manufacturing (FTM) and AutoAlliance (Thailand) (AAT) have switched to solar power. The AAT plant installed its 5-MW solar power system in 2021 while the FTM plant began the installation of its 7-MW solar power system in 2022, expected to be completed by early 2023. Both solar power projects have received good support from WHAUP for the design and structural work to install

the solar power systems. The switch to solar power will help WHAUP drive the use of clean power and lower carbon emissions to create sustainability for the environment and the company’s business at the same time.”

“The installation of the solar carpark system enhances space management efficiency. In addition to the shade provided by the solar panels, which helps maintain the quality of cars before they are distributed to Ford dealers both domestically and internationally, it also reduces the company’s energy costs in the long term. Importantly, using solar energy helps reduce greenhouse gas emissions by over 5,720 tons of carbon dioxide per year, and our employees benefit from working in a safer and cooler environment.”



Mr. Somkiat Masunthasuwun, Chief Executive Officer of WHA Utilities and Power Public Company Limited (WHAUP), revealed that the installation of Solar Carpark for Ford Motor Company (Thailand), covering an area of 59,000 square meters with a total power generation capacity of 7.7 MW and an investment value of 235 million baht, the project was recently completed on December 7, 2023. This marks the largest Solar Carpark project in Thailand, located in WHA Eastern Seaboard Industrial Estate 1 (WHA ESIE 1). The project follows NEC2020 (National Electrical Code) standards, which are global safety standards for solar energy systems, and will help reduce energy costs and carbon emissions for the customer.

“The company is delighted that Ford Motor Company (Thailand) has placed its trust in the quality of WHAUP’s standard-compliant solar power generation system and its long-term maintenance service. For this project, we provided comprehensive services, including project feasibility study, investment, design, permitting, construction, installation, and maintenance throughout the contract’s duration. Undoubtedly, this shift to solar energy will help us promote the use of clean energy, reduce carbon emissions into the atmosphere, and pursue a sustainable business approach in all dimensions, including economic, social, and environmental aspects”, said Mr. Somkiat Masunthasuwun.

Additionally, the growth outlook for the business was highlighted by Mr. Somkiat Masunthasuwun that the utilities and power sectors are expected to expand significantly due to the growth of WHA Group’s customers, which positively impacts the increased demand for water and electricity. Meanwhile, WHAUP continues to expand its investments in new utility and renewable energy projects both domestically and internationally, aiming to create sustainable growth opportunities.

Following the Commercial Operation Date (COD) of the Ford Solar Carpark project, WHAUP’s cumulative power generation capacity has increased to 113.7 MW, up from 106 MW generated by operational solar power projects. This year, WHAUP aims to reach a cumulative renewable energy generation capacity of 300 MW. This target will result in a total power generation capacity of 847 MW based on the company’s equity stake.

**CONTACT INFORMATION:**

FORD MOTOR COMPANY (THAILAND) LIMITED  
 WHA Eastern Seaboard Industrial Estate 1 (WHA ESIE 1)  
 500/103 Moo 3, Ta Sit, Pluak Daeng,  
 Rayong 21140, Thailand

## DKSH (THAILAND) LIMITED NURTURING A FRUITFUL LONG-TERM PARTNERSHIP WITH WHA LOGISTICS

DKSH (Thailand) Limited is a leader in providing market expansion services for companies seeking to expand their business into new markets and grow in existing ones. DKSH was founded in 1865 with the Group's headquarters in Zurich. DKSH has been active since its inception across the Asia Pacific region, including Thailand, where it has been present since 1906. With nearly 11,000 employees, DKSH Thailand is today the largest country operation of the Group, providing tailor-made services that cover the whole value chain, from sourcing, market analysis and research, marketing, sales, distribution, logistics, to after-sales services of a diversified range of products. In Thailand, it currently serves 480 multinational and local companies through its four specialized Business Units, namely Consumer Goods (including Luxury and Lifestyle products), Healthcare, Performance Materials and Technology.

A long-time client of WHA Logistics, DKSH Thailand occupies a total area of nearly 200,000 sq.m. in seven WHA warehouses and distribution centers, mainly located in Bangna Km 19 to 23 for its Consumer Goods and Healthcare Business Units. As one of WHA Logistics' advantages, these Built-To-Suit (BTS) warehouses comprise both ambient and multi-temperature facilities, depending on the nature of stored products.

Neil McCann, Vice President, Supply Chain Management Thailand said "WHA Logistics evolved from being a mere warehouse owner to becoming more of a strategic partner, helping our company develop its operations".

"To drive the supply chain of such a dynamic and ever-developing company like DKSH Thailand requires adaptability and flexibility from our logistics partners," he continues. "This is why we just sat down with WHA Logistics' team to discuss strategic actions and explore longer term leases that will accompany and support



our medium-term development plans. We will also collaborate to improve the working environment and ensure the safety of our employees in our warehouses and distribution centers," he explains.

From its current distribution centers, DKSH Thailand is well equipped to serve its numerous clients in Bangkok and its vicinity. Furthermore, anticipating the growing demand nationwide, the two partners are now discussing further developments upcountry, especially in the Northern and Eastern regions. "Thanks to the continuous dedication and service-minded backing of their team, we foresee a mutually-beneficial business partnership with WHA Logistics for years to come," concluded Neil McCann.

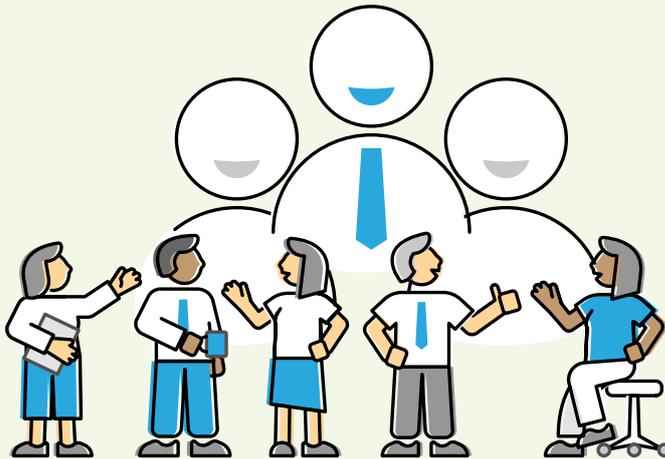
### CONTACT INFORMATION:

DKSH (THAILAND) LIMITED  
2533 Sukhumvit Road, Bangchak, Phrakhanong  
10260 Bangkok, Thailand

**Customer Satisfaction Measurement\***

2020	2021	2022	2023
<b>89</b>	<b>90</b>	<b>86</b>	<b>88</b>
Score	Score	Score	Score

**Customer Satisfaction\***



\* The customer satisfaction scores are obtained from customer surveys for all four business groups of WHA Group: WHAID, WHAUP, WHA Logistics, and WHA Digital.

\*\* In 2022, there was a change in how customer satisfaction is measured to align with international standards, resulting in a decrease in satisfaction scores.

WHA Group is committed to efficiently managing customer relationships to fully meet customer needs and maintain existing customer groups while expanding into new customer groups. The Group incorporates various technologies and innovations to provide fast and convenient services to customers through the development of projects that cater to the specific needs of each customer. These initiatives aim not only to enhance the business capabilities of customers but also to develop the environmental management capabilities. For example, the design and construction of environmentally friendly buildings, such as WHA Tower, and eco-industrial parks that treat wastewater before releasing it into natural sources and reuse water resources. These projects effectively meet customer

needs while positively impacting the environment. Furthermore, the Group contributes positively to society by promoting activities that ensure the health and safety of customers within industrial estates or WHA Tower, as well as the surrounding communities. Safety and health considerations are integrated from the design and construction phase, including aspects like lighting, noise, pollution, and promoting physical and mental health. The Group also manages vehicle data to provide convenience and enhance safety for users in the area. The Group believes that effective customer relationship management is crucial for the sustainable development of both the Group and the customers, ensuring long-term sustainability in terms of business performance, societal impact, and environmental conservation.

As customers are crucial stakeholders for WHA Group, the Group has long prioritized maintaining customer satisfaction across all four business groups, aiming for over 85% satisfaction continuously. There are plans to further enhance customer satisfaction in the future. In 2024, the Group aims for 89% customer satisfaction and sets a long-term goal of reaching 90% by 2025. The Group continues to implement strategies and projects to achieve these goals, focusing on improving communication between the Group and our customers. This includes using technology and innovation to enhance convenience, speed, accuracy, and safety for customers. Additionally, there are plans to develop sustainable strategies to meet customer needs and improve communication technology, such as the Super App, to address customer concerns and complaints effectively.

The customer response strategy of WHA Group focuses on deep understanding of customer issues through regular engagement and feedback. The Group develops solutions tailored to customer needs and problems, aiming to efficiently and sustainably solve customer issues. In addition to providing high-quality solutions, the Group emphasizes speed and consistency, addressing customer problems promptly and continuously improving processes, products, and services to ensure customers have the best experience in their business dealings with the Group. The Group also prioritizes effective and consistent communication, promptly addressing customer problems and continuously improving processes, products, and services to ensure customers have the best experience in their business dealings with the Group. Additionally, the Group is developing a Super App technology to enhance customer communication channels, which is part of the Mission to the Sun initiative. The Super App development project is currently in progress and is expected to be operational by around April 2024. This efficient communication with customers is crucial for building trust and fostering good relationships with customers.

In addition, WHA Group has strategized to prepare our business to meet the increasing and diversifying customer demands in the future, such as in the EV business, which the Group sees as a continuously expanding direction. Therefore, the Group has planned to accommodate the needs of various customer groups, such as expanding industrial estate space for EV customers. This will facilitate convenience for car manufacturers and attract interest from customers who are business partners of EV car manufacturers, such as automotive parts manufacturers. Since EV components have longer production lead times than internal combustion engine components, EV manufacturers need to ensure that component delivery schedules meet production needs. Therefore, the industrial estate space of the Group, where EV factories are located, is suitable and of interest to a large number of Supply Chain customers. Furthermore, the infrastructure of the industrial estate is always ready to support component assembly factories, including infrastructure for utilities, labor, and logistics systems. All of these are important factors in the decision-making process of customers.

In addition to the above strategies and technologies, the Group also emphasizes the importance of creating a customer-centric organizational culture. All employees should be aware of the importance of customers and be committed to providing the best customer service. The Group also has an efficient complaint management system to allow customers to conveniently and quickly lodge complaints and receive timely resolutions. When the Group follows our strategies and technologies, it helps to solve customer problems in various aspects, as well as increase overall customer satisfaction. As a result, the Group has been able to maintain our position as a leader in the country in all of our business areas.



## SUPPLY CHAIN MANAGEMENT

The uncertainty of the global economy is caused by several factors, including the recent pandemic, domestic unrest, and warfare, all of which inevitably impact the global supply chain. The ability to manage complex supply chains, including sourcing raw materials and services, managing inventory, and transporting materials, equipment, and personnel to work sites to deliver quality products and services on time, has become crucial. Many organizations have adopted sustainable development strategies that integrate social, environmental, and governance (ESG) issues into their business operations throughout the supply chain, from start to finish, known as “Sustainable Supply Chain Management.” This helps increase opportunities, reduce risks, and enhance competitive capabilities. Sustainable supply chain management also encourages business suppliers who are product manufacturers or service providers to be aware of the importance and to act responsibly, which has a positive impact on the economy, the environment, society, and human rights on a broad scale. It also enhances supplier relationships by using digital technology to improve the efficiency of management processes at each stage, promoting supplier development and sustainable business growth while benefiting the company.

WHA Group understands that aligning supply chain management with sustainable operational principles, along with developing systems to accommodate technological trends and market changes, is key to sustainable growth and profitability. Therefore, the group has developed sustainable procurement processes, integrating operations related to business ethics, the environment, health, safety, and society into the procurement process. This transformation is achieved through a Digital Transformation Program, incorporating operating programs into the procurement process to make operations more efficient and agile. For example, using the Corporate Procurement Management System (CPRS) helps facilitate rapid and efficient communication between the Group and suppliers. Additionally, it promotes transparency, reduces delays, and minimizes errors in document work. It also effectively integrates sustainable supply chain management principles into the operational system, such as online supplier evaluations (Pre-Qualification Form: PQ), on-site inspections, and external company audits. Furthermore, the Group provides training and capacity development programs for suppliers in sustainability, along with technical support programs to enhance environmental, social, and governance (ESG) capabilities for suppliers facing challenges in these operations.



## MANAGEMENT APPROACH

### SUPPLY CHAIN MANAGEMENT AND CRITICAL SUPPLIER IDENTIFICATION

For WHA Group, managing the supply chain is crucial to ensuring transparency, fairness, and responsibility to all stakeholders, aligning with WHA Group's sustainable management policy. Therefore, WHA Group has developed a Supplier Code of Conduct to be used across all business units. The objective is to inform current and new suppliers about WHA Group's sustainable supply chain management direction and guidelines. The Supplier Code of Conduct covers three main sustainable issues: business ethics, fundamental human rights knowledge, and occupational health, safety, and environmental management. To ensure compliance with the Supplier Code of Conduct, WHA Group has distributed it to all current and new suppliers and requested their acknowledgment. Furthermore, WHA Group conducts training for suppliers regularly to raise awareness and enable them to sustainably manage their operations. Additionally, there is annual training for procurement department staff to create awareness and enable them to manage the supply chain sustainably.



### NEW SUPPLIER SELECTION PROCESS

WHA Group has developed guidelines for evaluating and selecting new business suppliers to align with the group's sustainable development. In addition to ensuring that suppliers comply with laws and regulations, WHA Group also considers the quality of products, employee safety, social responsibility, and environmental impact of suppliers. WHA Group sets criteria such as product and service quality, transparency and fairness in business practices, environmental considerations, and social impact as evaluation criteria for current and new suppliers. These criteria are used to assess the potential of current suppliers and in the selection of new suppliers to grow together throughout the supply chain from sourcing raw materials to delivering products to consumers. In the process of selecting

new business suppliers, WHA Group requests that all new suppliers complete a Pre-Qualification Form (PQ) which includes questions to assess qualifications in quality, price, production capabilities, management systems, and sustainable potential (environmental, social, and governance: ESG). In 2023, a total of 188 new suppliers underwent assessment through established processes. It was determined that each new supplier possessed potential and met the sustainability criteria. WHA Group sets the average Credit Term at 30-45 days, depending on the mutually agreed terms and conditions between WHA Group and the suppliers. WHA Group effectively manages our cash flow based on the historical average time taken to settle debts with suppliers. Consequently, WHA Group has no difficulties in paying our suppliers, and the Credit Term conditions are typically met without any issues.

## CRITICAL SUPPLIER IDENTIFICATION

The volatility and discontinuity of business in sourcing products and services can be factors that may cause serious damage to business operations, potentially leading to business disruptions. Therefore, WHA Group has established a process for reviewing and identifying key suppliers to effectively manage the value chain. Selecting suitable suppliers is crucial for increasing the long-term sustainability of the business. WHA Group has implemented criteria for selecting suppliers and categorizing them into Critical Tier 1 Suppliers and Critical Non-Tier 1 Suppliers using the ABC system. This categorization is based on business relevance, annual expenditure, the importance of the products or services provided by the suppliers, or the possibility of using alternative suppliers.

In addition, ESG criteria, i.e., environmental, social, and governance, are also considered in the critical supplier screening process.

In 2023, WHA Group conducted a review and identified all key suppliers, categorizing them into Critical Tier 1 Suppliers and Critical non-Tier 1 Suppliers as shown in the table below:

**SUPPLIER ANALYSIS AND CRITICAL SUPPLIER IDENTIFICATION TABLE**

Supplier Analysis	Number of Suppliers
Total supplier in 2023	583
Critical Tier 1 Supplier	17
Critical non-Tier 1 Supplier	4

## SUPPLY CHAIN RISK MANAGEMENT

WHA Group conducts supplier risk assessments as part of our business operations, encompassing considerations for environmental impact and social impact. This ensures that WHA Group’s supply chain is progressing towards sustainability. To address ESG risks that may impact WHA Group, particularly those associated with corruption and ethical business practices, a risk assessment form has been developed for suppliers. This form enables WHA Group to assess and mitigate these risks effectively.



**Supplier Risk Management**

- Critical supplier identification
- Supplier risk assessments (Economic, Social, Environment)



**Supplier Registration**

- Pre-Qualification form
- Approved Vendor List registration: AVL



**Supplier Efficiency**

- Annual supplier assessment
- Supplier Development Potential

In 2023, WHA Group set a target for assessing supplier risks at 100%. The process incorporates criteria related to sustainability (ESG), considering risks associated with countries (Country-Specific Risk), risks related to business sectors (Sector-Specific Risk), and risks associated with products and services (Commodity-Specific Risk). For high-risk suppliers that are not doing business with WHA Group (non-Tier 1 Supplier), the assessment target is also set at 100%. This target was achieved, and the assessment results can be seen in the table below:

### HIGH RISK SUPPLIER

Supplier Analysis	Number of Suppliers
Total supplier in 2023	583
High risk Supplier	60
High risk non-Tier 1 Supplier	4

Critical Suppliers and High-Risk Suppliers are classified as Significant Suppliers. In 2023, there were 77 Significant Tier-1 Suppliers who doing business directly with WHA Group with the total spending of 85.70%, and 8 Significant Non-Tier 1 Suppliers who were not doing business with WHA Group.

## EVALUATION OF SUPPLIER PERFORMANCE

WHA Group has established a follow-up and evaluation system to assess the performance of Tier 1 suppliers and critical non-Tier 1 suppliers. The assessment of suppliers is divided into two categories:

- 1) The desktop assessment after delivery focuses on the quality of the product, service, price, on time deliver, and cooperation with relevant agencies and
- 2) The on-site audit to assess the qualifications and performance of critical Tier 1 suppliers, high-risk suppliers, and critical non-Tier 1 suppliers that are considered at risk in relation to business ethics, environment, health, safety, and social

management. It also ensures compliance with business ethics and risk prevention processes. This assessment will referencing recognized management standards such as ISO9001, ISO14001, along with Thai labor standards and relevant laws.

From the on-site assessment results of Significant Suppliers in 2023, which included 17 Critical Tier 1 Suppliers and 60 High-Risk Suppliers, totaling 100%, no suppliers require a corrective plan. For Significant Non-Tier 1 Suppliers, there were 4 Critical Non-Tier 1 Suppliers and 4 High-Risk Non-Tier 1 Suppliers, totaling 100%, with no suppliers found to have deficiencies requiring corrective action as well.

## SUPPLIER CAPACITY BUILDING

The development of suppliers’ capabilities is an integral part of sustainable supply chain management. WHA Group believes that sharing knowledge is the starting point for developing sustainable supplier relationships. Therefore, the Group has initiated projects to develop the capabilities of suppliers and contractors in sustainability to achieve sustainable development outcomes. These projects aim to raise awareness, provide in-depth technical development for target groups, and provide guidance on system adjustments to address gaps identified during the assessments.



**Critical Supplier Identification**  
Critical suppliers are identified through Spending Analysis based on criticality of provided components or services, difficulty to substitute, etc.



**Supplier Sustainability Risk Assessment**  
Suppliers’ risks in terms of governance, environmental and social aspects are assessed and prioritized.



**Risk Management Measure**  
Based on supplier risk profiles, appropriate mitigation measures will be carried out including implementation of corrective actions or termination of contract.



## CORPORATE PROCUREMENT MANAGEMENT SYSTEM (CPRS)

WHA Group has improved our operational capabilities by embracing technological innovation and adopting an online procurement management program called “Corporate Procurement Management System (CPRS).” This initiative aims to improve efficiency, transparency, and streamline the project bidding process. For instance, the E-system Bidding feature within CPRS enables potential suppliers to upload quotations conveniently and securely. Subsequently, authorized personnel responsible for contract value assessment will approve the quotations. Furthermore, WHA Group has embarked on a digital transformation journey, introducing additional user functionalities. This includes the ability to assess supplier qualifications, conduct sustainability potential assessments, and manage supplier lists within the system. Additionally, the system facilitates automated project bidding.

In mid-2023, WHA Group implemented the CPRS module to help manage the assessment of new suppliers. The module allows for online completion of the Pre-Qualification Form (PQ), increasing efficiency and speed in the process. It also enhances transparency in supplier selection and can be used to

evaluate supplier performance annually. In the near future, the use of the CPRS application for assessing new suppliers is expected to be more efficient and faster. In Phase 2, the system will be enhanced with Power BI for supply chain management, with data analysis and reporting in the Procurement Dashboard. Training on the CPRS system was provided to suppliers at the “WHA Supplier Day 2023” on February 7, 2024.



## TRAINING ON BUSINESS OPERATIONS WITH REGARD TO ENVIRONMENTAL, SOCIAL, AND CORPORATE GOVERNANCE (ESG) AND WHA’S SUPPLIER CODE OF CONDUCT

WHA Group places importance on elevating and developing the business capabilities of our suppliers to ensure sustainable growth together. To support this, activities were organized to promote and support supplier operations through the “Training on Business Operations Considering Environmental, Social, and Governance (ESG) Aspects and Supplier Code of Conduct of WHA Group” at the “WHA Supplier Day 2023” on February 7, 2024. A total of 54 companies attended the event, with an additional 70 companies participating online. Among them, 100% of significant suppliers participated in the training. 100% of the attendees acknowledged and was aware of conducting business with consideration for environmental, social, ethical, and governance (ESG) aspects, as well as the suppliers code of conduct of WHA Group.



WHA Group has delivered training records on conducting business considering environmental, social, and governance (ESG) aspects, as well as business ethics for suppliers (Supplier Code of Conduct), to all suppliers. The Supplier Code of Conduct covers ethical business conduct, respect for human rights of all parties, workplace safety, environmental practices, and biodiversity.



### SUPPLIER DAY

WHA Group has established criteria for awarding prizes to suppliers in the Significant Vendor category who have ESG evaluation scores exceeding 90%. There are a total of 9 suppliers who have received the award.



### IN-HOUSE TRAINING FOR SUPPLIER

WHA Group organized a training session for suppliers on January 16, 2024, regarding safety, health, work procedures, and the registration process for suppliers in the online procurement system (CPRS).



## PROCUREMENT STAFF TRAINING PROGRAM

In 2023, WHA Group conducted regular training on Supply Chain Management and ESG Program for the procurement team. The training was held monthly to enhance awareness and capabilities in sustainable supply chain. The latest session was held on November 15, 2023, with a total of 10 participants.



## BAAN DEK PROJECT FOR CHILDREN IN WORKER CAMPS

WHA Group and Baan Dek Foundation (BDF) have jointly signed a memorandum of understanding to support the Building Social Impact (BSI). The aim is to create a safe environment, improve access to health, education, and protection for children and families living in construction worker camps. Under this project, training courses on ESG have been organized, covering social issues and human rights. The training was conducted by expert speakers for contractors and camp residents to cultivate and promote ESG concepts, especially in terms of occupational health and safety. WHA Group is aware of the importance of these issues, with over 20 representatives from contractors and WHA Group participating. Recently, WHA Group invited the BSI Foundation Network to participate as speakers in WHA Supplier Day 2023 for key suppliers on February 7, 2024. Currently, WHA Group, Baan Dek Foundation, and contractors are planning to improve the quality of life for residents in construction worker camps.



### SUPPLY CHAIN TARGET

- 100% of Suppliers adhere to the Supplier Code of Conduct.
- 100% of new suppliers assessed with the pre-qualification on Environmental, Social, and Governance (ESG) factors.
- 100% of current suppliers evaluated on Environmental, Social, and Governance (ESG) performance.

PERFORMANCE ON SUPPLY CHAIN MANAGEMENT AGAINST TARGET



## COVERAGE AND PROGRESS OF SUPPLIER ASSESSMENT PROGRAM

	Performance 2023	Target 2023
Total number of suppliers assessed via desk assessments/ on-site assessments	77	81
% of significant suppliers assessed	95.06	100
Number of suppliers assessed with substantial actual/ potential negative impacts	2	
% of suppliers with substantial actual/potential negative impacts with agreed corrective action/improvement plan	100	
Number of suppliers with substantial actual/potential negative impacts that were terminated	0	

## COVERAGE AND PROGRESS OF SUPPLIERS WITH CORRECTIVE ACTION PLANS

	Performance 2023	Target 2023
Total number of suppliers supported in corrective action plan implementation	2	2
% of suppliers assessed with substantial actual/potential negative impacts supported in corrective action plan implementation	100	100

## COVERAGE AND PROGRESS OF SUPPLIERS IN CAPACITY BUILDING PROGRAMS

	Performance 2023	Target 2023
Total number of suppliers in capacity building programs	77	81
% of significant suppliers in capacity building programs	95.06	100

WHA Group adheres to sustainable supply chain management practices, ensuring efficient delivery of products and services to customers while also generating positive impacts on society and the environment. The Group believe that sustainable supply chain management is as important as managing our own operations sustainably because the business partners are numerous. Another aspect of evaluating supplier performance is promoting sustainable practices among them, such as assessing the risks of both current and new suppliers annually through various methods like post-delivery evaluations, desktop reviews, and on-site inspections. This ensures that the suppliers operate according to the agreed-upon standards. In 2023, it can be said that

the operations of all suppliers related to the Group had no environmental impact, no corruption, and no violations of human rights against any group in the value chain.

Sustainable supply chain management has always been a priority for WHA Group, and we are committed to improving the performance of our suppliers each year. The Group aims to reduce the number of high-risk suppliers after implementing risk reduction measures to no more than 5% in 2024 and 3% in 2025. The Group also plan to implement the ESG Annual Program to ensure that each supplier improves their social, environmental, and governance performance every year.

# INNOVATION AND TECHNOLOGY MANAGEMENT



The current digital transformation trend in the business sector, coupled with the competitive and rapidly changing global economy, organizations are under pressure to adapt. They are incorporating digital technologies to drive their businesses into the future. This includes operating in an online format and using various technologies to increase efficiency internally, such as Artificial Intelligence (AI), Blockchain, and other innovations, to make businesses more competitive, efficient, resource-efficient, and to create stable and secure operating systems for users.

Additionally, they contribute to organizational progress and facilitate stakeholders while also helping to preserve the environment. Therefore, businesses aspiring for long-term success must adapt to these changes, prioritize digital strategies, learning, and select appropriate technologies to maintain competitiveness, increase business opportunities, mitigate risks, and meet customer expectations, ensuring sustainable economic growth without impacting the environment and society.

## Fostering A Data-Driven Culture

### Data Clinic

- Promoting data-driven decision-making and strategy
- Employee discussion on data and AI utilization within the organization
- Opportunity to improve data handling and gain valuable insights
- Evaluating readiness for data-driven practices

### Data Hackathon

"From Data to The Sun"

- To transform WHA into a technology-focused company driven by data
- leveraging the data to uncover valuable insights and provide visualization comprehensively for decision-making across various aspects

### Data Driven The Series

Unlocking The Potential of AI & Generative AI

- The Era Of AI & Generative AI
- Unleashing the Power of Generative AI
- Responsible AI in Action

AI & We: Meet the AI & Non-tech

DATA DRIVEN THE SERIES Season 1-2

- Road to data driven organization
- Digital transformation with data analytics
- Storytelling with data
- Era of Data Science
- The Fellowship of Data

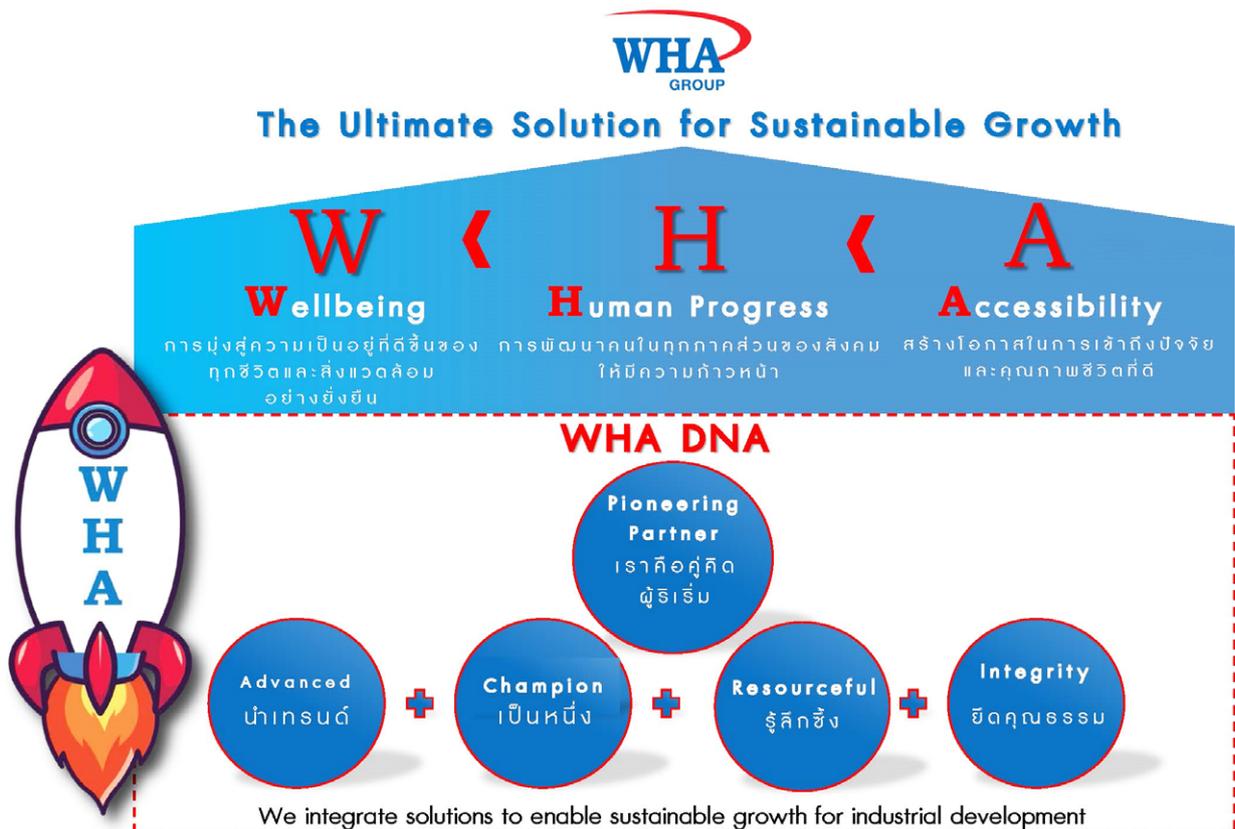
WHA Group is continuously developing our business operations in terms of technology to prepare for rapidly changing markets. The group has always prioritized sustainable business practices, including Environmental, Social, and Governance (ESG) dimensions, to prevent violations of rights of individuals, legal entities, or other stakeholders. This allows WHA Group to keep pace with the world’s significant trends, especially the transition to the new era of digital society. The group is committed to adapting technology and innovation as the fundamental structure of our business operations. It has announced a full-fledged process transformation roadmap under the “Mission To The Sun” initiative. This initiative aims to apply technology innovation to operate all four business groups more efficiently, respond to social changes, and maintain environmental sustainability while delivering the best services to customers in all business groups. WHA Group also plans to expand our business in various dimensions to grow into a Global company and move towards our goal of becoming a Tech Company by 2024.

decision-making analysis and processes, known as a Data-Driven Organization, are used to facilitate operations, reduce organizational burdens, increase data accuracy and speed, or create digital systems for collecting and processing data to maximize benefits. These technologies promote innovation within the organization, preparing it to become a full-fledged Tech Company. Given the potential environmental impact of technology use, WHA Group plans the digital operations carefully to minimize unnecessary resource consumption, reducing the chances of negative environmental impacts.

Furthermore, WHA Group has pledged to be “The Ultimate Solution for Sustainable Growth,” emphasizing the importance of achieving sustainable growth while benefiting all stakeholders. The group aims to be a “Pioneering Partner” ready to take on challenges and participate in creating new innovations for the benefit of society, the economy, and the environment. WHA Group emphasize WHA Group Core Value to all stakeholders, which comprises:

WHA Group is not only incorporating technology into our various projects but also integrates innovation and technology into every aspect of our operations. For example, technologies like AI, blockchain, metaverse, and the use of digital databases for

- Advanced
- Champion
- Resourceful
- Integrity





## MANAGEMENT APPROACH

In 2023, WHA Group implemented the strategy “WHA : WE SHAPE THE FUTURE,” focusing on creating prosperity, livelihoods, and income for people and society for a better quality of life. The goal was to achieve sustainable economic growth in Thailand by pursuing the ultimate goal of creating sustainable economic growth in Thailand. Under the “Mission To The Sun” project, the group carried out 9 main projects aimed at creating new products and services to develop a quality organization and transition into a Tech Company. We pledged to be “The Ultimate Solution for Sustainable Growth,” focusing on excellence in sustainable solutions to deliver a better quality of life as follows:

# W

## Wellbeing

is Striving towards a better sustainable quality of life for all living beings and environment.

# H

## Human Progress

is development across all sector of society progressively.

# A

## Accessibility

is the creation of opportunities for accessing a good quality of life.

WHA Group set a goal to provide opportunities for all stakeholders to access services and knowledge in innovation. In 2023, the Group has developed digital work process in line with 2022 to 2024 “Mission To The Sun” plan, to become a Tech Company by 2024. WHA Group implemented the Data Driven Organization project, which included developing strategies, plans, data policies, WHA Data platforms, and a data repositories. The Group also raised awareness of the benefits of using data for business among employees and created an organizational culture that supports data-driven innovation, or an Innovation Workplace. During this period, WHA Group completed 19 Data Driven Organization projects and planned to continuously develop additional projects in the future. Additionally, WHA Group placed importance on managing other innovation aspects, including developing strategies, setting operational frameworks, creating a culture and environment conducive to innovation, and using systems to support innovation within the organization. WHA Group also conducted performance reviews annually or when changes occurred, considering feedback from all stakeholders to develop and improve projects for the benefit of stakeholders.

# Roadmap to Our Aspiration



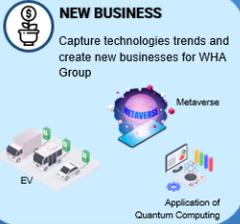
**2023-2024**

**TURNING TO TECH COMPANY**

**DATA-DRIVEN ORGANIZATION**

**NEW BUSINESS**

Capture technologies trends and create new businesses for WHA Group



**INNOVATIVE SOLUTIONS**

Offer smart solutions to enhance services within WHA Group's ecosystem



**DATA-DRIVEN INITIATIVES**

**Power of Data**

Full utilization of WHA data via unified data platform and layer enterprise architecture



**WHAPPY ACTIVITIES**

**WHAppy Talk**

Key speakers to share views and inspire WHA people to create innovations



**2021-2022**

**INNOVATIVE WORKPLACE**

**DIGITAL TRANSFORMATION**

**BOOTCAMP PROJECTS**

Enhance internal team capability and equip innovative tools & skills set for innovation creation



**MTTS DESIGN THINKING WORKSHOPS**

23 Ideas generated from MTTTS Design Thinking Workshop



**WHA Data Platform & Enterprise Data Warehouse**

Example of Use Cases

- Expenses analysis dashboard
- Document management analysis
- O&M service performance and maintenance plan



**WHAppy Cast**

Sharing sessions to enhance employee's capabilities for becoming a tech-savvy and embrace with new system and work process

Examples:

- Data-Driven the Series
- CDMS Introduction
- Digital Transformation Sharing Session



**DIGITAL FOUNDATION AND SECURITY**

- Robust Backbone System
- Strong Digital Foundation
- Secured Technology



**DIGITAL TRANSFORMATION PROJECTS**

33 Projects Launched in 2021-2022

Multiple Projects Spanning WHA Business



**WHAppy Friday Activities and Festival**

Various activities to increase engagement and create an innovative culture



## 20-Year Achievements



**2003**

**2006**

**2007**

**2010**

**2012**

**2013**

**2014**

**2015**

**FIRST STEP**

WHA Alliance is established in Feb 2003, pioneering Built-to-suit Concept of modern warehouse and distribution centers

**WHA'S FIRST & LARGEST BUILT-TO-SUIT DISTRIBUTION CENTERS IN SEA**

Warehouse Asia Alliance partners with GI OMAC from Malaysia, launched the first Built-to-suit Customer Goods Distribution Center, biggest in Southeast Asia

**ESTABLISHMENT OF WHA CORPORATION**

WHA Corporation is established with a registered capital of THB 170 mm, developing high-quality warehouses, distribution centers and factories

**FIRST ASSET MONETIZATION**

WHAPF IPO, consists of two warehouses and one factory, with a combined space of 40,000 sqm

**WHA IPO**

WHA Corporation is listed on the SET, raising its invested capital to THB 1,709 mm

**EXPANSION TO POWER**

WHA Corporation and Gunkul Engineering PCL form a joint venture to invest in solar project

**NEW OPPORTUNITIES**

WHART IPO, including 11 premium warehouse buildings with a total area of 167,107 sqm

**A BIG LEAP FORWARD**

- Acquisition of a 92.88% shareholding equity of Hemaraj
- WHART IPO, as the first office REIT in Thailand, with a fund size of THB 2,389 mm

**2016**

**2017**

**2018**

**2019**

**2020**

**2021**

**2022**

**2023**

**THE PATH TO SUCCESS**

- WHA Group creates 4 business hubs: Logistics, Industrial Development, Utilities & Power and Digital platform
- HREIT IPO

**NEW ERA FOR WHA**

- WHA Utilities and Power Plc. is listed in SET
- WHA group develops its first industrial zone in Nghe An Province, Vietnam

**SPREADING WINGS**

- WHA ID and IRPC signs Shareholders Agreement to Develop "WHA Industrial Estate Rayong" in EEC
- WHA Hemaraj Nghe An JSC celebrates groundbreaking ceremony for WHA Industrial Zone - Nghe An Phase 1

**THE YEAR OF EXPONENTIAL GROWTH**

- WHA Logistics jointly invested with Alibaba, granting 232 rai in Chachoengsao for an e-commerce special economic zone
- Chonbun Clean Energy (CCE), a joint venture company has signed the PPA with PEA for a contracted capacity of 6.90 MW with a contractual term of 20 years

**THE YEAR OF TRANSFORMATION**

- Establish a footprint in Vietnam - WHA Industrial Zone 1 - Nghe An
- Undertake digital innovation and transformation journey: Platform-above-infrastructure

**MOVING FUTURE FORWARD**

- New Mega Logistics Projects at Theparak with building area - 400,000 sq.m
- 2nd Industrial Estate in Vietnam in Thanh Hoa Province, Vietnam
- Continuing a Journey digital innovation and transformation journey and cultural change

**INNOVATIVE WORKPLACE**

- Build innovative driven culture, workplace and workforce to create new revenue streams, innovative products and services to serve customer's demand, making WHA superior to competitors

**DATA-DRIVEN ORGANIZATION**

- Turn data assets into a competitive advantage. The whole organization has driven all aspects with data insights
- Historical industrial and deal by BYD, enforcing WHA ID as the Automotive Cluster of Thailand
- Listed as "Industry Mover" in S&P Global Yearbook and received SET Awards for 3-consecutive years

## INNOVATION STRATEGY



In order to become “The Ultimate Solution for Sustainable Growth”, WHA Group focuses on enhancing competitiveness by developing and creating added value in our products and services. This is done to support new customer needs and maintain the existing customer base. The company employs the following main strategies to achieve this goal.

### 1. Digitize & Empower Core Business

WHA Group implements new technologies and innovations within the organization to enhance business reliability and efficiency through intelligent analytics, process automation, leveraging the mobility, connectivity of digital technology. WHA Group aims to provide value that surpasses industry competitors. Additionally, WHA Group focuses on the acquisition of new businesses, new ideas, incubation, and expansion through collaboration within a platform that includes WHA’s Group customers and stakeholders.

### 2. Build the Workforce of the Future

To prepare for change, WHA Group focuses on establishing a way of working and thinking that embraces digital transformation. The Group aims to build a culture that empowers end-to-end digital processes and operations.

### 3. Enable the Smart Enterprise

WHA Group aims to build digital capabilities for our business processes in order to drive organizational efficiency, effectiveness, and to driving the organization with innovation.

### 4. Establish Digital Foundation and Platform

To build an IT foundation that supports short-term business needs and drives long-term business goals by enabling flexibility and scalability by transforming operations from core platform and governance structures.

### 5. Launch New Business

Bringing new technologies and innovations to facilitate new business acquisitions, foster new ideas, incubation, and drive business expansion. This is achieved through collaboration within WHA’s customer and stakeholder platform.

In the journey towards becoming a Tech Company, digital infrastructure and data usage play a crucial role and must align to derive benefits and help develop new business models. This enables organizations to keep pace with rapid changes and transitions to the New Normal era amidst the rapidly evolving world. However, maintaining the stability of various systems

and ensuring data security are challenges in the current era. Technical errors, human shortcomings, and cyber-attacks can damage the Group's reputation. Therefore, risk management in these areas is crucial for business operations.

## THE TECHNOLOGY INFRASTRUCTURE OF WHA GROUP

Over the past three years, WHA Group has adjusted the business operations by integrating technology to drive operations through the Digital Transformation project. This initiative aimed to elevate business operations to meet the increasingly diverse and challenging needs of stakeholders. Such transformation required significant investments in technology and information systems, resulting in increased risks of cyber resilience and information security breaches. This includes the potential damage or misuse of assets, internal data, or business data of customers and partners, leading to severe consequences.

Therefore, WHA Group adheres to the practices outlined in the Personal Data Protection Act (PDPA) B.E. 2562 (2019) and Cybersecurity Act B.E. 2562 (2019). These acts serve as the foundation to ensure the effective protection of customer data and internal organizational data, preventing any violation of rights of individuals, legal entities, or other relevant parties. In addition, WHA Group has been certified with the ISO/IEC 27001:2022 standard for Information Security Management Systems in 2023, ensuring the highest standards of information security.

WHA Group has a Cybersecurity and Information Security Management Policy to guide the control of related units, ensuring a smooth transition to the digital era. The Information Technology Department (ITD) is tasked with overseeing the overall information technology security of all business centers. Communication and training on cybersecurity and information security are provided to employees, which is part of the employee success index to pass mandatory training. This ensures that all departments can efficiently implement policies and operational procedures. WHA Group has also established reporting and management processes

for information security issues, providing channels for employees to report suspicious cases. Furthermore, WHA Group has established a business continuity plan, including emergency plans and response procedures, with annual emergency drill. Additionally, activities are organized to identify and address vulnerabilities that could pose risks to data leakage or data theft (Additional details regarding cybersecurity and information security are specified in the Data Security Chapter).

In 2023, WHA Group continued existing technology projects from the previous year and initiated new projects, conceived and started by employees within the organization, to enhance work efficiency and create new business opportunities. In 2023, there were 2 new projects selected and implemented: the Human Capital Management System and the Smart Traffic Management System, with an investment value of over 20 million baht.

## HUMAN CAPITAL MANAGEMENT SYSTEM

WHA Group has enhanced and transformed processes related to the management and development of all human resources within the organization by incorporating digital technology. This effort aims to elevate employee experiences and increase operational efficiency.

### Goal

- To create a good experience for employees in receiving HR services through a concise process and a more user-friendly system.
- To improve the procedures and work processes of the HR department to be more efficient.
- To foster positive interactions between employees and HR, which plays a crucial role in building employee engagement with the organization.

### Expected Benefits

- Better working experience for employees.
- Improved efficiency and effectiveness of human resource management and human capital development.
- Better employee engagement and high level of employee.



-  **Oracle Core HR**  
OFFBOARDING
-  **Oracle Talent Management**  
SUCCESSION & TALENT PLANNING
-  **Oracle Learning Cloud**  
TRAINING & DEVELOPMENT
-  **Oracle Talent Management**  
PERFORMANCE & RECOGNITION
-  **Oracle Recruiting Cloud**  
RECRUITMENT & SELECTION
-  **Oracle Core HR**  
ONBOARDING
-  **Time, Absence and Payroll Interface**  
TIME, ABSENCE AND PAYROLL
-  **Oracle Compensation Management**  
BENEFITS & COMPENSATION

## SMART TRAFFIC MANAGEMENT SYSTEM

WHA Group recognizes the significant challenges faced in various industrial estates, particularly the congestion during rush hours. This congestion arises from the high volume of vehicles on roads with limited traffic lanes simultaneously. To address this, WHA Group has collaborated with local authorities to improve and expand road surfaces to accommodate increased vehicle traffic. The Group has also upgraded and expanded traffic lanes at the entrances and exits of industrial estates, which has helped alleviate congestion to some extent. Additionally, WHA Group has continuously integrated technology to manage traffic within the industrial estates. The Group have invested over 20 million baht in 2023 to enhance traffic management in the area, with the following project details:



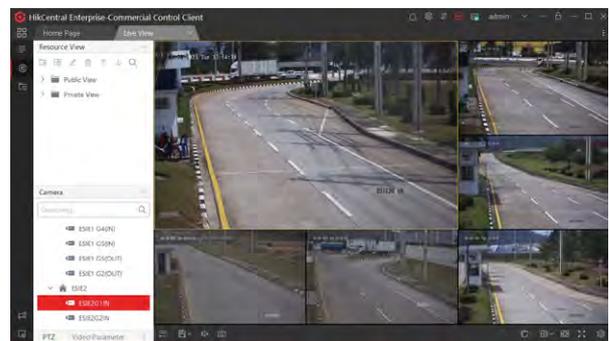
## ADAPTIVE SIGNAL CONTROL SYSTEM : ATC

WHA Group has implemented an Adaptive Traffic Control System at the entrance to the Eastern Seaboard Industrial Estate (ESIE) in Rayong to manage traffic signals in areas with high traffic congestion, especially during rush hours. This system uses Artificial Intelligence (AI) to analyze traffic density and adjust traffic signals accordingly, replacing the previous Fixed Time traffic signal control system that required personnel to control signals. The goal of an Adaptive Traffic Control System is to minimize vehicle congestion at intersections during peak hours, aiming for the shortest possible waiting time for vehicles at intersections. The system operates 24 hours a day and is linked in real-time to other intersections equipped with the system. In practical use, an Adaptive Traffic Control System has reduced travel time for congested vehicles by up to 30.24% compared to the Fixed Time control system. This has led to a saving of approximately 40,969 liters of fuel per year in 2023, resulting in reduced air pollution and greenhouse gas emissions. Additionally, in 2023, WHA Group installed additional efficiency enhancement systems with the goal of improving the quality of service and customer satisfaction for those using services in the industrial estate area.



## VEHICLE MANAGEMENT SYSTEM

Due to the large size of each industrial estate of WHA Group, therefore, the Group has installed Closed Circuit Television System (CCTV) systems in key areas to ensure comprehensive security throughout the area. However, WHA Group aims to further enhance security, covering both aspects of road accidents and crimes, as there is a large volume of vehicles entering and exiting the industrial estates daily. To achieve this, WHA Group has implemented vehicle counting and license plate recognition technology at all 36 entry and exit points in 11 industrial estates. This technology provides real-time data on the types and volumes of vehicles entering and exiting at different times. This data is used to manage traffic and can also be used to identify vehicles entering or exiting the area in the event of abnormal incidents. In 2023, WHA Group installed vehicle entry and exit verification systems in a newly opened industrial estate to ensure the readiness of the industrial estate to provide security for all stakeholders.

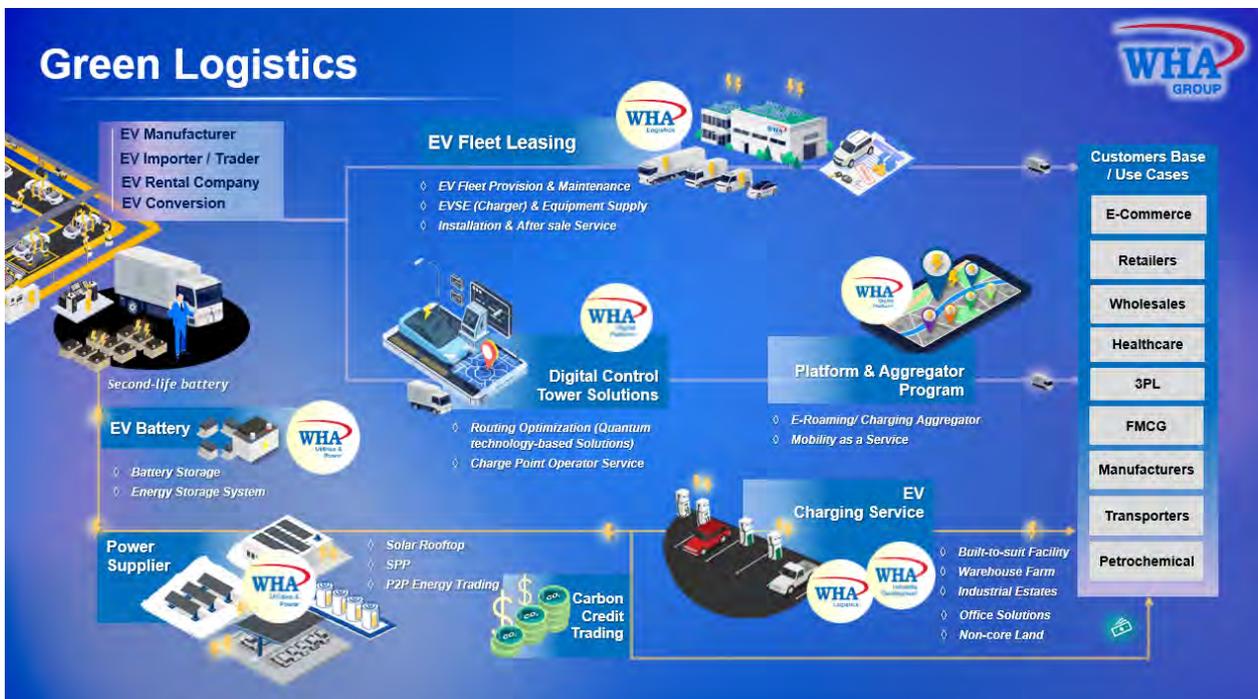


### SMART LOGISTICS

The logistics business is expanding in parallel with the growth of e-commerce market in Thailand. In order to benefit from these changes, WHA Logistic is actively embracing new innovative technologies to upgrade infrastructure and accommodate the increasing number of service users. The following are the new technologies being adopted:

### GREEN LOGISTICS

The Green Logistics project involves applying green technology to the logistics business, such as using electric vehicles for transportation, installing electric vehicle charging stations, using renewable energy sources for charging stations, and using digital technology as a central control hub for electric vehicles' operations, etc. This aims to efficiently use energy, reduce long-term logistics costs for the country, and help the logistics industry reduce greenhouse gas emissions into the atmosphere in the long term.



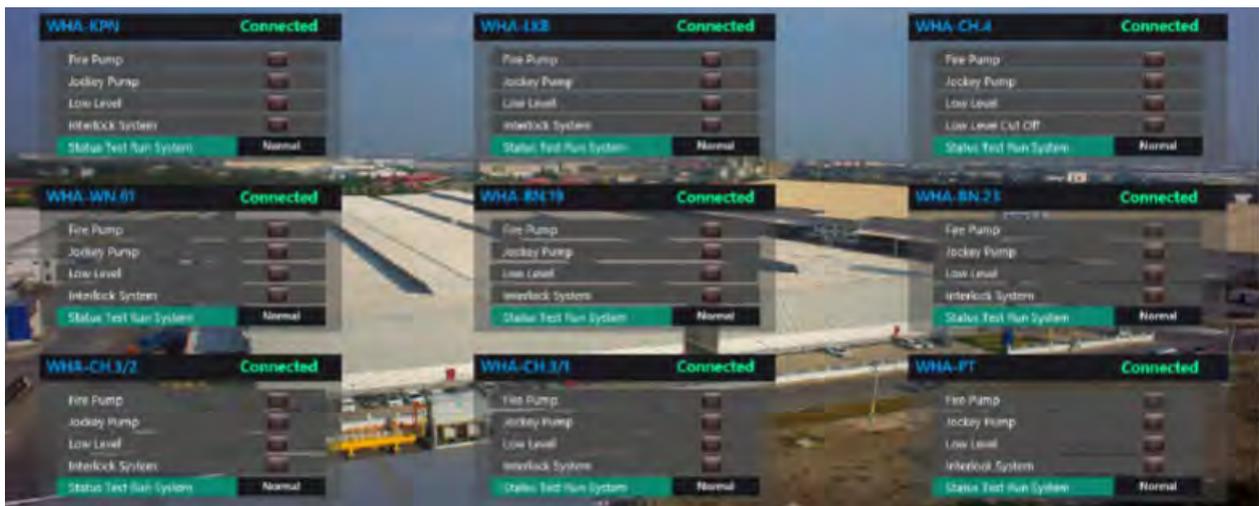
Furthermore, WHA Group is developing the Green Logistics project by planning to use green technology in smart warehouses and distribution centers. Additionally, the Group is utilizing solar energy, heat insulation, and smart lighting/temperature control systems to reduce operational costs and improve energy efficiency.

### SCADA PROJECT

To enhance the emergency prevention capabilities of WHA Group, the Supervisory Control and Data Acquisition (SCADA) technology was adopted in 9 of WHA Logistics' warehouse farms, specifically to monitor and detect the working conditions of fire protection systems, including fire pump, jockey pump, and level alarms. This technological system enables WHA Logistics to better monitor performances and prevent damage to its assets.

In 2023, the SCADA system has been used to improve operational efficiency as follows:

- WHA Mega Logistics Center Ladkrabang
- WHA Mega Logistics Center Wangnoi 61
- WHA Mega Logistics Center Chonlaharn Pichit KM.3 Phase 1 (Unilever)
- WHA Mega Logistics Center Chonlaharn Pichit KM.3 Phase 2
- WHA Mega Logistics Center Chonlaharn Pichit KM.4
- WHA Mega Logistics Center Bangna Trad KM.19
- WHA Mega Logistics Center Bangna Trad KM.23
- WHA KPN Mega Logistics Center Bangna Trad KM.23
- WHA Mega Logistics Center Panthong



## LOGISTICS AND BUILDING MAINTENANCE SERVICE (LBMS) APPLICATION

WHA Group has developed and utilized an application for Logistics and Building Maintenance Service (LBMS) since 2021. This application facilitates and responds to the needs of customers using both Built-to-Suit warehouses and Ready-built factories or warehouses more efficiently. The application improves repair and maintenance service requests, insurance claims, quality control, and allows customers to track the status of maintenance work conveniently and quickly. As the application supports both smartphones and computers, users have reported that LBMS reduces WHA Group's response time to customers by over 80% and reduces the overall time and costs for customers' operations. In 2023, the project was further developed as Phase 2, improving the system to be more modern and cover customers' needs more comprehensively. The application was used over 1,000 times by more than 288 customers in 2023, highlighting the successful transition to digital systems in WHA Group's business operations. WHA Group continues to improve and develop the application based on feedback from customers to increase customer satisfaction by providing faster support and plans to make the application compatible with all software platforms to increase accessibility and user numbers.

## DRONE INSPECTION PROJECT

WHA Group uses drone technology to inspect the roofs and equipment on the roofs of warehouses. This technology can identify damage or areas at risk of damage, providing data for maintenance and planning. Both preventive and predictive maintenance are carried out through deep analysis of image data. Combining drone images with AI analysis of image databases helps determine the condition of the roof and equipment for optimal functionality. Pre-inspection and maintenance planning help reduce the risk to customers' warehouse operations. Additionally, these inspections help reduce costs by preventing unnecessary roof repairs or losses to the company.

## SMART ECO INDUSTRIAL ESTATES

WHA Industrial Development (WHAID) has continuously employed cutting-edge technology to enhance the concept of SMART ECO Industrial Estates, which supports manufacturing, logistics, and other businesses to operate smoothly, efficiently, and more comprehensively. These projects include:



### UNIFIED OPERATION CENTER

WHA Group has established a Unified Operation Center (UOC) at the WHA Tower office building to monitor and supervise operations in real-time at both the workplace and industrial estates of WHA Industrial Development. The system integrates and collects data from various utility systems and environmental conditions in the area, such as air quality, rainfall, and water quality, among others. It displays this information for analysis and evaluation of service efficiency for operators, reducing the need for on-site control. By centralizing control from 12 industrial estates of WHA Industrial Development to a single center, it enhances the ability to control and manage utility services. It can remotely control and manage water and solar energy facilities from a distance through the UOC. Therefore, in emergencies or situations with mobility constraints, the UOC serves as a second command center to ensure continuous business operations.

Furthermore, the UOC serves as a platform for industrial factory operators within the industrial estates of WHA Group to present environmental reports in accordance with the requirements of the

Environmental Impact Assessment (EIA) for each factory. These reports include information on air quality and pollutant emissions, as well as assessment criteria and environmental impact analysis (EIA). The UOC also analyzes risks and reports on the operation of boilers/steam generators through the UOC to allow industrial estates in Thailand to efficiently inspect various reports through the control center. This system also helps reduce paper usage. Additionally, the Group uses the UOC to collect and manage complaints.

After developing and implementing the UOC system, WHA Group was able to reduce costs by over 0.7 million baht in 2023. This was achieved because the UOC system is a centralized monitoring system, which means that employees do not need to travel to work sites and can issue remote commands. This helps reduce travel time and costs for the group's employees, allowing them to have more time to develop skills to handle more complex tasks and support the sustainable growth of WHA Group. Additionally, it helps ensure the safety of the community and stakeholders entering the group's premises, both physically and in terms of property. Furthermore, it helps reduce environmental pollution by reducing air pollution and dust from vehicles used in operations, enabling the Group to achieve air quality standards as specified in the Environmental Impact Assessment (EIA). It also helps reduce direct greenhouse gas emissions (Scope 1) by reducing the use of fuel for vehicles in operations by over 75 tCO<sub>2</sub>e per year.

## SMART UTILITIES & POWER

WHA Group sees an opportunity to expand our business by offering innovations through products and services of WHA Utilities and Power (WHAUP), focusing on expanding our service capabilities with utility products. They also aim to expand investment models in energy with new innovations to respond to market trends. WHAUP considers quality of life and environmental impact to be important, so they are striving to develop new utility services, including demineralized water production systems and continuous wastewater treatment processes.

## WATER RECLAMATION

WHAUP has developed a Water Reclamation system to reuse wastewater as an alternative water source, especially in the Eastern Economic Corridor (EEC) region, to promote sustainable development. The project integrates existing technologies with new innovations to increase the value of wastewater. By treating wastewater from the wastewater treatment system, it produces demineralized water and premium clarified water, enhancing the market value of the products while reducing costs. This helps customers in various business sectors to have alternative high-quality water sources suitable for their businesses.



Since 2018, the Water Reclamation project has been able to generate continuous revenue for the group. In 2023, the Group generated a revenue of 232.4 million baht from this project, accounting for 15.9% of the revenue from the utilities business. Furthermore, the project has provided environmental and social benefits by reducing the amount of wastewater released and the extraction of water from natural sources by 7.3 million cubic meters. It has also helped alleviate water scarcity issues in surrounding communities and reduced the risk of conflicts with nearby communities over water resources and odor pollution from wastewater. This is because community members have sufficient access to clean water sources.



## DEMINERALIZED RECLAIMED WATER

WHA Group has invested in demineralized reclaimed water for alternative sustainable water sources, consisting of two parts, each with a production capacity of 5.18 million cubic meters per year, covering 4% of the total industrial water production capacity. The project is developed at the WHA Eastern Industrial Estate (Map Ta Phut) (WHA EIE) to improve water quality in the wastewater treatment system with reduced costs and environmentally friendly

processes. The goal of demineralized reclaimed water is to become a sustainable source of water for industrial development in the country. This project is an extension of existing water treatment technologies and creates new innovations to add value to products by converting wastewater into demineralized water for industries. Further details about the aforementioned water treatment project are specified under the “Water Management” section in this report.



### SMART METERING

WHAUP has initiated the development of a “SMART Metering” system to enhance the ability to track water distribution by replacing water meters installed to record water consumption and usage by industrial operators within industrial estates from analog to digital systems, such as Ultrasonic Flowmeters and OCR installed on customers’ existing meters. This digital data recording not only reduces personnel costs in collecting data from all meters to prepare invoices but also enhances the ability to observe water usage behaviors and abnormalities, including detecting and identifying potential leaks in the water distribution system to promptly determine the cause. Moreover, this online checking system is also used to record customers’ solar energy usage, facilitating the invoicing process. The data is stored at the main office in the WHA Tower, allowing staff to record data without the need to travel to customers’ locations or manually record energy usage data. This system helps reduce related costs by up to 3,000 baht per megawatt.



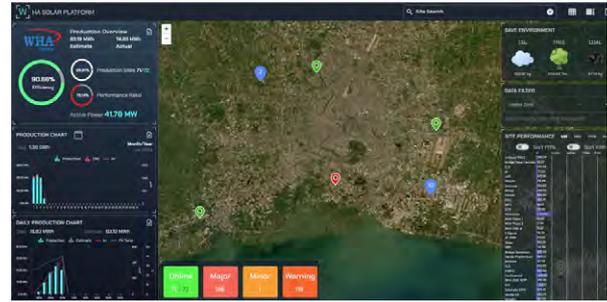
### SUPERVISORY CONTROL AND DATA ACQUISITION (SCADA) TECHNOLOGY AT WASTEWATER TREATMENT PLANT

Currently, WHAUP is maximizing the efficiency of SCADA technology by enhancing remote control through control centers, such as those used in wastewater treatment plants located within the Eastern Economic Corridor of Innovation (EECI) in Wang Chan District, Rayong, and the establishment of remote control centers at WHA EIE and ESIE, etc. Implementing this technology to collect data enables the Group to monitor operations related to wastewater treatment, water production, Water Reclamation systems, and Demineralized Water systems twenty-four hours a day. This allows the group to have more comprehensive data, reduce the burden on personnel, and save costs in operations and staff deployment.



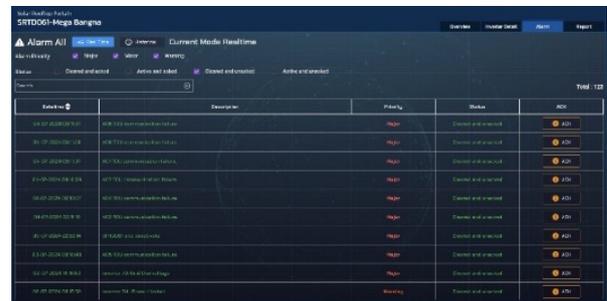
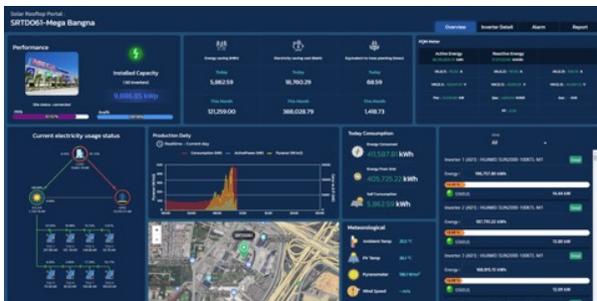
### IOX SOLAR MONITORING PLATFORM

WHADG has developed a central monitoring system for solar power generation systems for WHAUP by utilizing IoT technology and cloud systems to centralize data storage. This aims to enhance the efficiency of project management operations, with a strong focus on user experience. The system allows for the monitoring of solar power generation systems to ensure the continuous readiness and maintenance of the monitoring system.



The data from various customer sites, both within and outside the WHA industrial estates using Solar Rooftop services, is displayed online in real-time on the solar monitoring platform from diverse perspectives. The collected data is processed centrally on the AWS Cloud system to generate reports on solar rooftop energy production, overall energy usage summaries, problem alerts, and monthly billing for electricity usage for customers at each site.

The establishment of a central monitoring system helps in data collection, increases accuracy in analysis and evaluation, improves quality, and enhances operational efficiency. The IoT technology and cloud systems address issues related to data transmission speed and increased data volume. This project involves the installation and configuration of materials, equipment, and the development of software programs to meet the project’s objectives according to the technical specifications of the IoT platform management system. It also includes the maintenance operations of IoT devices and the AWS cloud system. All collected data can be further developed and extended to other projects for increased efficiency and standardization.



### SMART ENERGY

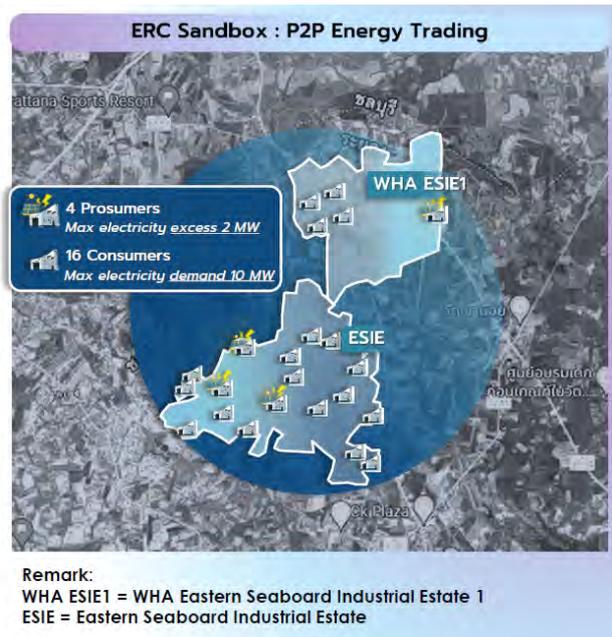
WHA Group and WHAUP are continuously interested in energy innovation. We have extended our cooperation with the Electricity Generating Authority of Thailand (EGAT) under a Memorandum of Understanding (MOU) regarding the development of SMART Energy and microgrid systems. The objective is to reduce electricity costs and improve energy system stability within industrial estates. The first approved project in 2021 is a Peer-to-Peer Energy Trading System, which facilitates the trading of solar energy between users within the industrial estate.



In addition, WHAUP has collaborated with PTT Public Company Limited and Sertis Company Limited to develop a “Smart Energy Management System using Digital” or Smart Energy Platform to study and develop a system for buying and selling electricity from solar energy in the industrial estate of WHA Group. The project uses blockchain technology to enhance security in transactions and facilitate the trading of energy between small power producers and consumers. This system has been selected to participate in the Energy Regulatory Commission Sandbox (ERC Sandbox) project organized by the Energy Regulatory Commission and the Provincial Electricity Authority (PEA). The ERC Sandbox project is a pilot project to study the trading of electricity, supporting small-scale electricity production projects through microgrids to expand usage into industrial



areas, enabling efficient management of alternative energy use. When fully implemented, this system will increase solar electricity production within the industrial estate by at least 200 megawatts, save electricity costs for users in industrial sector by over 180 million baht per year, and reduce carbon dioxide emissions by up to 2,800,000 tCO<sub>2</sub>e.



### SMART DIGITAL

As industrial growth and digitalization plays important role in business, WHA Digital is committed to enhancing business capabilities and aligning with WHA’s overall business strategy. The group aims to leverage advanced technology to drive digital transformation, extending existing technologies while also developing new innovations to create new business opportunities. Moreover, WHA Digital is dedicated to delivering digital solutions that truly understand customer needs, ensuring thorough deployment processes before, during, and after the sale. With a clear vision of becoming a global provider of digital solutions, WHA Digital consistently implements cutting-edge digital solutions and services. The company prides itself on offering exceptional digital services and delivering

effective and innovative digital solutions to clients in a professional manner. Additionally, WHA Digital provides service management and a range of digital solutions, including IT equipment rental services, IT outsourcing services, website development, firewalls, storage solutions, data security and backup systems, colocation management services, and server access control. WHA Digital will collaborate with every business sector of WHA Group to apply technology and create new value-added products and services, aiming to enhance customer satisfaction and attract new customers. This includes the development of various tools and solutions such as the Solar Panel Monitoring Dashboard, Performance Monitoring Devices, analytical tools, automation systems, and smart devices, etc.



## SMART HEALTHCARE

It is well-known that digital technology has become an integral part of people's lives in various dimensions, including healthcare and medical services. WHA Group has recognized the opportunity to develop business and design products and services that cater to modern lifestyles by incorporating technology into communication systems along with data analysis for disease diagnosis through the "WHAbit" application. WHA Group launched and provided the WHAbit application to the public in 2023, allowing users to access medical services online. The application features include:

- 1) **Telemedicine Services:** This service offers consultation, advice, treatment, and follow-up via video call (VDO Call) and chat. It operates as a Virtual Hospital, allowing patients and doctors to interact in real-time. This service enables patients to access medical care from anywhere, at any time, reducing travel time, waiting time at hospitals, and costs. It also includes direct insurance claims processing through hospitals without the need for upfront payment.
- 2) **Health Report Service:** This service provides health reports through the application, compiling and analyzing health data from annual check-ups and various measurements. The results are displayed in easy-to-understand graphs. The system sends automatic alerts when abnormal health values are detected, along with personalized health care recommendations or plans. This helps users access their health information anytime, anywhere, and reduces the risk of non-communicable diseases.
- 3) **Fit & Fun Service:** This program promotes health and exercise to enhance employee engagement within the organization. It uses the Engagement Challenge format to motivate users to participate in various health activities in a fun and effective manner through the WHAbit application.
- 4) **Health Content Service:** This service provides comprehensive and reliable health content through the WHAbit application.
- 5) **Health Advice Service:** This service offers health advice from experts, presented in the form of personalized blog content.

In addition to using WHAbit within the Group to efficiently manage healthcare expenses for the Group's employees and enhance their work efficiency by reducing travel and waiting times at hospitals, the Group aims to offer services to external individuals.

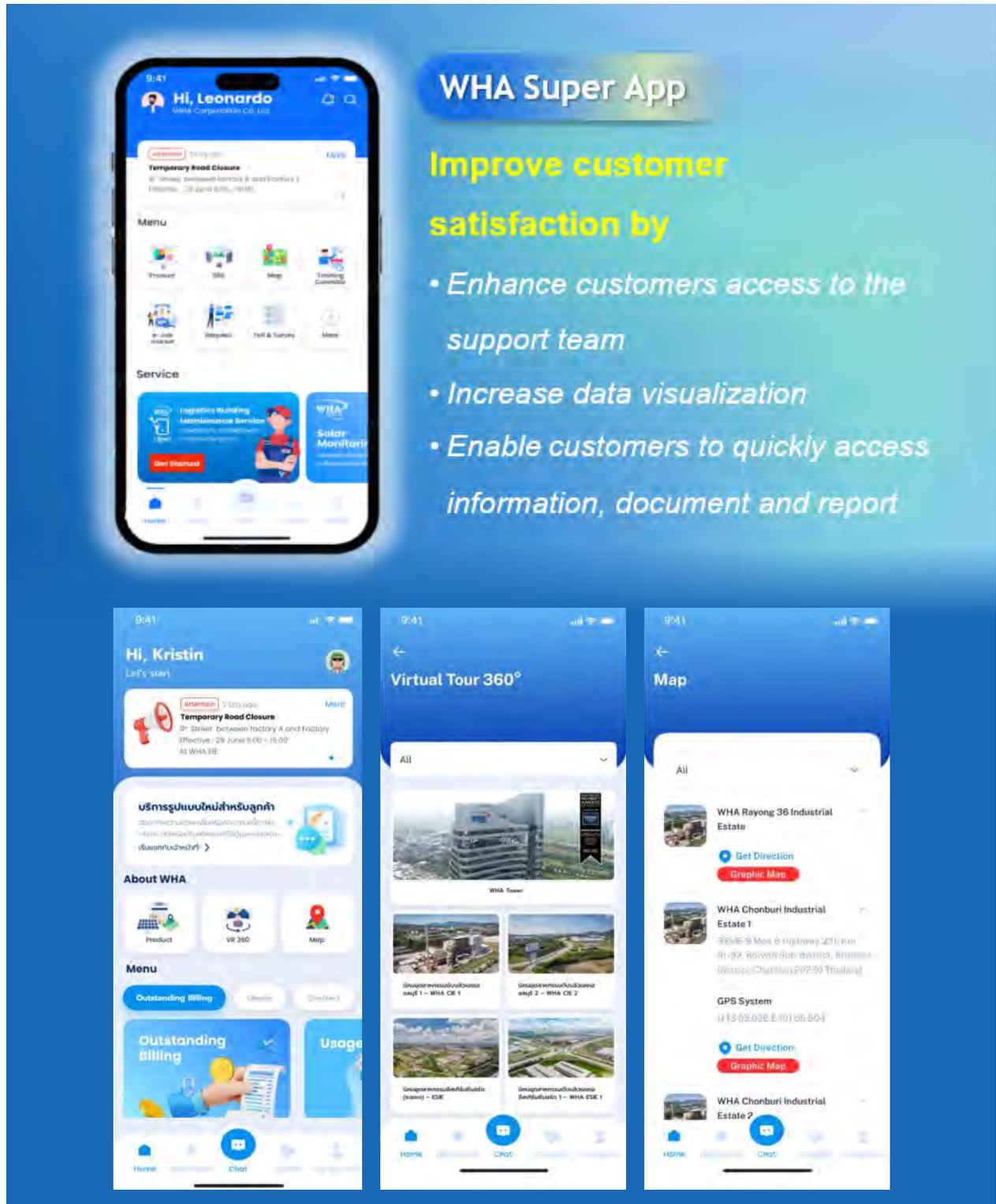


Specifically, employees in industrial factories located within the Group's industrial estates will have access to comprehensive medical services through WHAbit. This directly impacts the reduction of healthcare benefits costs for industrial operators, such as lowering health insurance claims, reducing the costs of finding replacement personnel, and minimizing compensation payments to employees in case of accidents. This platform can generate approximately 1.1 million baht per year for the Group. Furthermore, the WHAbit platform can help communities, especially those working in industrial factories within the industrial estates, with a population of more than 250,000 people, access medical services comprehensively. This reduces the financial burden of traveling to various healthcare facilities and the loss of income from taking leave, saving approximately 300-1,800 baht per visit instead of going to a healthcare facility. Additionally, it positively impacts the environment by reducing greenhouse gas emissions, averaging 3.6 kgCO<sub>2</sub>e per visit, due to the reduced need for travel to see a doctor.

Additionally, this innovation can address the shortage of medical personnel in remote rural areas. The telemedicine system reduces travel expenses for medical staff and the need to recruit sufficient medical personnel for each area. This results in hospitals and both public and private healthcare providers reducing costs, the burden of treatment, and expenses, while also saving time. Moreover, promoting good health among the population helps reduce government expenditure on welfare and lowers the risk of infection when receiving services at healthcare facilities. It also cuts travel expenses and saves time. Telemedicine services provide opportunities and improve the quality of life for the underprivileged, children, women, people with disabilities, and the elderly, closing the gap in medical treatment access inequality.

It ensures that patients receive quality healthcare on par with everyone else. Children, women, and people with disabilities do not need to travel to healthcare facilities, reducing the risk of accidents and illness from travel. They can access treatment quickly.

**SUPER APP PROJECT**



In 2023, as part of the “Mission To The Sun” initiative, WHA Group developed the WHA Super App to enhance convenience and provide an additional channel for customers to interact with WHA Group. Customers and/or their representatives who are granted access to the WHA Super App will be able to use it on both mobile devices and through the web. The WHA Super App is expected to be launched in 2024.

## CIRCULAR ECONOMY INNOVATION PROJECT

The Circular Economy Innovation project gathers ideas from all business groups of WHA. Besides promoting the efficient use of resources within WHA Group’s, the project also enhances operational efficiency or may even lead to new business ventures. The project emphasizes the value of resources that can be circulated in the production and consumption processes through making, using, and recycling. This approach differs from traditional linear economy methods, which result in massive waste at the end. Instead, it focuses on using resources sustainably, reducing waste, and minimizing the need to constantly extract natural resources for production.

In 2023, WHA Group developed several circular economy projects, for example, (1) WHA Circular Innovation Project: The main objective is to develop an operational plan towards a circular economy. This project has promoted over 40 innovation initiatives that drive towards a circular economy, (2) Waste Management Project: This includes an online platform for exchanging waste, connecting waste producers with consumers. The goal is to reduce the amount of waste sent to landfills and increase the efficiency of materials, and (3) WHA Emission Trading Project: This project developed a platform for trading carbon credits to make carbon trading easier, more convenient, and more efficient.

**WHA Circular Economy**  
Under “Mission to the Sun” campaign, WHA Group is moving toward Circular Economy via 3 programs

**WHA CIRCULAR INNOVATION**  
**>40** Circular Initiatives submitted from WHA business hubs

- Aiming to develop Roadmap for transforming WHA Group’s business towards Circular Economy and support our Sustainability and Net Zero mission
- Identify Innovation Initiatives under Circular Economy Business Models concept covering all life cycles including Planning & Design, Construction, Operation & Maintenance and Life Extension & Recycle

**WASTE MANAGEMENT**  
Online Marketplace for Waste Generator and Waste Consumer

- Online waste marketplace connecting waste generator with waste consumer and waste processor with comprehensive functions ranging from transportation arrangement, payment system, regulatory compliance, ESG & Circular Dashboard and reporting
- Aiming to minimize waste to landfill and maximize the secondary raw materials

**WHA EMISSION TRADING**  
Carbon Credit Trading Platform

- Registration
- Verification
- Double Counting Check
- Matching, Transfer, Trading
- Billing and Settlement
- RECs and Carbon Redemptions for Reporting

## WHA OFFICE SOLUTIONS

WHA Group’s main office building, WHA Tower, is designed as a “work-life solution” that supports a flexible work environment, leading to the creation of new ideas and works not only for the group’s employees but also for tenants within the building. Additionally, it is designed to be environmentally friendly and uses durable materials. It has a ceiling height of 2.9 meters and large triple-layered glass windows that can be opened to let natural light into the office space, enhancing the working atmosphere while also providing heat protection of 70%, reducing

**WHA TOWER**  
Work Life Solutions

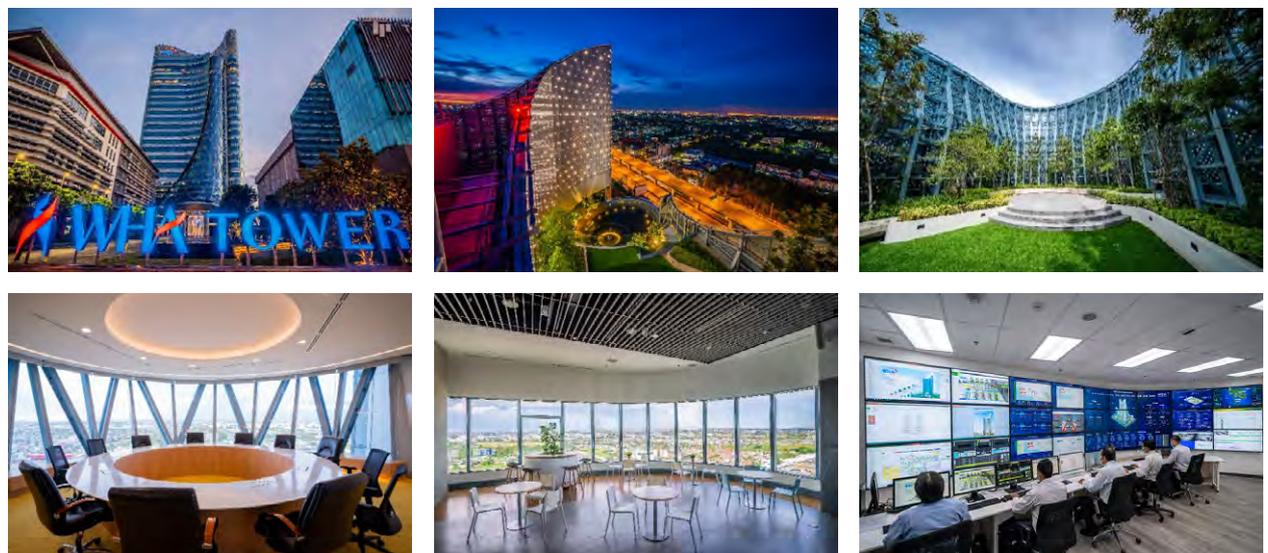
- High-Tech and High-Security Features
- Open View of 2.9 m. Floor-to-Ceiling
- High-Speed State-of-the-Art Elevators with Low and High Zones
- Award-Winning “New Architectural Design Landmark in Bangna”

the need for air conditioning. It uses all LED lights, which helps save up to 50% of electricity. Furthermore, WHA Group has installed a Unified Operation Center (UOC) in the WHA Tower to serve as a central hub for displaying the group’s operational data.

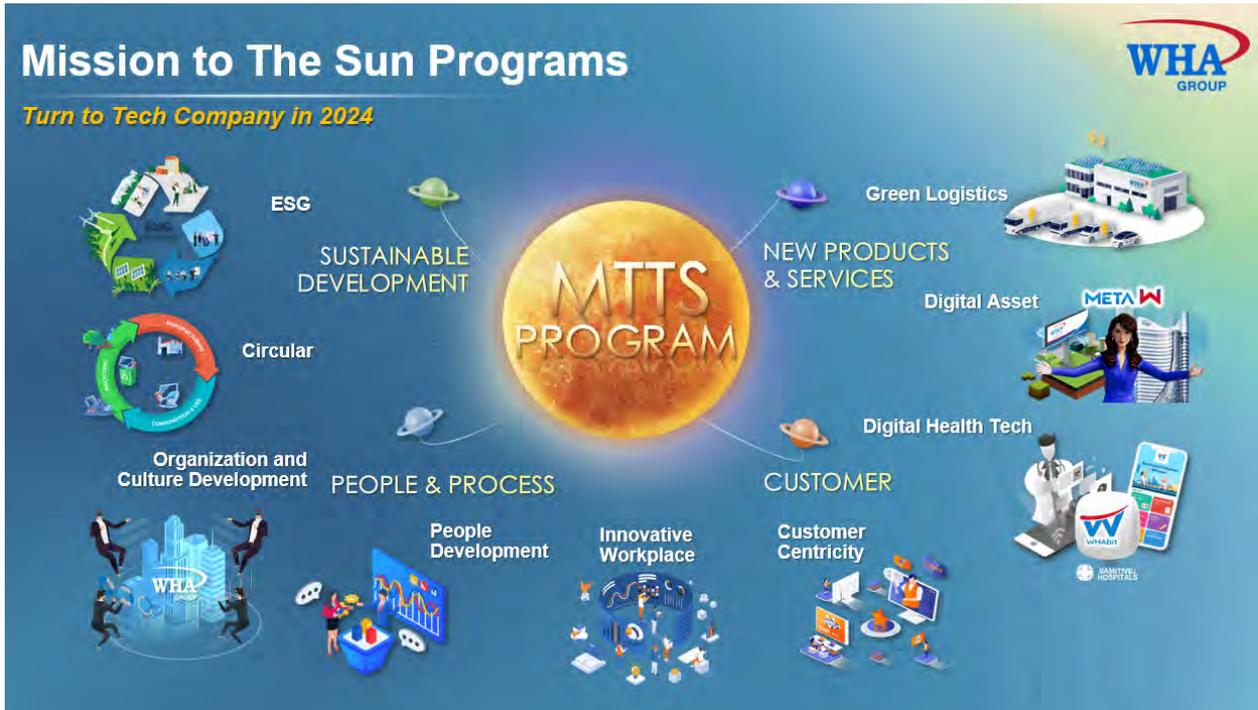
In terms of transportation, the building is located near public transport systems, with only a 3-minute walk from the bus stop to the building. WHA Group also provides shuttle services to the Mega Bangna transportation center to facilitate employee travel, supporting sustainable travel options for employees, such as carpooling, which has various social and environmental benefits, such as reducing energy

consumption, reducing Greenhouse Gas Emissions, reducing traffic congestion for local communities, helping to create a better environment, and supporting the health and well-being of the community.

In addition, WHA Tower also provides tenants with options for leasing that support collaborative work environments and vibrant workspaces. WHA Group places great importance on our tenants and has arranged relocation plans and training for them to promote responsibility and reduce risks in the community. In 2023, 10 tenants participated in the training program.



Aiming to become a Tech Company by 2024, WHA Group continuously applied technology and innovation to create new products and services, extending, and strengthening WHA Group’s business to meet the evolving needs of customers. This will generate sustainable income and growth in the future. The focus is on developing work processes to align with the current times. Since 2021, WHA Group has planned various strategies to achieve these goals, including the “Mission To The Sun” consisting of 9 projects that will push the limits and potential to new heights. In 2023, WHA Group successfully implemented planned operations, such as changes in work processes and adjustments in organizational culture to adapt to the changes. Additionally, partnerships with various stakeholders were established to enhance the organization’s capabilities and potential in innovation and technology.



WHA Group has continuously developed our business in line with the current digital society’s changes. By integrating technology and innovation into the infrastructure of all 4 business groups, the aim is to enhance operational capabilities and expand the ability to deliver the best products and services to customers. This prepares the organization to seize opportunities from the world’s constant changes through the “Mission to the sun”, ensuring sustainable business operations and opening opportunities for new business expansion, both in digital and utility and power sectors. This growth trajectory aims to elevate the company to a global level and transition into a Tech Company by 2024 while maintaining environmental sustainability through technology-enabled environmental management practices. Whether in water, energy, or pollution management, innovation and technology are applied to manage the

environment efficiently. Additionally, the application of innovation and technology helps facilitate and benefit society and stakeholders, including employees, customers, tenants, surrounding communities, and participants in activities or projects developed by WHA Group.

WHA Group focuses on developing innovation and integrating technology into the organization’s infrastructure to sustainably drive the business forward. Using the Mission to the Sun strategy, the Group has plans to develop and upgrade 9 programs consisting of 15 projects that were implemented in 2023 by leveraging AI and Data Insights technologies to drive various projects. The objective is to achieve the goal of becoming a Tech Company by 2024 and to achieve the long-term goal of becoming a global company by 2030.

## DATA SECURITY



In the contemporary era of rapid technological advancement, accessing and exchanging digital information has become easier and faster. At the same time, the risk of cyber threats has also increased. As seen in the news and on social media, data hacking has noticeably increased over the past year and has become more complex. Therefore, data security is of utmost importance for organizations, as they collect a vast amount of company and stakeholder information. Organizations must develop more stringent data management systems and prepare for continuously evolving cyber security attacks to prevent data leaks that could impact business operations and stakeholder confidence in the company.

To transform towards the digital era, WHA Group places significant emphasis on data security and strengthening our data security systems to keep pace with evolving technology and ever-changing data attack patterns. The Group has established a governance system to oversee data security operations, aiming to enhance efficiency. Furthermore, to achieve the goal of becoming a Tech Company by 2024, the Group has integrated technology as the foundation of our operations. This includes initiatives to prepare our personnel for the safe use of digital systems by promoting an understanding of data security, publicizing relevant policies, and providing methods to prevent and respond to various types of cyber-attacks. This ensures that policies and operational procedures are implemented across all business sectors.

### MANAGEMENT APPROACH

WHA Group has established a cybersecurity and information security management policy, which applies to all employees. This policy ensures that the organization's transformation towards Digital Transformation is developed in parallel with an efficient and loophole-free data security system, in line with ISO requirements. The Group has laid down policies for information security and cybersecurity as guidelines for controlling all relevant units. All employees can access these policies through the website. Additionally, the performance of data security operations has been set as a key performance indicator (KPI) for employees responsible for IT systems, to ensure the most effective management of the data security system.

WHA Group has established a system for overseeing and managing activities related to data security, led by Gen. Prachya Chalermwat, Chairman of the Risk Management Committee, and Mr. Nunsilp Janvarin, Chief Information Security Officer (CISO). They are responsible for managing the data security system to enhance operational efficiency. The Group also formed the Information Technology Department (ITD) as the unit responsible for overseeing the overall information technology security of all business centers, including the installation and maintenance of information technology systems. Furthermore, ITD is responsible for summarizing and assessing reported information security incidents, including

the type and details of the issues encountered (such as location, incident sequence, and responsiveness to the incident), the causes of the problems, and mitigation measures. The ITD reports directly to the Cyber and Information Risk Committee, which consists of heads of various units within the organization. The committee is responsible for approving and setting the direction for policies, making key decisions related to data and cybersecurity. Mr. Nunsilp Janvarin, Assistant Manager of the IT Department, serves as the chairman of the Cyber and Information Risk Committee. This committee reports to the Risk Management Committee (RMC) every quarter to ensure that all risks related to information technology are under control. The RMC consists of members with knowledge and experience in information technology and cybersecurity, who review information risk from quarterly meetings and report to the next level of management.

## RAISING AWARENESS ON DATA SECURITY AMONG EMPLOYEES

To ensure that policies and operational procedures are effectively implemented, WHA Group has communicated and trained employees through mandatory training sessions, as well as additional training for interested employees. In each mandatory training session, there is a test to assess employees' understanding, which serves as a Key Performance Indicator (KPI) for employees to pass the mandatory training. The training includes:

- Cybersecurity Awareness Training: With a participation rate of 80% of employees and a 100% pass rate in the test.
- Data and Information Protection Policy: The "Cybersecurity Season III" training course was conducted, with 100% of employees participating and passing the test in 2023.
- Basic Training: Employees attending training for the first time must pass basic training, covering various aspects of cybersecurity, physical security, email security, password security, mobile devices, and wireless networks.

In addition, WHA Group also conducts activities to test, identify, and rectify high-risk vulnerabilities in various operation systems by external experts. This includes simulating phishing emails sent to employees within the organization to assess the risk level of phishing threats and measure employee awareness. The results of these tests are recorded and analyzed to plan and conduct further training and knowledge development, as well as to improve cybersecurity measures for the Group. Continuous testing has shown a continuous decrease in the number of employees falling victim to phishing attempts. In the last test in 2023, the pass rate was 93.06%.

## SECURITY OF CUSTOMER INFORMATION

Customer data security is of utmost importance to WHA Group, equivalent to the security of internal data. As part of the journey to becoming Tech Company, the Digital Business Group (WHA Digital), provides customers with highly secure database systems through Cloud Services. These services offer a variety of options, including Public Cloud, Private Cloud, Multi-Cloud, and Hybrid Cloud. The Group has prepared computer system resources, including hardware, software, and computer network systems under the Fiber Optic (FTTx) infrastructure service, to help customers access data quickly, securely, and with low latency. The Cloud Services team consists of experts certified by global institutions such as Dell, Hitachi Data Systems, VM Ware, and OpenStack, who provide advice and manage computer network systems for customers.

To enhance efficiency in addressing risks related to data security, WHA Group has offered various best practice guidelines for customers to choose from for data protection, such as Firewall systems, Anti-Virus systems, data backup systems, security systems, and access control systems. These data security systems help customers have confidence that their businesses will continue to operate smoothly and reduce security risks in various aspects. Furthermore, the Group has continuously improved and developed technology services to keep up with current situations.

WHA Group continues to drive digital growth by innovating and leveraging deep data insights to propel the organization into a rapidly growing technology company. This initiative aims to strengthen WHA’s business operations, elevate our credibility, and enhance our competitive edge in the industry by seamlessly integrating interconnected digital technologies. At the same time, the Group remains a central hub, supporting customers in creating new experiences. Since 2021, the Group has successfully integrated digital transformation throughout the organization through 38 digital projects and over 50 data-driven projects, achieving significant success.

In 2023, WHA Group successfully transitioned into a Data-Driven Organization, utilizing data as the central

point for decision-making and business operations. By collecting and analyzing data from various sources, the Group has enhanced product development, pricing strategies, and sales promotions, leading to more efficient decision-making and continuous adaptation to market trends. This approach has made the organization more flexible, allowing for rapid improvements and continuous alignment with market trends. Furthermore, it has reduced the risk of incorrect decision-making and improved operational efficiency and management within the organization.

Despite no customer data breaches in 2023, in line with the Group’s goals, the Group continues to progress by driving IT development and enhancing data security standards to keep pace with new technologies.

**Roadmap to Our Aspiration**

**2023-2024**  
TURNING TO TECH COMPANY  
DATA-DRIVEN ORGANIZATION

- NEW BUSINESS**  
Capture technologies trends and create new businesses for WHA Group  
Metaverse, EV, Application of Quantum Computing
- INNOVATIVE SOLUTIONS**  
Offer smart solutions to enhance services within WHA Group's ecosystem  
Smart Warehouse, Smart IEa, Smart Water Solutions, Smart Home Solutions
- DATA-DRIVEN INITIATIVES**  
Power of Data  
Full utilization of WHA data via unified data platform and layer enterprise architecture  
WHA Data Platform & Enterprise Data Warehouse  
Example of Use Cases:  
- Expenses analysis dashboard  
- Document management analysis  
- O&M service performance and maintenance plan
- WHAPPY ACTIVITIES**  
WHappy Talk  
Key speakers to share views and inspire WHA people to create innovations  
WHappy Cast  
Sharing sessions to enhance employee's capabilities for becoming a tech-savvy and embrace with new system and work process  
Examples:  
- Data-Driven the Series  
- CGMS Introduction  
- Digital Transformation Sharing Session  
WHappy Friday Activities and Festival  
Various activities to increase engagement and create an innovative culture

**2021-2022**  
INNOVATIVE WORKPLACE  
DIGITAL TRANSFORMATION

- BOOTCAMP PROJECTS**  
Enhance internal team capability and equip innovative tools & skills set for innovation creation
- MTTS DESIGN THINKING WORKSHOPS**  
23 Ideas generated from M1 US Design Thinking Workshop  
Mission To The Sun DESIGN THINKING WORKSHOP
- DIGITAL FOUNDATION AND SECURITY**  
Robust Backbone System  
Strong Digital Foundation  
Secured Technology
- DIGITAL TRANSFORMATION PROJECTS**  
33 Projects Launched in 2021-2022  
Multiple Projects Spanning WHA Business  
CRM Systems, Smart Device, IoT Data Analytics, Project at Office, Cloud Data Storage

## DATA SECURITY SYSTEM AND DATA SECURITY CERTIFICATION

Since 2021, Bridge Data Center (Thailand) Co., Ltd., responsible for developing and providing information systems to all subsidiaries within the Group, has been certified according to the ISO/IEC 27001:2013 standard for information security management.

In November 2023, the Group received certification for ISO/IEC 27001:2022, covering 100% of the IT operations in all four business groups. This certification confirms that the Group’s security management systems comply with international standards.

## DATA SECURITY SYSTEM TESTING

WHA Group has external parties to conduct regular audits of the data security system at least two tests per year. These tests include penetration testing and vulnerability scanning, which help detect and address security vulnerabilities. These efforts not only improve security but also ensure compliance, reduce cyber risks, meet shareholder expectations, and maintain the organization’s reputation.



Certified Information Systems Security Professional



Systems Security Certified Practitioner

**TEST HACK**  
(Internal/External)

### Penetration Testing and VA Scan Scope

- Active Directory (User Login System)
- Office 365
- Oracle
- EOMS
- Low-Code System
- WHA Web Site
- Wi-Fi
- Network
- Firewall

### Standard: CVSS v3.1 (Common Vulnerability Scoring System)

Severity	CVSS Score Rating	Description
CRITICAL	9.0 - 10.0	Exploitation is straightforward and usually results in system-level compromise. It is advised to form a plan of action and patch immediately
HIGH	7.0 - 8.9	Exploitation is more difficult but could cause elevated privileges and potentially a loss of data or downtime. It is advised to form a plan of action and patch as soon as possible
MEDIUM	4.0 - 6.9	Vulnerabilities exist but are not exploitable or require extra steps such as social engineering. IT is advised to form a plan of action and patch after high-priority issues have been resolved.
LOW	0.1-3.9	Vulnerabilities are non-exploitable but would reduce and organization's attack surface. It is advised to form a plan of action and patch during the next maintenance window.
INFORMATION	N/A	No vulnerability exists. Additional information is provided regarding items noticed during testing, strong controls, and additional documentation.



## MOBILE DEVICE MANAGEMENT (MDM)

The Mobile Device Management (MDM) software is a crucial tool that helps control and protect devices connected to WHA Group’s systems. It also helps prevent and reduce technical risks, as well as improve efficiency when working with mobile devices within the company. WHA Group uses Microsoft Enterprise Mobile Security (EMS) software to manage mobile devices in the organization, both on-premises and cloud-based, to control the use of various devices such as mobile phones, computers, tablets, and laptops. Additionally, the Group can configure specific control settings to ensure the security and up-to-dateness of these devices.

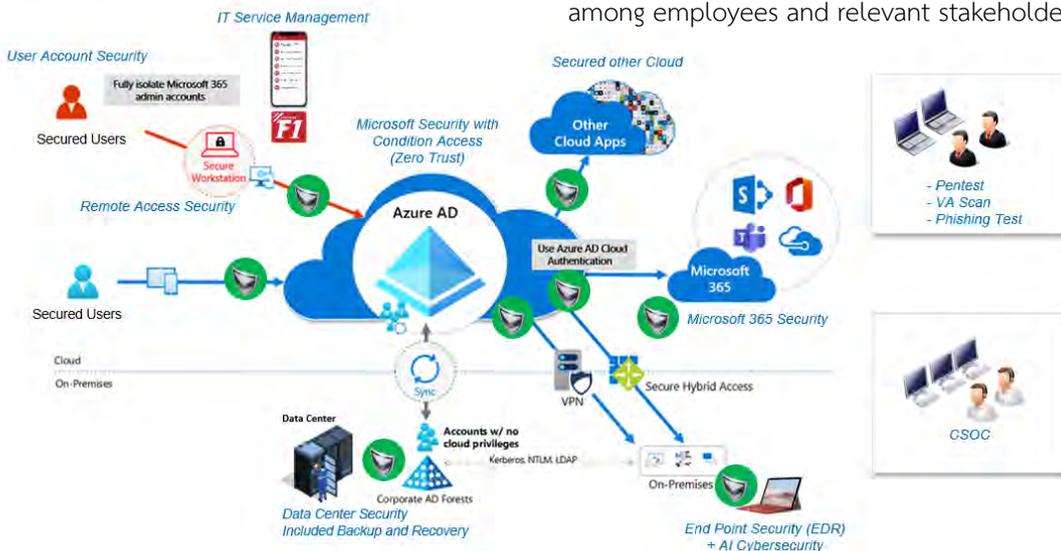
In 2023, WHA Group further strengthened the security measures with a new antivirus software. This software includes additional features for End Point Detection and Response (EDR), enhancing security and enabling usage both at home and in the workplace. It has processes for monitoring and detecting suspicious activities or events at endpoints, providing more comprehensive coverage than previous versions that focused solely on files.

## INFORMATION SECURITY RESPONSE MECHANISM

Data security is an integral part of business ethics and practices that WHA Group firmly adheres to. The group has processes and mechanisms in place to manage these issues. Information security management is a process used to address security incidents in an organization’s data. This process aims to reduce risks, support continuous operations, and help recover systems in the event of unforeseen events, enabling the organization to conduct business activities securely. Furthermore, it is a process that focuses on assessing, planning, and implementing measures to ensure that the system can protect itself from unauthorized access and can recover without significant impact if unexpected events occur. To achieve its objectives, the group has plans in place for business continuity, emergency response, and incident management to mitigate potential disruptions to the business. The Group also conducts emergency response tests once

a year, typically in December. The results of the 2023 test indicate that the organization can effectively respond to emergencies and are satisfactory overall.

To respond promptly to cyber emergencies, WHA Group has established processes and mechanisms for reporting and managing information and cyber security issues. If problems or suspicious incidents are detected, employees can report them for investigation. This includes cases of urgency, data breaches, or violations of business ethics guidelines, as outlined in the complaint handling process in the business ethics section of this report. This policy applies to all employees and specifies guidelines and responsible persons for managing and reporting data security issues for data leaks in each case reported. To ensure the most effective response, WHA Group provides training on cyber threats to raise awareness among employees and relevant stakeholders.



**DATA SECURITY PERFORMANCE**

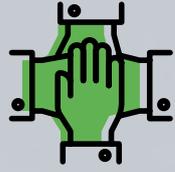
Performance	Target 2023	Performance 2023	Long-term Target
Employees who have received training on data security	90%	100%	100% in every year
Customer data breach case	0 case	0 case	0 case in every year
Customer complaints regarding personal data transmission	0 case	0 case	0 case in every year

WHA Group is committed to effectively managing the data security system to reduce risks and build trust among stakeholders, both internally and externally. The Group has established a supervisory and operational management system from designing the data security system, communication, monitoring, to emergency preparedness planning. The Group select and implement suitable technologies and innovations to enhance the efficiency and security of the information system, reinforcing the potential of the Group’s information system to provide convenience and serve as a vital tool in data presentation and management, whether it be business data or sustainability data. This approach reduces the risks of mismanagement and data breaches, both for organization data and personal data.

For 2024, WHA Group has plans related to the data security system, including the development of an AI Cybersecurity system that integrates AI technology to enhance the cybersecurity effectiveness, particularly in Web application and API protection (WAAP). This system will help protect API data and Cloud-native Applications from complex threats and robot attacks. Additionally, there are plans to further enhance the Data Loss/Leak Prevention (DLP) system to strengthen the data security system. These efforts aim to increase confidence among users, including employees within the Group, customers, and partners, that their data is secure and protected from unauthorized access, ultimately aiming to achieve zero data breach incidents. Furthermore, the Group plans to pursue ISO 27701 Certificate to adapt to the increasing digital world and to fully become a Tech Company.

The Group also aims to provide cybersecurity training to 100% of employees annually to ensure everyone has the necessary knowledge in data security, a topic highly prioritized by the Group.





# **SOCIAL DIMENSION**



## HUMAN RESOURCES MANAGEMENT

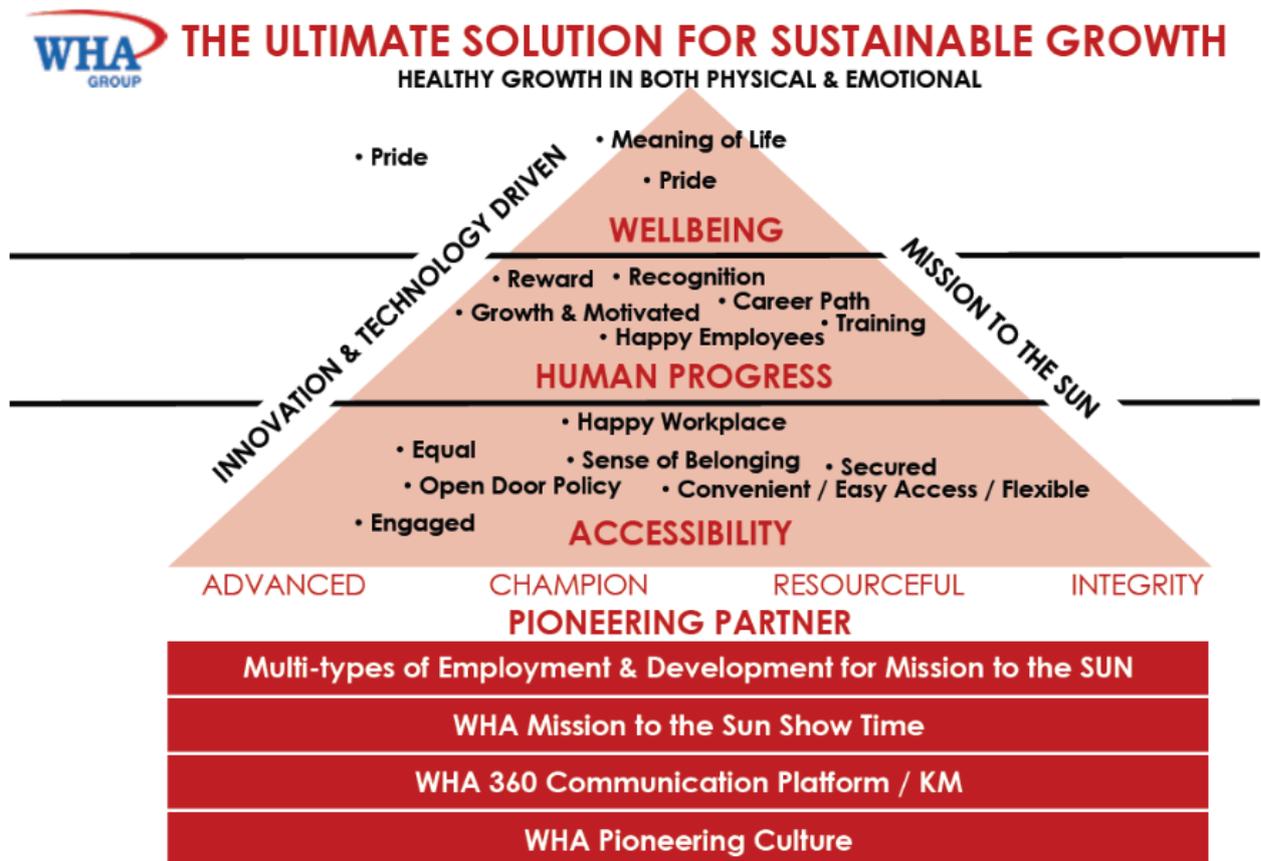
In the current situation of high business competition and rapid change, it is widely recognized that the potential and quality of an organization's personnel are crucial factors that contribute to business competitiveness. As a result, effective Human Resources Management (HRM) is a significant driver of sustainability, impacting the economy, environment, society, and human rights. Employees are considered valuable assets to an organization, and good management of employees is essential for organizational stability and success. Therefore, investing in the development of employees' knowledge and skills, as well as their well-being, can enhance productivity and adaptability, fostering economic growth and stability. Moreover, integrating environmentally responsible practices into HRM strategies can reduce an organization's ecological impact and contribute to a more sustainable world.



Effective human resources management must prioritize employee engagement and job satisfaction, as well as overall quality of life. Organizations that manage fair wages and compensation, provide equal opportunities, and promote a safe working environment enhance employee well-being, which is a fundamental aspect of protecting human rights. Thus, human resources management is a key element of sustainability, influencing economic prosperity, environmental responsibility, people's well-being, and the foundation for protecting human rights within the society.

WHA Group recognizes that personnel are crucial to driving various activities for sustainable growth. Therefore, the Group has developed and implemented new strategies and approaches in human resources management to adapt to the changing business landscape and meet employee needs as much as possible. The goal is to maintain leadership in all business areas in which the Group operates and to become a Tech Company by 2024 through the "Mission To The Sun" project, which serves as a model for the Group's business development, emphasizing a balance between economic, social, and environmental performance.

WHA Group has adapted the work model to be more flexible, leading to a new way of working under the concept of the "Future of Work." This includes remote working, flexible working hours, online meetings and work, and virtual hiring, allowing employees to manage their work efficiently according to their skills while maintaining their physical and mental well-being. Additionally, the Group has developed strategies to prepare for future changes that may impact the organization, focusing on human resources development and enhancing employee capabilities in various areas. This aims to foster new skills aligned with the strategy of advancing towards a digital business, requiring skills beyond the current skill set of employees. It also involves revising human resources management principles, goals, and processes to operate more efficiently in a highly competitive environment. WHA Group has also established human rights policies to guide the management of human resources within the organization, ensuring that the guidelines are based on principles of respect and protection of human rights, providing equal opportunities and maintaining equality. These strategies and approaches are essential for creating a positive work experience and job satisfaction, which are factors in retaining high-potential employees long-term. Furthermore, the group integrates organizational values and culture through various communication activities, such as training and development, to ensure that all employees understand and are committed to achieving the same goals.



## MANAGEMENT APPROACH

WHA Group is committed to human resources management by setting a five-year strategic framework for human resources management from 2022 to 2026. The goal is to become one of the best employers in Thailand and the region. Therefore, the Group has continuously implemented strategic plans to improve and enhance human resources management systems, including motivation systems, investment in human resources development, labor practices management, and retaining skilled and capable employees to work with the organization long-term to mitigate personnel shortages. The Group continuously develops human resources systems to ensure the highest quality, increasing employee capabilities while adhering to ethical practices and avoiding all forms of human rights violations, including discrimination, labor harassment, and illegal forced labor. With these commitment and strategic implementation, the Group received the Kincentric Best Employer Thailand 2023 award.

To continuously manage human resources effectively, WHA Group has standardized and fair HR tools and processes that allow reliable performance evaluation and alignment with the Group’s strategy and vision. This supports the Group in achieving its goals efficiently and developing the business sustainably. Additionally, the Group can manage human resources to align with the needs of each business and achieve the expected outcomes. The focus is on analyzing current and future strategic business human resources needs and trends, as well as planning for various scenarios.

WHA Group has formulated strategies for the development of human resources management as follows:

- 1 Strengthening the corporate brand to retain and attract high-potential personnel
- 2 Instilling WHA DNA to support the transition to becoming a Tech Company
- 3 Enhancing skills essential for the future world
- 4 Adjusting work models to promote flexibility, agility, and maximum efficiency
- 5 Developing high-potential employees and future leaders to be ready for change

### WHA CORPORATE VALUE

WHA Group has defined four core corporate values: Advanced, Champion, Resourceful, and Integrity. These values will enhance leadership and the capabilities of the group’s personnel, aligning with the corporate brand image. These corporate values are crucial in fostering innovation within the organization and driving the group towards digital transformation under the “Mission To The Sun” initiative. This initiative will promote the development of the organization and its personnel, with

employees from all four business units being instilled with and adhering to these corporate values to perform their roles effectively and cohesively. Furthermore, WHA Group has incorporated modern digital concepts into the organization’s DNA (WHA DNA). This process plays a key role in propelling the organization towards digital transformation, helping the group to grow across various businesses driven by strategies that will achieve the goal of becoming a Tech Company by 2024.



## LABOR PRACTICE



WHA Group has consistently adhered to the principle of equality in treating employees. Consequently, the guidelines for employee treatment have been updated to reflect a zero-tolerance policy against discrimination. This clearly states that the Group will neither engage in nor support discriminatory practices. The Group also promotes diversity among its employees, from junior staff to executive levels. WHA Group has established the Nomination and Remuneration Committee (NRC), comprised of members of the board of directors. This committee is tasked with nominating qualified individuals for director and senior executive positions without restriction or discrimination based on nationality, religion, language, age, gender, marital status, personal sexual attitudes, disability, union membership, being an employee representative, political preferences, or other personal beliefs. Additionally, the NRC is responsible for proposing clear, fair, and appropriate remuneration criteria and guidelines aligned with current labor market conditions. The NRC meets at least four times a year and reports to the board of directors.

To ensure all employees are treated fairly, WHA group provides a grievance channel for employees who feel they have been treated unfairly. In cases of discrimination complaints, the Group will assess whether the complaint falls under discriminatory practices as defined by the International Labour Organization (ILO) and will implement corrective and remedial measures, including measures to protect personal information from the start of the review until its conclusion. These measures are part of the Group's non-discrimination policy, which aims to avoid discrimination as a basic expectation of responsible business conduct. Each year, the Group reviews the outcomes of various complaints and updates its anti-discrimination policy to ensure clarity and strength. In 2023, there were no reported cases of discrimination against employees or contractors within the Group's operations, aligning with the group's goal of zero complaints related to employee discrimination.

## EMPLOYEE WELFARE AND BENEFITS

WHA Group places great importance on promoting a high standard of living for employees and their families. This aligns with the goal of motivating and retaining talented and capable employees. Accordingly, the Group provides appropriate and above-minimum benefits and welfare, which not only supports employees' satisfaction and security but also enhances the Group's human resources management. All employees are informed of their rights to benefits and welfare from the start of their employment. Permanent employees receive standard benefits and welfare, including life and accident insurance, health insurance that covers registered family members, annual health check-ups, uniforms, provident funds, assistance funds, disability coverage, maternity leave, and parental leave for female employees (primary-caregiver) during and after pregnancy for 14 weeks, separate from other types of leave. Male employees can also take leave to help their spouses care for their children. In addition, female employees are entitled for child-birth delivery monetary support as a welcoming gift to the newborn, which the given amount can be used on the parents' will to raise the children. Additionally, breastfeeding rooms are provided for female employees after childbirth. Male employees (non-primary caregiver) can take 1 week of leave to assist their spouses with childcare after birth. This leave is separate from other types of leave. Furthermore, WHA Group allows

employees who need to care for sick family members to take personal leave for this purpose. Occasionally, the daycare activity for children is conducted as part of the employee support program. Employees can bring their children to the office during the workday. In 2023, 12 employees of WHA Group participated in this activity. Additionally, the Group listens to employee feedback to adjust benefits to meet their needs. Employees can propose benefit improvements through the employee welfare committee and the human resources department.

WHA Group is also committed to developing a positive work environment and motivating employees. Various activities and projects are organized to promote employee well-being, such as WHappy Talk and the Employee Engagement Survey, in which 99% of employees participated in 2023. The Group prioritizes surveys on job satisfaction in various aspects, aiming to develop employee well-being according to strategic human resources management guidelines. This ensures that employees have a good experience throughout their tenure with the group, with a focus on occupational health and safety and the principle of a Happy Workplace. In 2023, activities such as WHappy, HR Pa Khuen Yan Mae and others were organized to promote well-being and happiness at work through shared activities.



## TALENT ATTRACTION AND RETENTION



WHA Group recognizes the continuous changes in the current work environment and is dedicated to finding new ways to recruit and retain talented and skilled employees. The COVID-19 pandemic has accelerated the development and adoption of technology to transform work practices under the concept of the “Future of Work.” This highlights the importance of recruiting individuals with the right skills and knowledge, as well as the ability to adapt to social changes. This includes specialized technological skills and an understanding of digital systems.

WHA Group recognizes the importance of maintaining a low employee turnover rate. This not only ensures efficient business operations and sustains long-term competitiveness but also minimizes the high costs and time associated with recruitment and selection processes. Thus, the Group has made efforts to reduce the turnover rate by assigning

the Human Resources department the responsibility of managing strategies to motivate and retain talented and experienced employees. In 2023, the voluntary turnover rate was 6.16%, down from 6.35% in 2022.

Additionally, WHA Group acknowledges the need to adapt its human resources management strategies and organizational values to achieve sustainable business success. Therefore, it has implemented Strategic Workforce Planning (SWP) and People Analytics (PA) in conjunction with its human resources management system. SWP is a long-term planning process, spanning 3-5 years, aimed at preparing for future scenarios. This approach helps the Group align its human resources with the needs of each business unit and achieve expected outcomes. It focuses on analyzing trends in human resources requirements, current and future strategic business objectives, and planning for various scenarios.

## STRATEGIC WORKFORCE PLANNING (SWP)

The objective of Strategic Workforce Planning (SWP) is to plan for the future of the Group. An agile human resources planning system significantly influences the employee experience and helps establish teams that can work together seamlessly. Additionally, SWP supports Operational Excellence in HR management by collaborating with operational teams to identify the expertise or skills necessary for each role, prioritizing them based on a scoring matrix that considers various factors. These factors include the impact on products or services, organizational goals, reliance on external agencies, level of expertise, sustainability of knowledge, and the ability to enhance organizational potential and efficiency. This approach aims to achieve long-term goals and elevate the ability to manage skilled personnel. If an employee already possesses expertise in a specific area, the Group will develop a Knowledge Management program to further enhance this expertise. Conversely, if certain skills or expertise are lacking, training will be provided to bridge these gaps.

As part of the SWP, WHA Group utilizes People Analytics to estimate the future workforce that the Group will need along with studying external landscape. People Analytics (PA) is determined as methods, tools or applications that integrate the use of advanced analytics and large, complex data sets into human resources management system. PA allowed companies to identify current risks and opportunities, provide better understanding of organizational networks and information flows leading to an informed decision-making process in talent management. WHA Group collects data through the Human Capital Management System (HCMS) in order to track current human capital and headcounts with the manpower planning and adjust implementation plans. The data collected, such as human capital vacancies, and Human Capital Return on Investment (HCROI) are used to analyze progress and success, and to monitor human capital with business performance. Therefore, WHA Group continuously implements these applications into all aspects of its human resources strategy. This includes, recruiting and hiring, measuring employee performance, identifying workforce skill gaps, and identifying flight risks to improve retention. Ultimately, this will help WHA group improve the business performance and sustainable growth. The effectiveness of this process is evident in the employee engagement score, which was 73% in 2023, aligning with the set targets.

## RECRUITING & HIRING

WHA Group has well-defined employment policies that emphasize the recruitment of individuals with potential, matching the organization’s needs from both internal and external recruiting channels. For its primary recruiting channels, WHA Group employs a variety of methods such as direct recruitment through the organization’s website, engagement with other recruiting websites services in Thailand, etc.



WHA Group has a process in place to attract high-potential talents by creating and communicating a clear and effective Employer Value Proposition (EVP) that aligns with the Group's values. This aims to enhance the efficiency of employee recruitment in accordance with the workforce plan, supporting operational plans and business objectives. The Group gathers and analyzes communication content based on the real needs of potential talents from both internal and external sources to ensure that the communication process aligns with the perspectives and expectations of external individuals towards the Group. The Group aims to creatively present the value in the EVP through various promotional channels. Additionally, the Group has launched a corporate image enhancement project to attract the most talented and suitable personnel, as well as to elevate the employment image to appeal to target talent groups by developing partnerships with educational institutions and experts in various fields as follows:

### ACADEMIC PARTNERSHIP

- WHA Group strives to reach out to high-potential young individuals through various channels and projects, such as offering internships, allowing educational institutions to visit the Group's operations, conducting training programs through coaching, organizing hackathon events, and promoting practical learning projects.

### NETWORKS IN PROFESSIONAL CIRCLES

- WHA Group collaborates with professional associations, business associations, and communities to promote the Group through knowledge sharing, lectures, and social activities, aiming to develop relationships with experts.

To ensure that the recruitment process is efficient and aligned with business needs and current labor market behaviors, WHA Group utilizes data from the Human Capital Management System (HCMS) to analyze and develop the recruitment process. This includes evaluating the labor demand-supply situation, the effectiveness of recruitment channels, the efficiency of initial screening tools, and analyzing applicant behavior and labor needs. The Group tracks and collects data to review and analyze

success, and to set improvement plans to better meet business demands and organizational growth. Currently, the Group has integrated HCMS technology with cloud systems and mobile devices for easier use, and continues to develop the recruitment process to keep up with market conditions, trends, and the ever-changing future of work, aiming to become a Tech Company by 2024.

## MEASURING EMPLOYEE PERFORMANCE

WHA Group measures employee performance through annual performance reviews following the guidelines of the Performance Management System (PMS). The goal is to maximize every employee's potential. Employee performance is analyzed against key performance indicators (KPIs). Performance results impact decisions on employee compensation and the development of future capacity-building programs. This also allows comparison of performance with the ratio of high-potential and high-performing employees. The process aims to strengthen the Group's talent pool and reduce gaps in relationships between supervisors and subordinates.

In 2023, 100% of the Group's employees underwent various forms of performance evaluation, including:

- Management by Objectives (MBO) using KPIs
- Multi-dimensional performance appraisals (e.g., 360-degree feedback)
- Team performance evaluation
- Agile (On-duty) conversations

Some performance evaluations are ongoing, both formally and informally, to provide employees with timely status updates, expectations, and feedback.

Additionally, WHA Group assesses employee engagement and satisfaction across all business units, comparing with past evaluations. The results of these surveys are reported to the management and business unit executives and shared with employees via the Group's SharePoint. These results are analyzed to develop and implement programs, policies, or practices to improve employee care, which is also part of the Group's Strategic Workforce Planning (SWP) process.

WHA Group employs various tools and measures to evaluate individual performance across all business units. This helps align employee development with the organization's growth strategy. Four evaluation methods are used to determine compensation related to individual performance.

Type of performance assessment	Total number of employees (%)
Key Performance Indicators (KPIs) set Jointly by Supervisors and Subordinates	100
Multi-dimensional performance appraisals (e.g., 360-degree feedback)	Applied to High-Potential Personnel and Staff Participating in Cross-Functional Projects
Team performance evaluation	100
Agile (On-duty) conversations	100

## IDENTIFYING WORKFORCE SKILLS GAPS

Identifying the current workforce skills gaps, such as shortages in specific skills or knowledge, is a part of the Strategic Workforce Planning (SWP) process for WHA Group. This ensures that the Group's business operations can meet the objectives and move in the strategic direction set forth. The Group has established WHA Group Development Program as a short-term framework to identify high-demand positions that can be filled, as well as the skills or positions in demand at various times. This enables the development or preparation of necessary skills or knowledge to support the Group's current and future business operations on schedule. In this process,

the Group collects data through the Human Capital Management System (HCMS), including the completion rates of training programs for each department, the completion of training programs as planned, and the number of training hours per employee. This data is then used to assess the workforce skills gaps and extend to the development of existing skills and the acquisition of new skills. Collecting and analyzing this information also helps the Group enhance employee capabilities and appropriately plan career advancement within the organization, while developing talented individuals for future succession planning across all business groups.

## IDENTIFYING FLIGHT RISKS TO IMPROVE RETENTION

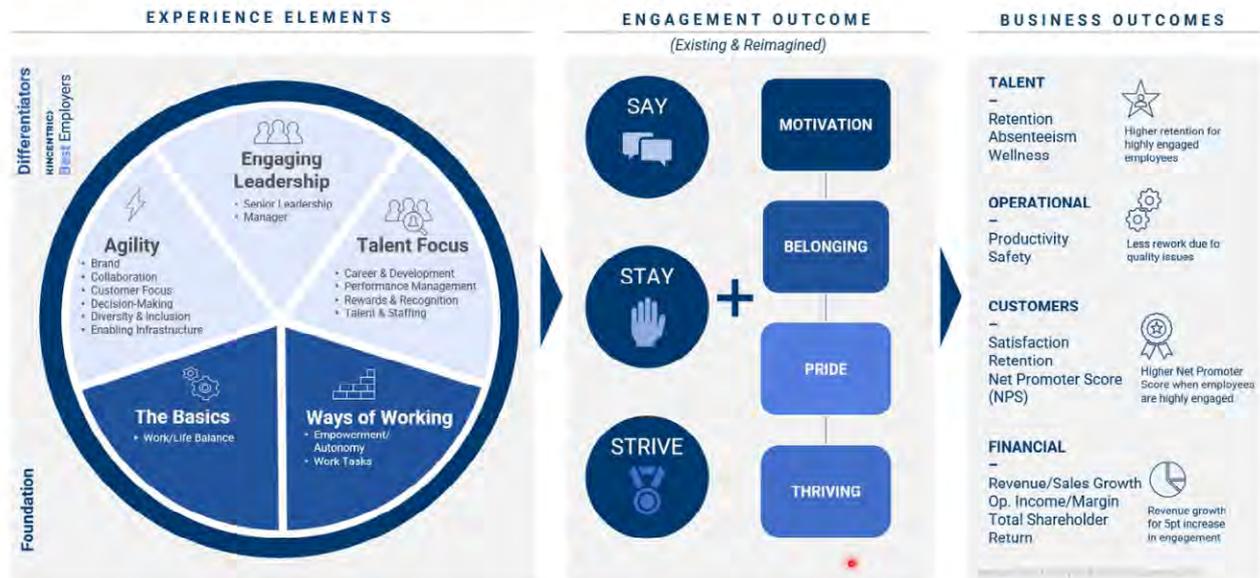
Through analyzing key factors to enhance employee engagement with the organization, WHA Group has identified the main risks causing employees to disengage and seek new job opportunities. These factors are: 1) work tools, equipment, and organizational structure, 2) work-life balance, and 3) compensation, benefits, and recognition. Consequently, the Group collects employee data such as attrition rates and regrettable losses through the Human Capital Management System (HCMS) to analyze causes, preventive measures, and the incentives that employees have towards the Group. Additionally, the Group conducts an annual employee engagement survey to identify problematic issues and understand the factors driving employees to leave, aiming to develop strategies to retain employees.

WHA Group recognizes that building employee engagement is a process that enhances employee

satisfaction and maintains work performance, while also ensuring that employees feel their work is valuable and impactful to the organization. Therefore, employees in all four business groups who have been with the Group for more than six months are required to complete an employee engagement survey. The goal is to achieve recognition as one of the Best Employers in Thailand and the region, a target the Group met in 2023. This tool is used to address engagement-related issues and influential factors, which have been confirmed to positively impact long-term employee involvement with the organization. Furthermore, it enables the Group to compare its performance with competitors both domestically and internationally to develop the most efficient human resources management systems. The objective is to sustain an appropriate level of employee engagement with the organization over the long term.

The employee engagement survey is divided into the following details:

### Kincentric Employee Engagement Model



Source: Kincentric

The results of the 2023 employee engagement survey, with a participation rate of 99%, showed that WHA Group achieved an average score of 73%. This is 3% higher than the average score of companies in Thailand. This success in fostering employee engagement has led the Group to achieve its goal of becoming a top employer, as evidenced by winning the Kincentric Best Employer Award Thailand 2023. This reflects highly satisfactory

performance. Additionally, the survey provided a significant opportunity for the Group to gather the most feedback and suggestions from employees, as each employee’s opinion plays a crucial role in shaping the Group’s long-term strategies. The results of the employee engagement survey are reported to the executive committee and senior management in the relevant business units and are shared with employees through the Group’s SharePoint



### 2019

% of Total Employee Coverage  
**67%**



Employee Engagement Score  
**83%**



**83%**



**85%**

### 2020

% of Total Employee Coverage  
**90%**



Employee Engagement Score  
**83%**



**88%**



**85%**

### 2021

% of Total Employee Coverage  
**93%**



Employee Engagement Score  
**68%**



**72%**



**60%**

### 2022

% of Total Employee Coverage  
**99%**



Employee Engagement Score  
**75%**



**78%**



**71%**

### 2023

% of Total Employee Coverage  
**99%**



Employee Engagement Score  
**73%**



**77%**



**66%**



2023 Target  
more than **76%\***

% of Total Employee Coverage  
**100%\***

The data collected from all employees through performance evaluations and employee engagement surveys is analyzed to promote career advancement or to develop beneficial programs. These include job rotation projects, retirement plans, and filling positions within the organization. In 2023, 1.72% of job positions were filled through internal hiring.

**SUMMARY TABLE OF DATA ANALYSIS APPROACHES FOR HUMAN RESOURCES MANAGEMENT**

	Employee Performance Appraisal	Strategic Workforce Planning (SWP)	Workforce Skills Gaps	Recruiting & Hiring	Identifying Flight Risks to Improve Retention
<b>The types of data that companies typically collect, related to each topic (such as number of employees, job types, working hours, etc.)</b>	<ul style="list-style-type: none"> <li>- Potential employee rate (outstanding employee)</li> <li>- Completed of work evaluation</li> <li>- Timeline for KPIs evaluation</li> </ul>	Number of employee: <ul style="list-style-type: none"> <li>- Gender</li> <li>- Organizational structure</li> <li>- Location</li> <li>- Gender ratio</li> <li>- Country</li> </ul>	<ul style="list-style-type: none"> <li>- Training completion rate according to plan</li> <li>- Completion of training by department</li> <li>- Ratio of total training hours/ number of employees</li> </ul>	<ul style="list-style-type: none"> <li>- New employment rate</li> <li>- Recruitment period</li> <li>- Termination rate Recruitment Channel</li> </ul>	<ul style="list-style-type: none"> <li>- Attrition rate</li> <li>- Loss of desirable employee</li> </ul>
<b>Indicators for tracking results.</b>	<ul style="list-style-type: none"> <li>- Percentage of goals achieved by employees</li> </ul>	<ul style="list-style-type: none"> <li>- Number of open positions</li> <li>- Human Capital Return on Investment (HCROI)</li> </ul>	<ul style="list-style-type: none"> <li>- Number of training course per employee</li> <li>- The supervisor’s satisfaction level with the employee’s performance</li> </ul>	<ul style="list-style-type: none"> <li>- Percentage of recruitment success rate</li> </ul>	<ul style="list-style-type: none"> <li>- Turnover rate</li> <li>- Turnover rate of skilled employee</li> </ul>
<b>Objectives of data analysis</b>	<ul style="list-style-type: none"> <li>- Verify the quality of performance evaluation and provide feedback to employees.</li> </ul>	<ul style="list-style-type: none"> <li>- Monitor human resources information and workforce planning.</li> </ul>	<ul style="list-style-type: none"> <li>- Provide employees with opportunities to enhance their skills or learn new ones, in order to fill skill gaps and strengthen the workforce.</li> </ul>	<ul style="list-style-type: none"> <li>- Enhance workforce planning effectiveness to ensure operational alignment with the established plan and business objectives.</li> </ul>	<ul style="list-style-type: none"> <li>- Evaluate employee engagement with the organization.</li> </ul>
<b>Benefits of data analysis include</b>	<ul style="list-style-type: none"> <li>- Increase the number of skilled and competent personnel.</li> <li>- Enhance employee engagement with the organization.</li> <li>- Reduce gaps in the relationship between supervisors/ managers and employees.</li> </ul>	<ul style="list-style-type: none"> <li>- Able to compare human resources data with business performance data.</li> </ul>	<ul style="list-style-type: none"> <li>- Develop employee capabilities and plan appropriate career progression within the organization.</li> <li>- Develop personnel with abilities for job succession and career advancement.</li> </ul>	<ul style="list-style-type: none"> <li>- Recruit personnel for critical positions in a timely manner to support the business needs and organizational growth.</li> </ul>	<ul style="list-style-type: none"> <li>- Evaluate employee engagement with the organization.</li> </ul>

## EMPLOYEE DEVELOPMENT AND PROMOTION OF ADVANCEMENT OPPORTUNITIES

WHA Group firmly believes in the philosophy that humans are the most valuable assets of the organization and believes that employees play a crucial role in the sustainable growth of the organization. Moreover, the Group is also aware that investing in employee training and development not only helps motivate employees but also strengthens the organization by building a skilled workforce. Therefore, the Group has implemented various skill development programs to promote progress in both personal skills and career paths of employees. Starting with identifying skill gaps, budget allocation is made for both upskilling and reskilling to ensure that all employees have a set of key skills relevant to the organization’s strategies and business vision.



The learning and development program focuses on five key growth areas including 1) Management skills development, 2) Business and digital knowledge development, 3) Soft skills development, 4) Technical skills development, and 5) Talent management.



WHA Group has also analyzed the Human Capital Return on Investment (HCROI) to use as a metric and indicator of the appropriate level of investment in employees. In the year 2023, the Group achieved a return of 13 times and has set a target of 14 times by the year 2025. In 2023, the Group invested a total of 1,208 Million Baht, or approximately 1.68 Million Baht per Full-Time Equivalent (FTE) to develop its workforce.

## HUMAN CAPITAL RETURN ON INVESTMENT (HCROI)



To promote continuous self-development among employees and drive business results, WHA Group has adjusted its human resources strategy to accelerate people transformation through enhancing capabilities, developing existing skills, acquiring new skills, and supporting a creative work environment. In 2023, the Group planned to revise the organization's competency requirements concerning essential skills for current and future work, aligning with the group's strategy and the requirements of each business unit as follows:

Business Hubs	BU's Specific Skill Sets
WHA Group	The expansion of the Group's business into the global market.
Industrial Development Business (WHAID)	Specialized Estates of WHAID
Real Estate Management and Development Business (WHA Logistics)	Value added products and Smart Warehouse features
Utilities and Power Business (WHAUP)	Value added products for WHAUP
Digital Business (WHA Digital)	Digital-enabled solutions for WHA Group

In addition, WHA Group emphasizes the importance of enhancing digital knowledge and skills for all employees, ranging from basic to advanced skills, such as data analysis, programming, or increasingly complex digital skills required for specialized tasks.

## EMPLOYEE DEVELOPMENT

WHA Group prioritizes employee skills to elevate the business to keep pace with the rapid changes in the economic landscape. Therefore, the Group conducts both mandatory and voluntary training programs to develop various skills for employees, including:



## MANAGEMENT SKILLS DEVELOPMENT

In 2023, WHA Group organized training programs focusing on developing capabilities and skills in management and administration. These programs included:

- WHA Group organized the training course “Risk Management: Understanding and Evaluating Fraud Risks” as a mandatory course for all managers and employees in the organization to enhance knowledge, understanding, and awareness of the importance of risk management, including familiarization with relevant tools and techniques. In the year 2023, one session of training was conducted, with a total of 558 participants, lasting for 3 hours.
- WHA Group arranged the training course “Strategy Process” with Dr. Tanai Charinsarn, an expert in strategic management and the owner of the Facebook Group: Strategy Essential, as the instructor. The training was offered to 30 employees holding positions of Director - Manager in the Corporate Group Function to learn about the strategy-making process, including selecting appropriate tools to enhance competitiveness and business growth. The total duration of training was 90 hours.



WHA Group organized the training course “1-on-1 Meeting” for all managers and employees in the organization, divided into 4 episodes, totaling 9 sessions. A total of 76% of all employees participated in the training to enhance skills and understanding regarding 1-on-1 Meetings, focusing on the following four key aspects:

1. Providing a platform (both formal and informal) for managers and employees to discuss Work & Life matters. “Work” encompasses motivation & inspiration at work, work goals, personal development plans, communication of work progress and limitations, job performance feedback, and coaching. “Life” includes conversations to understand personal life progress, current challenges, life goals, etc.
2. Elevating the relationship between managers and subordinates by facilitating discussions between each manager and their team members.
3. Increasing the effectiveness of communication between managers and subordinates, both in terms of quantity (frequency) and quality (communication outcomes).
4. Understanding and preventing potential issues that may arise in the future.



## TECHNICAL AND FUNCTIONAL SKILLS DEVELOPMENT

In 2023, WHA Group organized training programs focusing on various abilities and development areas for employees to enhance technical and functional skills and reinforce necessary knowledge. For instance, occupational health and safety training was conducted as a mandatory program, aiming to elevate technical and functional skills and provide essential knowledge as follows:



- The safety training program was conducted to cover workplace safety issues, including working at heights, reviewing safety in crane operations, working in confined spaces, basic fire extinguishing, advanced fire extinguishing, fire drill and hazardous chemical handling, basic first aid, etc. This training program was provided to employees involved in the Group, ranging from managerial to operational levels. The total training hours for safety amounted to 1,548 hours, with a total of 169 participants across all courses.



- The Operational Excellence project aimed to develop the knowledge and skills of employees and foster a culture of operational excellence within WHA Group, striving to deliver the highest satisfaction of products and services to customers. This project covered five dimensions: SSHE (Safety, Security, Health, and Environment), Performance & Reliability, Work Process, Sustainability, and Organization & People. It focused on reviewing knowledge and enhancing deep technical expertise for engineering, operational, and maintenance groups to cultivate expertise within the organization. In 2023, training was conducted to develop personnel's knowledge and skills according to the Technical Skill Matrix, comprising four courses: "Fire Protection System", "Ventilation System", "Engineering Hydrology", and "Hydraulic Fundamental". A total of 90 participants attended these training sessions, accumulating 1,770 training hours. This project was consistently implemented throughout the year 2023.

- Return of Experience Activity: REX Day aimed to exchange valuable information among operational units following the completion of the Operational Excellence project, helping to enhance knowledge and understanding in collaborative work practices. It involved exchanging knowledge from direct experiences through representatives from each main business group: WHAID, WHAUP, WHALG, and WHADG. This activity had a total of 96 participants, accumulating 576 training hours.



## BUSINESS AND DIGITAL KNOWLEDGE DEVELOPMENT

In 2023, the Group organized training programs to develop digital knowledge covering business, digital, and IT aspects. These programs aimed to enhance employees' knowledge and understanding in business, digital, and IT fields, including:

- Digital Transformation Leadership Course for senior-level executives, ranging from C-Level to Assistant Director, in collaboration with PacRim Group and Skooldio. This course aimed to develop leadership capabilities in both People Skills and Digital Skills, enabling participants to apply them in building teams ready to lead the organization into the digital era. The course featured guest speakers Khun Porntip Iyimapun, Founder and CEO of PacRim Group, and Dr. Virod Chiraphadhanakul, Co-founder and Managing Director of Skooldio, who specialize in People Skills and Digital Skills. There were 54 participants in total, accumulating 648 training hours.



# WHA INNOVATION JOURNEY



WHA Group collaborated with RISE Accel Company Limited to organize the “WHA Innovation Journey” program in the form of a Bootcamp to develop and enhance capabilities in innovation through the adoption of various tools necessary for ideation and innovation development. There were a total of 96 participants, accounting for 13.37% of the full-time employees participating in the activity. The program was divided into 2 phases as follows:

- Hackathon Phase: This phase aimed to generate innovative ideas to prepare for the Innovation Process (Design Thinking) by engaging in hands-on experimentation to explore initial ideas for innovation projects during the upcoming Bootcamp. The program involved 96 participants, ranging from senior-level executives to junior-level managers, and lasted for a total of 20 days, totaling 23 hours of training.
- Bootcamp Phase: This phase focused on promoting and supporting Solution Development through mentor assistance to brainstorm and develop innovative ideas that can address needs, problems, and challenges. The program included 36 participants, ranging from senior-level executives to junior-level managers, and lasted approximately 3 months, with a total of 30 training hours.

In 2023 of WHA Innovation Journey project, participants have developed a total of six new innovation projects as follows:

- |                             |                       |                        |
|-----------------------------|-----------------------|------------------------|
| 1. MediWHA Project          | 2. The Bridge Project | 3. CO2llective Project |
| 4. WHA ECO-Friendly Project | 5. Ammonian Project   | 6. Learniverse Project |

WHA Group has leveraged these projects to further business applications through the “Mission To The Sun” initiative. The selected project is expected to start generating revenue within 2-10 years. For instance, the Solar Powered Charger project, selected from WHA Innovation Journey 2021-2022, began generating revenue of approximately 11 Million Baht in the first quarter of 2024. The target for 2024 is to have 1,000 vehicles in operation.

## DIGITAL LITERACY & DATA KNOWLEDGE TRAINING COURSES

WHA Group has conducted training to enhance understanding and utilization of digital technology and knowledge in data management, which plays a crucial role in improving employee skills. This helps employees proficiently utilize digital tools in various operations and tackle business challenges through technology. This skill is a key factor that contributed to WHA Group achieving the highest success and net profit in 2022, reflecting impressive growth of over 50% from the previous year. The program continuously contributes to an impressive net profit increasing by 9% in 2023 compared to 2022. This training had a total of 251 participants, which is 34.96% of the full-time employees who attended the training. In 2023, the Group divided the training into various courses and projects as follows:

- Data Hackathon project aimed to develop and enhance digital technology and data management knowledge to create revenue or increase business value through learning from both external and internal speakers. The training covered learning how to find insights from data, adapting necessary tools for thinking and analysis, as well as providing mentors for consultation and guidance in presenting business ideas or proposals. Participants were able to develop new innovative projects, with a total of 5 projects that could be further developed with WHA's data team to advance data innovations. The project had 20 participants, ranging from senior executives to employees, with a total training duration of 15 hours.



- The “Microsoft Excel: Level Up” course, 1 session, and “Microsoft Excel: Advance Formula” course, 1 session, were provided to employees at all levels who regularly use Microsoft Excel and require skill enhancement to apply it more efficiently in their work. The courses were conducted by inviting Mr. Sira Ekabut, the founder of “Thep Excel” website and fan page. Each course had 40 participants, with a total training duration of 12 hours per course. Upon completion of the courses, participants demonstrated improved skills, measured through pre and post-training assessments.
- The “Power BI” course, both Basic and Advance, totaling 8 sessions, and the “Power Query” course, comprising 6 sessions, were provided to employees at all levels within the organization who were interested in enhancing their data management skills. These two courses are essential for data analysis, data visualization, and linking data to various sources. They enable employees to utilize existing tools or technologies efficiently and effectively with enhanced knowledge and understanding. The training was conducted by in-house experts who understand the employees’ needs and limitations well, making it a targeted and effective training program. Moreover, the personnel development project incurred no expenses but significantly improved the efficiency of employees’ work.

The aforementioned training program has enabled WHA Group to achieve the main strategy of transforming the organization into the digital era (Digital Transformation). This training serves as a foundation for knowledge and understanding for employees to be prepared for upcoming changes. Furthermore, this training plan is considered a successful accomplishment of the organization’s Data Driven Organization strategy. Moreover, WHA Group has implemented Transition

Assistance Programs, which provide guidance and directions for employees’ life after the end of their employment contract or retirement. The focus is to help these employees smoothly adapt to their post-retirement environment and be effective. Additionally, in some cases, it assists employees with capabilities to continue working after retirement. The activities of the Transition Assistance Programs include Money Planning, Pre-Post Retirement seminar, general meetings on pension funds, and supporting budgets for employees to participate in external training programs.

## HUMAN RIGHTS

Human rights are fundamental rights and freedoms inherent to all human beings from birth. However, human rights violations continue to occur worldwide, whether through legal infringements, international standards, or human rights treaties, including events leading to human rights violations, which may negatively impact reputation, complaints from human rights defenders, or protests by various rights-holding groups. The Group believes that to be a truly sustainable business, it must elevate its human rights practices, promote principles, and uphold human rights agreements within the Group to all stakeholders, including vulnerable groups throughout the value chain.

Therefore, WHA Group has conducted comprehensive Human Rights Due Diligence (HRDD) to assess risks and impacts related to human rights throughout

the value chain. The Group has identified human rights issues, assessed impacts on vulnerable groups requiring special care, such as children, foreign workers, pregnant women, and evaluated potential impacts at the organizational, operational, and individual levels. The criteria for assessing human rights risks consider the likelihood of occurrence and the impact of human rights issues. The human rights due diligence process of the Group is based on international standards such as the Universal Declaration of Human Rights (UDHR), the United Nations Guiding Principles on Business and Human Rights (UNGPs), the United Nations Global Compact (UNGC), and the International Labor Organization's Declaration on Fundamental Principles and Rights at Work. WHA Group systematically reviews and evaluates human rights due diligence and conducts annual human rights assessments.



## HUMAN RIGHTS DUE DILIGENCE



## HUMAN RIGHTS POLICY COMMITMENT

WHA Group has formulated a human rights policy as part of the comprehensive human rights due diligence process and in accordance with international standards on human rights, including laws and regulations at both local and global levels. The scope of the Group’s human rights policy covers all stakeholders, including all employees involved in the Group’s operations, as well as extends to business partners, contractors, and all business-related activities, including new business activities (such as mergers, acquisitions, joint ventures). Additionally, WHA Group has extended these human rights commitments to its customers, communities, and vulnerable groups, i.e., women, children, migrant workers, indigenous communities, persons with disabilities, elderly, and LGBTQI+. Furthermore, the Human Resources Department has communicated this policy to all employees across all business units.

### HUMAN RIGHTS AND LABOR POLICY AND PRACTICE

To ensure that WHA Group operates responsibly and complies with the law, WHA Group has adopted international standards on human rights as follows:

- ปฏิญญาสากลว่าด้วยสิทธิมนุษยชน (Universal Declaration of Human Rights: UDHR)
- ข้อตกลงโลกแห่งสหประชาชาติ (United Nations Global Compact หรือ UNGC)
- หลักการชี้แนะเรื่องสิทธิมนุษยชนสำหรับธุรกิจแห่งสหประชาชาติ (United Nations Guiding Principles on Business and Human Rights; UNGP)
- หลักการและสิทธิขั้นพื้นฐานในการทำงานขององค์การแรงงานระหว่างประเทศ (The International Labor Organization’s Declaration on Fundamental Principles and Rights at Work)

Through the following practice

1. Use of forced labor
2. Use of child labor
3. Use of female labor
4. Proper and legal use of migrant labor
5. Discrimination
6. Freedom of association and collective bargaining
7. Working conditions and quality of life for workers
8. Employer responsibility for addressing harassment and/or gender-based violence
9. Compensation for work
10. Working hours
11. Termination of employment and compensation payments
12. Business partners and contractors in the supply chain

Note: This human rights policy applies to all operations of WHA Group, including its subsidiaries and joint venture companies, as well as the activities of employees and business partners.

## ASSESS POTENTIAL AND ACTUAL HUMAN RIGHTS RISKS AND IMPACTS

WHA Group also conducts Human Rights Risk Assessment (HRRRA) as part of its overall operations, including its involvement in Environmental Impact Assessments (EIA). The HRRRA assesses human rights risks within WHA Group’s operational sites, covering 100% of the locations and categorized by business units and relevant activities (from construction phase to ongoing operations) along WHA Group’s value chain. This ensures that WHA Group is actively identifying and addressing potential human rights risks throughout its operations as follow.

Business Group	Upstream Level	Business Transactions	Downstream Level
<b>Logistics Business</b> 	<ul style="list-style-type: none"> <li>• Land purchasing.</li> <li>• Real estate management.</li> </ul>	<ul style="list-style-type: none"> <li>• Real estate rental/ leasing and sales.</li> <li>• Asset management.</li> </ul>	<ul style="list-style-type: none"> <li>• Project repairs/ maintenance.</li> <li>• Post-sales customer services.</li> </ul>
<b>Industrial Development Business</b> 		<ul style="list-style-type: none"> <li>• Land sales for industry business operations.</li> <li>• Asset management.</li> <li>• Fiber to the x optical cable (FTTx)</li> </ul>	
<b>Utilities and Power Business</b> 	<ul style="list-style-type: none"> <li>• Raw water procurement.</li> <li>• Fuel &amp; solar energy purchasing.</li> </ul>	<ul style="list-style-type: none"> <li>• Water production</li> <li>• Waste Management</li> <li>• Electricity Production</li> <li>• Solar Rooftop Installation</li> </ul>	
<b>Digital Business</b> 	<ul style="list-style-type: none"> <li>• IT product &amp; service purchasing.</li> </ul>	<ul style="list-style-type: none"> <li>• Service Management</li> </ul>	

Furthermore, WHA Group encompasses the identification of human rights risks arising from new business activities (mergers, acquisitions, joint ventures, etc.). Human rights criteria are included in the checklist for mergers and acquisitions, which may affect the human rights operations of the Group. Additionally, there is a systematic review of risk assessments conducted annually to ensure comprehensive coverage of potential risks and to ensure they are up to date.

## HUMAN RIGHTS ISSUE ASSESSMENT

WHA Group has identified and assessed human rights issues that may arise, including risks and impacts, as part of the business review process. The human rights issues considered by the Group cover the following:

### EMPLOYEE RIGHTS

- Illegal forms of labor (i.e. Forced labor, Child labor, Human trafficking)
- Freedom of Association
- Right to Collective Bargaining
- Equal Remuneration
- Segregation and Discrimination
- All forms of Harassment, including Sexual and Non-sexual Harassment (e.g. Verbal Threats)
- Foreign Human Capital, and Migrant Workers
- Health and Safety of Employee (and COVID-19 risks)
- Work Environment and Workers' Quality of Life
- Working Hours

### CUSTOMER RIGHTS

- Data Privacy
- Health and Safety of Customer
- Waste, Hazardous Waste and Contagious Waste Management

### SUPPLIER & BUSINESS PARTNERS RIGHTS

- Health and Safety in the Supply Chain
- Fair Hiring Condition for Suppliers
- Working Condition and Environment for Contractors and Suppliers
- Joint Venture Partnership's Unsafety or Unhealthy Working Conditions

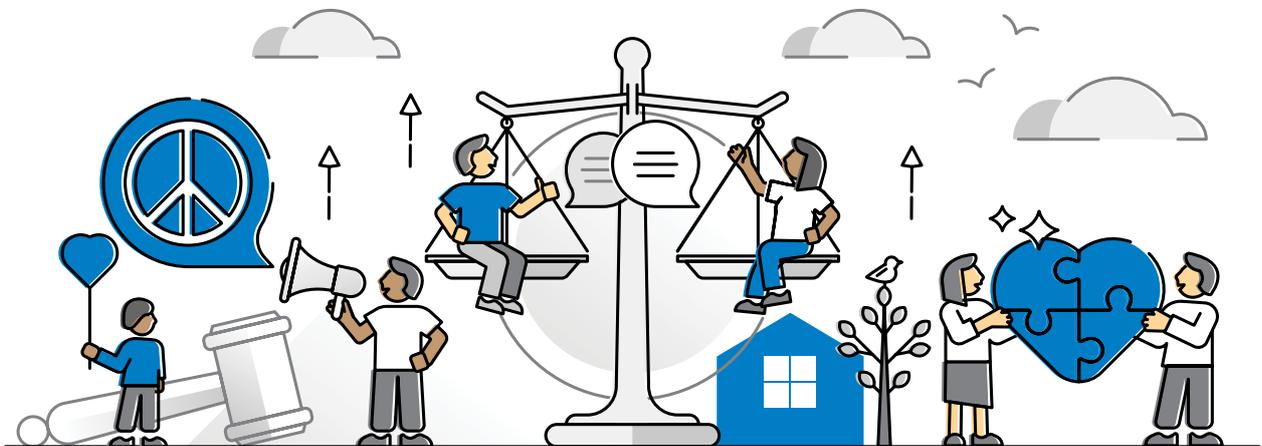
### COMMUNITY RIGHTS

- Resettlement
- Socio-economic Impacts
- Environmental Impacts
- Livelihood and Standard of Living
- Community Health and Safety
- Foreign Human Capital

### VULNERABLE GROUPS

The vulnerable groups covered by the risk assessment includes:

- Own Employees
- Women
- Children
- Indigenous People
- Migrant Workers
- Third-party Contracted Labor
- Local Communities
- People with Disabilities
- Elderly
- LGBTQI+ Communities



## HUMAN RIGHTS RISK ASSESSMENT METHODOLOGY



### HUMAN RIGHTS CRITERIA

The assessment of human rights risks has utilized the criteria for assessing human rights risks of the Group, which are based on international best practices. These criteria are used to determine the importance of each human rights issue. The risk assessment criteria also cover the likelihood and impact of each human rights issue.



### WHA GROUP'S HUMAN RIGHTS PERFORMANCE

- 100% of WHA Group's operation sites and associated activities were assessed on their human rights risks and impacts.
- After the assessment, 100% of WHA Group's operation sites and associated activities which have been identified with medium human rights risks and impacts, have mitigation measures and/or remediation actions implemented.
- WHA Group's operation sites and associated activities that were identified with medium human rights (salient issues), as follow:
  1. Health and safety of customers and employees
  2. Health and safety within the supply chain
  3. Livelihood and standard of living for communities

**100%**



OPERATION SITES AND ASSOCIATED ACTIVITIES WERE ASSESSED ON THEIR HUMAN RIGHTS RISKS AND IMPACTS.

**100%**

**AFTER THE ASSESSMENT**  
OPERATIONAL SITES AND ASSOCIATED ACTIVITIES WHICH HAVE BEEN IDENTIFIED WITH MEDIUM HUMAN RIGHTS RISKS, HAVE MITIGATION MEASURES AND/OR REMEDIATION ACTIONS IMPLEMENTED.

**100%**

OPERATIONAL SITES AND ASSOCIATED ACTIVITIES WERE IDENTIFIED WITH MEDIUM HUMAN RIGHTS RISKS (SALIENT ISSUES), AS FOLLOWS:

- HEALTH AND SAFETY OF COMMUNITIES, CUSTOMERS AND EMPLOYEES
- HEALTH AND SAFETY IN THE SUPPLY CHAIN
- LIVELIHOOD AND STANDARD OF LIVING FOR COMMUNITIES

## INTEGRATE FINDINGS AND POTENTIAL IMPACTS INTO HUMAN RIGHTS POLICY

Once the risks and potential impacts have been identified, the findings are then used to guide the revision of the Human Rights Policy to ensure that WHA Group’s Human Rights Policy and commitments is in line with the current global trends, international standards and comply with the most present laws and regulations.

The results and findings are also integrated into WHA Group’s management systems and approaches, procedures and work processes, and are also use to guide business direction and strategy in the future.

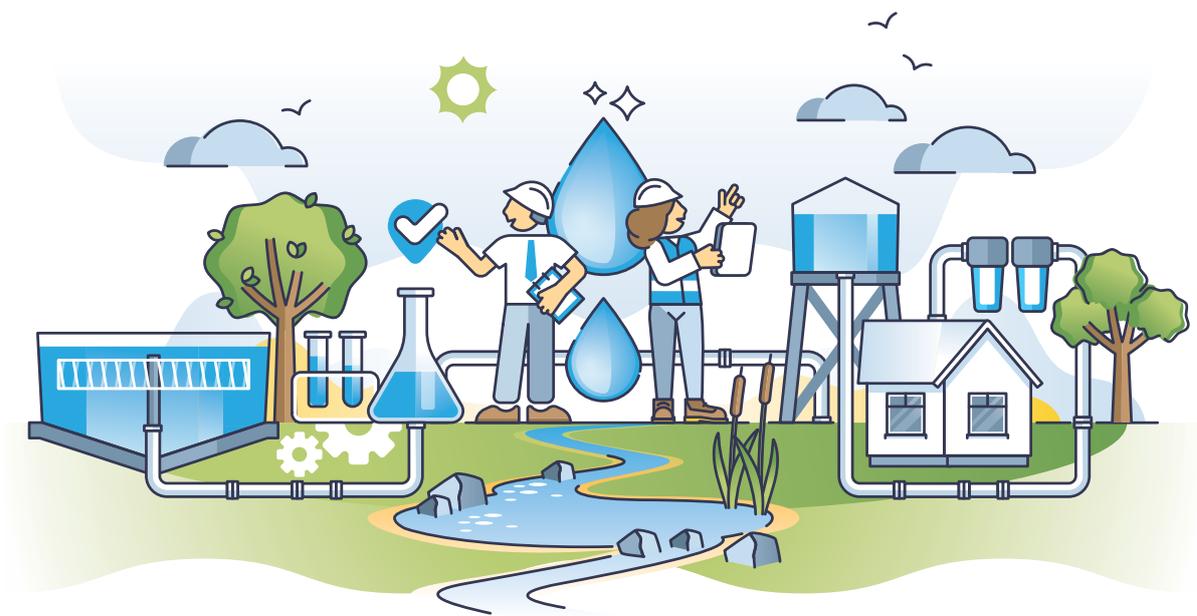
## IDENTIFY AND IMPLEMENT MITIGATION MEASURES FOR HUMAN RIGHTS IMPACTS

Based on the nature of WHA Group’s activities as providers of logistics and industrial developments, it was identified through assessments that human rights related risks are less severe in comparison to other business sectors. This is because WHA Group complies with the governmental land zoning laws, follows the EIA requirements, and involves low numbers of foreign labors. Nevertheless, WHA Group has implemented various mitigation measures as well as tracking and monitoring processes for the human rights issues identified as follow.

Human Rights Issue	Affected Rights Holders and Vulnerable Groups	Tracking and monitoring, mitigation measures, and remediation actions
<b>Health and Safety</b>		
<p>Accidents that may occur within the industrial estate as a result of the operations of the industrial factories belonging to the client group include incidents such as gas pipeline explosions, chemical leaks, as well as fire incidents and/or accidents at the workplaces of WHA group, such as water production plants and wastewater treatment facilities.</p> 	<p>Community, Customer, Employee</p>	<ul style="list-style-type: none"> <li>• Risk assessment is conducted to identify various potential hazards that may occur during business operations and to implement control measures to eliminate or reduce those risks. The risk assessment is reviewed annually or whenever there are changes in operational activities.</li> <li>• Installed the Emergency Control Center (ECC) in 9 of WHA Group’s industrial estates and 2 industrial zones. The control centers are used to assess and prevent emergency incidents. ECC systems are managed by OHS specialists that can immediately respond to the incidents that have occurred in real-time.</li> <li>• Implemented emergency plan and conduct the emergency drill, annually.</li> <li>• Have communication channels that can be easily accessed by all stakeholders, regarding health and safety issues.</li> <li>• Gathered Safety Data Sheet (SDS) on hazardous chemical uses within the industrial estates in order to prevent any further risks from occurring</li> </ul>

Human Rights Issue	Affected Rights Holders and Vulnerable Groups	Tracking and monitoring, mitigation measures, and remediation actions
<p>Health safety from the effects of noise pollution, air pollution, dust, smoke, light and vibration from project development and operation within the industrial estate.</p>	<p>Community, Customer, Employee</p>	<ul style="list-style-type: none"> <li>• Develop measures and preventive plans specified in the Environmental Impact Assessment (EIA) report and fully comply with all measures.</li> <li>• Various innovations are developed and utilized to reduce the risk of creating an environmental impact on the community through the operation of industrial estates and customer groups. Operators employ measures such as a central control center (Unified Operation Center: UOC) to effectively control and monitor various safety-related indicators.</li> <li>• Resolve complaints from communities and tripartite committees in every case with concrete conclusions.</li> </ul>
<p>Unsafe working conditions that can lead to accidents during work, such as accidents arising from the use of equipment. or various tools, electric shock, leakage</p>	<p>Employee</p>	<ul style="list-style-type: none"> <li>• Organize training for employees on safety, update various laws related to safety for employees.</li> <li>• Provide safety equipment such as glasses, safety shoes.</li> </ul>
<p>Unsafe workplaces during the COVID-19 pandemic</p>	<p>Employee</p>	<ul style="list-style-type: none"> <li>• Provide vaccines for employees and their families to prevent the spread</li> <li>• Announcement of preventive measures of WHA Group in the event of an COVID-19 outbreak.</li> <li>• BCP measures by specifying roles, duties, responsibilities when an incident occurs</li> </ul>
<p><b>Health and Safety in the Supply Chain</b></p>		
<p>Accidents from construction activities which could lead to work-related injuries or loss of life</p> <p>For example: falling off height, cuts from sharp objects, burn wounds</p>	<p>Contractor, Supplier</p>	<ul style="list-style-type: none"> <li>• Human rights initiatives for contractors/ subcontractors to promote the well-being of workers in construction worker camps, especially children residing in the camps (Baan Dek project)</li> <li>• Developed safety manual for contractors which they must strictly followed.</li> <li>• Assessed safety risks and develop safety procedures for each work tasks/types.</li> <li>• Implemented an approval process for all suppliers and contractors before entering work premises.</li> <li>• Continuously assess and monitor the safety systems within the industrial estates.</li> </ul>

Human Rights Issue	Affected Rights Holders and Vulnerable Groups	Tracking and monitoring, mitigation measures, and remediation actions
<b>Livelihood and Standard of Living</b>		
<p>Water management, competition for water with local communities and wastewater releases into natural sources</p>	<p>Community</p>	<ul style="list-style-type: none"> <li>• Committed to managing water efficiently and effectively.</li> <li>• Set target to reduce water uses from natural sources through Recycled Water/ Reclamation Water.</li> <li>• Strictly followed waste management requirements and procedures for industrial estates</li> <li>• Controlled and monitored water management parameters in accordance with EIA requirements.</li> <li>• Developed and continuously improve the efficiency and effectiveness of WHA Group’s water production and water treatment systems</li> </ul>



## TRACKING AND MONITORING OF HUMAN RIGHTS PERFORMANCE

WHA Group has assigned the relevant departments to regularly monitor and review WHA Group's human rights measures. The reports are presented to the responsible executives for acknowledgment and follow-up. Human rights criteria are also included as part of WHA Group's performance indicators at all levels of employees. Additionally, WHA Group has established a reporting channel that stakeholders can easily access to report any actions that may be considered violations of human rights or contrary to the human rights policy. The grievance mechanism is detailed in the Code of Conduct section of this report.

## CORRECTIVE ACTION AND REMEDIATION

WHA Group recognizes that its business activities and operations may cause human rights violations its stakeholders/rights holders and vulnerable groups. Thus, the Group is committed to preventing and mitigating the potential human rights risks associated with these activities, across the value chain.

In the case of human rights violations, WHA Group have implemented various measures to ensure proper remediation actions to restore affected groups that have been harmed by the business's activities to the situation they would have been in had the impact not occurred. This includes grievance mechanism and complaint channels through telephone, email, and website, as well as, directly informing relevant staffs and employees. WHA Group will assess the causes and address the issues through an anonymous process. Additionally, after the assessment, WHA Group will ensure that effective remedy, and compensation have been provided, as well as insurance coverage to those that were harmed. Moreover, WHA Group verifies its human rights results, and review the assessment and due diligence process every year. This is to ensure that its human rights practices are the most effective and updated. Finally, In 2023, there are no human rights violations, therefore, there are no remediation actions.

## HUMAN RIGHTS AWARENESS

WHA Group fosters awareness and understanding of human rights among all employees to align with the principles and commitments regarding human rights within the Group. Human rights policies are communicated as part of the continuous orientation of new employees since the year 2020, led by the Human Resources department. Moreover, in the year 2023, out of 119 new employees from all business groups, accounting for 100 percent, participated in the employee orientation program. In summary, all employees of the Group completed a total of 119 training hours in human rights policy and procedures. Additionally, the Human Resources department has promoted the importance of various topics such as nationality, religion, language, age, gender, marital status, personal attitudes towards gender, disabilities, union membership, employment as a board member, political affiliation, or other personal beliefs. Various documents have been prepared and attached with human rights policy documents through the internal document management system, SharePoint, to enhance awareness of human rights and encourage employees to review the policies.

## FREEDOM OF ASSOCIATION AND RIGHTS TO COLLECTIVE BARGAINING

WHA Group prioritizes upholding the human rights of all stakeholders affected by its business operations, including issues such as human trafficking, forced labor, freedom of association, the right to collective bargaining, equal compensation, and non-discrimination. These concerns are addressed through WHA Group's comprehensive human rights policies and measures, which extend to stakeholders both within Thailand and abroad, encompassing all countries where the Group operates. To ensure that all stakeholders receive their full and equal rights, WHA Group has implemented a Human Rights Due Diligence (HRDD) process. This process includes a Human Rights Risk Assessment (HRRRA) that evaluates compliance with the 35 human rights clauses outlined in the Universal Declaration of Human Rights (UDHR). Through this assessment, WHA Group identifies and addresses any potential risks or violations, taking appropriate measures to rectify the situation and restore affected groups to a state free from the adverse effects of business activities.

In relation to issues concerning restrictions on freedom of association and the right to collective bargaining, WHA Group grants all personnel the right to lodge complaints or unite to address injustices, such as excessive working hours, inadequate compensation relative to workload, workplace insecurity, and more, through various complaint channels. Additionally, WHA Group will establish a committee to evaluate these complaints. The review process will adhere to the rules and regulations specified by the International Labor Organization (ILO).

In addition, WHA Group has developed various projects to promote human resources management and enhance a positive working experience for employees within the Group in various aspects, as follows:

**PROJECT TO STRENGTHEN COMMITMENT AND SATISFACTION THAT EMPLOYEES HAVE TOWARDS THE ORGANIZATION:**

- In 2023, the Group held consecutive Town Hall Meetings, following from 2022, with Ms. Jareeporn Jarukornsakul, the Group Chief Executive Officer, as the speaker. The objective was to encourage employee participation and awareness of the business strategies of each business unit for the following year, aiming to strengthen the employees’ commitment to the organization.



- The Group continues to consistently elevate digital technology capabilities to enhance the efficiency of Human Resources operations. As part of this effort, an Intranet called “WHA Space” has been developed for internal use within the Group. WHA Space serves as a communication channel between the Human Resources department and employees across all business units. It allows employees to access various announcements from the Group. Additionally, the Human Capital Management System (HCMS) has been developed to enable employees to independently manage certain human resources-related tasks, aiming to provide convenience, reduce coordination efforts, and increase employee satisfaction with the organization.

**WORK-LIFE SOLUTIONS PROJECT**

WHA Office Solutions, a premium office building project, serves as the location for WHA Tower, @Premium project, and SJ Infinite I project, among others. The spaces are designed to be flexible and cater to diverse work patterns, fostering an environment conducive to creative thinking, innovation, and collaborative work supported by modern technology. This initiative aims to enhance employee satisfaction and build confidence among capable personnel.





WHA Group promotes Work-Life Solutions for employees by relocating the main office to WHA Tower, located in the central business district of Bangna. This project has received the prestigious award for “Commercial High Rise Architecture Thailand.” The working environment is easily adaptable and equipped with various amenities such as co-working spaces, coffee shops, and beautiful landscapes including gardens and water features. Additionally, there are recreational areas for various activities, allowing employees to experience efficient work practices and a balanced work-life lifestyle, promoting good health and enjoyment of comprehensive entertainment facilities.

This also includes cutting-edge technology for safety and agility, integrating internal technology innovations controlled by digital systems, which excel in security management. It features facial recognition systems for access control, body temperature screening to maintain good health standards, and parking spaces accommodating up to 500 vehicles. Additionally, environmentally friendly technology innovations are implemented.



### SKILL DEVELOPMENT PROGRAM FOR EMPLOYEES (WHAppy)

WHA Group has developed WHAppy project in 2021, resulting from the fusion of the words “WHA” and “Happy” to reflect the project’s objective of promoting happiness in employees’ work and strengthening their bond with the organization. Through developing employees’ capabilities and engaging in activities together, this project serves as a communication channel and activities related to change management to promote a positive “can-do attitude” within the Group’s community. These activities also enhance knowledge, skills, and ways of thinking regarding both health and well-being, providing employees with relaxation from work, which is one of the ways to manage stress in the workplace. In 2023, the Group continued WHAppy project and improved and developed activities based on employee feedback to align with their needs.

Under WHAppy project, various activities are conducted to develop employees’ skills and align with the Group’s change strategy. These activities can be categorized into four groups:

1. WHAppyTalk – Seminar activities to share knowledge and inspire with guest speakers from outside the organization and executives or employees from within the organization. For example, discussions with P’Nui Dr. Sirikul Laukaikul, a consultant on brand creation and development, on the topic “How important is Branding?” or the program “Unlocking the Potential of AI & Generative AI,” which shares knowledge from the CEO Office and Information Technology unit, among others.





In 2023, there was a WHAPPY Talk program called “Kra-Hai-Lao (Knowledge Sharing),” inviting each department to share their work processes and how they utilize various technologies within their units. This was aimed at enhancing WHA employees’ understanding of the operations of different departments. Additionally, the activity included sharing success stories of various projects to further inform employees about Digital Transformation.

2. WHAPPY Activity - WHAPPY Activity in 2023 was a continuation of WHAPPYVerse activity in 2022, which was a charity auction led by executives. Proceeds from the auction, combined with donations from Dr. Somyos Anantaprayoon Foundation, were used to install a Solar Rooftop on the school building for the Nikhom Sang Ton Eng Rayong 9 School, located at WHA Rayong 36 Industrial Estate under the “Shine Brighter with WHA” project.





3. WHAppy Cast – This is an internal podcast series exclusively broadcasted within the organization to raise awareness and enhance knowledge among employees about new trends globally and the current path towards digital transformation. For example, providing insights into Data topics in the series “Data Driven the Series Season 2,” which was held 10 times in 2023. Also, educating about the importance of health check-ups by medical experts specializing in preventive medicine from Samitivej Hospital on July 20, 2023, and other health-related topics from WHAbit.

4. WHappy Festival – Events that held throughout the year to strengthen relationships and unity among employees during important festivals, such as the Songkran Festival, annual merit-making ceremonies, and New Year’s celebrations organized by WHA Group.



Since the launch of WHappy project in March 2021 until now, there have been more than 60 activities organized, including both online and offline events. These activities provide opportunities for employees to meet and engage in shared activities to enhance relationships. The results of each activity have consistently exceeded expectations. Most importantly, employees have actively participated by expressing their opinions, providing commendations, and giving suggestions to the Working Group, which are used to plan future activities aimed at promoting and developing the potential of employees in 2024.

In 2023, the performance was evaluated based on the average training hours per employee per year, as detailed in the table below.

Category	Average training hour per year (Hours)	Average training hours per year per FTE (Hours)	Average investment in training and development per FTE (Baht)
<b>Gender</b>			
Male	25.63	25.63	12,437.34
Female	30.21	30.21	15,277.95
<b>Age</b>			
Below 30 years old	29.99	29.99	10,662.41
30-50 years old	27.04	27.04	14,410.23
More than 50 years old	21.75	21.75	7,473.72
<b>Level</b>			
Staff	26.83	26.83	9,391.35
Middle management	32.68	32.68	22,963.68
Top management	23.46	23.46	38,606.41
<b>Ethnicity, race, nationality, place of origin, cultural background</b>			
Thai	28.00	28.00	13,787.51
<b>Type of Training</b>			
In-house training	25.59	25.59	11,667.61
External training	1.71	1.71	1,804.63

## 2021



Total number of new hires

**44**

% of Open positions filled by internal candidates (internal hires)

**7%**



Total number of new hires

**34**

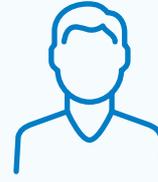
% of Open positions filled by internal candidates (internal hires)

**18%**

Average hiring index per FTE (THB)

**9,300**

## 2022



Total number of new hires

**73**

% of Open positions filled by internal candidates (internal hires)

**57%**



Total number of new hires

**54**

% of Open positions filled by internal candidates (internal hires)

**43%**

Average hiring index per FTE (THB)

**19,033**

## 2023



Total number of new hires

**84**

% of Open positions filled by internal candidates (internal hires)

**0%**



Total number of new hires

**45**

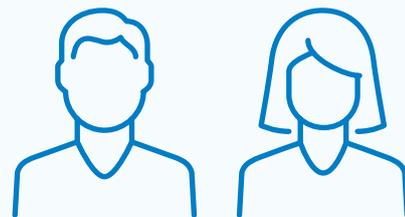
% of Open positions filled by internal candidates (internal hires)

**1.72%**

Average hiring index per FTE (THB)

**21,750**

## 2024 Target



Total number of new hires

**120**

% of Open positions filled by internal candidates (internal hires)

**2%**

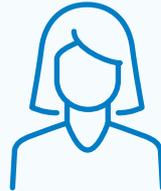
Total employee turnover rate

0%

Total turnover rate by gender



0%



0%

Total turnover rate for management level



Top management

0%



Middle management

0%



Junior/ Low management

0%

Total turnover rate by race/ ethnicity/ nationality/ country of origin/ cultural background



Thai

0%



Vietnamese

0%



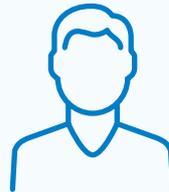
Others

0%

Voluntary employee turnover rate

6.16%

Voluntary turnover rate by gender



3.34%



2.82%

WHA Group values good human resources management and respecting the human rights of employees and stakeholders throughout the value chain. This is done to promote employees' work experience, well-being, and potential in various areas. The aim is also to ensure employee satisfaction and loyalty to the organization, as employees are crucial to driving sustainable success. For the Group, success is defined by achieving a balance between economic success, social responsibility, and environmental sustainability, with employees playing an essential role in this.

The key to WHA Group's excellent human resources management is the implementation of various initiatives. These include continuously improving the working environment, fostering a positive working atmosphere, providing welfare benefits that meet employees' needs, and ensuring employees feel satisfied and secure in their lives. The Group also develops human resources systems and improves employee practices, adhering to ethical principles and human rights. This includes non-discriminatory practices and labor management in accordance with the law, which is one aspect of good corporate governance. Furthermore, the Group addresses the highly competitive business environment by strategizing talent acquisition, developing projects to enhance employees' skills, and promoting existing skills further. This benefits employees themselves and prepares them to adapt to changes in the business world. Additionally, the group utilizes strategies to motivate and retain talented employees for its sustained growth.

Regarding human rights, WHA Group undertakes activities such as assessing human rights risks and implementing policies to prevent and mitigate violations. This ensures that the Group's operations are socially responsible and have no negative impact on any stakeholder groups, both directly and indirectly.

Since WHA Group believes that human are the most aluable asset of the organization, the Group prioritizes human resources management and set goals for human resources management performance such as recruiting talented individuals, with a target of hiring 120 new employees in 2024, 2% of whom will come from internal hires, and with a long-term target of 5% internal hires by 2025. Additionally, for employees within the organization, the Group has strategies to develop and promote employee advancement by implementing training and skill development programs, measured by the Human Capital Return on Investment (HCROI), with a target of 14 times within 2025. Furthermore, the Group focuses on promoting employee engagement with the organization through various projects, aiming for an employee engagement rate of 76% in 2024 and setting a long-term target of 80% in 2026. The Group will execute human resources management strategies and develop various projects to keep up with changes in the business world, continuously meet the needs of employees, and maintain its status as the Best Employer in Thailand and the region.



## OCCUPATIONAL HEALTH AND SAFETY



The management of occupational health and workplace environment is one of the fundamental responsibilities of businesses. This includes preventing and reducing the risks of work-related illnesses and injuries, as well as creating a safe working environment for employees and relevant stakeholders. Moreover, the emergence of new diseases in recent times has brought new challenges in safety and occupational health management, such as controlling and preventing infectious diseases and addressing the increasing trend of mental health issues.

In recent years, there has been a growing trend in using various technologies and applications to promote the health and well-being of employees. This includes online health consultations, real-time emergency notifications, online safety training, and access to health databases that directly benefit employees. Additionally, modern technologies have been applied to help reduce accidents, whether in factories, warehouses, or even office buildings. This includes providing knowledge and training in occupational health and safety, especially training employees to keep up with the organization's technologies or machinery. This helps reduce accident rates and ensures the effective use of health technologies.

WHA Group considers safety, occupational health, and workplace environment essential. This is not only a part of the business's responsibility but also a commitment to caring for employees, suppliers, contractors, and key stakeholders. Therefore, the Group focuses on developing safety and occupational health management approaches that not only comply with legal requirements and relevant standards but also address emerging risks and meet stakeholder expectations. This is achieved through regular risk assessment and continuous improvement of safety and occupational health management practices, as well as promoting stakeholder involvement in identifying risks and proposing preventive measures. Additionally, the Group leverages our expertise to design and develop technologies and innovations that enhance operational safety, such as real-time traffic control systems that help reduce traffic congestion and accidents in industrial areas, using drones for emergency response, and online incident reporting.

Similar to safety and occupational health management, WHA Group has a comprehensive approach to promoting employee wellness beyond standard health benefits. This includes facilitating convenient and rapid access to health services through WHAbit program, which allows employees to access occupational health consultations and receive treatment from specialists via telemedicine and digital medical support tools in emergencies. Furthermore, the Group integrates wellness promotion into the design of our buildings by encouraging movement within the building, such as using stairs between floors to reduce elevator use, promoting physical activity, and saving energy. Additionally, the group organizes activities such as yoga classes, which contribute to both physical and mental health.

To demonstrate our commitment to managing occupational health and workplace environment issues, WHA Group has incorporated these aspects into the Operational Excellence Framework, which serves as a process to ensure stakeholder satisfaction. WHA Group has implemented a Security, Safety, Health, and Environment (SSHE) policy, which includes leading and lagging indicators to establish an efficient work process that is both safe and continuously improving.

## MANAGEMENT APPROACH

WHA Group recognizes that many of our business activities involve providing services that engage numerous stakeholders. Therefore, we prioritize occupational health and workplace environment issues to prevent impacts on the health, lives, and property of employees, suppliers, contractors, and other relevant parties, as well as related human rights impacts, such as the right to health and the right to life. Consequently, the Group proactively implements measures to ensure the safety and well-being of employees and all stakeholders involved through occupational health and safety management systems, various preventive measures, and the promotion of a safety culture and well-being among workers. This aims to build confidence and morale for working with the Group, ensuring safe and efficient work practices. The Group aims to prevent and reduce the number of accidents, injuries, and work-related illnesses as much as possible, with a target to reduce the injury or death rate from workplace accidents per million working hours in 2023 from 0.58% in the previous year to 0.48%, a reduction of 17%.

In setting occupational health and safety policies, WHA Group strictly adheres to the Occupational Safety, Health, and Work Environment Act B.E. 2554 (2011) and all related laws. The Group has developed occupational health and safety management systems and measures in compliance with legal requirements. The quality, safety, occupational health, and environmental policy covers all employees, business suppliers, contractors, visitors, and all stakeholders under the Group's supervision. Occupational health and safety criteria are specified as conditions in procurement processes and as part of contracts. Furthermore, the Group has a risk management approach consistent with the internationally recognized ISO 45001 occupational health and safety standard, ensuring the highest level of safety management. The Group has begun preparing for ISO 45001 certification in 2022, with the goal of achieving certification by 2024.

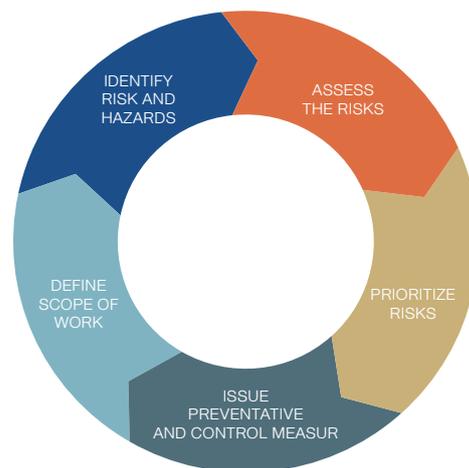
## ESTABLISHMENT OF THE OCCUPATIONAL HEALTH, SAFETY AND ENVIRONMENT DEPARTMENT

WHA Group has established mechanisms for managing occupational health and safety that promote participation and feedback from personnel at all levels. This is achieved through the formation of a Safety Committee, which includes executives and employees from all business units, as well as the Human Resources department. The committee is responsible for managing safety by gathering feedback, providing advice, and regularly reviewing occupational health and safety-related risks. Decision-making authority within the committee is shared among all members, from operational staff to executives, and the results of committee meetings are reported to

the Chief Executive Officer every quarter. Additionally, the group has established a Safety Department under the supervision of the Chief Operating Officer to oversee safety-related matters and to achieve the goal of zero accidents, enhancing workplace safety throughout the organization. The Group has also appointed certified occupational health and safety professionals and has emergency response vehicles on standby to prevent and mitigate hazards in all areas. Furthermore, the Human Resources department is tasked with supporting the provision of appropriate and sufficient personal protective equipment (PPE) for employees.

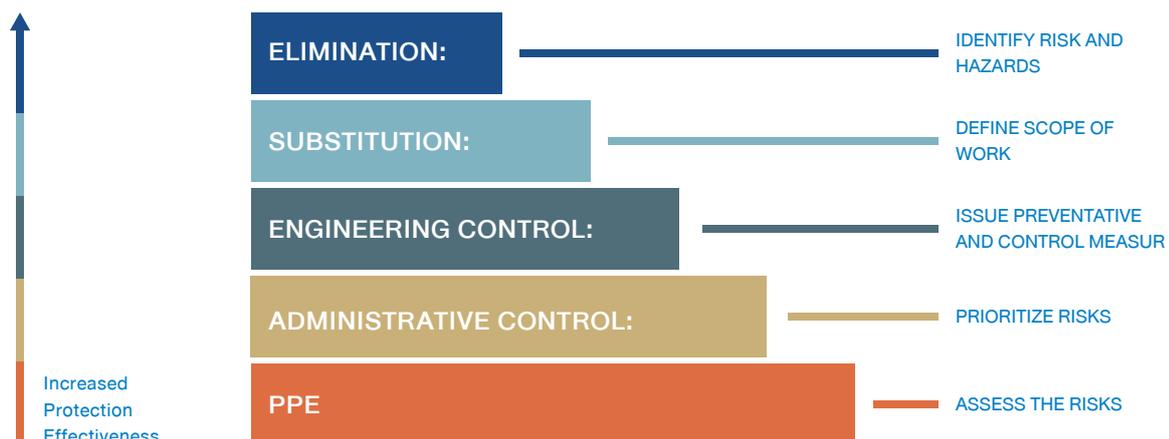
## HAZARD IDENTIFICATION, RISK ASSESSMENT, AND INCIDENT INVESTIGATION

WHA Group recognizes the importance of preventing and controlling risks that could lead to accidents and losses. Therefore, we have established processes and procedures for occupational health and safety risk assessments that comply with the international ISO 45001 standard. These assessments cover all activities and areas where employees and contractors work, to identify all hazards associated with operational activities and to implement comprehensive and appropriate preventive measures. The risk assessment process begins by categorizing all operational activities, whether routine or non-routine, to identify activities that may pose risks or hazards and to understand the potential causes of these hazards in the workplace. Following this, the risk level is assessed by considering the likelihood of occurrence and the severity of the consequences. The results of the risk assessment are then prioritized, enabling the Safety Department to develop risk management plans and determine appropriate risk control measures to reduce the likelihood of incidents. Additionally, it helps the



Risk assessment Process

Group to conduct accident investigations to analyze incidents and prevent recurrence (Incident Management). This involves developing and improving risk management systems related to operational activities to enhance work efficiency.





To control and manage risks that may arise from operational activities to meet the Group's goal of reducing the number of accidents, injuries, and work-related illnesses, the Group has applied the principles of the Hierarchy of Controls in our operations. This involves implementing risk control measures from basic safety controls to advanced safety controls that can eliminate risks, as follows:

1. Elimination: Removing the risk entirely or not introducing the risk into the work area. The group uses the results of risk assessments to determine controls that correspond to the assessed level of risk.
2. Substitution: Replacing hazardous materials or processes with less hazardous ones.
3. Engineering Controls: Designing or modifying machinery and equipment to reduce hazards at the source. This includes isolating hazards from workers, installing emergency stop buttons, and implementing Lockout/Tagout procedures to disconnect energy sources before maintenance to prevent hazards from residual energy in equipment or machinery, such as electrical, mechanical, pneumatic, gas, or hydraulic energy.

4. Administration: Managing work safety through administrative measures such as setting qualifications for workers and providing training.
5. Personal Protective Equipment (PPE): Providing workers with PPE to protect any part of the body from risks associated with their work or the working environment.

Internal risk assessments are conducted annually or when there are changes in operational processes, as well as relevant rules, regulations, and safety standards, e.g., NFPA, OSHA, NIOSH. This ensures that all risk and hazard assessments are systematic and compliant with standards, and that the established control measures are comprehensive and appropriate. The results of the assessments and reviews are compared with set targets, such as Safety KPIs, and the reduction of accident and illness rates, to evaluate the effectiveness of the measures. These results are used to improve WHA Group's occupational health and safety management system and related measures, making them more effective and encompassing all events and risks. The information is communicated to stakeholders through the annual sustainability report.

From the risk assessments across all operational activities of WHA Group in 2023, it was found that the activities with occupational health and safety risks include exposure to chemicals at the industrial water production plant, accidents that may occur during construction work, and transportation-related accidents. Therefore, the Group has implemented measures to prevent and reduce occupational health and safety risks in the working environment according to the Hierarchy of Controls principle. This includes preparing operational manuals, hazard warning signs, and providing adequate personal protective equipment. Furthermore, training sessions are conducted for worker, tenant, and related personnel to ensure they comply with safety policies and measures. Incident investigations are conducted whenever any hazard occurs, and measures are established to prevent recurrence. Additionally, safety officers conduct daily operational inspections to ensure safe and proper practices, with the results reported in Safety Committee meetings.



**OCCUPATIONAL HEALTH & SAFETY RISK AND HAZARD ASSESSMENT IN OPERATIONS**

Occupational Health & Safety Risk	Affected stakeholders	Description	Mitigation/ Remediation Measure
1. Exposure to hazardous chemicals at the industrial water production plant	Employee	Chemicals such as chlorine and sodium hypochlorite are used in wastewater treatment processes. Therefore, employees who handle these chemicals are at risk of exposure in the workplace.	Provided appropriate personal protective equipment to employees who perform these tasks. Additionally, chlorine detection equipment should be installed, and regular monitoring and control measures should be implemented. Furthermore, employees at risk should undergo annual health check-ups.
2. Accidents in construction work	Employee/ Supplier/ Contractor	Accidents at construction sites can result in injuries or fatalities for construction workers or employees of WHA Group. Examples include falls from heights, severe injuries leading to organ loss, and burns.	Developed handbook for contractors outlining strict safety standards that must be followed. Additionally, a Job Safety Analysis (JSA) has been conducted to assess and establish safety procedures for contractors. Furthermore, the licenses of contractors are verified to ensure they can perform high-risk tasks according to standards.
3. Road Safety	Employee/ Supplier/ Contractor/ Tenant	Traveling on the roads within the industrial estates of WHA Group, whether for general commuting, employee work-related travel, customer visits, or general commuting, poses a risk of road accidents for employees, customers, and external individuals.	WHA Group inspects, monitors, and improves road conditions by developing traffic control systems to ensure road safety for employees, customers, and commuters within WHA industrial estates. The Group also promotes safe driving practices and provides driver training for employees through the Safety and Environment Association in all industrial estates.

## ENHANCING OCCUPATIONAL HEALTH AND SAFETY

In 2023, WHA Group continues to focus on strengthening our occupational health and safety systems and management methods through the concept of 'SMART Safety.' This approach addresses three key areas: 1. Emergency Response, 2. Road Safety, 3. Asset Protection.

The 'SMART Safety' concept also promotes a culture of safety and ensures effective safety surveillance across all operational areas of WHA Group, including our industrial estates and surrounding areas. The projects and management of occupational health and safety under the 'SMART Safety' concept include the following details:

### PREPARATION FOR EMERGENCY RESPONSE AND THE REPORTING OF ACCIDENTS AND INCIDENTS

WHA Group has established a comprehensive plan to address emergencies, including fire incidents and chemical spills. This plan covers actions to be taken before, during, and after an incident, as follows:

- Pre-incident prevention guidelines, such as the installation of an alarm system, protective equipment and suspend the preliminary, check conditions to always be ready to use.
- Guidelines for responding in the event of an emergency, such as guidelines for preliminary emergency suppression, notification, communication plan, and evacuation plan.
- Guidelines for actions after an incident, such as approaches to inspect the main damage, incident cause investigation, remedy.

All employees and contractors working within WHA Group's premises are required to undergo training and drills to prepare for emergency responses. This ensures they understand the situations and their roles and responsibilities and can evacuate themselves quickly and safely.

In the event of an emergency, employees are instructed to follow the trained procedures and evacuate promptly. After the incident, employees must report the event truthfully to the Safety Committee to identify the root cause and establish measures to prevent recurrence. Additionally, WHA Group has established channels for employees to report unsafe incidents or conditions that could pose risks to life, health, or property. These reports can be made through incident report forms, complaint

forms, or directly to supervisors. Whistleblowers are protected, and their identities are kept confidential according to the Group's whistleblower protection measures. Furthermore, employees have the right to assess risks and refuse to perform work deemed hazardous until the safety issue is resolved. Safety officers are assigned to investigate and determine corrective and preventive actions to eliminate these risks.

### OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT IN CONSTRUCTION WORK

Another key safety risk identified by WHA Group's risk assessment process is the potential accident caused by construction work. Contractors or WHA Group employees may encounter injuries or fatalities while performing construction activities because of accidents such as falling from heights, amputation of limbs, burns, and so on. As a result, WHA Group developed and implemented the following mitigation strategy measures:

- Developed a contractor handbook in which contractors are required to follow safety standards
- Performed a job safety analysis and developed safety procedures.
- Implemented a work permit system
- Surveyed orderliness within the industrial estates.

WHA Group has set a target to enhance construction site safety by reducing the injury or fatality rate from accidents per million work hours from 0.75 in 2023 to 0.5 in 2024, a reduction of 33%.

### HAZARDOUS CHEMICAL SAFETY MANAGEMENT

From the occupational health and safety risk assessment of WHA Group's operational activities, exposure to hazardous chemicals at the industrial water production plant has been identified as a significant risk. The Group has recognized that employees at the industrial water production plant may be exposed to chlorine and sodium hydroxide. To manage these risks, the following mitigation measures have been implemented:

- Ensuring that all employees have access to suitable PPE.
- Installation and Regular Inspection of Chlorine Gas Detectors: To promptly detect any chlorine leaks

As a result, WHA Group successfully reduced the injury or fatality rate from work-related accidents per million work hours to 0.48 in 2023, a 17% decrease from 0.58 in 2022.

In 2023, WHA Group achieved our goal of reducing the injury or fatality rate from accidents at 0.75 incidents per million working hours, compared to 2022 target. For 2023 and 2024, the Group has set a goal to further reduce the accident rate to 0.5 incidents per million working hours, or a 33% reduction. Additionally, Health check-up was conducted on employees working with chemicals and the results were within normal ranges. The Group continues to enhance the safety of chemical handling operations.

### ENHANCING ROAD SAFETY

Due to the high volume of vehicular traffic in the industrial estate areas of WHA Group, traffic congestion and accidents are potential risks. Consequently, the Group identifies road safety as a significant safety risk in our risk assessment process, as employees, customers, and passersby may encounter accidents while traveling within the industrial estate. To manage this risk, the Group has implemented the following mitigation measures:

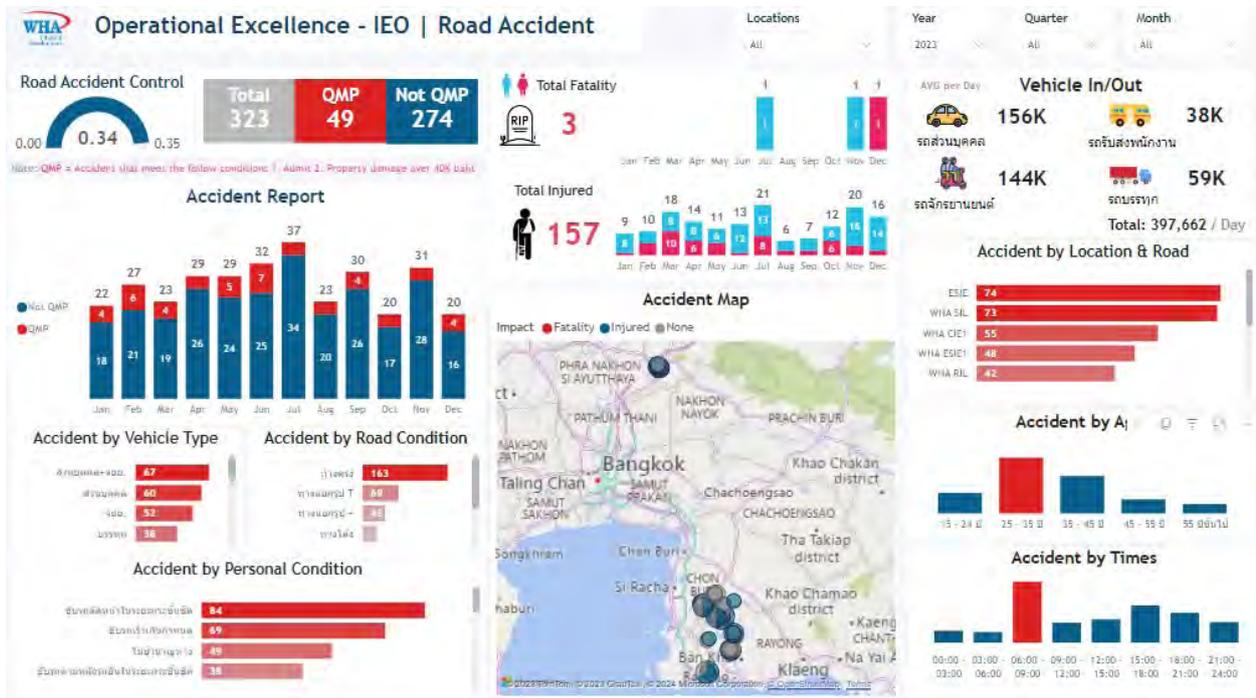
- The installation of speed bumps on the main roads and at traffic risk points
- Constructing concrete barriers at U-turn points for vehicles entering from local roads to reduce traffic congestion.
- Continuously inspecting, monitoring, and improving road conditions
- Developing a traffic control system

To ensure the effectiveness of these road safety risk management measures, WHA Group aims to reduce road accidents within our industrial estates. The target

is to have no more than 0.35 road accident cases per million vehicles in 2024.

### HEALTH AND SAFETY OF EMPLOYEES IN VARIOUS PANDEMIC SITUATIONS

From the COVID-19 pandemic, which significantly impacted both the economy and public health, WHA Group has become increasingly aware of the rising risks associated with emerging infectious diseases. While the current situation has improved, the Group recognizes the ongoing threat posed by pandemics and other infectious diseases. Therefore, the Group has established comprehensive plans and measures to mitigate these risks. Even though the COVID-19 situation has subsided, the Group continues to implement preventive measures to safeguard the health and safety of employees and stakeholders, ensuring preparedness for any potential future outbreaks. These measures align with the Ministry of Public Health’s regulations and guidelines. Employees are kept informed about the latest developments on infectious diseases through regular training sessions, both in-person and online via the Group’s SharePoint and email communication channels. The Group has also implemented targeted disease control measures (Bubble and Seal) in accordance with government objectives to protect factory workers and surrounding communities from infectious diseases. Additionally, the Group has developed a BCP for long term pandemic control. This plan ensures effective emergency and crisis response, enabling the Group to maintain smooth operations across all business units.



## COMMUNICATING SAFETY CULTURE TO EMPLOYEES AND BUSINESS RELATIONSHIPS

WHA Group emphasizes implementing safety values among all stakeholders, both internal and external, by effectively communicating the organization's safety culture to employees, contractors, customers, visitors, and surrounding communities. This aims to foster a strong understanding and awareness of occupational health and safety practices. The communication efforts include various methods, such as Conducting annual supplier evaluations (Supplier Day and Safety Club events), Raising awareness through the Operational Excellence Framework, and Providing targeted training specific to employee groups based

on their exposure to different risks, such as emergency management and handling chemical spills. The training programs are designed to be comprehensible and practical, addressing all potential risks from operational activities. The trainers are experts in occupational health and safety, and they conduct evaluations after each training session. Additionally, all training programs are reviewed and assessed annually to ensure they remain current and highly effective. Feedback from participating employees is also incorporated to continuously improve and develop the training content.



To promote employee well-being, WHA Group provides health insurance, accident insurance, and annual health check-ups to employees tailored to job-related risks, covering all four business groups. Additionally, the Group supports employee recreational activities by sponsoring various employee clubs such as fitness, boxing, yoga, and badminton clubs to promote the health and well-being of employees. WHA Group also encourages employees to provide suggestions for improving the working environment to their supervisors, HR representatives, the safety department, and occupational health and safety experts. There are also channels for employees and business partners to seek initial consultations and provide feedback on occupational health and safety through various communication methods such as email, Line, discussions with supervisors, or direct communication with safety personnel. Complaints received are addressed in meetings of the Safety, Occupational Health, and Work Environment Committee (SH&E) for further discussion and resolution.

WHA Group also prioritizes the safety of contractors working on-site by including occupational health and safety requirements in contracts. Contractors must adhere strictly to the Group’s safety regulations. Before commencing work, contractors undergo training covering three main areas: environmental policies,

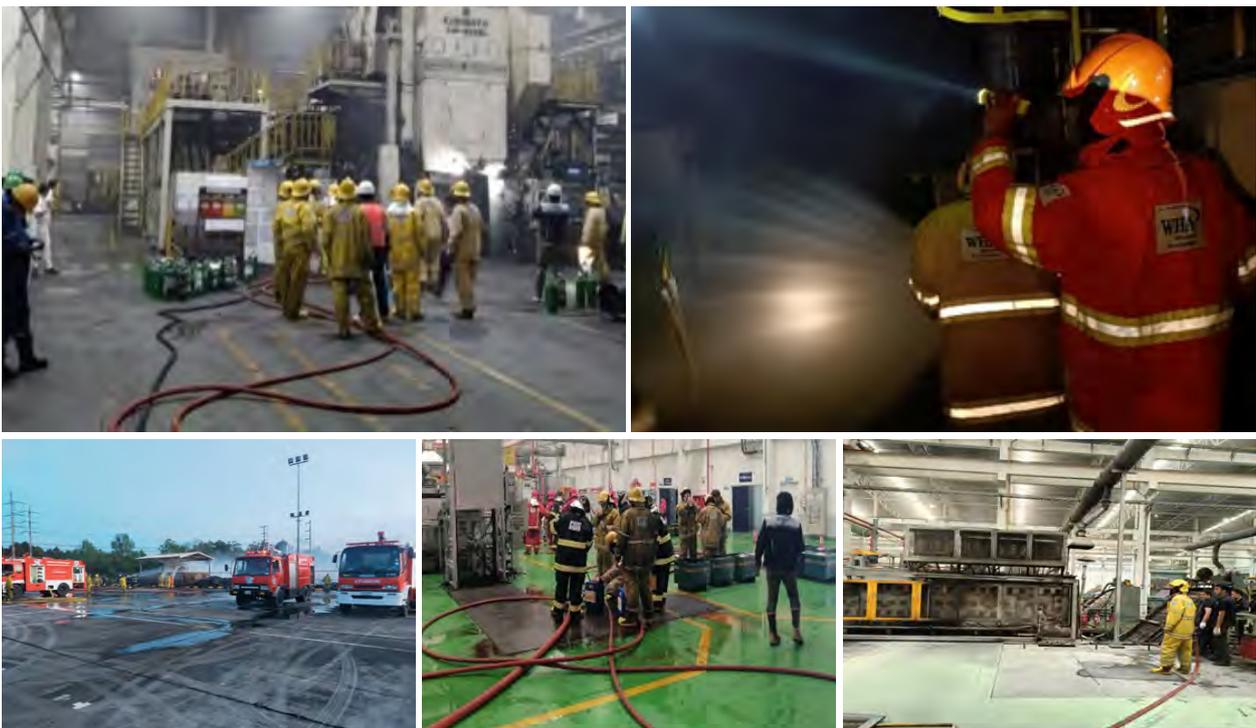
relevant regulations, and safety standards. Contractors must complete this training and obtain a contractor identification card before they can begin work on-site. Additionally, all contractors must meet the Group’s established occupational health and safety criteria to engage in business with WHA Group.

To achieve the goal of preventing and reducing the number of workplace accidents, injuries, and illnesses to the greatest extent possible, WHA Group has implemented risk reduction measures and raised awareness about occupational health and safety among employees and stakeholders. The key activities carried out in 2023 include:

**FIRE AND EVACUATION PERFORMANCE**

WHA Group established an Emergency Control Center (ECC) at 10 of the Group’s industrial estates to monitor and suppress emergency situations. The ECC is managed by occupational health and safety experts and is equipped with fire control systems that are ready to go at any time. In 2023, the ECC stopped 10 emergency cases and assisted the local authorities in addressing 6 emergency cases in the surrounding communities outside WHA Group’s industrial estates/zones.

Emergency incidents within the industrial estates/zones

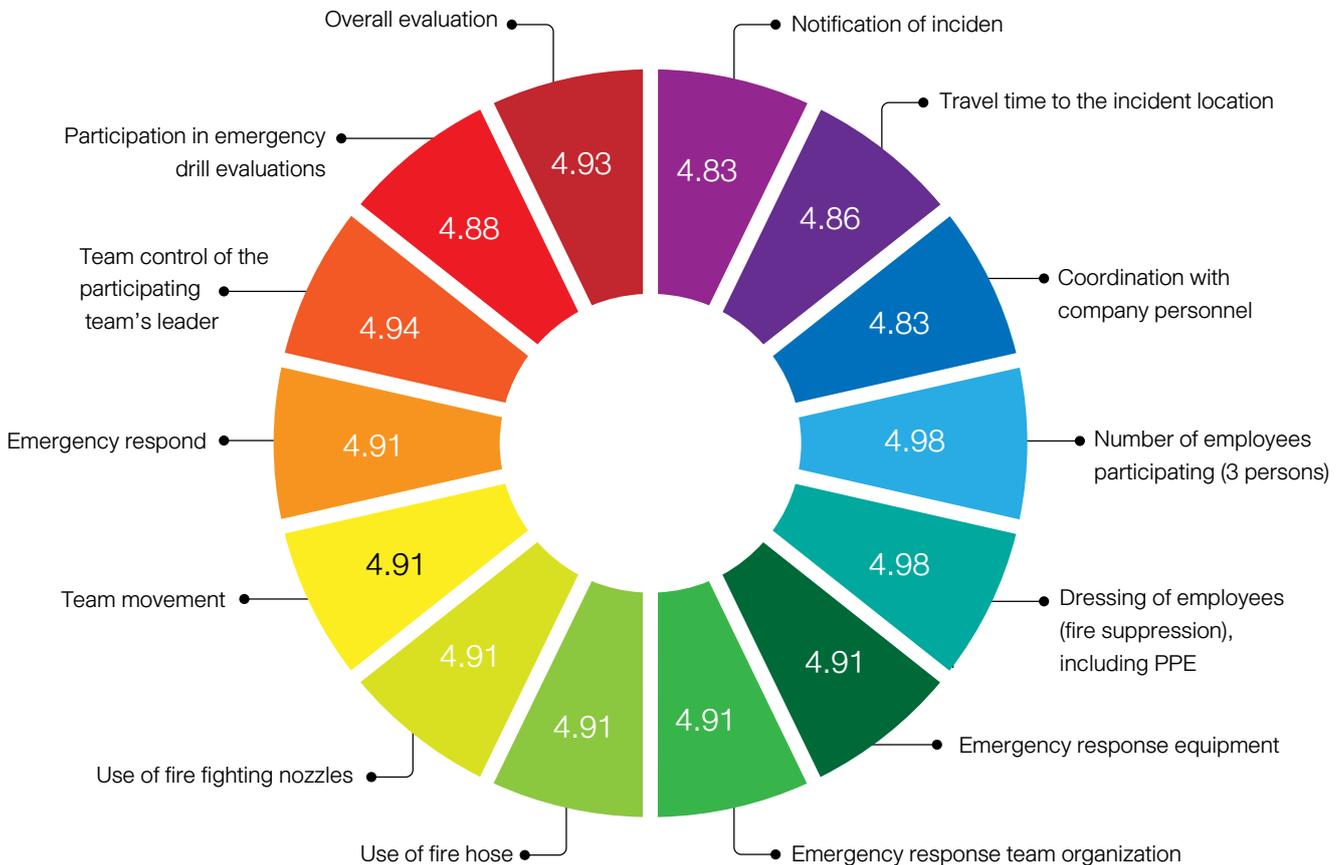
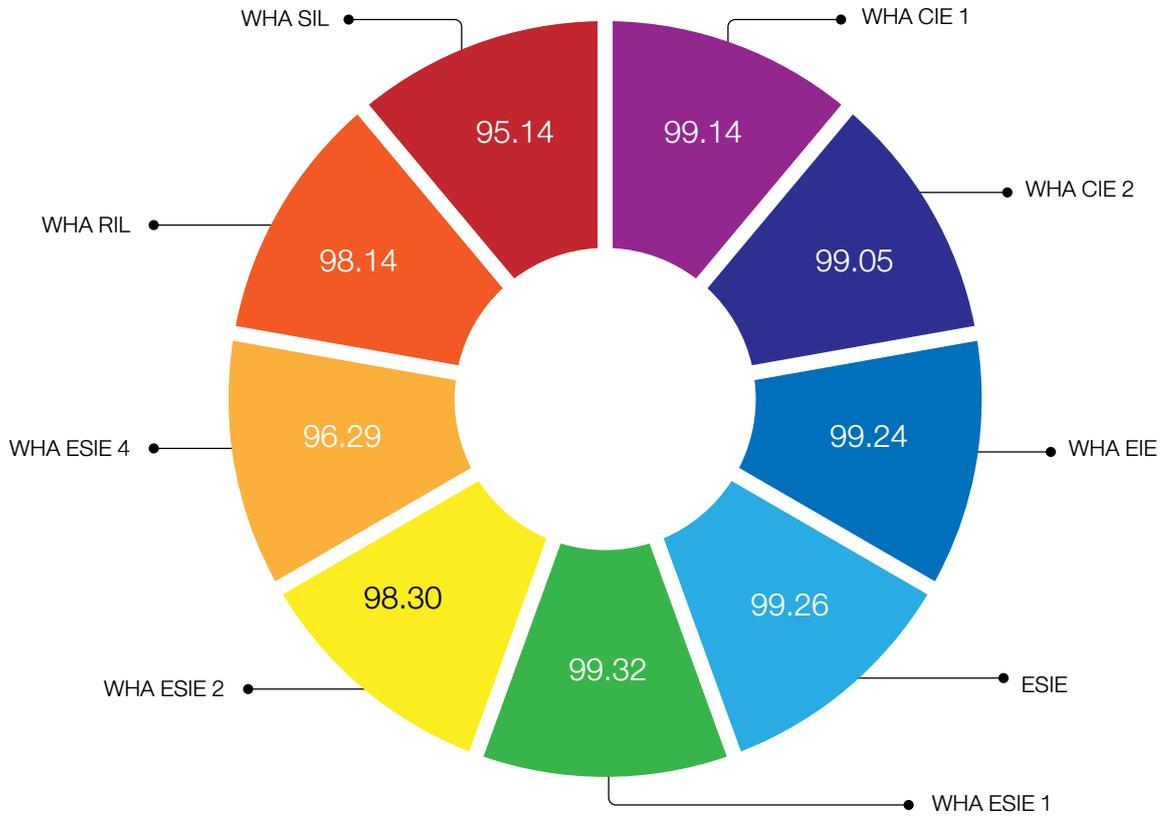


## Emergency incidents outside the industrial estates/zones



However, WHA Group recognizes the importance of enhancing the capabilities of all stakeholders in responding to emergencies. Therefore, emergency drills are conducted four times a year. The drill covered advanced level firefighting training. The evaluation of drill performance, which assessed employees' readiness for all processes, including Personal Protective Equipment (PPE), responding, and reporting processes and time, received full score from the emergency drill in 2023.

### EMERGENCY DRILLS WITH CUSTOMERS IN 2023





In the past year, WHA Group also organized an emergency response drill for chemical spills, which included participants from the Industrial Estate Authority of Thailand (IEAT), the Department of Disaster Prevention and Mitigation, the Department of Labour Protection and Welfare, local authorities, local communities, local hospitals, customers, and the Group’s employees, among others. The drill covered various response mechanisms, including emergency reporting, first aid, PPE selection, command, and control, etc. For instance, a drill was held at WHA Eastern Seaboard Industrial Estate 1 (WHA ESIE 1) on June 19, 2023.



## ROAD SAFETY PERFORMANCE

WHA Group places great importance on road safety issues and continuously improves infrastructure and technology to enhance road safety and alleviate traffic congestion in industrial zones. A vehicle management system has been implemented, providing accurate data on the number of vehicles, their license plates, colors, types, and any traffic violations, such as driving in the wrong lane. This system helps manage traffic congestion and address hit-and-run incidents more effectively. In 2023, the Eastern Seaboard Industrial Estate (Rayong) (ESIE) saw approximately 147,695 vehicles entering and exiting daily, totaling about 53,908,675 vehicles annually. Additionally, the Group has integrated digital systems to study automatic traffic light control systems, which monitor congestion levels and automatically change signals to alleviate traffic. This system has reduced traffic jam durations from 10-15 minutes to 3-5 minutes and maintained a record of zero traffic-related fatalities for 2023, matching the previous year's achievement.



Furthermore, WHA Group has employed drone technology to monitor road conditions and traffic during peak hours. Drones can inspect road accidents and detect potential risks, with the data collected being used to analyze and develop preventive measures to reduce future accidents. As the number of accidents decreases, road usage also diminishes. Additionally, in the event of an accident, drones facilitate quicker and more efficient emergency responses.

## ADAPTIVE TRAFFIC MANAGEMENT PHASE 1 AND 2



The Adaptive Traffic Management project utilizes technology to enhance traffic management efficiency by employing a real-time traffic light control system. This system collects data from CCTV cameras and calculates the necessary time for traffic light control. Additionally, it helps reduce traffic congestion and accidents, saves travel time, decreases energy consumption, and lowers greenhouse gas emissions. The project was initiated in 2021 and further developed into Phase 2 in 2022. In 2023, WHA Group continued to implement this technology to manage traffic within our industrial estates, while also continuously monitoring and improving the effectiveness of the developed technology.



## ENHANCING SAFETY CULTURE PERFORMANCE

WHA Group prioritizes fostering a culture of safety within the organization. To this end, we have implemented training programs for employees in accordance with specified requirements, aiming to instill a solid understanding and awareness of occupational health and safety practices. Training sessions are conducted for both office and field employees. In 2023, the Group organized five safety training sessions, with a total of 400 employees completing the training. This included general safety training, job-specific safety training, and emergency response drills. Additionally, the Group promotes access to medical services for employees through various health benefits, such as health insurance, accident insurance, and annual health check-ups. Employees are also encouraged to provide suggestions for improving the work environment to their supervisors, the Human Resources department, the Safety department, and occupational health and safety experts.

WHA Group also emphasizes communicating the safety culture to contractors, requiring them to adhere to the safety requirements of WHA Group and perform their duties to the best of their abilities. Therefore, before commencing work, contractors undergo comprehensive training covering 3 aspects, i.e., environmental policies, relevant regulations, and safety standards. Contractors who have completed the training receive an identification card that is valid for one year from the date of issuance. In 2023, training was conducted for 570 new contractors, divided into 200 contractors for WHALG, 235 contractors for WHAID, and 135 contractors for WHAUP. Additionally, 112 existing contractors with expired ID cards were re-trained. Short-term contractors are also required to undergo training to receive a work permit valid for the specified period.



In addition to safety training programs for employees and contractors, WHA Group has established a Safety Club to enhance safety measures collaboratively among stakeholders. This club includes employees, contractors, and customers of WHAID and WHAUP. The objective of the Safety Club is for members to share opinions and perspectives on safety practices. In 2023, the first meeting was held on March 29, 2023 with 110 attendees from 80 companies, the second meeting was on June 8, 2023 with 120 attendees from 90 companies and the third meeting was on October 27, 2023 with 130 attendees from 100 companies. During these meetings, various safety topics were discussed, covering community and environmental issues, and relevant information was shared with members.





### WHABIT APPLICATION TO ENHANCE SAFETY

WHA Group has developed WHAbit application, an integrated system to promote a healthy and safe working environment. This application is available to the Group’s employees, customers in the industrial estates, and the public. WHAbit connects online and offline systems to provide digital medical support tools for health care and occupational medicine consultation quickly in case of emergencies. For example, using telemedicine, which allows users to consult with doctors online through video calls or messages to receive diagnoses without the need to travel. Doctors can also receive real-time health check results through health monitoring devices, allowing them to perform preliminary assessments. Additionally, in 2023, the Group introduced a tracking system to monitor users’ health care activities. Thus, WHAbit helps employees, customers, and the public access medical care efficiently and comprehensively at all times.

## WHAbit Functions



**Health Record**

Connect to health monitoring devices to store information and view health statistics and trend



**Check-up Report**

Collect the annual health check up data in a digital book form for more convenient access to personal health information.



**Tele-Clinic**

Digital Clinic for remote consultations from expertise physicians with preliminary check via online system.



**Real-Time Clinic**

Ongoing health care services according to the treatment plan of a specialized doctor with real-time notification.






IT'S NEVER TOO EARLY OR TOO LATE BEING THE HEALTHIEST YOU.

Untold your health benefit wellness

## CERTIFICATION AS A MODEL INDUSTRIAL ESTATE FOR ROAD SAFETY BY THE THAI HEALTH PROMOTION FOUNDATION

In 2023, Eastern Road Safety Work Group (RSWGS) collaborated with industrial estate operators and factories in three provinces, i.e., Chonburi, Rayong, and Samut Prakan, including 4 industrial estates and 15 factories, to enhance road safety. The initiative aimed to support the national goal of reducing road accidents and losses through cooperation among private, public, and civil society sectors. The focus was on establishing ‘organizational measures for road safety’ by promoting traffic discipline among employees, ensuring their road safety both during and outside work hours, such as wearing helmets, not drinking and driving, and not speeding. It also extended oversight to transportation operators to ensure safe driving, pushing towards creating a “road safety culture, Eastern RSWGS”. Therefore, RSWGS, in collaboration with the Thai Health Promotion Foundation and the Road Safety Foundation, organized a knowledge exchange meeting on organizational measures on September 21-22, 2023. WA Group participated to learn and share experiences, helping the network of industrial estates apply the knowledge to address road accident issues in their areas and expand the impact.

On December 8, 2023, WHA Group attended an event to receive the ‘Model Organization for Road Safety Measures’ award at the Amari Don Muang Hotel in Bangkok. This event provided an opportunity to share and exchange knowledge on implementing road safety measures over the past year. Participants engaged in a process of self-reflection and learning from various organizations, leading to improved thinking, and working methods that could be applied to neighboring establishments and industrial estates, enhancing overall safety outcomes.



## BUILDING SOCIAL IMPACT INITIATIVE (BSI)

WHA Group recognizes the importance of the quality of life and safety for all stakeholders, especially the workers of partners in the construction sector and construction contractors working on the Group’s projects. The Group is committed to collaborating with these partners and contractors to improve living conditions, support access to a better quality of life, and provide essential basic needs for workers and their families residing in construction camps. This cooperation is the starting point for creating a sustainable future for all parties. The main challenge in addressing this issue is ensuring that children living in construction camps receive their rights to access basic welfare, utilities, health services, and education.

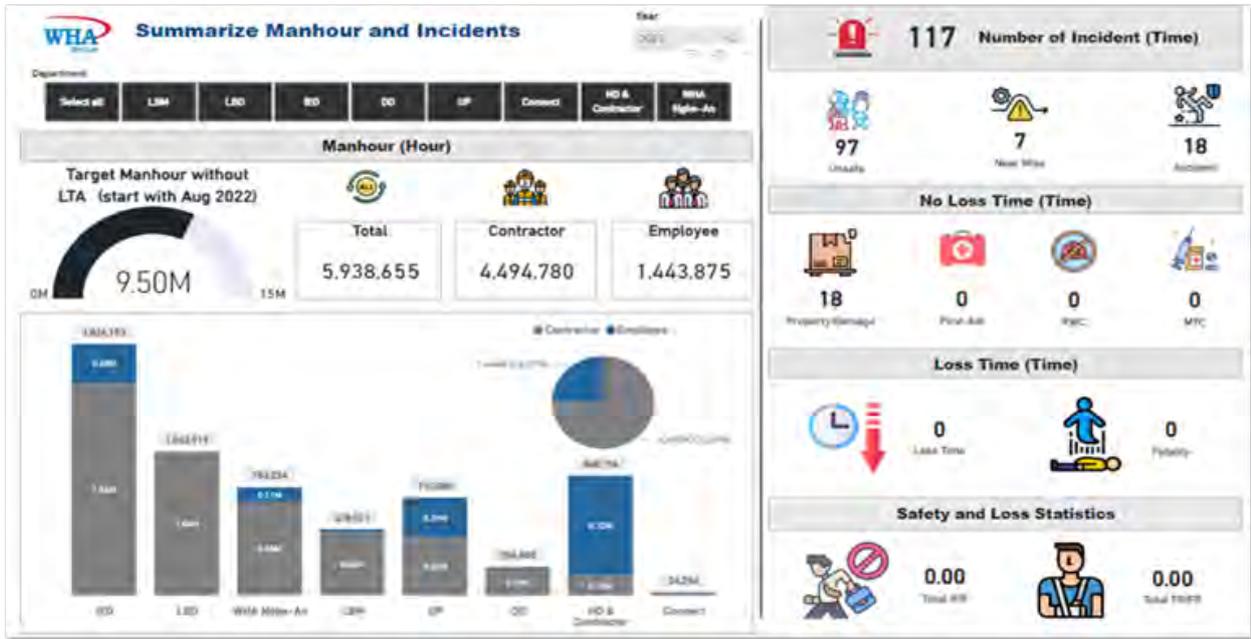


Therefore, in 2023, WHA Group and Baan Dek Foundation signed a memorandum of understanding to support the Building Social Impact Initiative (BSI). The initiative aims to create a safe environment and ensure access to health care, education, and protection for children and families living in construction camps. In 2023, the Group and Baan Dek Foundation began surveying construction camps to plan collaborative development, aiming to improve the quality of life for the labor force and their families.

Moreover, adopting the BSI framework aligns with WHA Group’s sustainability development strategy and social responsibility commitments. It also ties into the core principles of WHA Group, which are: W: Well-Being – striving for improved living conditions and sustainable environments, H: Human Progress – fostering advancement for all individuals in society, and Accessibility – creating opportunities for access to essential factors and a better quality of life.

WHA Group has set short-term and long-term goals for occupational health and safety operations based on the management system mentioned above. In 2023, the Group’s occupational health performance successfully prevented accidents and illnesses according to the set targets, as follows:

	2023 Annual Target	2023 Performance	5 Year Long-Term Target
 <b>Fatal accidents involving both employees and suppliers</b>	0	0	0
 <b>Work-stopping accidents involving employees and supplies</b>	0	0	0
<b>TRIFR</b>	<b>&lt;0.5</b>	<b>0.3</b>	<b>0</b>



## PERFORMANCE IN REDUCING OR PREVENTING THE RISK OF ACCIDENTS OR ILLNESSES FROM WORK

Safety and Occupational Health Risk Issues in 2023	2023 Annual Target	2023 Performance	2024 Annual Target
 Risk of exposure to hazardous chemicals at the industrial water production plant	0	0	0
 Risk of accidents in construction work	3	2	3
 Risk of accidents from transportation	0	0	0



WHA Group firmly believes that managing safety, occupational health, and a good working environment can create positive impacts for the organization, employees, and all stakeholders. The results from risk assessment and the implementation of comprehensive risk control measures, including the communication of safety policies and culture to employees and stakeholders, as well as the use of technology to enhance safety in the workplace, have led to a successful reduction in work-related accidents. This also mitigates the impacts on the health, lives, and property of employees, suppliers, contractors, and surrounding communities, as well as the environmental impacts that may arise from various incidents such as fires and chemical spills. Effective occupational health and safety management ensures business continuity and builds confidence among stakeholders, including customers, shareholders, and investors, ensuring that the environment remains unaffected by business-related accidents. This has resulted in increased acceptance and support from the community and the public, exemplified by positive responses during public hearings for new industrial estates.

Additionally, caring for and promoting the health and wellness of employees through the provision of health benefits such as health insurance, accident insurance, and annual health check-ups, as well as organizing wellness activities that cover both physical and mental health, and utilizing technology to improve

access to health services for employees, ensures that employees are prepared and confident in their work. This leads to optimal work performance and efficiency, reduces absenteeism and turnover rates, and fosters a sense of loyalty to the organization. Consequently, WHA Group's activities can continue seamlessly and develop rapidly.

Occupational health and safety and a good working environment have always been significant concerns for WHA Group throughout our business operations and in the future. The Group remains committed to improving our occupational health and safety management systems to achieve the goal of zero work-related accidents. For 2024, the Group has set targets to reduce contractor fatalities to zero, decrease contractor lost-time injuries by 50%, and lower the Total Recordable Injury Frequency Rate (TRIFR) to less than 0.50. To meet these targets, the Group emphasizes comprehensive risk assessment reviews of operational activities, studying past incident investigations, and continuously reviewing and enhancing current measures. Moreover, the Group plans to implement an online incident reporting and work request system, as well as an Emergency Alarm System. The integration of artificial intelligence (AI) technology will further enhance the organization's safety operations by processing and analyzing various data, leading to continuous development. Additionally, the Group is in the process of obtaining ISO 45001 occupational health and safety certification, with the goal of achieving this certification by 2024.



## COMMUNITY DEVELOPMENT AND STAKEHOLDER ENGAGEMENT



Community development is highly valued worldwide by leading companies as communities are stakeholders who experience both positive and negative impacts directly from business activities. Therefore, setting the operational direction and promoting the use of technology for community engagement and communication is crucial. In community development, monitoring and ensuring that the company's business operations do not negatively impact communities are important for building confidence among stakeholders and fostering peaceful coexistence between business and community sectors. This also supports sustainable social and economic security for communities and countries. WHA Group recognizes the significance of community development and stakeholder engagement; therefore, we are committed to always conducting business responsibly towards society for sustainable growth together.

WHA Group recognizes that Thailand's economy stands on two legs: the industrial economy and the community economy. Therefore, the Group is well aware of the importance of developing and fostering good relationships with communities to promote mutual benefits between the community and business operations. This includes reducing the chances of conflict between organizations and local communities residing around industrial estate areas. Consequently, WHA Group has determined business plans considering the direct and indirect impacts on communities, whether it's environmental pollution such as noise, air, wastewater, waste, or social issues related to marginalized populations and industrial accidents, etc. To prevent conflicts between organizations and stakeholders in the community that could lead to loss of trust and persistent, difficult-to-resolve problems, the Group has a strategy

that focuses on creating a balanced growth and being environmentally and socially friendly through the Bio-Circular-Green Economy Model (BCG). We have also aligned United Nation's Sustainable Development Goals (SDGs) with sustainable development activities. Meanwhile, we focus on developing and providing opportunities for surrounding communities to grow together with our business including structures that create mutual benefits, such as funding education to enhance the potential of local workforce.

In terms of environmental management for community, the Group has successfully achieved the carbon neutrality since 2021 and aims to reach Net Zero CO<sub>2</sub> Emissions in 2050. Consequently, we prioritize social and environmental activities that promote natural resource conservation, clean renewable energy development, and reduce CO<sub>2</sub> emissions, for example, WHA Clean Water for Planet Project that aims to improve the quality of water sources in the area for shared access within the communities, expanding tree planting areas with communities to increase O<sub>2</sub> and reduce CO<sub>2</sub> levels.

WHA Group also promotes the well-being of our employees and surrounding communities while strictly adhering to ethics for the benefit of all stakeholders. We also take measures to prevent risks and ensure that every community in our business areas is not violated in their right to a safe life, which is a fundamental right for surrounding communities and all groups of stakeholders. In line with our commitment to be “The Ultimate Solution for Sustainable Growth”, the Group will not abandon stakeholders but will drive growth and development among organizations, society, and the environment altogether. We also support various community development projects as part of the mission “WHA : WE SHAPE THE FUTURE”, dedicated to creating prosperity, livelihoods, and income for people and society, aiming for a better living and the ultimate goal of sustainable economic growth for Thailand. Moreover, our 21-year ability to integrate with local communities is another significant factor in the success of WHA Group, earning us trust and support from the communities throughout the years.

The graphic features a green background with a glowing globe in the center. At the top left, there are logos for 'WHA NET ZERO' and 'WHA ESG'. The main text in Thai reads: 'WHA มุ่งมั่นพัฒนาอย่างต่อเนื่องสู่ NET ZERO ในปี 2050 ผ่านโครงการต่างๆ ด้านความยั่งยืน และสิ่งแวดล้อม'. The WHA Group logo is in the top right. At the bottom, there is a blue banner with the slogan 'WE SHAPE THE FUTURE' and the tagline '#The Ultimate Solution For Sustainable Growth'. On the right side of the banner, there is a small WHA Wellbeing logo and Thai text: 'เราแบ่งปันความเป็นอยู่ที่ดีอันส่องทางชีวิตแก่สังคมที่มั่นคงยั่งยืน'.

### GROWING WITH COMMUNITY

WHA Group has been operating in accordance with the framework of our social responsibility policy that has been approved by the board of directors. The policy ensures that the Group’s business operations, surrounding communities, and the environment coexist harmoniously and sustainably, and also aim to conduct business to create sustainable growth in all sectors through WHA Group’s business processes. The policy also aims to be a part of Thailand’s economic growth, as well as to improve the environment. Additionally, it aims to create a better existence for society, in line with WHA Group’s commitment to being “The Ultimate Solution for Sustainable Growth.”

In addition, WHA Group has “WHA : WE SHAPE THE FUTURE” mission, which stems from our continuous efforts to use business development strategies for sustainable growth since the Group’s inception. In this mission, the Group demonstrates our commitment to creating positive impacts in various dimensions, such as improving quality of life, developing people, and providing access to opportunities. These efforts are guided by the acronym WHA, which signifies the key areas the Group aims to develop, including:



Following the development guidelines for the quality of society and communities, WHA Group is committed to delivering the highest quality services to customers while taking responsibility for environmental conservation through our business operations. This includes energy conservation, the use of renewable energy, biodiversity management, and the adoption of advanced technologies to ensure maximum operational efficiency while being environmentally and socially friendly. This is all part of the “Mission To The Sun” project, which consists of 9 projects aimed at creating new products and services to increase customer satisfaction and enhance the development of WHA Group’s organization and personnel, as well as creating benefits for society. Key projects include Green Logistics, Digital Assets, Digital Health Tech, and Circular Economy.

Moreover, WHA Group recognizes the significance of environmental management for both the organization and communities. Therefore, WHA Group has continuously been operating environmental management and resource conservation to drive a sustainable growth for the business, focusing on adapting a practical environmental management system. This includes the active management and monitoring of key environmental parameters such as biodiversity, wastewater quality, waste disposal, emissions, and resource conservation. These are the key parameters based on the nature of WHA Group’s operations in relation to customers, suppliers, and surrounding communities, as well as the influence on the Group’s business operations. We align practices with international standards such as the International Organization for Standardization (ISO) 14001 Environmental Management System and the ISO 9001 Quality Management System. As a result,

a framework for ensuring a consistent environmental management approach across all WHA Group business hubs is provided as follows:

- Due diligence at the pre-purchase/acquisition/ investment stage initial environmental audit of each new investment
- Project development with environmental requirements and resource efficiency
- Asset maintenance with a focus on environmental performance and resource efficiency
- Setting guidelines, trainings, and newsletters for property managers and tenants to ensure that all parties are aware of current information to comply with environmental standards and regulations

Projects of WHA Industrial Development (WHAID) and WHA Utilities and Power (WHAUP) businesses, in total 100% of operations, have undergone the Environmental Impact Assessment (EIA) study in accordance with the requirements and conditions outlined in the Promotion and Conservation of National Environmental Quality Act B.E. 2535 (1992). The EIA study considers the environmental and social impacts within a 5-kilometer radius of the project site through public participation to ensure that these impacts are monitored, mitigated, and controlled appropriately. Prior to proceeding with project construction, commencement, and operation phases, the EIA must be approved by the Office of Natural Resources and Environmental Policy and Planning (ONEP). Following that, WHA Group ensures that all environmental schemes specified in the

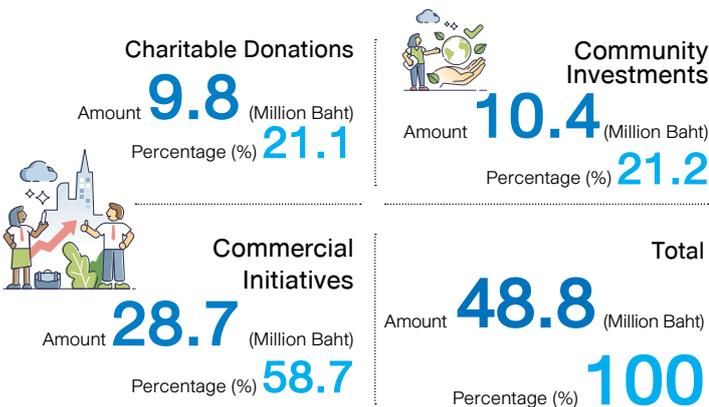
EIA requirements are followed. The project’s performance against EIA requirements and standards is monitored and reported to the Industrial Estate Authority of Thailand (IEAT), ONEP, and local provincial offices on a bi-annual basis, during January to June and July to December, respectively. WHA closely regulates, monitors and controls various management systems to prevent incidents that may be cause surrounding communities to be prone to environmental impacts resulting from our operations, such as chemical spills, wastewater discharge, excessive noise, and air pollution from factories.

Furthermore, WHA Group implemented the Unified Operation Center (UOC) system to centralize, consolidate, and project results from the monitoring systems offered at our projects and operation sites. This system checks various systems in real time and promotes transparency in environmental monitoring results, in order to prevent incidents and build confidence within the communities as well as follow the regulatory agencies’ requirement to publicize the results.

Furthermore, we realize that controlling operations to avoid negative impacts and engaging with the community may not be sufficient to achieve the goal of prosperity and improved well-being, as per the mission “WHA : WE SHAPE THE FUTURE”. Therefore, to create positive social impact, WHA Group has implemented a long-term project focused on developing communities in three areas: education, quality of life, and environment. The development scope reaches all stakeholders, including vulnerable groups, with activities such as providing survival kits to the elderly and bedridden patients, and supporting vaccination for the elderly, to strengthen community well-being and address community concerns.



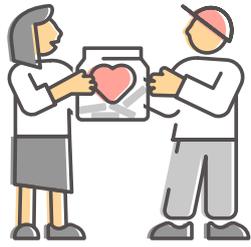
TYPES OF PHILANTHROPIC ACTIVITIES AND TYPE OF CONTRIBUTION



**CSR PROJECT PERFORMANCE**

In 2023, WHA Group conducted various Corporate Social Responsibility (CSR) activities for communities within a radius of 50 kilometers from the industrial estates. We allocated a budget of 48.8 Million Baht for the social activities listed in the table below. Employees of the Group contributed a total of 81,686 working hours to CSR activities, benefiting a total of 151,564 community members. Additionally, in 2023, the Group engaged with communities by working with 175 out of 177 villages in Rayong, Chonburi, and Saraburi, achieving a participation rate of 98%. To continuously engage with surrounding communities, WHA Group aims for a 99% community participation rate for company-related activities in 2024.

## Type of Contribution



Type of Contribution	Total amount (in local currency)
Cash contributions	9.8 Million Baht
Time: employee volunteering during paid working hours	18.0 Million Baht
In-kind giving: product or services donations, project/partnerships or similar	10.4 Million Baht
Management overheads	11.2 Million Baht



## PHILANTHROPIC ACTIVITIES EVALUATION

WHA Group has conducted local stakeholder engagement review to measure the success of each stakeholder engagement activities to ensure that the initiatives and processes implemented by the Group are effective and produce the most positive outcomes and benefits to the communities. Hence, WHA Group needs to assess and measure the performance of these social activities organized, as well as gather the lesson learned from these activities to incorporate them into the Group’s business processes and guide the improvement of the Group’s CSR strategy. The stakeholder engagement review will be conducted on an annual basis. Thus, WHA Group has adopted two KPIs to measure the performances:

- Community Satisfaction Survey (Units: as operation unit/%), conducted at the end of the engagement projects and activities.
- Operating strictly within the Environmental Impact Assessment (EIA) framework, which includes site

visits for gathering community feedback both before and after project implementation.

- Complaints Channels, e.g., complaints received through whistleblowing channels, and other communication channels, from local stakeholders, e.g., communities, authorities, media, associations and NGOs.
- Social Return on Investment (SROI)

In 2023, CSR Committee and Working Team are responsible for setting policies and guidelines for social and environmental responsibilities along with organizing activities to build good relationships and develop sustainably independent quality of life for communities surrounding the industrial estates. In 2023, WHA Group has implemented projects that promote education, community development, environment conservation, and the design of WHA’s industrial estates to have social spaces for the sustainable growth and development in surrounding communities as follows:

## 1. EDUCATION DEVELOPMENT PROJECTS

### WHA'S SCHOOL SUPPLIERS DONATION

In the academic year 2023, WHA Group, in collaboration with business partners and WHA's industrial estate entrepreneurs, organized activities to provide educational equipment to the students in the schools surrounding WHA industrial estate areas for the 25<sup>th</sup> consecutive year. In 2023, WHA Group distributed school bags with educational equipment to 71 schools and childcare centers, benefiting over 23,000 students. This project is a support initiative for the communities surrounding the industrial estates to have better quality of life while preserving the environment, which is in line with the Group's mission "WHA : WE SHAPE THE FUTURE" aiming to develop "The Ultimate Solution for Sustainable Growth". The satisfaction survey result of this project in 2023 showed that 99% of participants believed the project had a positive impact on supporting education, 97% felt it helped reduce parents' financial burden and the communication with schools was appropriate, and 96% thought the timeline of the activity was appropriate. Overall, all participants were satisfied with the project in 2023. WHA Group remains committed to continuously supporting education of youths, the future of the nation, in line with the concept "WHA : WE SHAPE THE FUTURE".



### WECYCLE PROJECT: UPCYCLING SCHOOL BAGS FROM PLASTIC BOTTLES

WHA Group collaborated with customers and entrepreneurs from WeCYCLE project to organize the upcycling school bags project for students who donated plastic bottles with WeCYCLE project. In 2023, there were four schools participating in the WeCYCLE project: Ban Khlong Kram School, Ban Nong Suea Chang School, Ban Map Lam Bit School, and Wat Nong Bon Wipatsana childcare center. This initiative aimed to build environmental consciousness in youths and promote the 3Rs concepts (Reduce, Reuse, Recycle).



**WHA Annual School Contribution Project Year 2023**  
On 6,8,11,12,13,14 September 2023

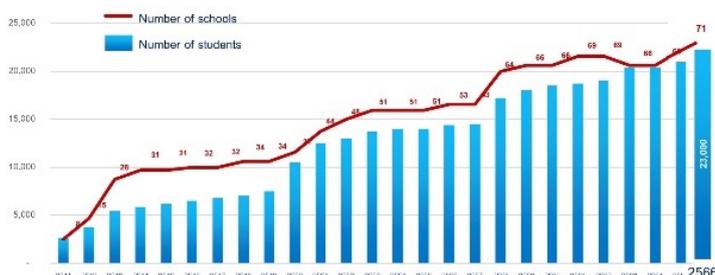


The Satisfaction Survey to The Project of WHA Annual School Contribution 2023



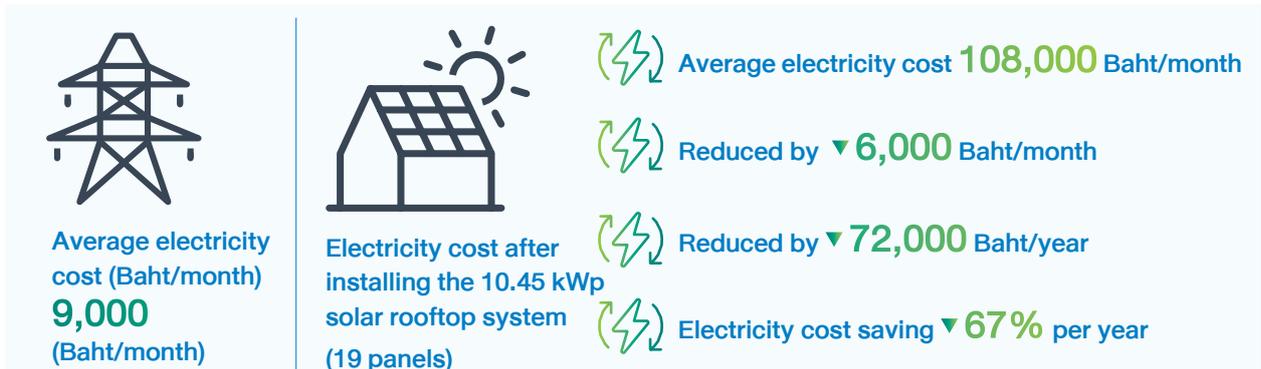
- 99% of participants believed the project had a positive impact on supporting education.
- 97% felt it helped reduce parents' financial burden.
- 97% the communication with schools was appropriate.
- 96% thought the timeline of the activity was appropriate.
- 100% all participants were satisfied with the project in 2023.

Number of students and schools in WHA Annual School Contribution Program from 1998 - 2023



**SHINE BRIGHTER WITH WHA: SOLAR ROOFTOP INSTALLATION FOR SCHOOLS IN RAYONG**

WHA Group joined Dr. Somyos Anantaprayoon Foundation to support solar rooftop installation for schools in Rayong under the Shine Brighter with WHA project. We delivered solar rooftops with the electricity generation capacity of 10.45 kWp to Nilkhom Sang Ton Eng Rayong Province 9 School, which has a total of 319 students. Additionally, we also provide sports equipment to the school. This project is to support education, promote the use of clean energy, reduce the school’s utility costs to allocate budget more efficiently for learning purposes, and create a community of sharing, in line with the sustainable organizational development framework. The Shine Brighter with WHA project aligns with the foundation’s mission of promoting the health and education of students in Thailand, alongside WHA Group’s efforts to improve the quality of life for youths and communities around WHA’s industrial states. This solar rooftop installation can save the schools up to 72,000 Baht per year or 67% of their annual electricity costs.



## WHA SCHOLARSHIP PROJECTS

WHA Group believes that youths are the future workforce and the nation's drivers. However, WHA Group recognizes that some students, despite being exceptionally talented and skilled, may be unable to fully pursue their education possible due to financial constraints. Therefore, the Group regards educational support as an important scheme for community development. We aspired to provide youths with opportunities to develop their skills and potentially improve their quality of life. As a result, WHA Group continues to provide educational support through scholarships for students in preschool, primary, and secondary schools in order to provide educational opportunities for underprivileged students and empower them to become capable youths. In 2023, WHA Group granted scholarships to students in schools around WHA Industrial estates totaling 693,000 Baht and supported Children's day activity for 71,000 Baht with the commitment to support children, the future of the nation, as stated in "WHA : WE SHAPE THE FUTURE" concept.



## GRANTS FOR THE SMART AND SKILLED

Currently, the labor market in Thailand, including factories in industrial estates, has a high demand for highly skilled, well-trained, and talented workforce. Therefore, the Office of Vocational Education created the Dual Vocational Education Program (DVE), in collaboration between the educational sector and private company factories, allowing students to receive theoretical education with on-the-job training simultaneously and enabling companies and industrial factories to train their workforce according to their specific needs. However, many promising students are unable to complete their courses due to financial constraints. Considering this, WHA Group has been supporting the DVE Program in collaboration with



Bankhai Technical College in Rayong for the past 14 years, by awarding grants to bright but disadvantaged undergraduates. Furthermore, we coordinated with customers in our industrial estates to assist students in locating on-the-job training opportunities. The only educational institution qualified for the DVE Program in the Eastern Economic Community (EEC) is Bankhai Technical College in Rayong. With the grants, there were a total of 115 students participating in this program up to now. In 2023, WHA Group awarded full scholarships to 13 students and around 100% of the DVE students were hired by WHA's customers in WHA industrial estates. Moreover, in 2023, we provided one scholarship for undergraduate studies, with the condition that the recipient had to return to become a teacher at Bankhai Technical College within the specified period. This was aimed at supporting Bankhai Technical College to have qualified education personnel to continue producing quality students.

In addition to promoting educational opportunities for youths, this program also plays a crucial role in promoting workforce development as a key mechanism in driving the EEC, which includes the strategic areas in Rayong, Chonburi, and Chachoengsao, continuing to attract more private investment. The government is currently developing major projects, such as motorways and double-track railway systems, as well as the expansion of U-Tapao International airport and seaport facilities, with infrastructure as one of the pillars of development. WHA Group recognizes the importance and aims to further support the development of capable youths to become significant workforce to drive the business of factories in WHA industrial estates located in EEC area.

## THE DUAL VOCATIONAL EDUCATION (DVE) PROJECT (SETTING A GOOD EXAMPLE IN THE COMMUNITY)

WHA Group along with Bankhai Technical College chose DVE participants based on their abilities and motivation to learn, and they will have the opportunity to become interns in businesses and factories within WHA industrial estates in the future. Mr. Prateep Chulalart, the director of Bankhai Technical College, said “Bankhai Technical College is in the connectivity zone between Pluak Daeng District and Ban Khai District, which are several industrial estate areas including the Eastern Seaboard Industrial Estate (Rayong), WHA Eastern Seaboard Industrial Estate 1-4, and WHA Eastern Industrial Estate (Map Ta Phut). It also located amidst various businesses and companies both domestic and international. Therefore, the college has an education approach of 100% dual-track curriculum which is a professional education management method resulting from agreements between the institution and companies.

The college’s standout major is the mechanical major, with approximately 600 students enrolled. Each year, most students from this department undergo internships at globally renowned factories located within the industrial estates in the Eastern Economic Corridor (EEC) zone. This is primarily facilitated through collaboration with WHA Group, which continuously supports scholarships for students and creates highly skilled labor for leading companies in WHA’s industrial estates. Additionally, WHA Group acts as a coordinator between these global factories and Bankhai Technical College, facilitating student internships. With the implementation of the EEC Model Type A education approach, the college can instantly collaborate with these global industrial factories. This approach has received positive feedback from all participating industrial factories.

Furthermore, Bankhai Technical College has students who have worked in the United States at Coorstek Advanced Materials Company, located in the WHA Eastern Seaboard Industrial Estate 4. These students had to learn the entire production process, from upstream to downstream, including hardware, software, and product design programs. Additionally, in Australia, students learned in factories manufacturing Computer Numerical Control (CNC), computers, or microprocessors used to control operations. CNC



manufacturing factories are not yet available in Thailand, so the knowledge gained becomes valuable when CNC manufacturing factories expands its base in Thailand expands to Thailand.

Students worked in the United States received a salary up to 80,000 Baht per person while students worked in Australia received a salary around 60,000 Baht per person. Their parents didn’t have to pay for any expenses and the returned students got to work as a group leader instantly since they already learned about the technology from upstream to downstream. Vocational students from Bankhai Technical College all graduated with immediate job opportunities, high incomes, and starting salaries of no less than 20,000 - 30,000 Baht per month. This is an important role model of “vocational education builds a comprehensive nation and future” of students from Bankhai Technical College.”



Miss Manassanan Yuenman, a student from the mechanical major at Bankhai Technical College and the first student to receive a scholarship from WHA Group for undergraduate program in the Faculty of Production and Industrial Engineering at King Mongkut’s University of Technology North Bangkok, said, “I am very glad to have received a full scholarship to continue my undergraduate studies from WHA. This helps alleviate the financial burden on my family, and I also get the opportunity to return as a teacher in the subject I have studied for future generations. Being a teacher is an honorable profession, and I promise to study diligently to become a good teacher for the future generations in the institution.”



The Dual Vocational Education program is considered beneficial for all parties involved. WHA Group is particularly proud to have participated in supporting this outstanding initiative that help create highly skilled labor, especially in sectors such as new-generation vehicles, smart electronics, agriculture and biotechnology, robotics, and other targeted industries aligning with Thailand 4.0 scheme. The institute also plans to launch courses related to electric vehicles in the near future, to meet the growth of electric vehicle industry.

**WHA TEACHER FELLOWSHIP PROGRAM**

Many primary schools around WHA industrial estate areas are currently dealing with issues related to a lack of qualified teachers. WHA Group recognizes the importance of basic education for the youths in the supervised area. Therefore, we have supported contract primary school teachers in various subjects for the schools within the Group’s industrial estate areas in Rayong and Chonburi Province by providing a total of 1,260,000 Baht funds for teachers from 7 different schools in the area. From the evaluation of funding provided to the teachers, we found that approximately 2,000 students from 7 schools had been trained by teachers sponsored by the Group each year.



**SCHOOL BUILDING RENOVATION PROGRAM FOR THE SCHOOLS AROUND WHA INDUSTRIAL ESTATES**



WHA Group organized activities for employees to benefit schools. WHA volunteers helped painting school buildings to improve cleanliness and aesthetics, creating a learning environment for youths. The activities included renovating buildings, repairing the school cafeteria, painting school fences, and enhancing the landscape for schools surrounding WHA’s industrial estates in Rayong, Chonburi, and Saraburi. This initiative aimed to beautify and develop learning facilities, as well as enhance educational efficiency in schools within the industrial estate areas to sustainably develop together with the economy. Additionally, WHA Group supported to improve the quality of the school’s drinking water system to be sufficient for students’ needs. WHA Group donated waste segregation facilities to Ban Hin Kong School in Rayong as well as organized WeCYCLE campaign to promote plastic bottle recycling at schools around WHA’s industrial estate areas, fostering environmental conservation through the principles of Reduce, Reuse, Recycle (3Rs) among children, thereby reducing the amount of waste and increasing recycling rates.



### TOXIN-FREE VEGETABLE GARDENS FOR SCHOOL LUNCH PROJECT

WHA Group initiated a toxin-free vegetable garden project to use the produce as ingredients for lunch, while enhancing extracurriculum learning opportunities for youths. The gardens were provided to Ban Maenam Khu School, Maenam Khu Subdistrict, Pluak Daeng District, Rayong Province, and Ban Map Lam Bit School, Klong Kio Subdistrict, Ban Bueng District, Chonburi Province. Not only that the schools have safe and toxin-free ingredients for school lunch, but this project also help reduce the costs of meals, promote children to understand agricultural cultivation. Additionally, surplus produce can be distributed, creating experiences and additional income.

## PROJECT SUPPORTING A SAFE ENVIRONMENT, AND ACCESS TO HEALTH, EDUCATION, AND PROTECTION FOR CHILDREN AND FAMILIES RESIDING IN CONSTRUCTION WORKER CAMPS

WHA Group has signed an MOU with Baan Dek Foundation to support the Building Social Impact Initiative (BSI), aimed at creating a safe environment and providing access to health, education, and protection services children and families residing in construction worker camps. WHA Group committed to serve as a communication hub for partners, suppliers, and industrial entrepreneurs Thailand, particularly construction companies and contractors, to highlight the importance of developing living conditions and facilitating access to essential services for children within and around construction worker camps. The goal is to lay the groundwork for a sustainable future for all stakeholders. The primary challenge in addressing this issue is ensuring that children in construction worker camps have the right to access basic public utilities, welfare services, healthcare, and education.



## 2. BCG ECONOMY MODEL SUPPORT ACTIVITIES



### WeCYCLE PROJECT: USED PLASTIC BOTTLES

As the world is facing climate change and global warming, resulting in natural phenomena impacting human life directly and indirectly, every country is collaborating to find ways to prevent and address the issue. Due to this, all executives and employees of WHA Group place great importance on environmental conservation and are concerned about these changes.

Therefore, WHA Group has established business guidelines and activities focusing on coexisting with surrounding communities and environment harmoniously and sustainably, under the Group's mission "The Ultimate Solution for Sustainable Growth". This led to the WeCYCLE project, initiated since March 2022 under the collaboration of WHA Group, WHAUP, and other companies under WHA Group, in cooperation with PTT Global Chemical



Public Company Limited, partners, and entrepreneurs in WHA's industrial estates, totaling 79 companies. The objective was to collectively build environmental awareness and reduce plastic waste from landfills, to mitigate carbon dioxide emissions and global warming. The project also aimed to upcycle processes by producing 1,830 upcycle school bags for students in schools participating in the WeCYCLE project. Used plastic bottles donated from entrepreneurs were imported into the upcycling process through GC's logistics system via YOUTURN project and woven together with water hyacinth fibers from the water treatment system in WHA Clean Water for Planet project. For the fibers, WHA Group asked Ban Chak Mahat community in Rayong to weave them, which help community members create side jobs, gain income, and live sustainably with WHA industrial estates.



Making this upcycled fabric created jobs and generated income of around 40,000 Baht for the Ban Chak Mahat community by turning water hyacinths into fibers, before they were transformed and spun with PET plastic fibers and cotton fibers to be woven into a single fabric. Additionally, WHA Group also used this new type of fabric to produce New Year gift baskets and iPad cases as 2023 New Year gifts for valued customers of the Group, who are very satisfied with the gifts. In addition, WHA Group can generate income from selling water hyacinth fiber from the water ponds within the industrial estate to be processed into Upcycling products, generating approximately 60,000 Baht.

WeCYCLE Project accepted plastic bottle donations from various units related to WHA Group, including employees, customers, companies, industrial factories within WHA industrial estates, local institutions, and schools. WHA staff collected used plastics bottles from project participants in WHA's WeCYCLE center, and then had YOUTURN cars of GC taken them into

recycle process. Collection bins called "YOUTURN" were also placed to collect used PET plastic bottles at key locations such as WHA Tower (headquarter) in Bang Na District, and various areas within WHA's industrial estates as follows:

1. ESIE Plaza 1 Building, Eastern Seaboard Industrial Estate (Rayong)
2. ESIE Plaza 2 Building, Eastern Seaboard Industrial Estate (Rayong)
3. WHA Plaza 3 Building, WHA Eastern Seaboard Industrial Estate 1
4. WHA City Park, WHA Eastern Seaboard Industrial Estate 2
5. Eastern Seaboard Industrial Estate (Rayong) Office
6. WHA Eastern Seaboard Industrial Estate 4 Office
7. WHA Eastern Industrial Estate (Map Ta Phut) Office
8. WHA Rayong Industrial Land Office
9. WHA Saraburi Industrial Land Office

The bins were also placed in participants' areas, such as at SAIC Motor-CP Co., Ltd, Fabrinet Co., Ltd., etc.



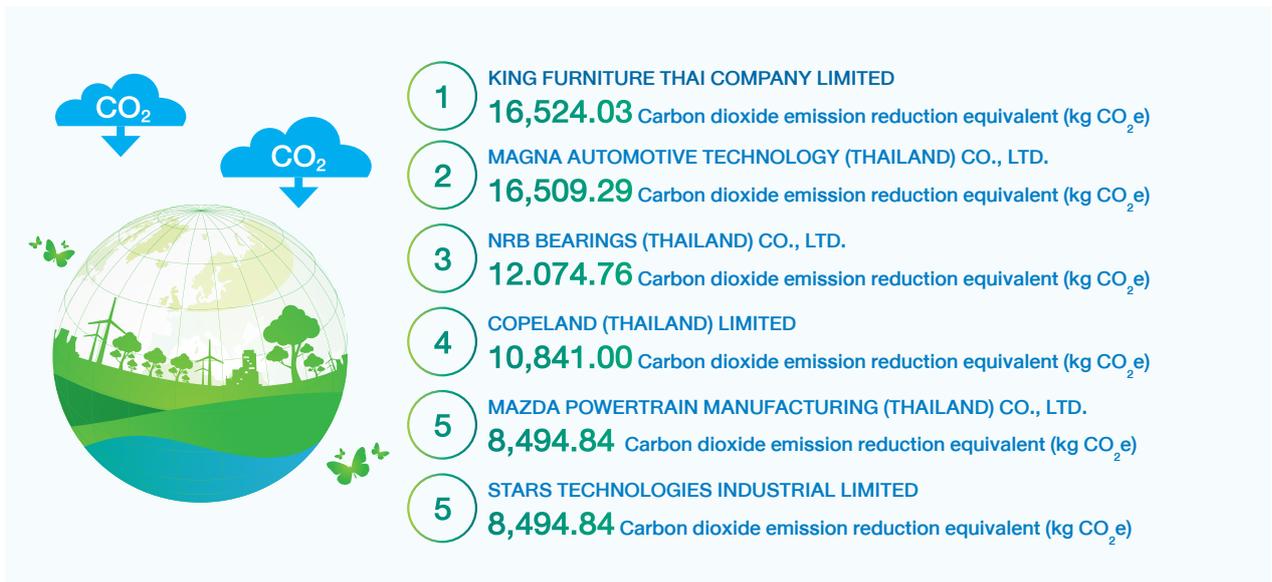
### WeCYCLE PROJECT: USED PAPER

“WeCYCLE project: used paper” is a continuous project from the idea of recycling used items to create benefits and built environmental conservation mindset in people within WHA Eco System. We collected used paper to produce educational products for enhancing learning skills for students surrounding WHA industrial estates. This project received cooperation from a partner, SCG Packaging Public Company Limited, in recycling used paper and producing educational products for libraries. Since starting the project in March 2023, the project received donations of used paper from participants totaling 25 tons, or equivalent GHG reduction from the carbon emission of landfill waste of 75 tons CO<sub>2</sub>e, comparable to planting 8,286 trees to absorb carbon dioxide in 1 year.



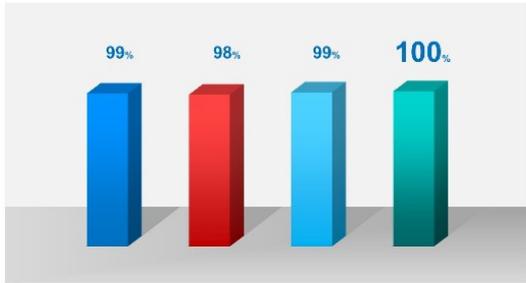
Since starting the project in 2022 until now in 2023, WeCYCLE project has been donated 37 tons of used plastic bottles totaling 37 tons or 2,153,141 bottles of 600 ml. size, and 25 tons of used paper. This was equivalent to GHG reduction from carbon emission factor from landfill waste around 159 tons CO<sub>2</sub>e, comparable to planting 17,719 trees to absorb carbon dioxide emissions over a period of 1 year.

In December 2023, WHA Group, IEAT, PTT Global Chemical Public Company Limited, SCG Packaging Public Company Limited and over 80 companies of partners, collaborated in WeCYCLE Day event at Eastern Seaboard Industrial Estate (Rayong) for the 2<sup>nd</sup> consecutive year. This event aimed to reaffirm the commitment to sustainable and environmentally friendly business operations, as well as to promote social and quality of life in all dimensions. As appreciation to the participants, WHA Group presented certificates made from recycled materials to WeCYCLE partners totaling 80 companies. The Group also awarded honorable plaques made from recycled materials to top 5 partners with the highest donations of used PET bottles and paper, calculated by the equivalent of carbon dioxide emission reduction. The top 5 are as follows:

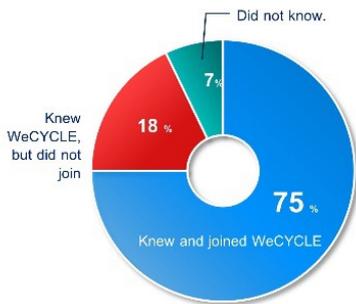


This WeCYCLE Day event reflected WHA : WE SHAPE THE FUTURE concept as a way of value creation to create a sustainable future for all parties, aligning with the Group’s current business development mission “The Ultimate Solution for Sustainable Growth”. It set a guideline that emphasize corporate governance, human resources management, and natural resource conservation.

The Satisfaction Survey : WeCYCLE Day – We Shape The Future and WHA Pan Gan Market  
 Monday 18<sup>th</sup> December 2023 at ESIE Plaza 1, Eastern Seaboard Industrial Estate (Rayong)



- 99% of them liked WeCYCLE DAY.
- 98% thought WeCYCLE project helped reducing the amount of plastic waste.
- 99% suggested that it should be held every year.
- 96% would definitely participate in WeCYCLE activities in the future.



- Recommendation materials to Recycle / Upcycle
- Cloth bag
  - Scrap wood
  - Glass bottle
  - Other plastic
  - Straw
  - Used calendar
  - Used cooking oil
  - Scrap of rope
  - Used paper
  - Plant waste
  - Used can
  - Bottle cap
  - Milk carton
  - Food scraps
  - Wood pallet
  - Used staples
  - Cloths

Based on the satisfaction survey of participants in the “WeCYCLE DAY – We Shape The Future” event, all participants viewed WeCYCLE as a good and beneficial project that helps with environmental conservation. 99% of them liked WeCYCLE DAY and suggested that it should be held every year, 98% thought WeCYCLE project helped reducing the amount of plastic waste, and 96% would definitely participate in WeCYCLE activities in the future. Moreover, opinions were sought regarding reusable materials for future recycling activities. It was found that participants want to recycle used oil, glass bottles, milk cartons, etc.

### 3. COMMUNITY DEVELOPMENT PROJECTS

In 2023, WHA Group has initiated various projects to promote livelihood of communities as follows:

#### VULNERABLE GROUPS SUPPORT PROGRAM

WHA Group values every group of people relevant with the organization, including vulnerable groups such as elderly, people with disabilities, and bedridden patients. Therefore, we organized activities to promote quality of life and health of the elderly in Pluak Daeng District, Ban Khai District, Rayong Province, and in many areas in Chonburi such as Ban Surasak, Ban Rawoeng, Ban Khao Khansong. WHA Group hosted health promotion activities and distributed survival kits to elderly and bedridden patients living in communities around WHA industrial estates with a total value of over 180,000 Baht.





Additionally, WHA Group also initiated a drug user/addicts support project of Rayong Social Rehabilitation Center for Pluak Daeng District office in Rayong. Pluak Daeng’s sheriff served as a chairman of the project’s opening ceremony together with relevant government agencies, such as Pluak Daeng Hospital, subdistrict health promoting hospitals. This project is to support drug-addicted patients in the area by strengthening physical health and mental resilience, as well as adjusting attitude and fostering understanding through the Social Rehabilitation Center.



### INFLUENZA VACCINATION PROGRAM

WHA Group prioritizes quality of life for the elderly, individuals at high risk of complications or influenza virus infections, including individuals with limited access to the vaccine. Therefore, we organized a project to support influenza vaccination by providing 805 doses of influenza vaccine to community members, including 225 doses for Pluak Daeng Subdistrict, Pluak Daeng District, Rayong Province, 250 doses for Khao Khansong Subdistrict Administrative Organization, and 330 doses for Bowin Subdistrict, Si Racha District, Chonburi Province, to protect elderly and high-risk groups from influenza and promote good health and well-being among community members. This project is in line with the Group’s CSR policy, focusing on promoting health and well-being of communities surrounding WHA industrial estates



**COLLABORATING PROJECT WITH ENTREPRENEURS**

WHA Saraburi Industrial Land (WHA SIL) and WHA Rayong Industrial Land (WHA RIL), together with their customers, have established a community relationship committee where the members have cooperatively collected funds to conduct community development projects to enhance the surrounding communities’ livelihoods. There are currently 66 factories participating in the committee with a shared budget of 1,890,000 Baht per year. In 2023, WHA SIL, collaborating with their community relationship committee, held the 2023 “Phee Pan Pun Nong” project to provide scholarships

to financially disadvantaged students and an activity to distribute school bags from WeCYCLE: used plastic bottles project to youths at the multipurpose building, Nong Pla Mo Subdistrict Administrative Organization, Saraburi. There was also the “We Care Nong Kae” project which is a collaboration between CSR committees of WHA SIL and WHA RIL, with total members of 23 factories. In 2023, they had a total budget of 1,687,000 Baht, allocated for scholarships, religious activities, and other activities organized together with WHA RIL’s CSR committee.



### WHA PAN GAN PROJECT

WHA PAN GAN is a project supporting local community products and specialties made by local people who live in communities around the Group’s industrial estates in Chon Buri and Rayong. There are promotion channels through social media such as Facebook, YouTube, and website pangan.wha-industrialestate.com/en/home, to connect sellers and buyers and act as a showcase of various products ranging from handmade crafts and traditional medicines to local food items and homemade delicacies. This project

aims to support communities to reach a global audience and provide opportunities to increase sales.

The project welcomes all sellers and supports sales channels for micro-entrepreneurs, food producers, small industry owners, and housewives to promote and sell their products to a larger market. It is considered as WHA Group’s CSR initiative enhancing job creation and local economic development. This opportunity has gained income for many households, allowing them to have better quality of life and secure better futures for their children. Furthermore, it also preserves the community’s heritage and passing on the art of handicrafts and specialty food products from various hometowns. This represents the cultural and traditional values based on agricultural products and natural materials, while also supports the transmission of skills from one generation to the next. WHA Group has been working on this project with consistently positive response.



**โครงการ WHA ปันปัน**  
ร่วมสนับสนุนผลิตภัณฑ์ชุมชน

ร้านมงคลเบเกอรี่, รัชต์จัดขนมเบเกอรี่, เด็กโฮมเบด, เด็กวันเกิด และ-กาแฟสด

78/6 หมู่ 8 ต.เขาคันทรง อ.ศรีราชา จ.ชลบุรี 20110 (WHA ESIE 1)  
083 7745064  
มงคลเบเกอรี่



In 2023, WHA Group promoted community products in the project via WHA PAN GAN online marketplace, and supported communities by hosting a community market, “WHA PAN GAN MARKET”, at ESIE Plaza 1, Eastern Seaboard Industrial Estate (Rayong). There were 16 community stores that joined to sell local products such as food, snack, beverages, wickers, naturally dyed shirts, etc. The Group also purchased products from the project for New Year gifts for agencies, customers, sponsors, and other people relevant to the Group. We also bought other products such as snack, food and beverages, as well as provided selling booths at the Group’s meetings or seminars, which is worth 800,000 Baht. In total, there are products from 45 stores in 12 categories in WHA PAN GAN project.



## COMMUNITY CAREER PROMOTION PROJECT

WHA Group values sustainable coexistence, therefore, we participated in community career promotion aiming to promote income and well-being for community members. We hosted career promoting activities in various form, for example, inviting speakers from the community who have knowledge and expertise in production and distribution of community products to share knowledge and provide community members with trainings so they can adapt the knowledge to be their additional careers.

The Group also supported community product development to improve the product quality such as providing tools and equipment for honey collection to the Pluak Daeng bee farm community enterprise group in Ta Sit Subdistrict, Pluak Daeng District, Rayong Province. This support helped enhancing the capacity of honey production and distribution and increasing income for the community. We also supported the enterprise group by purchasing honey products every year.

Moreover, WHA Group was a part in the plantation of 2,800 marigolds and 3,000 sunflowers in Nong Bua Subdistrict, Ban Khai District, Rayong Province as the additional income and joint activity for the community. Nevertheless, the Group supported the development of local fabric products, art training activities, printed fabric from natural dyes, tools for Nong Bua subdistrict's tie dye enterprise group, equipment for raising stingless bees for Chanrong Makhham Khu Community Enterprise, and frog cage and non-toxic vegetables in baskets activities of Nong Bua's women group. We also supported local food development for a better quality and aesthetics to be in demand in the market which would help increase additional income of the communities.

Additionally, WHA Group organized training and study tours in Petchaburi and Prachuap Khiri Khan Province for female volunteer groups from Bang But Subdistrict, Ban Khai District, Rayong Province. There were members from 12 villages participated in this program to study about job creation to develop and enhance the efficiency of female volunteers to further share such knowledge and promote income for the community members.





### WHA E-JOB MARKET PROJECT

WHA Group continuously held “WHA E-Job Market” project as a part of the Group’s CSR initiatives. We adapted our specialty in technology to support companies and entrepreneurs within industrial estates in Rayong and Chonburi to announce job vacancies through an online platform where it connected the recruitment or human resource needs of our customers with expectations and qualifications of job seekers. It is easily accessible via the Group’s website, therefore, graduates and job seekers from all over the country can look for job openings on the website <https://www.wha-industrialestate.com/en/job-pool> or in the QR code below.



The project’s goal is to increase hiring rates in the surrounding communities by offering jobs within the industrial estates, promoting through local agencies, and sending this database to WHA Group’s customers for consideration which benefited to all parties including WHA Group, customers, and communities. WHA Group gained the benefits from created value added for our cutomers and got new employees to fill in the vacancies, especially in production department. In terms of communities, this project opened a new channel of job searching for community members and chances to hire new skilled and talented personnel for companies who are the Group’s customers. Additionally, the whole process is conducted in online platform which helps our customers reducing paper used in recruitment forms and process.

**เปิดตำแหน่งงาน WHA Job Pool**  
แหล่งงานในนิคมอุตสาหกรรมของ WHA Group

<b>YAMASEI</b>	<b>YAMASEI THAI CO., LTD.</b>	1 ตำแหน่ง
	MARKETING MANAGER	
	<b>NAKAGAWA SANGYO (THAILAND) CO., LTD.</b>	1 ตำแหน่ง
	MARKETING MANAGER	
<b>NIPPON STEEL</b>	<b>NIPPON STEEL WELDING (THAILAND) CO., LTD.</b>	1 ตำแหน่ง
	JAPANESE INTERPRETER	
<b>FTS</b>	<b>FTS AUTOMOTIVE (THAILAND) CO., LTD.</b>	1 ตำแหน่ง
	OFFICER (QA/QC)	
<b>TRINITY</b>	<b>TANATEX CHEMICALS (THAILAND) CO., LTD.</b>	1 ตำแหน่ง
	TECHNICAL SERVICE LAB TECHNICIAN	
<b>THAI SUMMIT ROLL FORMING TECHNOLOGY CO., LTD.</b>		5 ตำแหน่ง
	พนักงานฝ่ายผลิต	
<b>GEEST</b>	<b>GLOBAL ECO-CAN STOCK (THAILAND) CO., LTD.</b>	1 ตำแหน่ง
	พนักงานฝ่ายผลิต (DEC)	
<b>SAIC MOTOR - CF CO., LTD.</b>		1 ตำแหน่ง
	QUALITY ROAD TEST ENGINEER	

**WHA JOB POOL** เปิดตำแหน่งงานประจำโรงงาน  
แหล่งงานในนิคมอุตสาหกรรมของ WHA Group

<b>FRISM TELECOM ASIA</b>	<b>FRISM TELECOM ASIA LTD.</b>	
	DEPUTY PRODUCTION MANAGER/SUPERVISOR	2 ตำแหน่ง
	ADMINISTRATIVE SPECIALIST OR ASSISTANT	1 ตำแหน่ง
<b>GRAND TECH</b>	<b>GRAND TECH PRECISION MANUFACTURING (THAILAND) CO., LTD.</b>	
	พนักงาน SALES	2 ตำแหน่ง
	พนักงาน QC	2 ตำแหน่ง
	พนักงานฝ่ายผลิต	2 ตำแหน่ง
<b>MAX</b>	<b>MAX (THAILAND) CO., LTD.</b>	
	PRODUCTION SUPERVISOR (CAN START IN JANUARY 2024)	1 ตำแหน่ง
<b>SYNOLEC</b>	<b>SYNOLEC TECHNOLOGY (THAILAND) CO., LTD.</b>	
	QUALITY MANAGER	1 ตำแหน่ง
	CASHER SPECIALIST	1 ตำแหน่ง
	BOI SPECIALIST	1 ตำแหน่ง
	ADMIN & TRANSLATOR	1 ตำแหน่ง
	ACCOUNTING SPECIALIST	1 ตำแหน่ง

## SPORT SUPPORT PROJECT

WHA Group acknowledge the importance of health and sports; therefore, we promoted youths and community members to take care of their health and foster unity. We also have campaigned for them to stay away from substance abuse, aimed to develop the potential of youth football players to compete in national leagues, and encouraged youths to be more interested in sports. In 2023, the Group organized football courses for youths in the communities, provided support for football activities for local and community teams to inspire youths and residents to value sports and exercises, including other sports such as pétanque for the elderly and running to promote community health. Additionally, we provided financial support for sports activities totaling over 11 Million Baht.



## 4. HEALTH PROMOTION PROJECT

### PROMOTE PUBLIC HEALTH WITH DIGITAL HEALTH TECHNOLOGY

WHA Group encouraged and developed digital healthcare through WHAbit platform. We aimed to enhance access to healthcare and medical services with technology to improve health and well-being of employees of the Group and all entrepreneurs within WHA industrial estates, WHA logistics centers, and WHA office buildings. WHAbit is a highly healthcare service application that connects online services with offline channels. In 2023, the new version of WHAbit was developed to modernize and personalize health experiences, covering diagnostics, medical treatment, rehabilitation, and preventive health measures. It features telemedicine, allowing users to consult with doctors online, received personalized health notifications and advice, and engage in “Fit & Fun” health challenge activities. It also includes a digital clinic and a dashboard to help organizations analyze their employees’ health.



WHAbit platform reaffirms WHA Group’s goal to not only create a good working environment in industrial estates but also to promote health and well-being of employees within industrial estates through an efficient and comprehensive access to medical care 24/7. Additionally, it helps elevate the capabilities of medical and public health services. These efforts raise awareness, provide societal benefits, reduce overcrowded medical facilities, and enable users to access quality public health services. Ultimately, it contributes to the well-being of employees, making the workplace a happy place to work and resulting in improved work quality.

### CERVICAL CANCER SCREENING FOR FEMALE EMPLOYEES WITHIN WHA INDUSTRIAL ESTATE AREAS

WHA Group, partnering with Bangkok Hospital Pluakdaeng, organized a cervical cancer screening project for 4,000 female employees and women within WHA industrial estate areas, free of charge. We aim to screen and prevent cervical cancer, a disease prevalent among Thai women. This initiative has encouraged female employees to take care of their health, prevent cervical cancer, and ensure timely treatment if necessary.





**SUPPORT FACULTY OF MEDICINE RAMATHIBODI HOSPITAL, MAHIDOL UNIVERSITY’S “WIFI 6E CONNECTION TO ENHANCE EDICAL SERVICES AND EDUCATION” PROJECT**

WHA Group donated 2,000,000 Baht to the Ramathibodi Foundation to support the “WiFi 6E connection to enhance edical services and education” project, a collaboratib effort among the Faculty of Medicine Ramathibodi Hospital, Mahidol University, the National Broadcasting and Telecommunication Commission (NBTC), and both public and private network partners. This project integrated Wifi 6E technology with medical knowledge to improve patient care systems by using metaverse technology to medical education such as hosting anatomy classes or enhancing patient care. For example, it served the needs of chronically ill patients with travel limitations by allowing them to experience virtual reality travel. Eventhough this project is still in the development and research phase to assess its practical benefits for broader implementation, WHA Group recognized the importance of using technology to advance medical practice and supported this project.

**PROMOTE PUBLIC HEALTH BY DONATING MEDICAL SUPPLIES FOR HOSPITALS AND MEDICAL FACILITIES IN COMOMMUNITY**

WHA Groups focuses on and cares about community health; therefore, we made 500 “Pan Sook” pillowcases from upcycled plastic bottles from WeCYCLE project, with the donation from over 71 entrepreneurs within WHA industrial estates, local organizations, and schools. The upcycled fabric, woven from plastic bottle fibers mixed with anti-virus solution, was used to make pillowcases specifically for bedridden patients or those requiring special care. They were donated to Pluak Daeng Hospital and Nikom Pattana Hospital in Rayong Province. Additionally, they were given to disadvantaged bedridden patients within WHA industrial estate areas, including Ta Sit Subdistrict Administrative Organization, Khao Khansong Subdistrict Administrative Organization, and Chompon Chaophraya Subdistrict Municipality. We also provided food and beverages for medical and hospital staffs at vaccination centers at hospitals and medical facilities in communities around WHA industrial estates.



## THE COLLABORATION WITH SIRIRAJ HOSPITAL AND THAI RED CROSS SOCIETY TO HOST BLOOD DONATION ACTIVITIES

WHA Group collaborated with Siriraj Hospital for blood donation at the headquarter, WHA Tower, having employees, customers, and nearby community members participated. We also partnered with Thai Red Cross Society for blood donation at WHA industrial estate offices in Rayong, Chonburi, and Saraburi Province.



## 5. ENVIRONMENTAL CARE PROJECT

WHA Group prioritizes operating business in line with ESG, a balance between 3 dimensions, environmental, social, and economic. We also focus on developing our services to be an effective and sustainable solution to meet the expectation of our customers. Therefore, we have hosted various activities to support the environmental conservation concept, as follows:

### WHA CLEAN WATER FOR PLANET PROJECT

Established since 2016, WHA Clean Water for Planet project initiated to treating and managing wastewater, raising awareness about the importance of water resources, and promoting accurate understanding and collective consciousness among communities about the significance of natural resources conservation. WHA Group has undertaken the construction and delivery of wastewater treatment system to different communities to improve the water quality in canals using eco-friendly constructed wetland, inspired by the late King Bhumibol Adulyadej’s (King Rama IX). Currently, the Group has implemented the following projects:



## 1) TRAINING COURSES FOR STUDENTS AND KNOWLEDGE SHARING WITH LOCAL ORGANIZATIONS

In collaboration with academic institutions, WHA Group provided students with training courses on water conservation and wastewater management. The group also offered internship programs for university students each year so the youths can gain newfound knowledge from expertise specialized in water resource and wastewater management. The internship program had 8 students participating in 2023, including 2 Mahidol University students, 2 Suranaree University students, 2 Mahasarakham University students, and 2 Ban Khai Technical College students.



Apart from knowledge sharing for youths in secondary and undergraduate levels, WHA Group also encouraged interested organizations including government agencies such as the executives of the Metropolitan Waterworks Authority (MWA), the local administrative officials of Pluak Daeng District, Rayong including Pluak Daeng sheriff, chief officer, and other community leaders to study the water treatment system and water management within WHA industrial estates. WHA Group expected them to gain knowledge from our expertise who are specialized in water resource and wastewater management to further understand sustainable coexistence and adapt the knowledge for their agencies.

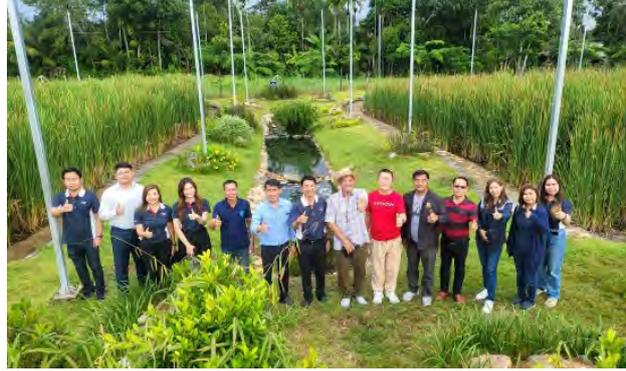


Therefore, we allowed students and organizations to study the Smart Eco Industrial Estate, Smart Office Solutions, and Smart Logistics systems which can be connected with the Group's Unified Operation Center (UOC) at the headquarter, WHA Tower. This enabled real-time monitoring of various environmental conditions such as air quality, water and wastewater quality, rainfall levels, and traffic management. In 2023, about 2,000 individuals, including government officials, student groups, and other interested parties, visited WHA's operations.

## 2) “WHA CLEAN WATER FOR PLANET LEARNING CENTER” ESTABLISHMENT



WHA Group has delivered a prototype community wastewater treatment system to Pluak Daeng Subdistrict Administrative Organization in Pluak Daeng District, Rayong Province, located near Eastern Seaboard Industrial Estate (Rayong). The system can treat 400 cubic meters of wastewater per day as a constructed wetland using natural technology, plants and microbes, to treat wastewater. Moreover, WHA Group is committed to sharing knowledge and expertise in wastewater treatment with the officials of Pluak Daeng Subdistrict Administrative Organization to ensure sustainable management of community water resources. In 2023, the Group hosted a “community wastewater management and natural resource and environmental conservation” workshop as a part of the Beautiful Canal Project for 160 officials of Nonthaburi City Municipality, Nonthaburi Province, at Nong Kla wastewater treatment system. We shared knowledge about wastewater treatment technology using plant filtration, reducing environmental issues from community’s wastewater, and personalized wastewater treatment for each community. This event aimed to provide communities with the management for wastewater treatment system in community water sources as well as sustainable quality water sources. Additionally, they also studied a community wastewater treatment system at a constructed wetland of Nong Kla community, to learn the mechanism of constructed wetland on wastewater treatment.



WHA Group also has a project to establish WHA Group Innovation and Learning Center at WHA Tower as a center to exhibiting knowledge and expertise in management and technology of WHA Group to disseminate sustainable management knowledge, showcasing innovations technology to interested individuals. The project was already studied, designed, and has started the construction in 2023 expecting to be finished in 2024.

### 3) COMMUNITY WHA CLEAN WATER FOR PLANET PROGRAM



The Pluak Daeng constructed wetland project was the first community WHA Clean Water for Planet program that WHA Group proudly presented to Pluak Daeng Subdistrict Administrative Organization in Rayong. This system is a natural technology and considered eco-friendly, cost-effective, and low maintenance. In 2023, the Pluak Daeng constructed wetland diverted 98,340 cubic meters wastewater from the community's water source and returned 98,340 cubic meters clean water (treated water equivalent to wastewater entering the treatment system) to the communities including 481 households or about 1,200 people. As a result, this process may reduce the risk of complaints regarding water pollution directed at WHA Group.



Later, WHA Group organized the second community WHA Clean Water for Planet program. On September 1, 2022 the Group delivered Nong Khla constructed wetland wastewater treatment system to Nong Khla Subdistrict Municipality in Chanthaburi Province. It was a collaboration between the Group and Industrial Estate Authority of Thailand, Wang Tanot Water Basin Committee, Nong Khla Subdistrict Municipal Council members, Thai Industrial Estate and Strategic Partner Association, Water and Environment Institute for Sustainability (WEIS), The Federation of Thai Industries, and Map Ta Phut Entrepreneur Club to treat community wastewater in Nong Khla Subdistrict Municipality area. The system was implemented by WHAUP under the concept of WHA Clean Water for Planet covering an area of 15 rai. It has the capacity to treat up to 400 cubic meters of wastewater per day and can accommodate the possible increase of wastewater volume up to twice the capacity, reaching 800 cubic meters per day. The system receives wastewater from Nong Khla community and treats it using natural processes by plants such as the cattail and Bird of paradise trees which can absorb organic substances in biological wastewater treatment. Additionally, photovoltaic systems have been used in the project to contribute to its sustainability and environmental conservation efforts.



4. To create a recreation area for Nong Khla community. (more details on the process of constructed wetland wastewater treatment system in the water management chapter)

In 2023, WHA Clean Water for Planet for communities in Nong Khla Subdistrict Municipality treated wastewater from community's water source and returned clean water to the communities totaling 142,400 cubic meters per year. More than 2,000 households were directly benefited from this project in both aspects, health and livelihood.

1. The objectives of the water management project for Nong Khla Subdistrict communities are
2. To be a constructed wetland wastewater treatment system advanced in technology and environment for Nong Khla community.
3. To treat wastewater from Nong Khla community before releasing it into the natural water source.

### A PROJECT TO REDUCE WATER SCARCITY ISSUES IN COMMUNITIES

Apart from constructing wastewater treatment systems and share knowledge about constructed wetland wastewater treatment for communities to be able to manage the system independently, WHA Group has also undertaken a project to provide water for consumption in areas including Pluak Daeng Subdistrict, Pluak Daeng District, Rayong and Khao Khansong Subdistrict, Si Racha District, Chonburi Province, due to the drought. WHA staffs brought water trucks to assist Pluak Daeng Subdistrict Administrative Organization and residents from Khao Khansong Subdistrict area distributing water to people experiencing water scarcity to alleviate the impact.



Furthermore, the Group also supported communities by providing clean water sources and improving village waterworks systems for Village 8, Bang But Subdistrict and Village 11, Nong Bua Subdistrict in Ban Khai District, Rayong Province. The local leaders and community residents received the support with the guidance on the process of purifying raw water from environmental officers, WHA industrial estate’s managers and the Group’s community relations officers to upgrade their water supply to meet higher standards. In 2023, WHA Group has delivered clean water to the communities three times, providing over 60,000 liters of clean water to help alleviate the drought issues in the communities.



WHA Group also supported Bang But Subdistrict community in Ban Khai District, Rayong Province, in drilling ground water to help communities in the higher areas facing water scarcity during the summer. WHA Group supported ground water drilling in Village 10, Bang But District, Ban Khai Subdistrict, Rayong Province, along with Bang But Subdistrict Administrative Organization, village waterworks committee, and community leaders. From this support, around 530 people from 200 households were benefited.



Additionally, WHA Group has implemented innovation into the industrial water production process through the water reclamation project. This project reuses the treated wastewater to produce high-quality water for our customers in WHA industrial estates. In 2023, WHA Group accomplished the goal to produce 60,400 cubic meters of water per day which helped reduce the water usage from natural water sources and the discharge of wastewater into public waterways up to 6.9 million cubic meters per year. We also turned it into demineralized or high-quality water for our industrial customers in WHA industrial estates. The objective of this project was to promote long-term water source security, minimize water allocation to communities so the community members can access more water sources and less water scarcity issues.

## UPGRADE THE AGRICULTURAL WATER DISTRIBUTION SYSTEM

WHA Group, together with WHA Eastern Seaboard Industrial Estate 4 Co., Ltd., supported the project to upgrade the agricultural water distribution system for Maenam Khu Subdistrict, in Pluak Daeng District, Rayong Province. This project helped 2,072 farmers and residents in Maenam Khu Subdistrict community being able to use water for occupation and consumption.

## WATER HYACINTH PRODUCTS

In 2023, WHA Group has continually implemented water hyacinth project to create jobs for surrounding communities in the Ban Khai District, Rayong Province, and generate income toward the local communities through monthly employment. The communities can take water hyacinths from WHA's wastewater polishing pond dredging process for free and use them to make and sell hampers and wickerwork products. This enabled the community to generate income and save the cost to purchase water hyacinths, which can save around 100 Baht per basket containing 150 water hyacinth strips, and have a reliable source of raw material monthly. WHA purchase 300 baskets made from the water hyacinth from the local community every year, totaling 120,000 Baht. Combining it with the local products the Group purchased from WHA PAN GAN Project as New Year gifts, this project generated 590,000 Baht in revenue for communities or an additional income of approximately 2,000 Baht per person per month.

Moreover, the Group has been partnering with PTT Global Chemical (PTTGC) since 2021 to create innovations to create value of water hyacinth by developing a new kind of fabric through upcycling process, weaving water hyacinth fibers from the constructed wetlands in WHA's industrial estates together with used PET bottle fibers, and cotton fibers.



## FISH RELEASING TO PROMOTE BIODIVERSITY

WHA Group, together with the IEAT Director and officers of WHA Eastern Seaboard Industrial Estate 2 hosted an event to release fish breeds back into natural water sources. This initiative aims to promote biodiversity and natural ecosystem of communities, also enhance marine animal production and conserve aquatic resources for sustainable future. The activity took place in Ban Map Khla community, Khlong Kio Subdistrict, Ban Bueng District, Chonburi Province, with community leaders, residents, teachers, students, and monks participating in the event.

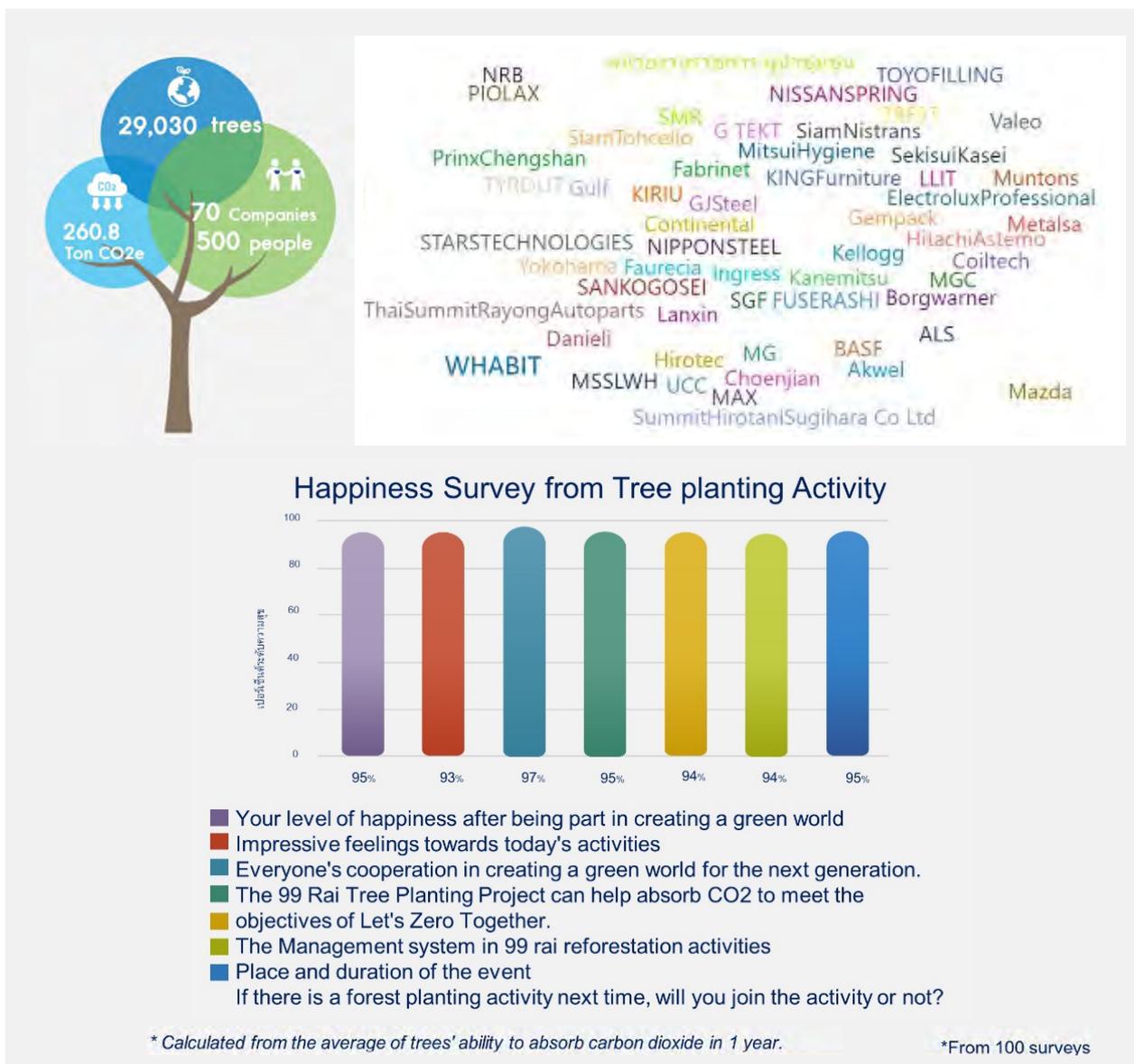


GREEN AREA CONSERVATION



WHA Group collaborated with IEAT and 500 entrepreneurs in WHA industrial estates from 70 companies in plantation in a 100-rai area to sustainably reduce the GHG and global warming around WHA Industrial Estate Eastern Seaboard 2, and WHA Eastern Industrial Estate (Map Ta Phut). We planted a total of 29,030 trees which is equivalent to 260.8 tCO2e of greenhouse gas reduction.

The result of the survey showed that 97% of participants were impressed to be a part of this project, 95% were happy to join the tree planting activity with the Group, agreed that the activity helped absorb the CO2, in line with the “Let’s Zero Together” objective, and were willing to participate in the next tree planting activity.



Furthermore, WHA Group, together with volunteers from educational institutions, government sectors, and private organizations, helped planting landrace trees to expand green spaces in various areas. These activities took place in Bo Win and Khao Khansong Subdistrict, Si Racha District, Chonburi Province, Nong Bua and Nong Lalok Subdistrict, Ban Khai District, Rayong Province, Maenam Khu Subdistrict, Pluak Daeng District, Rayong Province, and Chum Saeng Subdistrict, Wang Chan District, Rayong Province. WHA Group also organized landrace tree planting activity in Ban Khao Hin School, Bo Win Subdistrict, Chonburi along with raising awareness among students from the school about the value of trees in the ecosystem and the impact of climate change on daily life. Because, apart from providing shade, trees also produce oxygen and help reduce carbon dioxide in the air, serve as habitats and food resources for wildlife, and help maintain the quality of water and soil.



### ENVIRONMENTAL MONITORING NETWORK (ENVIRONMENTAL DETECTIVE) PROJECT

WHA Group organized “Environmental Monitoring Network (Environmental Detective) Project 2023” to educate young people in the areas surrounding WHA industrial estates about environmental issues. The project aimed to raise awareness about environmental conservation, waste separation, and observing clean and polluted water in public water sources. It also encouraged youth to actively participate in environmental education, enabling them to share their knowledge with their families and communities. The participating schools around WHA industrial estates include:



1. Ban Khao Hin School, Bo Win Subdistrict, Si Racha District, Chonburi Province, with 103 participated students
2. Ban Hup Bon School, Khao Khansong Subdistrict, Si Racha District, Chonburi Province, with 178 participated students
3. Ban Pluak Daeng School, Pluak Daeng District, Rayong Province, with 80 participated students
4. Ban Maenam Khu School, Maenam Khu Subdistrict, Pluak Daeng District, Rayong Province, with 60 participated students



Additionally, students were taught about waste separation, effective use of resources, recycling, and eco-friendly living. Therefore, WHA Group provided classified trash bins for all four schools and explained the concept of waste separation and recycling to the students encouraging them to keep the world clean. The students showed interest in waste sorting methods and tips on reducing the amount of waste and finding ways to reuse materials, as well as caring for the environment from a young age, which is considered as a satisfying outcome.

### “THAI YOUTH CARES FOR THE ENVIRONMENT: TOTE BAG INITIATIVE” PROJECT

WHA Group organized the Thai Youth Cares for the Environment: Tote bag initiative” project to create knowledge and understanding of the 3Rs (Reduce, Reuse, and Recycle) as sustainable concepts and practices that promote environmental conservation. Participants could minimize the amount of waste by reducing, reusing, and recycling methods through this eco-friendly tote bag activity. The activity rose awareness about reducing plastic bags among young people in schools surrounding WHA industrial estates as follows:

1. Ban Muen Chit School, Klong Kiu Subdistrict, Ban Bueng District, Chonburi Province
2. Ban Nong Suea Chang School, Nong Suea Chang Subdistrict, Nong Yai District, Chonburi Province
3. Ban Map Lambit School, Klong Kiu Subdistrict, Ban Bueng District, Chonburi Province



## 4. DESIGNING WHA INDUSTRIAL ESTATE TO HAVE SOCIAL SPACES

WHA Group promotes sustainable growth through socially responsible business operation. We focus on creating balance and societal and environmental friendliness, incorporating the Bio-Circular-Green Economic Model (BCG) principle. WHA Group places importance on being a part of society, so WHA Group take social factors into consideration when designing or operating a business. Social integration criteria were developed and applied when constructing new building or renovating old buildings. We also integrate social integration criteria in the due diligence checklist, which is on the planning stage to become a developmental guide, as well as a part of advisory committee of handicapped people or cooperation with handicapped people’s associations.

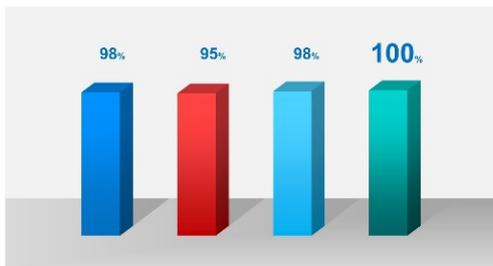
As a result, WHA Group has implemented a variety of social integration initiatives and criterias to expand our contribution to society as social integration is a material topic that is important in the real estate industry. In 2023, the Group has organized projects to design WHA industrial estates to have social spaces by providing opportunities for communities or people in need as listed below.





### WHA PAN GAN MARKET IN EASTERN SEABOARD INDUSTRIAL ESTATE (RAYONG)

WHA Group organized a community market “WHA PAN GAN Market” by inviting local shops from WHA PAN GAN Project to use ESIE Plaza 1 building area in Eastern Seaboard Industrial Estate (Rayong). There were 16 shops joined to sell local products such as food, snacks, drinks, fruits, vegetables, wickers, natural-dyed shirts to employees working in companies within WHA industrial estates and surrounding residents. This event provided income about 70,000 Baht for shops.



**The Satisfaction Survey from 16 Local shops at WHA Pan Gan Market**  
Monday 18<sup>th</sup> December 2023 at ESIE Plaza 1, Eastern Seaboard Industrial Estate (Rayong)

- 98% were extremely satisfied with the project.
- 95% agreed that the project helped them selling more products.
- 98% believed that joining this project gained them more income
- 100% all participated shops were willing to join the next WHA PAN GAN Market.

The result of satisfaction surveys from shops participating in the project show that 98% believed that joining this project gained them more income and were extremely satisfied with the project, while 95% agreed that the project helped them selling more products. Additionally, all participated shops were willing to join the next WHA PAN GAN Market.

### DESIGNING ELECTRIC VEHICLE CHARGING STATION WITHIN WHA INDUSTRIAL ESTATE AREAS

WHA Group has successfully achieved in reaching carbon neutrality and is committed to achieving Net Zero CO2 Emissions by 2050. Therefore, we collaborated with SAIC Motor-CP Co., Ltd., Thailand’s MG car manufacturers and distributors to install electric vehicle charging stations to promote the use of environmentally friendly electric vehicles (EVs) within WHA industrial estate areas and reduce carbon dioxide emissions from combustion engines using fuel. WHA Group also support the use of EVs for monitoring, inspections, and document deliveries within the Group. Charging stations for EVs are designed to be accessible 24/7 in convenient locations within WHA industrial estates in Chonburi, Rayong, and Saraburi Province We also planned on installing more EV charging stations in WHA industrial estates involving the design and preparation in 2023 with the installations to be completed and operational by 2024



## DESIGNING HEALTHCARE FACILITIES WITHIN WHA INDUSTRIAL ESTATE AREAS

WHA Group prioritizes health and safety of residents within and around our industrial estates; therefore, we designed spaces within WHA industrial estate areas to include Samitivej Hospital Clinic to provide fast and accessible health services for workers in WHA industrial estates as well as community members.



## DESIGNING OFFICES, COMMERCIAL BUILDINGS, AND INDUSTRIAL ESTATES TO BE LOCATED NEAR PUBLIC TRANSPORTATION

WHA Group place great importance on selecting locations for development projects, including office buildings, commercial buildings, factories, warehouses, and industrial estates. This ensures that customers, tenants, and employees have convenient access to public transportation. For example, the office building recently completed by WHA Group in August 2023, located in the city center, is in 300 meters walking distance of Asok BTS Station. Additionally, two ongoing commercial projects are located next to the entrances and exits of Surasak and Saint Louis BTS stations. In the future, our expanding plan to construct office and commercial buildings in inner-city areas will focus on convenient transportation by BTS, similar to designing industrial estates such as our industrial estate in Vietnam. Currently, a lot of customers have already started their production and their employees can commute to work by public transportation to the bus stop in front of the industrial estate.

## DESIGNING FIRE STATIONS IN EVERY WHA INDUSTRIAL ESTATE

WHA Group has designed all 12 industrial estates to have fire stations with trained safety personnel responsible at the stations, and modern and comprehensive fire fighting equipment. Regular inspections are conducted within the industrial estate areas 24/7 to ensure the safety of individuals within the areas and surrounding communities.



Moreover, WHA Group has a clear evacuation plan in place for emergency situations as well as conducts fire and evacuation drill every year in which all relevant stakeholders are required to participate (i.e., all employees, customers, tenants, and community representatives). As a result, the surrounding communities can be assured that WHA Group’s operations will have no negative consequences for them. This program can benefit both WHA Group’s employees and overall communities. In addition, WHA Group also applies Emergency Control Center (ECC) to assist local authorities in suspending emergencies in communities surrounding WHA industrial estates.

**LOW RENT FOR COMMUNITY**



Other than designing social spaces, WHA Group also focuses on assisting communities in social and environmental aspects. We promote the income and opportunities for local communities by offering vacant spaces for rent to be used as cultivated areas. We offer a low rent around 200-500 Baht per rai per year so that residents can grow cassavas and pineapples. This initiative maximizes the use of space to create jobs for the communities while maintaining the area free from field fire, waste, and trespass. In 2023, WHA Group supported the communities by providing vacant spaces for agricultural rent in various areas within Chonburi and Rayong Province, totaling 1,210 rai.

**DESIGNING HEALTH PARK AREAS FOR COMMUNITY**

WHA Industrial Estate Rayong (WHA IER), our latest industrial estate, is designed to allocate over 45 rai of land for a health park for communities. The park features exercise stations, running paths, various plants for shade, restrooms, and parking areas to accommodate those who want to exercise at this community health park.



Implementing the aforementioned management system is considered as the percentage of local community engagement, impact assessment, and project development as follows:

Implemented topics	Percentage of operations covered (%)
Social Impact Assessments, including Gender Impact Assessments	100%
Community Impact Assessment to identify potential negative impacts	100%
Environmental Impact Assessments and Ongoing Monitoring	100%
Public Disclosure of Results of Environmental and Social Impact Assessments	100%
Stakeholder Engagement Plans based on Stakeholder Mapping	100%
Stakeholder Engagement Programs at Local Operations	100%
Broad based Local Community Consultation Committees and processes that include Vulnerable Groups	100%
Works Councils, Occupational Health and Safety Committees and Other Worker Representation Bodies to Deal with Impacts	100%
Formal Local Community Grievance Processes	100%



WHA Group values all stakeholders involved with the organization, particularly the community. Recognizing that local communities residing near the Group's business operation areas are directly and indirectly affected by our operations, we have established policies and designed projects to mitigate negative impacts such as air pollution, wastewater, noise, waste, or accidents in the industrial zones. WHA Group also implemented projects to create positive impacts for communities including education, community development, environmental conservation, and designing social areas in industrial estates. WHA Group aims to build and maintain good relationships with community members, preventing any division that might impact business operations. To reflect our commitment to operating a responsible and environmentally and socially friendly business, WHA Group focuses on continuing implementing mutually beneficial projects. These have not only increased the Group's credibility within the community but also driven the organization, society, and environment to grow sustainably together, in line with our mission of being "The Ultimate Solution for Sustainable Growth" to further promote Thailand's sustainable growth.

WHA Group has consistently managed to develop and engage with community and society. In 2023, the Group has adapted our corporate strategy aligning with our "WHA : WE SHAPE THE FUTURE" mission which aims to create a sustainable future for Thailand. The Group recognizes that the Thailand's overall economy of Thailand stands on two legs: the industrial economy and the communityh economy. Therefore, we plan to continue working on economy and community

and social development simultaneously. We are committed to advancing people in all sectors of the society through projects providing opportunities to access essential factors and a better quality of life, as we have done in our current social projects.

In 2023, WHA Group set a target for 2024 community engagement at 99% and a long-term target at 100% by 2027. The Group plans to participate in community activities to reach the most areas possible to access surrounding community members. The Group also conduct community satisfaction surveys after the engagement projects or activities to ensure that our initiatives truly meet the needs of community members. The target for community satisfaction is set at over 95% in 2024 and over 98% in 2025. We have outlined strategies to increase community satisfaction such as implementing community relations to oversee activities for various communities including communities within WHA Group's areas, and the environment team in CSR department to be responsible for activities affecting communities, directly report to Social and Environmental Responsibility Committee and working team.

WHA Group, as a leader of our four main business groups with the potential to build a comprehensive and robust business ecosystem, extremely focuses on delivering prosperity to the community for sustainable growth. We committed to pursuing our goals under the mission "WHA : WE SHAPE THE FUTURE" to promote people, society, environment, and ultimately, the sustainable development of our nation.





# ENVIRONMENT DIMENSION



# ENVIRONMENTAL POLICY AND MANAGEMENT SYSTEM & WASTE MANAGEMENT

## MANAGEMENT APPROACH

Due to WHA Group closely monitoring environmental changes and potential impacts, whether it be climate change or resource conservation, the Group is keenly aware of the importance of environmental management. Furthermore, with the evolving societal and environmental context and the intensifying crisis of global warming, the public is increasingly interested in environmental issues, particularly investors and customer groups who consider organizations' environmental operations when making business decisions in order to sustainable collaboration and minimize environmental impact. Thus, the Group has established policies aimed to ensure that the Group's business operations, surrounding communities, and the environment coexist harmoniously and sustainably. WHA Group is committed to provide the highest quality with world-class solutions to our customers and ensure unyielding responsibility for environment preservation, through actions that promote energy conservation, the use of renewable energy and biodiversity management. Continuously, the Group has been engaged in environmental management and resource conservation to drive sustainable business practices, adopting efficient environmental management systems and implementing proactive management and control measures through continuous monitoring of key environmental parameters such as biodiversity, wastewater quality, waste disposal, pollution control, and resource conservation. These are the key parameters based on the nature of WHA Group's operations in relation to customers, suppliers, and surrounding communities, as well as the Group's ability to influence our business operations.

Environmental Quality, Energy Conservation and Biodiversity Policy

WHA Group's efforts to drive sustainable operations are governed by the Environmental Quality, Energy Conservation, and Biodiversity Policy approved by the Group's Board of Directors. The Policy outlines WHA Group's commitment to preventing and mitigating environmental impacts while continuing to improve quality, ensure regulatory compliance, and align practices with international standards such as the ISO14001 Environmental Management System and the ISO9001 Quality Management System. As a result, a framework for ensuring a consistent environmental management approach across all WHA Group business hubs is provided.

Moreover, WHA Group has developed a corporate environmental requirement, guidelines, and management program to manage our investments, covering the following aspects:

- Due diligence at the pre-purchase/acquisition/investment stage: initial environmental audit of each new investment/property.
- Pre-purchase/acquisition/investment stage: establishing baseline environmental performance.
- Property/building development with environmental requirements and resource efficiency.
- Maintenance programs with a focus on environmental performance and resource efficiency.
- Guidelines, training, and newsletters to ensure that property managers and tenants are up-to-date on emerging best practices and regulatory developments.
- Due-diligence of acquisitions/mergers comprising an environmental audit.





## ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

All of WHA Group’s required projects have undergone the Environmental Impact Assessment (EIA) Study in accordance with the requirements and conditions outlined in the Promotion and Conservation of National Environmental Quality Act, B.E. 2535 (1992). The EIA study considers the environmental and social impacts within a 5-kilometer radius of the project site to ensure that these impacts are monitored, mitigated, and controlled appropriately. Prior to proceeding with project construction, commencement, and operation phases, EIA must be approved by the Office of Natural Resources and Environmental Policy and Planning (ONEP).

WHA Group ensures that all environmental schemes specified in the EIA requirements are followed. The project’s performance against EIA requirements and standards is monitored and reported to the Industrial Estate Authority of Thailand (IEAT), Natural Resource and Environmental Policy and Planning, and local provincial offices on a bi-annual basis, covering the months of January to June and July to December, respectively. In 2023, no monitoring parameters were found to be in violation of environmental laws or EIA requirements. In addition, WHA Group oversees the overall environmental management schemes of our customers located within the industrial complex to ensure best practices and compliance with regulated requirements. If not, WHA Group will work with the IEAT to take appropriate next steps. Additional details regarding the environmental practices implemented in collaboration with customers are specified in the relevant section of this report.

**Target:**



Achieve a **100%** rate in implementing the measures for monitoring and assessing environmental impacts in according with the EIA.

WHA Group has developed various projects utilizing technology to facilitate environmental management in accordance with relevant policies and standards, including:



## UNIFIED OPERATION CENTER (UOC)

WHA Group has implemented the Unified Operation Center (UOC) for environmental management, which integrates and displays data from monitoring systems across projects and operational areas of the Group in real-time. This includes monitoring various statuses within industrial zones, such as water production systems, solar energy production systems, and more. This is in line with the aspirations of WHA Group, which aims to transparently display environmental performance data and comply with the reporting requirements set by government agencies for public dissemination of monitoring results, as follows:

### 1. Environmental Monitoring and Control Center (EMC<sup>2</sup>) focuses on five monitoring components as follows:

- Water Quality Monitoring Station (WQMS) checks water quality by measuring various organic substances in water treated before discharge into natural water sources, such as Chemical Oxygen Demand (COD) and Biochemical Oxygen Demand (BOD). In the event of a non-compliance, an alert will be sent to the appropriate operators, who will take immediate corrective action. The water will be retreated until it reaches the required quality standard.
- Air Quality Monitoring Station (AQMS) measures Total Suspended Particles (TSP), Particulate Matter with a diameter of 10 micrometers or less (PM-10), Sulfur Dioxide (SO<sub>2</sub>), and Nitrogen Dioxide (NO<sub>2</sub>) in ambient air, as well as meteorological data like wind speed and direction.

- The EMC<sup>2</sup> discloses the results of environmental monitoring of industrial estates in accordance with EIA requirements. Indicators include the quality of ambient volatile organic compounds, noise pollution, and surface water quality and groundwater quality, etc.
- The EMC<sup>2</sup> serves as a channel for factory operators located within industrial estates to submit environmental reports in accordance with their respective EIA requirements. Air emission quality via stack, EIA compliance, risk analysis, and boiler/steam generator inspection reports are examples of submission reports. This system allows IEAT to effectively submitted reports while also reducing paper consumption.
- Acts as a data recording and complaint tracking system until the complaint is resolved. The system records complaints from various sources and forwarded to the appropriate personnel so that they can carry out the necessary response actions.



## 2. Water and wastewater treatment plant control center

The Water and Wastewater Treatment Plant Control Center anticipates and regulates the efficiency of equipment in the water production and wastewater treatment systems to ensure that water meets standards before delivery to customers or discharge into public waterways. (Further details regarding the UOC are specified in the Innovation and Technology Management section of this report)

## ENVIRONMENTAL STANDARDS AND PERFORMANCE

WHAID and WHAUP have been certified with Environmental Management System Standard (ISO 14001) by the International Organization for Standardization (ISO). This certification underscores the business direction of the companies towards environmental considerations. Moreover, there is regular monitoring of environmental management system operations through internal and external audits conducted annually. Continuous efforts are made to adhere to various international standards, ensuring alignment with global trends and changes.



## ENVIRONMENTAL COMPLAINT HANDLING PROCESS

As part of the continuous improvement process of the environmental management system, WHA Group has established and communicated available channels for stakeholders to submit any environmental-related complaints and concerns. The compliant handling process follows the ISO 14001:2015 guidelines in which root causes are identified and appropriate preventive and mitigation measures are implemented to prevent future reoccurrences. Channels that are available include:



Telephone  
038-954-543



Website  
<https://water.wha-industrial-estate.com/envi>



In person



Complaint Center  
at every industrial  
estate

## WASTE MANAGEMENT

The rapid population growth and changing consumer behavior are significant factors contributing to the generation of a large amount of waste, making waste generation has become a significant global challenge. While there is growing environmental awareness among the population leading to improved waste management practices, it is still not fully efficient. This inefficiency leads to environmental pollution and impacts community health and living standards. According to the Global Waste Index 2022 report, each year the world produces over 2.1 billion tons of municipal solid waste. However, only 16% of this waste is properly managed. In the case of Thailand, data from the Department of Pollution Control for 2022 indicates that the country generates a total of 25.7 million tons of municipal solid waste. Only 34.2% of this waste is effectively utilized, while the remaining 65.8%, which cannot be recycled. Almost half of the latter is improperly disposed of, including activities such as dumping, using incinerators without air pollution control systems, and open burning. However, in 2023, many companies worldwide, especially in the industrial sector, have turned to adopting the BCG (Bio-Circular-Green Economy) economic model, focusing on developing a bio-based economy, circular economy, and green economy. This helps to sustainably reduce waste while promoting social, economic, and environmental development.

Therefore, WHA Group places great importance on waste management resulting from our conscientious business operations. The Group continuously endeavors to reduce waste generation by employing new strategies and technologies to conserve resources and utilize them efficiently. This includes managing a Circular Value Chain in our business operations, as well as ensuring the adoption of appropriate waste management practices across all business groups. For instance, by embracing the BCG economic model, the focus is on recycling raw materials, utilizing various resources throughout their lifecycle, and repurposing waste materials into products. Not only does this help reduce waste and promote resource efficiency, but it also significantly mitigates overall environmental impacts. It prevents negative repercussions that may arise from business activities, benefiting entrepreneurs within the industrial estate, employees,

and surrounding communities. This comprehensive waste management service aims to safeguard the rights of all stakeholders and prevent waste management issues such as improper waste disposal, hazardous waste management, and pollution of soil, water, and air.

In addition, WHA Group has developed waste management systems for various types of waste generated in our business activities, particularly construction waste and sludge from wastewater treatment systems that have social and environmental impacts. To address these issues effectively, the Group has studied and implemented new innovations, integrating concepts from the Circular Economy, which is part of the Mission To The Sun initiative, to guide our operations. This involves shifting perspectives from waste management to waste prevention from the source. This approach not only reduces waste but also saves energy by reducing waste disposal and promotes the maximum utilization of resources. For example, switching to precast and creating value by transforming waste into new products, such as converting sludge into soil conditioners. This Circular Economy concept not only benefits the Group but also has a positive impact on stakeholders across the value chain, including society and the environment. The Group has achieved success in reducing the proportion of waste disposal through continuous efforts to minimize landfilling or incineration (without energy recovery) and remains committed to further minimizing waste.

The waste and residues generated from WHA Group's activities encompass various types, primarily consisting of general solid waste, sludge from industrial water production plants, and wastewater treatment systems from WHAUP services as well as hazardous waste from office buildings and machinery maintenance activities, such as fluorescent tubes and oil-contaminated rags. This could be extended to waste arising from incidental activities related to the construction of projects or infrastructure undertaken by the Group, falling under the responsibility of contractors or subcontractors of the Group. In fact, the Group is well aware that improper waste management practices can have adverse environmental impacts. Therefore,

it is committed to developing waste management processes for all four business groups in line with Environmental Quality, Energy Conservation and Biodiversity Policy, as well as adherence to waste management procedures specified in Environmental Impact Assessments (EIA). A Working Group has been established to manage and oversee waste management, ensuring compliance with legal requirements. The Working Group will assess and categorize each type of waste generated by the Group's business operations and promote efficient waste management policies. Moreover, the Group has tasked our Environmental Committee with promoting the participation of all executives and employees in waste management through various initiatives to control and minimize the impact of waste management.

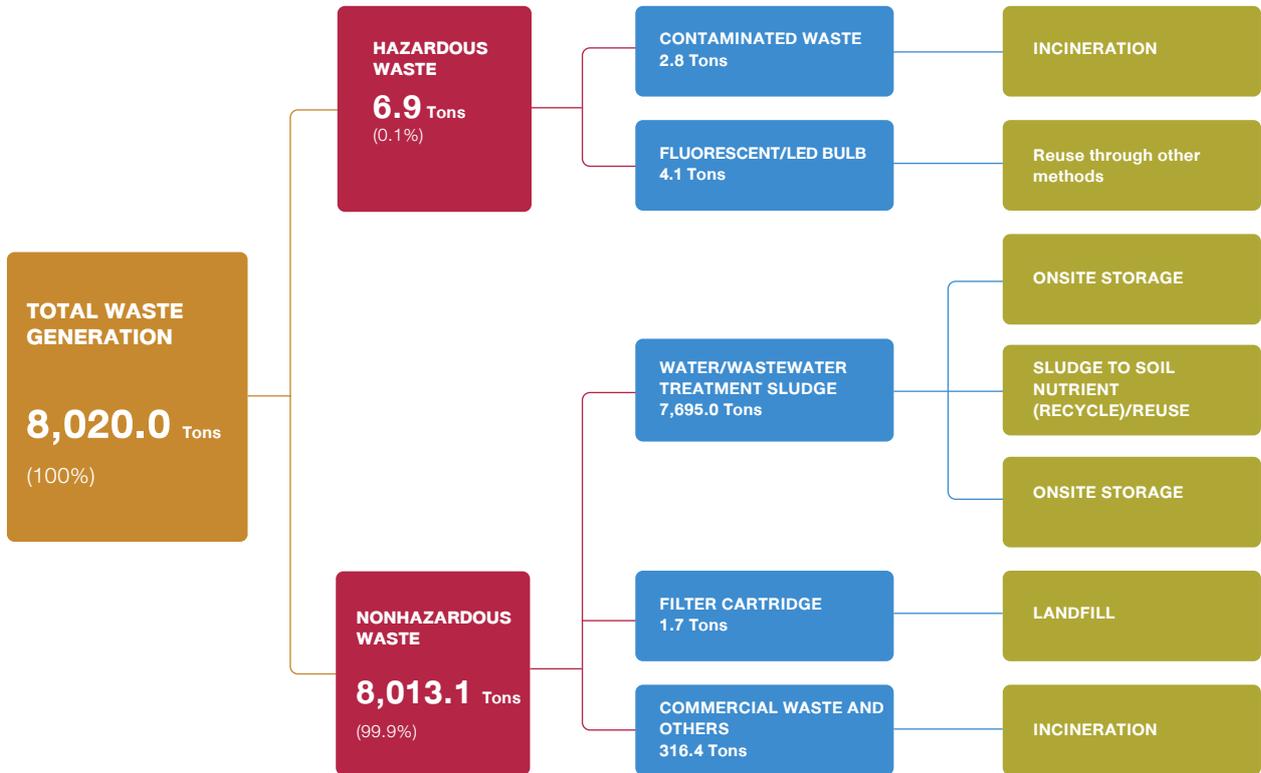
WHA Group has set targets for short-term and long-term waste management across all Group in all industrial estate to enhance waste management efficiency. For 2023 target, the goal is to reduce the proportion of waste disposed of by landfilling or incineration (without conversion to energy) to less than or equal to 20% by 2023. This target has been exceeded, with only 0.02% of waste disposed of by landfilling or incineration. Therefore, the Group has set targets for 2024 and subsequent years to achieve zero waste disposal by landfilling or incineration.

WHA Group emphasizes the importance of managing waste generated from construction processes and projects, as well as buildings within the group. It continues to incorporate principles of the Circular Economy into our ongoing operational plans to reduce the rate of waste production that needs to be disposed of through landfilling or incineration (without conversion to energy). This involves implementing waste segregation from construction and business activities across all industrial estates owned by the group. Additionally, the group places importance on selecting suppliers or contractors who ensure that construction materials have been assessed for their environmental and social impacts. Moreover, strategies and plans are established to control and reduce waste volumes from construction or demolition projects in line with the organization's aim of zero waste at the source. These strategies and plans are applied to all projects, starting from the design phase where every project is mandated to have project engineers working alongside safety officers to plan and design waste

management schemes that align with construction plans. This considers factors such as quantity, duration, material usage according to construction plans, construction areas, and temporary spaces, while complying with relevant laws. During project execution, the Group designates project safety officers that are responsible for documenting the removal of waste from project areas, inspecting all types of waste removed, including our transportation status, and ensuring that contractors manage construction waste from all projects (100%). This includes providing adequate closed-container receptacles distributed throughout construction areas and assigning personnel responsible for systematically collecting and segregating construction waste from various activities, storing them orderly for potential sale or utilization according to the principles of Reduce, Reuse, Recycle (3R). Since construction processes and waste management are the responsibility of all contractors, the benefits of resource conservation, recycling of construction materials, and revenue from various trading activities are shared among all contractors, amounting to 100%.

WHA Group has also designated that 100% of employees, workers, contractors, and subcontractors are responsible to follow the waste management procedures outlined to ensure that everyone involved in the business operations has knowledge and understanding of waste management principles and correct waste management techniques. The Group has organized efficient waste management training for employees, workers in industrial factories, and all contractors involved. For example, contractors receive training before commencing work. This training includes emphasizing various waste management requirements. Additionally, knowledge is imparted through various projects such as the Sort N' Save project and the WeCYCLE project. The Group also applies the principle of separating waste from construction projects to facilitate reuse, recycling, and proper disposal. Most of the waste generated during construction is reused by converting it into leveling materials. Other waste generated by contractors is transported and disposed of by the contractors in accordance with policies. Furthermore, the Group purchased construction materials and conducted business operations from recycled sources and sold recycled materials, totaling approximately 36 tons in 2023, which helps reduce the volume of waste to be disposed of and promotes resource efficiency.

### Amount of waste generated from operations



In developing new projects, WHA Group has implemented a waste management plan as part of the Environmental Impact Assessment (EIA) process. The objective is to ensure that the waste management processes implemented throughout the project lifecycle are efficient. WHA Group communicates with customers in various industrial estates about these waste management plans, and also oversees the progress based on the reports received from customers.

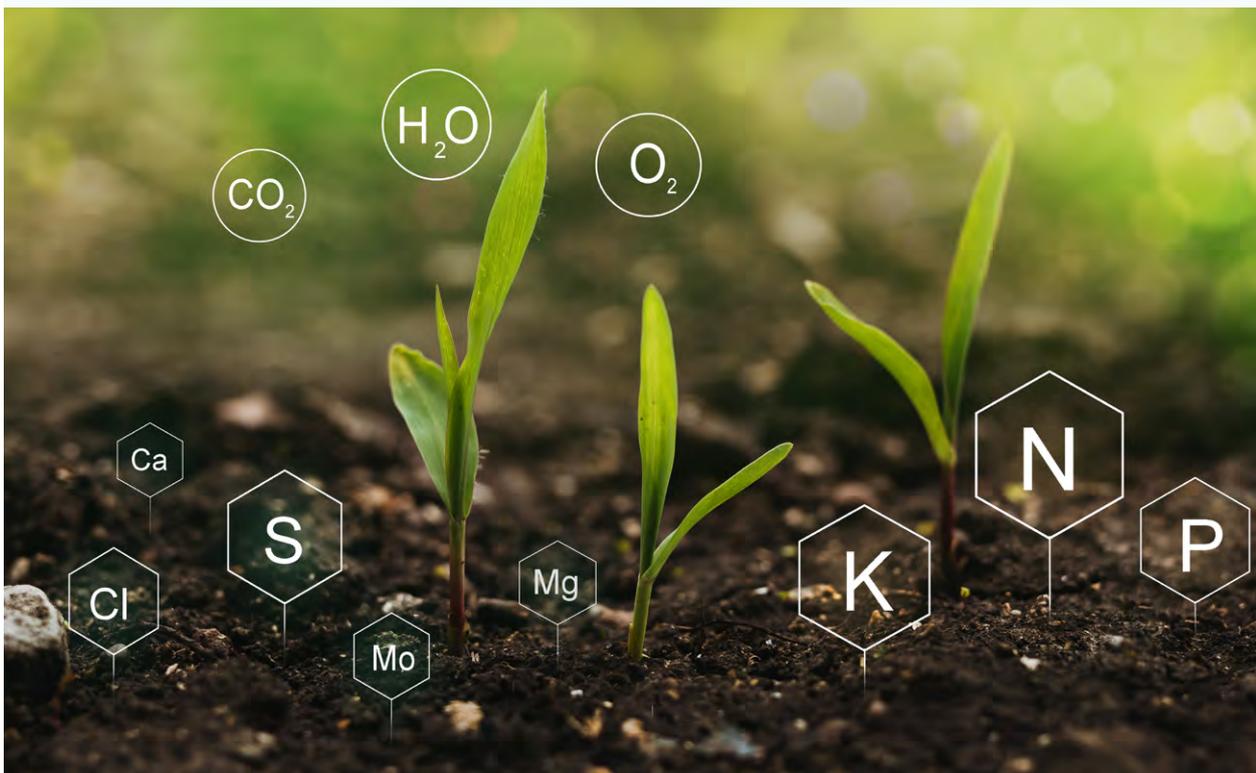
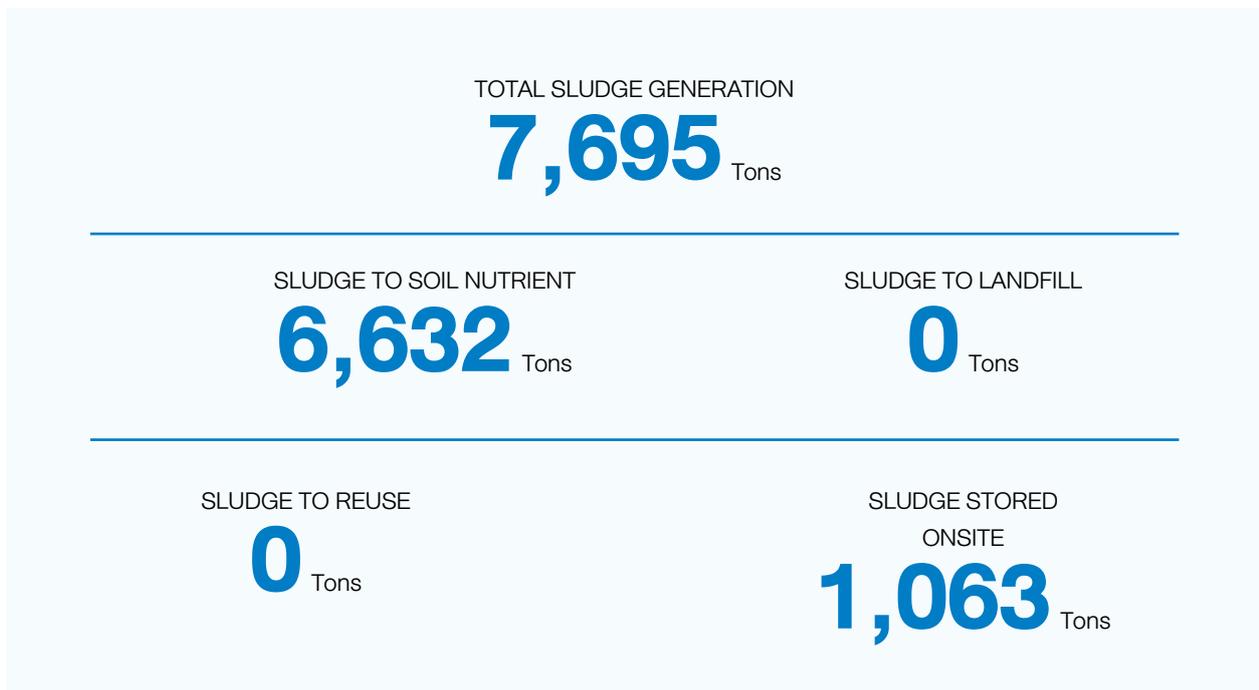
From 2023 performance, the total amount of waste sent to landfills decreased by 99% compared to 2022. This reduction in waste volume is attributed to the development projects and dedication of WHA Group converting sludge from wastewater treatment systems into soil conditioner, reducing waste from operations, promoting waste reuse and recycling, and investing in technologies for alternative waste disposal methods beyond landfilling and incineration. Other projects include providing necessary resources to customers and communities, as well as organizing engagement activities to raise awareness and promote sustainability principles to be used in waste management process and related systems.

### GOVERNANCE OF INDUSTRIAL FACTORIES TO PROPERLY MANAGE WASTE

While WHA Group as an industrial estate developer may not have direct authority over waste management of factories within industrial estate, the Group has established the working group to oversee and manage waste. The objective is to ensure that the factories manage waste appropriately and comply with regulations. This includes implementing preventive measures by conducting factory or waste disposal facility assessments and adhering to other waste management policies as determined by the management committee. Additionally, there is advocacy for industrial facilities to adopt the principles of the 3Rs (Reduce, Reuse, Recycle) and Circular Economy. The Group has promoted environmental management to the factories through initiatives such as the “Green Industry” and “White Flag Green Star Award” projects in all industrial estates under their purview. In 2023, a total of 95 factories participated in these initiatives.

### SLUDGE TO SOIL NUTRIENT

WHA Group has continuously organized the sludge to soil nutrients project. In 2023, the project aimed to produce soil nutrients continuously to reduce the amount of waste disposed to landfills or through incineration. Soil quality analysis was conducted to ensure that there were no heavy metals, organic compounds, or plant pathogens present. The Group set a target to use sludge to produce soil nutrients, replacing landfill disposal by 50% of the total sludge, equivalent to 3,621 tons in 2023. The Group successfully reached the goal by producing 6,631.99 tons of soil nutrients from sludge or 86% of the total sludge generated. Compared to 2022, this is higher than the amount of sludge produced into soil nutrient in 2022 by 68% The Group is committed to continuing this project to further reduce landfill disposal to 0 by 2024.



## WASTE TO ENERGY

WHA Group recognizes that converting waste into electricity is a way to address waste issues, leveraging all types of residues to produce value-added energy resources. This approach also addresses concerns regarding energy demand, aligning with the Alternative Energy Development Plan (AEDP) 2015 (B.E. 2558-2579), which aims to increase the proportion of clean or alternative energy to 30% of total energy consumption by 2036. Therefore, the Group has collaborated with two partners to invest in the Chonburi Clean Energy (CCE), waste-to-energy power plant project.

CCE is the first industrial waste to energy facility in Southeast Asia to meet European emission standards. CCE was awarded by the Commission of Energy, Ministry of Industry to be constructed as the first industrial waste-to-energy power plant in the Eastern Economic Corridor (EEC). CCE falls in line with the concept of circular economy and sets a good example for sustainable non-hazardous industrial waste management. It has the capacity to generate electricity by converting non-hazardous waste to energy at 400 tons per day, or approximately 100,000 tons per year, enabling a maximum output of 8.63 MW of electricity energy per year.



CCE contribution in 2023:



**CCE**  
has incinerated  
**181,333 tons** waste

**CCE**  
has generated  
**59,747 MWh** to the PEA

**CCE**  
has saved around  
**39,000 tons** CO<sub>2</sub>

**Sustainable electricity**  
for around  
**32,000 homes**



Since 2020, WHA Group has signed an agreement with Waste Management Siam, a transportation and waste disposal service provider. Under this agreement, WHA Group sends our waste to the CCE project annually to produce alternative energy. From 2020 to 2023, a total of 2,041 tons of waste were diverted from landfilling or incineration to be converted into electricity, generating a total of 1,768 MWh. Specifically, in 2023, 316.39 tons of waste were utilized to produce 274 MWh of electricity.

## THE USE OF PRECAST

WHA Group has a policy aimed at improving the quality and efficiency of construction. As part of this policy, the Group has adopted the use of precast elements in the construction process, which is considered a valuable new option. Precast elements are pre-made concrete reinforced steel panels manufactured in factories, enabling construction time to be reduced and minimizing waste generation within project construction areas. This reduction contributes to mitigating environmental impacts, such as noise pollution, dust, and construction-related traffic issues. In 2023, precast elements were utilized in the Group's construction projects, covering a total area of 185,712 square meters. This adoption of precast elements led to a reduction in waste generation by 415 tons, equivalent to a decrease of 2% compared to conventional construction methods.



## GREEN BUILDING

WHA Group has been actively reducing waste throughout the entire construction process, starting from the procurement of construction materials, which is a crucial stage in project development. Therefore, the Group has implemented sustainable procurement practices to ensure that no products are sourced from protected areas. WHA Group also emphasizes the selection of suppliers who can align with the Group's concept of "Green Building" construction. Additionally, the Group places the importance on selecting suppliers who can align with the Group's "Green Building" construction concept. Furthermore, WHA Group supports the use of environmentally friendly materials and encourages contractors to choose materials that can be reused. This significantly helps in reducing construction waste. WHA Group prioritizes environmental care in accordance with our environmental quality policy, energy conservation, and

biodiversity preservation. The Group expects suppliers to adhere to these policies throughout the construction process, including regular project operations. The aim is to reduce resource consumption and implement environmentally friendly practices, as outlined in the supplier code of conduct, to minimize environmental impact. Additionally, WHA Group promotes suppliers' adherence to environmentally friendly practices. An example of this is the use of Plastic Column Formwork, a material that can be reused, reducing waste and debris from the construction process. Furthermore, the design of buildings aligns with Leadership in Energy and Environmental Design (LEED) standards. Currently, the Group has finished constructing a building certified with LEED GOLD standard at WHA Mega Logistic Center Theparak KM 21. This building features a floor space of 27,212 square meters with a 0.28 MW solar rooftop area to contribute to energy savings, etc.





## REDUCE DEPENDENCY ON PLASTICS

WHA Group is aware that single-use plastics can pose a threat to the environment system. While single-use plastics are convenient and easy to use, without proper management, they can become a significant amount of waste that is difficult to degrade, leading to severe and irreversible impacts on climate change and biodiversity. To address this issue, the Group has been continuously reducing the use and disposal of single-use plastics since 2020. We have discontinued providing bottled water in plastic bottles to visitors and switched to paper packaging, which has led to a reduction of over 68,940 plastic bottles in 2023 alone. All these initiatives have helped the Group reduce plastic waste by 0.7 tons from the reduced plastic usage.



## WeCYCLE PROJECT

WHA Group initiated the WeCYCLE project to encourage businesses in WHA industrial estate areas to participate in waste reduction. This involves segregating waste generated in factories and bringing it into the upcycling process. In 2023, the WeCYCLE project had two main activities:

**1. WeCYCLE : used plastic bottles:** This collaboration between the Group and GC aimed to collect used PET plastic bottles from our plastic drop-off points (YOUTURN). These bottles were then mixed with water hyacinth fibers obtained from wastewater treatment ponds within WHA industrial estates to produce school bags for children in schools around the industrial estate.

**2. WeCYCLE : used paper:** This collaboration between the Group and SCGP aimed to collect used paper and recycle it to design and produce communication materials for internal use.

In 2023, both types of projects were highly successful and received cooperation from 79 businesses and organizations. Together, they collected and delivered 37 tons of used plastic bottles and 25 tons of used paper, which is equivalent to reducing CO2 emissions by 159 tons CO<sub>2</sub>e.



## ENHANCE CUSTOMERS' AWARENESS ON INDUSTRIAL WASTE MANAGEMENT

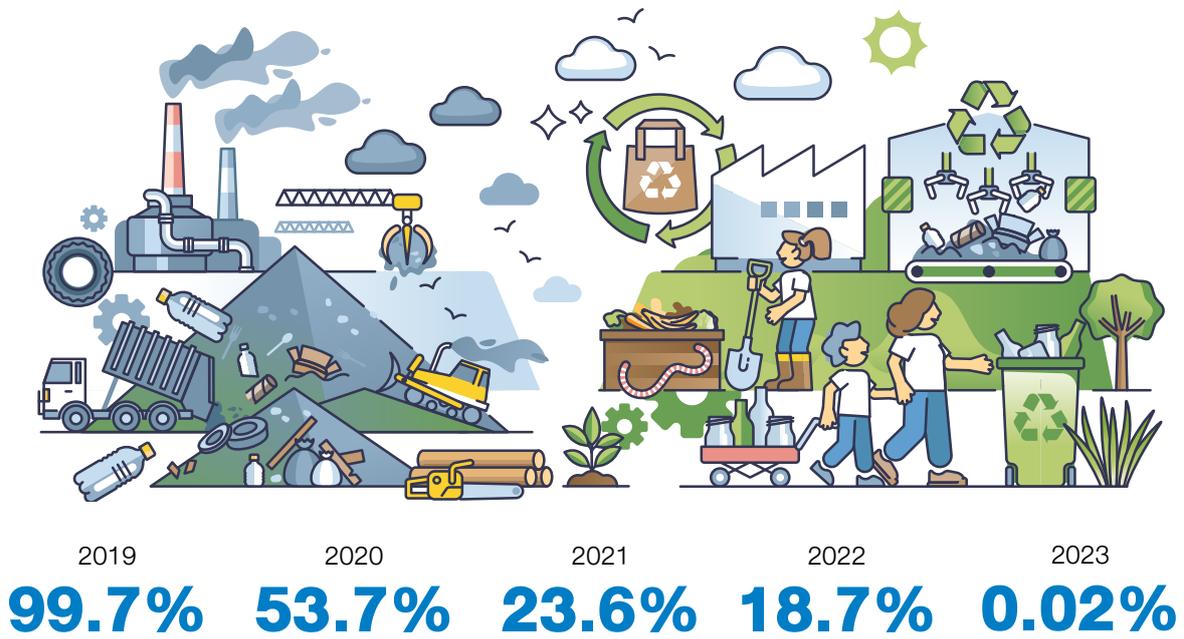
In addition to having the working team to managing and overseeing waste to ensure proper waste management in industrial plants, WHA Group has communicated waste management systems to industrial plants within industrial estates and industrial zones of the Group. This communication occurs through meetings of the Safety Club, representing industrial plants in the Eastern Seaboard Industrial Estate (ESIE), WHA Eastern Seaboard Industrial Estate 1 (WHA ESIE 1), WHA Eastern Seaboard Industrial Estate 2 (WHA ESIE 2), WHA Chonburi Industrial Estate 1 (WHA CIE 1), WHA Chonburi Industrial Estate 2 (WHA CIE 2), WHA Eastern Seaboard

Industrial Estate 4 (WHA ESIE 4), Rayong Industrial Land (WHA RIL), Saraburi Industrial Land (WHA SIL), and WHA Eastern Seaboard Industrial Estate (Map Ta Phut) (WHA EIE). These meetings aim to promote awareness and collaboration in implementing waste management guidelines in industrial estates. In 2023, the Safety Club organized separate meetings for each industrial estate a total of 35 times. The topics discussed in these communications include waste reduction, recycling methods, waste transportation, legal waste transport documentation, and the implementation of the CCE project (Converting Waste to Energy).



**Performance**

The proportion of waste disposal through landfilling or incineration (without conversion into energy)



WHA Group recognizes the environmental and social impacts of waste generated from business operations and has continuously implemented waste management initiatives. Hence, the group has adopted the BCG economic model, particularly focusing on the concept of the Circular Economy, to reduce waste volume. The Group emphasize maximizing resource efficiency and employing methods that generate minimal waste, starting from procurement processes, logistics, material selection, to reuse and recycling waste to prevent waste generation at the source. These efforts have helped reduce waste volume by up to around 720 tons. Additionally, they have led to significant cost savings and resource efficiency in operations and construction around 5 Million Baht. Consequently, the Group’s business operations have experienced rapid growth. Furthermore, in waste management processes, the Group collaborates with customers, suppliers, contractors, and partners to ensure proper waste management practices. The Group has increased the amount of reused and recycled waste or converted waste into electricity, which does not only reduce energy consumption and environmental pollution as well as mitigate health impacts of waste disposal on local communities,

Reduce the proportion of waste disposal through landfilling or incineration (without conversion into energy) to  by **2024**

but also greatly enhance income and reputation of customers, suppliers, and contractors. Additionally, it is also considered as the alternative energy source for society.

WHA Group is determined to continuously manage waste to take responsibility for the society and environment impacted by the Group’s business operations. The Group has set a target for 2024 to reduce the volume of waste requiring landfilling or incineration (without conversion into energy) to the minimum or equal to 0%, and maintain that in every following year. The Group plans and sets targets for sub-projects aimed at reducing waste such as using 100% of sludge to produce soil conditioner instead of landfilling in 2024. The Group also plans to implement projects to reduce waste from construction processes by over 900 tons within 2026.

## AIR EMISSION MANAGEMENT



Air emission from industrial activities is considered a significant and persistent issue that has adverse effects on the environment and public health over the past several years. This problem particularly affects communities and people living around industrial areas. The trend of air pollution is highly likely to continue impacting the country's economy if there is no comprehensive collaborative effort to address the issue from all sectors. Therefore, leading companies worldwide prioritize managing and mitigating air pollution problems directly and indirectly caused by industrial activities. They do this by integrating technology to control and reduce air pollution from their operations. Additionally, cultivating a strong awareness of air pollution management among employees and the community is crucial in addressing air pollution issues sustainably.

WHA Group understands that operating industrial estates falls within the Eastern Economic Corridor (EEC), the largest special economic zone in ASEAN, may raise concerns about air pollution from industrial facilities within the estates. The Group views air emission management as both a challenge and an opportunity to demonstrate operational efficiency in environmental management. Therefore, the Group has implemented measures and plans to address air emission issues in both the short and long term. These include importing innovative and environmentally friendly technologies to develop air quality control systems for the Group's industrial operations. Additionally, there is an internal policy emphasizing environmental quality, energy conservation, and biodiversity preservation through the use of green technologies. This is part of the "Mission To The Sun" project, which prioritizes reducing environmental impacts from industrial activities. The core principle is that industrial estates, communities, and nature must coexist in a balanced and sustainable manner without infringing upon others' rights or interests in other sectors.

## MANAGEMENT APPROACH

WHA Group places great importance on setting standards, regulations, and measures to control air pollution, including reducing air pollution and continuously improving monitoring and inspection systems for air pollution from industries. It also mandates environmental personnel responsible for environmental protection systems, and intensively monitors air emissions from pollution sources, in accordance with the requirements of the Ministry of Natural Resources and Environment's announcement and the Ministry of Industry's announcement. Furthermore, the Group has established regulations and practices for controlling particulate matter emissions from various types of construction activities, such as building construction, roads, and utilities systems, as well as from the loading and transportation of materials, to control and prevent particulate matter emissions from construction activities from impacting public health and the environment.

## AIR EMISSION CONTROL MEASURE

In addition, WHA Group places importance on screening the industrial types of customers to enable them to consider air pollution factors from the signing stage of the service agreement to the operation of the customer's business. This is to align with the Environmental Quality, Energy Conservation, and Biodiversity Policies of WHA Group, which establish measures to control air pollution emissions, such as Total Suspended Particulates (TSP), Nitrogen Oxides (NO<sub>x</sub>), and Sulfur Dioxide (SO<sub>2</sub>), according to specified standards. Moreover, the Group supervises the air emissions of industrial factories located within our industrial estates to comply with the emission standards from sources as prescribed by the Ministry of Industry and Industrial Estate Authority of Thailand, and specified emission allocation rates in the Environmental Impact Assessment (EIA) reports of each industrial estate. If any factory is found to have emission rates exceeding the specified limits, the Group will notify the factory to improve our pollution control systems to meet the standards and report to the Industrial Estate Authority for further supervision. Additionally, the Group has set internal standards for our business operations and industrial factories in the industrial estates to maintain air pollutant levels below 20% of the emission intensity per unit area as specified.



## AIR QUALITY MEASUREMENT

WHA Group emphasizes the importance of monitoring air quality in the atmosphere by measuring Total Suspended Particulates (TSP), particulate matter not exceeding 10 micrometers in diameter (PM10), particulate matter not exceeding 2.5 micrometers in diameter (PM2.5), Nitrogen Dioxide (NO<sub>2</sub>), and Sulfur Dioxide (SO<sub>2</sub>) both within the industrial estate and within a 5-kilometer radius of the industrial estate community area, at least twice a year. Furthermore, the Group has established automatic Air Quality Monitoring Stations (AQMS) capable of continuously monitoring air quality, including meteorological data, in the industrial estate area. These stations can display real-time monitoring results at the Environmental Monitoring and Control Center and WHA Tower through the Unified Operation Center (UOC) system. The above-mentioned air quality monitoring results will be reported to relevant government agencies, such as the Ministry of Natural Resources and Environment, Industrial Estate Authority of Thailand, Provincial Industry Office, and the Office of Natural Resources and Environmental Policy and Planning, twice a year, as part of the Environmental Impact Assessment (EIA) Monitoring report. In 2023, the Group achieved our targets for the environmental impact assessment (EIA) monitoring measures, with all air quality indicators meeting the specified standards.

## SUPERVISION OF EMISSIONS FROM INDUSTRIAL FACTORIES

WHA Group has guidelines for supervising and monitoring emissions from industrial factories located within the industrial estate of the Group to meet the standards set by the government. The Group also designed and managed the environmental aspects of the industrial estate according to the eco-industrial park model, focusing on resource use, energy use, and environmentally friendly production processes. Additionally, it has compiled data and promoted the reduction of greenhouse gas emissions to ensure that customers using the warehouses and industrial factories within the industrial estate of the Group operate responsibly towards the environment.



## MANAGEMENT OF AIR EMISSIONS FROM CONSTRUCTION PROJECTS OF WHA GROUP

WHA Group adheres the measures to control air pollution from construction projects, such as dust particles, by minimizing the impact of dust from earth-moving activities. This includes minimizing exposed soil, scheduling water spraying on the construction site to reduce dust dispersion into the air at least twice a day and increasing frequency as necessary based on weather conditions. The Group also requires truck tires to be cleaned before leaving the project area.



## ENERGY MANAGEMENT TO REDUCE AIR EMISSIONS

WHA Group has utilized renewable energy sources such as solar power and has implemented energy-efficient projects through the use of clean technologies and energy-saving measures, such as LED light bulbs, motor control systems to optimize electrical equipment operation, and replacing electrical equipment to be suitable for use. Additionally, energy management practices have been implemented to reduce energy consumption and make it more suitable. These initiatives were carried out in 2023, resulting in an approximate reduction of 823,846 kWh of energy consumption per year, which is equivalent to 411,841 kgCO<sub>2</sub>e. More information on the use of renewable energy can be found under the Energy Management section.

## VEHICLE MANAGEMENT SYSTEM (VMS)



Traffic congestion both within and outside industrial estates has resulted in significant air pollution, particularly from the release of carbon dioxide from the combustion of fuel in vehicles traveling on roads. WHA Group recognizes the importance of reducing carbon dioxide emissions to the maximum extent possible. Therefore, investments have been made in permanent tracking technology for vehicles, commuters, and drones to facilitate efficient traffic management. The goal is to reduce congestion time and reduce pollution from combustion. The Vehicle Management System (VMS) is a critical system that can count and register the license plates of vehicles traveling in and out of the industrial estate's gates. This system not only benefits security but also analyzes various data to improve traffic flow. By using closed-circuit cameras to measure traffic volume and calculate the number of vehicles in the industrial estate, the traffic lights can be adjusted according to traffic conditions. When traffic is flowing smoothly, the duration of red light signals is reduced, helping to shorten waiting times at traffic lights. This helps to improve traffic flow, save fuel, reduce costs for vehicle users, and reduce air pollution by reducing greenhouse gas emissions. Since the engines continue to operate while waiting at traffic lights, this system helps save fuel for vehicles traveling within the Group's industrial estate. In 2023, the Group installed additional VMS that is now operational at two intersections in the Eastern Seaboard Industrial Estate (Rayong). The VMS has reduced overall fuel consumption by 661,847 liters, equivalent to 1,813,461 tons CO<sub>2</sub>e in 2023.

Since the start of the VMS project in 2021, the traffic control system has been implemented in nine areas, including ESIE, WHA ESIE 1, WHA ESIE 2, WHA EIE, WHA CIE 1, WHA CIE 2, WHA ESIE 4, WHA RIL, and WHA SIL. Additionally, installation is underway for two more projects, WHA ESIE 3 and WHA Rayong 36. By 2025, the Group plans to have the VMS system implemented in all industrial estates of WHA Group.



## THE USE OF DRONE TECHNOLOGY TO REDUCE FUEL CONSUMPTION OF PATROL VEHICLES

Since 2021, WHA Group has applied drone technology to survey road conditions and traffic during rush hours, helping to monitor and respond to accidents on the roads. Additionally, in 2023, the Group also used drones to inspect warehouse roofs under the Smart Inspection project to prevent risks for workers at heights. This initiative not only reduces the time required for roof inspections but also provides detailed and accurate imagery for examination.



This drone technology project has helped reduce fuel consumption for inspection vehicles by up to 105 liters or approximately 285 tons CO<sub>2</sub>e in 2023.

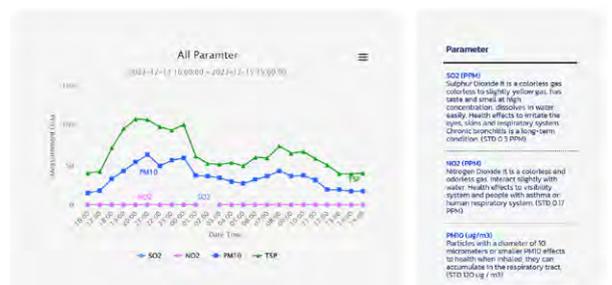
## AIR QUALITY MONITORING STATIONS

WHA Group has implemented continuous monitoring, surveillance, and measures to prevent and mitigate environmental impacts. This includes the installation and development of continuous air quality monitoring stations (AQMS) in various industrial estate. Each monitoring station collects real-time data on air quality, which is displayed and reported on the website. This allows for timely and efficient monitoring and response to air pollution incidents. In 2023, WHA Group had seven air quality monitoring stations in operation, located at WHA ESIE 1, WHA CIE 2, WHA ESIE 2, WHA ESIE 4, WHA ESIE 3, WHA Rayong 36, WHA Vietnam Industrial Estate.



## ONLINE AIR QUALITY MONITORING STATIONS

WHA Group has further enhanced our air quality reporting system by installing air quality monitoring stations in the industrial estate areas. This allows stakeholders from all groups to efficiently and conveniently track the air quality results online. They can access the air quality data through the website <https://air.wha-industrialestate.com/>.



## CLEAN TECHNOLOGY TO REDUCE AIR EMISSIONS

Since 2022, WHA Group has begun using clean technology, such as electric vehicles as the central transportation mode, to reduce fuel consumption from fossil fuels and effectively decrease air pollution. Additionally, the Group has promoted the use of alternative energy sources among customers instead of purchasing electricity generated from natural gas, aiming to reduce air pollution from customers’ direct industrial operations.

## “WHITE FLAG GREEN STAR PROJECT” AND “ECO-INDUSTRIAL TOWN PROJECT”

WHA Group has promoted and played a significant role in encouraging factories in industrial estates to participate in the “White Flag-Green Star” project under the policy of Industrial Estate Authority of Thailand (IEAT), which emphasizes the importance of environmental concerns and social responsibility. In 2020, WHA SIL was awarded by the Ministry of Industry as the first 100% green industrial estate in Thailand. In 2023, there were a total of 10 projects in industrial estates of WHA that received the White Flag-Green Star award.

In addition, WHA Group also emphasizes the design and management of industrial estates according to the guidelines of the Eco-Industrial Town framework, developed by the Industrial Estate Authority of Thailand (IEAT) to promote and drive economic and sustainable development. In 2023, the Group was certified as Eco-Industrial Towns for a total of 6 estates, including ESIE, WHA ESIE 1, WHA CIE 2, and WHA ESIE 2, all of which were certified as “Eco-Champion” level industrial estates. While WHA CIE 1 and WHA EIE industrial estates have also been upgraded from “Eco-Champion” to “Eco-Excellence” level since 2020. The continuous award of the Environmental Governance Flag every year is a good indicator that the Group is committed to developing business operations towards sustainability.



## TRIPARTITE MEETINGS TO MONITOR AND INSPECT THE AIR QUALITY OF FACTORIES WITHIN INDUSTRIAL ESTATES

WHA Group has established a Tripartite Committee consisting of representatives from the Group, government representatives, and community representatives. All three parties will work together to monitor compliance with environmental measures as specified in the Environmental Impact Assessment (EIA) report. They will also act as representatives for disseminating and receiving information regarding the Group’s business operations, as well as serving as the contact point for environmental complaints and air quality issues from stakeholders. Additionally, the committee will review projects to promote and develop the quality of life for the community and the surrounding environment. Air quality has been identified as one of the continuous monitoring points in the meetings to ensure that the air quality within the industrial estate meets the specified standards. The meeting outcomes will be recorded in the EIA report for presentation to relevant government agencies and local administrative organizations.

WHA Group has implemented comprehensive measures and management practices to address air pollution in all aspects. This includes setting stringent air quality standards as stipulated by the industrial estate, utilizing technology to improve air quality within the industrial estate, such as Traffic Management Systems (VMS) to reduce vehicle emissions, using air quality monitoring stations to monitor and verify air quality promptly and efficiently, as well as developing and using technology to reduce air pollution from industrial operations, such as the use of drones instead of vehicles for inspections to reduce fuel consumption. Additionally, the Group manage energy consumption to reduce air pollution, such as using solar power, energy-saving light bulbs, and air conditioners. These projects can significantly reduce the overall environmental and community impact

of air pollution, leading to a significant reduction in conflicts with nearby communities. Furthermore, it is an important step in developing environmental and economic aspects with the nearby community of the Group’s industrial estate.

Even though the air pollution management efforts are already excellent, WHA Group will continue to develop new technologies to play a role in addressing air pollution issues from the Group’s business operations in the future. This includes projects such as using electric vehicles (EV) and reforestation projects, increasing the use of VMS systems for new industrial estates, and promoting the use of solar energy to reduce greenhouse gas emissions that contribute to air pollution.



**TARGET**

Ensure the proper management and control of air pollution emissions from industrial factories located within the industrial estate of WHA industrial Group in accordance with the air emission standards set by the ministry of industrial of Thailand

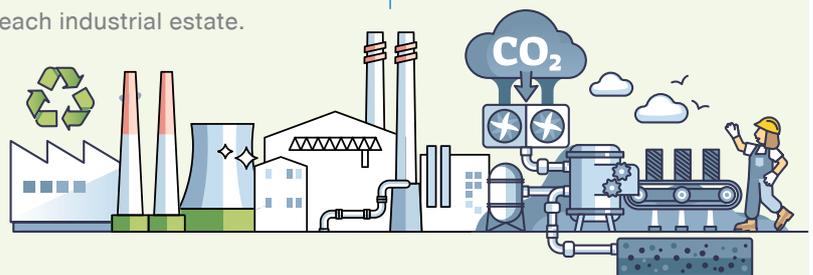
Additional air quality performance can be found in the performance data summary section.

**TARGET**

Ensure the proper monitoring and control of air pollution to comply with the specified emission standards as stated in the environment impact assessment (EIA) reports of each industrial estate.

**TARGET**

Control and maintain air pollution levels below 20 percent of the specified emission intensity per unit of designated area



## CLIMATE STRATEGY



In recent years, climate change resulting from the increase in global temperatures has intensified, impacting not only the environment but also the economy, communities, people, and all living creatures that depend on nature for survival. Therefore, all relevant sectors must prepare comprehensively for potential impacts. In light of this, the world has come together to organize the 28th session of the Conference of the Parties to the United Nations Framework Convention on Climate Change, or COP28, held from November 30 to December 13, 2023. Representatives from various countries, including Thailand, participated in the conference, which encouraged all sectors to accelerate the transition from fossil fuel energy to renewable energy. The goal is to achieve the target of limiting the global temperature increase to no more than 1.5 degrees Celsius above the pre-industrial levels of 1850, as outlined in the Paris Agreement and the United Nations Framework Convention on Climate Change (UNFCCC). Additionally, there is a goal to reduce greenhouse gas emissions by 43 percent by 2030 and by 60 percent by 2035.

WHA Group has closely monitored the agenda of COP28 and is acutely aware of the impacts of climate change. Consequently, WHA Group has been continuously

addressing the climate crisis while accelerating efforts to align with the Paris Agreement's goal of limiting global temperature rise to no more than 1.5 degrees Celsius. This is being achieved by adhering to sustainable development strategies, considering the dimensions of Environmental, Social, and Governance (ESG) criteria. The Group aims to ensure that business operations across all four business groups do not infringe on the rights of individuals, legal entities, or stakeholders in other sectors. This includes business operations, the livelihoods of people, and access to various resources. In 2023, The Group's climate change initiatives have been recognized as leading within the global real estate sector, based on participation in the S&P Global assessment.

From the process of analyzing climate change, including both risk assessment and prevention of impacts on WHA Group, whether direct or indirect, the Group recognizes that climate change is not only a challenge but also a significant opportunity to leverage environmental technology to our fullest potential and create sustainable value for the business. WHA Group has been comprehensively addressing all risks and opportunities over the past several years. Additionally, the Group has been measuring and controlling greenhouse gas emissions across Scope 1,

Scope 2, and Scope 3 throughout the supply chain. This ensures that the Group continuously monitors efforts to reduce greenhouse gas emissions in alignment with both business and national goals. To prepare for alignment with international agreements, the Group has been relentlessly advancing towards sustainable business operations.

A significant transition over the past several years has been the increased development of renewable energy usage. This includes offering renewable energy services to WHA Group's customers to reduce carbon emissions from traditional energy usage. Examples include the Solar Rooftop project, the Solar Carpark project, and the Solar Floating project. In 2023, the Group achieved our goal of signing agreements to purchase and provide renewable energy systems totaling 300 megawatts, which is expected to reduce greenhouse gas emissions by up to 171,000 tons CO<sub>2</sub>e per year. The Group aims to increase this target to 600 megawatts by 2026. Additionally, the Group is committed to continuously increasing the proportion of renewable energy in our operations. For instance, the installation of solar panels at the water treatment plant in WHA Eastern Industrial Estate (Map Ta Phut) reduced traditional energy usage by up to 315,857 kilowatt-hours per year. Solar panels installed on the parking roofs in WHA Eastern Seaboard Industrial Estate 2 and WHA Eastern Seaboard Industrial Estate 4 reduced traditional electricity usage by up to 352,015 kilowatt-hours. Furthermore, in 2023, WHA Group installed solar panels on office buildings in WHA Eastern Seaboard Industrial Estate 3 and a Floating Solar project in WHA Eastern Seaboard Industrial Estate 1, reducing traditional electricity usage by up

to 675,089 kilowatt-hours per year. The Group has also been studying the installation of solar panels combined with batteries, a project that has helped reduce traditional energy usage by 1,150 megawatt-hours per year, equivalent to 4 million Baht per year.

Furthermore, in the past year, WHA Group has promoted various measures and expanded controls to reduce greenhouse gas emissions, extending to Scope 3, among a wide range of stakeholders. This includes the management of contractors, customers, and logistics activities, as well as utilities and power management in all dimensions. In 2021, the Group achieved carbon neutrality and is now fully committed to achieving net zero carbon emissions by 2050. These efforts represent a significant transition for the Group towards a new era of environmentally conscious operations.

## MANAGEMENT APPROACH

WHA Group recognizes the urgency of the issues arising from climate change and has accelerated the implementation of relevant plans. The Group is also aware that our business activities rely on natural factors such as rainwater for water supply and production services, and sunlight for renewable energy services. Therefore, the impacts of climate change, such as floods, droughts, or storms, could directly affect the Group's business operations. These impacts could also have repercussions for other stakeholders, both internal stakeholders like employees and external stakeholders such as customers and communities. These groups would benefit if the Group's business operations run smoothly and would suffer losses if operations are disrupted due to climate change.



WHA Group has set the intention and commitment to expanding the business growth while creating an appropriate balance for the economy, environment, and society. As a significant player in the industrial sector, including utilities and power, the Group is involved in managing greenhouse gases, which are the main cause of global warming. Consequently, the Group has studied global trends for addressing these issues, particularly the COP28 conference, which the Group has closely followed. The Group has planned our operational framework to comply with increasingly stringent policies, laws, and regulations at both national and international levels to reduce the impacts of climate change, as well as to decrease greenhouse gas emissions and transition from fossil fuels to renewable energy. This supports the transition away from fossil fuels that Thailand agreed upon at the recent COP28 conference. The government has set goals for Thailand to achieve carbon neutrality by 2050 and net-zero greenhouse gas emissions by 2065. The Group achieved carbon neutrality in 2021 and aims to reach net-zero greenhouse gas emissions by 2050, positioning as a leader in the Thai real estate sector in addressing climate change.

WHA Group has established an Environmental Quality, Energy Conservation, and Biodiversity Policy, which will be continuously reviewed and adjusted to align with global trends and changes. The core of the policy is to promote the adoption of new innovations in business development, focusing on and promoting the use of green energy, such as solar energy, to reduce greenhouse gas emissions from the Group’s related activities and reduce energy consumption in business operations, as well as to reduce impacts on biodiversity. Furthermore, the Group has adopted the Task Force on Climate-Related Financial Disclosure (TCFD) framework to manage risks related to climate change, integrating risk management into strategies, analyzing and assessing risks, ranking management actions, and monitoring results. The Group also conducts analyses on risk data, impacts, and opportunities arising from climate change following the TCFD guidelines.

WHA Group will review and update our Environmental Quality, Energy Conservation, and Biodiversity Policy every year to keep up with trends and regulations. This is to drive environmental performance with

transparency and maximum efficiency, in line with the policies and commitments set forth.

**CLIMATE CHANGE GOVERNANCE**

WHA Group has established a Sustainable Development and Corporate Governance Committee and a Risk Management Committee, both of which work together and are under the supervision of the Board of Directors. The Sustainable Development and Corporate Governance Committee is responsible for developing strategies related to climate change and monitoring the progress of environmental operations to be transparent and highly effective for the economy, environment, and society as per the policy and intentions set. Meanwhile, the Risk Management Committee related to climate change appoints a risk management task force to manage risks and opportunities related to climate change in line with the strategy. The task force has conducted discussions and assessments of risks from external and internal factors, such as strategic risks, operational risks, financial risks, compliance risks, as well as emerging risks, including climate policy risks, risks from changes in technology and business models, and risks from political, war, and global economic factors (Geopolitical Risk) (see details of emerging risks in the Risk Management and Crisis section). They gather data and report on operations to the Risk Management Committee to assess the effectiveness of risk management, and then report to the Board of Directors at least four times a year to closely monitor the results, as well as oversee the risk to be at an acceptable level (Risk Appetite), leading to the achievement of the goals set by the Group.

**CLIMATE CHANGE GOVERNANCE AND RESPONSIBILITIES**



ROLE	RESPONSIBILITIES
<p><b>Board of Directors (BOD)</b></p> 	<p>The BoD provides visions, missions, directions, and operational strategies with an efficient performance monitoring as well as evaluation system in place, which is independent from the management, to review the operation of Executives.</p>
<p><b>Corporate Governance and Sustainable Development Committee</b></p> 	<p>The Corporate Governance Committee is responsible for developing strategies associated with climate change, which is a part of the Group’s agenda on planning and performance related to sustainable development.</p>
<p><b>Chief Executive Officer (Group CEO)</b></p>	<p>The CEO is responsible to manage the Company according to the established and agreed policies, plans and budget under the authority granted by the Board of Directors. In regards to Climate Change, CEO has the responsibility of strategic movement to manage climate related risk and opportunities, and ensure sufficient resources are allocated for mitigating climate related risk.</p>
<p><b>Risk Management Working Team, Sustainable Development Working Team, in collaborations with divisions and business units</b></p> 	<p>The RMC and business units working team are tasked to define comprehensive key risk management policies and practices, which include climate-related risks. Additionally, Mr. Natthapatt Tanboon-ek, Group CFO, also acts as an Executive level climate who oversees climate change related issues according to our sustainability strategy and framework. They assess and review risks, taking into account both internal and external factors which may affect the achievement of the Company’s goals in order to ensure that appropriate measures that in line with the business are taken place to tackle climate change.</p>

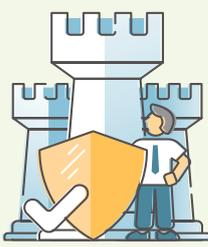
## STRATEGY AND PROCESS FOR MANAGING CLIMATE CHANGE RISKS

WHA Group believes that an effective climate change risk management plan will enable the Group to deal well with problems stemming from volatile weather conditions, such as droughts and floods. Therefore, WHA Group has demonstrated our commitment to managing climate change risks. The group has established environmental quality, energy conservation, and biodiversity policies to motivate employees at all levels, from executives to general staff, to raise awareness of operational goals related to climate change within the organization. This reflects the significant role of management in achieving these goals. Additionally, WHA Group emphasizes considering the impact of climate change from the planning stage of industrial estate development projects and utility systems. This includes strict consideration of land

use regulations and laws, as well as evaluating the country’s infrastructure for each development project to ensure that the management of significant impacts from climate change at that location is appropriate. Furthermore, preventive measures have been established and will be implemented throughout the project operations. Climate change-related risks are regularly reviewed and assessed as a key issue in organizational risk management to prevent impacts that directly affect customer business operations. This process includes the following steps:

- Identify significant risks based on hazards, vulnerability, and exposure
- Understand the impacts of climate change on business operation
- Evaluate the effectiveness of existing mitigation measures
- Address future challenges imposed by climate change

## WHA GROUP'S RISK MANAGEMENT PROCESS

			
Risk Identification	Risk Assessment	Risk Response and Mitigation Measures	Risk Reporting, Monitoring, and communication
<ul style="list-style-type: none"> <li>• Identification of internal and external risk, along with business impacts.</li> <li>• Categorization of identified risks under four categories: Strategic, Financial, Operation and Compliance.</li> </ul>	<ul style="list-style-type: none"> <li>• Calculation of risk levels following standardized assessment criteria.</li> <li>• Prioritization of risks based on risk profile and appetite.</li> </ul>	<ul style="list-style-type: none"> <li>• Determine actions to respond, mitigate potential impacts and ultimately reduce high level risks to acceptable levels</li> </ul>	<ul style="list-style-type: none"> <li>• Communication of risks to all executive and employees to build a strong risk management culture.</li> <li>• Risk Working Group reports risk management action plans, results and progress to RMC on a Quarterly basis.</li> <li>• Optimize internal communication channels to disseminate relevant risk information.</li> </ul>

WHA Group recognizes the potential impacts of climate change, such as resource scarcity, raw material price volatility, and changes in laws or regulations related to business operations, which directly affect our business operations, including financial aspects and reputation. Therefore, WHA Group does not underestimate the risks and has incorporated climate change issues into our organizational risk management to prevent, mitigate, and reduce the impacts of various risks that may occur along the value chain, from upstream activities to downstream activities. WHA Group has established a timeframe for climate change-related risks, both physical and transitional, dividing them into short-term (1-3 years), medium-term (3-10 years), and long-term (more than 10 years) risks. The group has also developed projects and plans to adapt to physical risks and transition risks, such as plans to adapt to physical risks and plans to adapt to regulatory environmental risks, to cope with various future risks. This includes conducting scenario analysis to understand potential future situations.

### CLIMATE-RELATED SCENARIO ANALYSIS

WHA Group has conducted a climate change scenario analysis which follows the guidelines of the Task Force on Climate-related Financial Disclosures (TCFD) and covers 4 scenarios. For the physical risk scenarios, the analysis refers to the Representative Concentration Pathways (RCP) model of the Intergovernmental Panel on Climate Change (IPCC) for greenhouse gas emissions. For transition risk, the analysis refers to scenarios from the International Energy Agency (IEA). This analysis of future scenarios also takes into account new regulations in Thailand, such as the government's target for Thailand to achieve carbon neutrality by the year 2050 and net zero greenhouse gas emissions by 2065.



**PHYSICAL RISK**

**RCP 8.5 BUSINESS AS USUAL**

The policies addressing climate change issues are still not stringent enough, and greenhouse gas emissions remain high. The risks associated with physical changes, transitional changes, and the impacts of climate change persist. This may lead to increased temperatures, water scarcity, and more volatile and severe weather conditions. And assume that there is no significant difference in business opportunities compared to the current situation.

**RCP 2.6 LOW FUTURE CARBON**

There is a rapid transition towards a low-carbon economy, driven by the development of new technologies and policy changes aimed at limiting global temperature increase to no more than 1.5 degrees Celcius.

**TRANSLATE RISK**

**IEA STEPS**

The policies used to address climate issues are not yet stringent, and greenhouse gas emissions remain high. As a result, the risks from physical changes, transition risks, and the impacts of climate change persist.

**IEA NZE 2050**

Rapid transition to a low-carbon economy through the development of technology and policy changes aimed at limiting the global temperature increase to no more than 1.5 degrees Celcius (achieving Net Zero Emissions by 2050).

**THE PHYSICAL RISKS AND TRANSITION RISKS ASSOCIATED WITH CLIMATE CHANGE**

WHA Group has identified the financial risks associated with climate change and its impact on the following areas, as detailed in the table below:

Type of Physical Risk	Financial impact	
	RCP 8.5	RCP 2.6
<p><b>Acute Risk:</b> The increasing volatility and severity of weather patterns, including the occurrence of natural disasters, pose significant risks to WHA Group’s operational areas.</p>	<ul style="list-style-type: none"> <li>The development and construction of projects may experience delays, which can result in increased costs. These delays can also impact the reputation of WHA Group and erode customer trust if projects are not delivered on schedule.</li> <li>The client’s business operations in the industrial estate may be temporarily halted due to natural disasters, impacting both their confidence in WHA Group and the image of their business. Additionally, there can be indirect repercussions on the supply chain management, such as the inability to deliver products on time and an increase in product prices.</li> <li>Increased cost from flood management and prevention expenses.</li> <li>Increased cost from increased insurance premium payment.</li> <li>Damage is estimated at approximately 78 million Baht, affecting assets and properties such as infrastructure deterioration and premature wear and tear. This can lead to additional expenses for maintenance and repairs of buildings and machinery.</li> </ul> <p><b>Short-term:</b> Medium <b>Medium-term:</b> Medium <b>Long-term:</b> Medium</p>	<p>The impact is less severe on maintenance expenses and revenues if the global temperature increases by no more than 1.5 degrees Celsius. The severity and frequency of natural disasters will be lower than anticipated in the case of a temperature increase of more than 4 degrees Celsius. Therefore, there will be a lower impact on maintenance costs and revenues.</p> <p><b>Short-term:</b> No impact <b>Medium-term:</b> Low <b>Long-term:</b> Low</p>

Type of Physical Risk	Financial impact	
	RCP 8.5	RCP 2.6
<p><b>Acute Risk:</b> The increasingly severe and frequent fluctuations in weather conditions, including droughts, pose a risk to the operational areas of WHA Group</p>	<ul style="list-style-type: none"> <li>The insufficient water supply to meet the demands of customers within the industrial estate can impact the trustworthiness of WHA Group and the confidence of our customers. However, the group has planned to effectively manage water resources by increasing the capacity of Reclaimed Water production. This will reduce dependence on natural water sources to the maximum extent possible.</li> <li>The increased cost resulting from the expenses incurred in sourcing water resources.</li> <li>Customers may reduce their production capacity, resulting in reduced water demand and subsequently decreased revenue. Furthermore, this could be a reason for customers to decide to relocate their facilities to other countries or areas.</li> <li>There is a need to increase research and development investment in new products and services to combat the challenges of drought.</li> </ul> <p><b>Short-term:</b> Medium  <b>Medium-term:</b> Medium  <b>Long-term:</b> Medium</p>	<ul style="list-style-type: none"> <li>Drought-related problems would have a lesser impact on financial capital and R&amp;D costs at a lower temperature increase of 4 degrees Celsius.</li> </ul> <p><b>Short-term:</b> No impact  <b>Medium-term:</b> Low  <b>Long-term:</b> Low</p>

Type of Physical Risk	Financial impact	
	RCP 8.5	RCP 2.6
<p><b>Acute Risk:</b> Increasingly severe and unpredictable weather conditions, including storms, thunderstorms, and lightning.</p>	<ul style="list-style-type: none"> <li>Thunderstorms and lightning can cause damage to the assets of WHA Group, which can impact overall operations, such as increased repair and maintenance costs and higher insurance premiums.</li> <li>Damage to assets and properties, such as infrastructure deterioration and premature aging, can result in additional expenses for maintenance and repairs of buildings and machinery for WHA Group.</li> <li>Indirect impacts from supply chain management, such as delayed product deliveries and increased product prices, can occur as a result.</li> </ul> <p><b>Short-term:</b> Medium <b>Medium-term:</b> Medium <b>Long-term:</b> Medium</p>	<ul style="list-style-type: none"> <li>Minor impacts to operation if the global temperature increases by no more than 1.5 degrees Celsius. The severity and frequency of natural disasters would be lower than anticipated compared to a scenario where the global temperature rises by more than 4 degrees Celsius. Consequently, there would be minimal effects on maintenance costs and revenue.</li> </ul> <p><b>Short-term:</b> No impact <b>Medium-term:</b> Low <b>Long-term:</b> Low</p>
<p><b>Chronic Risk:</b> Increasing mean temperature</p>	<ul style="list-style-type: none"> <li>The increasing average temperature may result in inadequate ventilation within warehouses, prompting tenants to request building improvements or additional equipment installation to enhance heat dissipation efficiency. Consequently, WHA Group may incur higher operating and maintenance expenses.</li> <li>The use of construction materials such as metal sheets for the building's roof may deteriorate more quickly, leading to increased maintenance costs and higher construction project expenses</li> </ul> <p><b>Short-term:</b> Medium <b>Medium-term:</b> Medium <b>Long-term:</b> Medium</p>	<ul style="list-style-type: none"> <li>In this case, the risk is low and the impact is less than when the temperature increases by 4 degrees Celsius. However, it may result in a slight lack of ventilation inside the warehouse. Therefore, the tenant may request building improvements or additional equipment installation to enhance heat dissipation efficiency, which may increase the operating/maintenance costs for the Group.</li> <li>The construction materials used in the building may deteriorate or be damaged quickly.</li> </ul> <p><b>Short-term:</b> No impact <b>Medium-term:</b> Low <b>Long-term:</b> Low</p>

Type of Transition Risk	Financial Impact	
	IEA STEPS	IEA NZE 2050
<p><b>Policy &amp; Legal:</b> Changes in laws and regulations related to greenhouse gas reduction, such as carbon tax</p>	<ul style="list-style-type: none"> <li>• Carbon tax is enforced in 2031.</li> <li>• Carbon price starts at USD 5 and remains constant.</li> </ul> <p><b>Impact and Timeframe:</b></p> <ul style="list-style-type: none"> <li>• The anticipated impact on business and finance is not significant since the laws are not yet enforced in near future. Additionally, the current risk management measures and operational strategies are considered sufficient, and WHA Group is capable of managing and mitigating this risk effectively.</li> <li>• New low-carbon technologies often require significant upfront capital.</li> <li>• WHA Group will require additional investments in compliance, adding to the overall cost burden of adopting new technologies.</li> <li>• Decrease in EBITDA after carbon tax deducted (%) - 2031 onwards = -0.02%</li> </ul>	<ul style="list-style-type: none"> <li>• Carbon tax is enforced in 2026.</li> <li>• Carbon price is derived from NGFS* climate scenarios.</li> </ul> <p><b>Impact and Timeframe:</b></p> <ul style="list-style-type: none"> <li>• The government may need to enforce laws and regulations related to greenhouse gas emissions in near future, with a tendency to prioritize heavy industries.</li> <li>• Changes in laws and regulations regarding greenhouse gas emissions may result in higher construction material costs.</li> <li>• Increased operational costs due to changes in climate regulations.</li> <li>• New low-carbon technologies often require significant upfront capital.</li> <li>• WHA Group will require additional investments in compliance, adding to the overall cost burden of adopting new technologies.</li> <li>• Decrease in EBITDA after carbon tax deducted (%) <ul style="list-style-type: none"> <li>• 2026 = -0.58% (55 million Baht)</li> <li>• 2030 = -0.88%</li> <li>• 2040 = -1.6%</li> <li>• 2050 = -5.2%</li> </ul> </li> </ul>
<p><b>Technology:</b> Cost of new technology</p>	<ul style="list-style-type: none"> <li>• New low-carbon technologies often require significant upfront capital.</li> <li>• Require additional investments in compliance, adding to the overall cost burden of adopting new technologies.</li> <li>• WHA Group has considered this scenario as low impact to the organization, as the group already has technology related to renewable energy that is offered to customers, as well as being used within the company itself. This enables efficient and timely response to customer needs.</li> </ul> <p><b>Short-term:</b> No Impact  <b>Medium-term:</b> No Impact  <b>Long-term:</b> WHA may be impacted (Impact level has not been quantified)</p>	<ul style="list-style-type: none"> <li>• New low-carbon technologies often require significant upfront capital.</li> <li>• Require additional investments in compliance, adding to the overall cost burden of adopting new technologies.</li> <li>• WHA Group considers this scenario as an opportunity. This is because the group already possesses technologies related to renewable energy, which are offered to customers and used internally within WHA Group. These technologies enable WHA Group to meet the demands of customers effectively and promptly.</li> </ul> <p><b>Short-term:</b> No Impact  <b>Medium-term:</b> No Impact  <b>Long-term:</b> WHA may be impacted (Impact level has not been quantified)</p>

Type of Transition Risk	Financial impact	
	IEA STEPS	IEA NZE 2050
<p><b>Market:</b> Customer Preference Shift to Low-Carbon Products and Services</p>	<ul style="list-style-type: none"> <li>• Customer demand has shifted towards seeking industrial parks that provide more low-carbon facilities and utilities.</li> <li>• WHA may need to invest in renewable energy sources, energy-efficient buildings, and low-emission transportation options to meet the demand for low-carbon services.</li> <li>• The decrease in demand for certain products and services of WHA Group due to changing customer preferences and needs.</li> </ul> <p><b>Short-term:</b> No Impact  <b>Medium-term:</b> WHA may be impacted (Impact level has not been quantified)  <b>Long-term:</b> WHA may be impacted (Impact level has not been quantified)</p>	<ul style="list-style-type: none"> <li>• Customer demand has shifted towards seeking industrial parks that provide more low-carbon facilities and utilities.</li> <li>• WHA may need to invest in renewable energy sources, energy-efficient buildings, and low-emission transportation options to meet the demand for low-carbon services.</li> <li>• Customers are placing increasing importance on green energy and renewable energy. WHA Group is capable of offering renewable energy solutions to customers to meet their demands.</li> <li>• The decreasing demand for certain products and services of WHA Group due to changing customer preferences and needs.</li> </ul> <p><b>Short-term:</b> No Impact  <b>Medium-term:</b> WHA may be impacted (Impact level has not been quantified)  <b>Long-term:</b> WHA may be impacted (Impact level has not been quantified)</p>
<p><b>Reputation:</b> Limitation to access capital</p>	<ul style="list-style-type: none"> <li>• Companies perceived as environmentally irresponsible or lagging in sustainability efforts may struggle to attract investment.</li> <li>• Companies with damaged reputations might encounter higher interest rates on loans or less favorable terms on debt issuance as investors and lenders perceive them as higher risk</li> <li>• If WHA Group fails to meet the expectations and demands of stakeholders (such as customers, investors, communities, and society) regarding environmental responsibility and raising awareness about climate resilience, it could have an impact on its reputation and lead to long-term financial consequences.</li> </ul> <p><b>Short-term:</b> No Impact  <b>Medium-term:</b> WHA may be impacted (Impact level has not been quantified)  <b>Long-term:</b> WHA may be impacted (Impact level has not been quantified)</p>	<ul style="list-style-type: none"> <li>• Companies perceived as environmentally irresponsible or lagging in sustainability efforts may struggle to attract investment.</li> <li>• Companies with damaged reputations might encounter higher interest rates on loans or less favorable terms on debt issuance as investors and lenders perceive them as higher risk</li> <li>• If WHA Group fails to meet the expectations and demands of stakeholders (such as customers, investors, communities, and society) regarding environmental responsibility and increasing awareness of climate resilience, it could have an impact on its reputation and lead to long-term financial consequences.</li> </ul> <p><b>Short-term:</b> No Impact  <b>Medium-term:</b> WHA may be impacted (Impact level has not been quantified)  <b>Long-term:</b> WHA may be impacted (Impact level has not been quantified)</p>

## OPPORTUNITIES ASSOCIATED WITH CLIMATE CHANGE

Financial opportunities for WHA Group resulting from climate change are detailed in the following table:

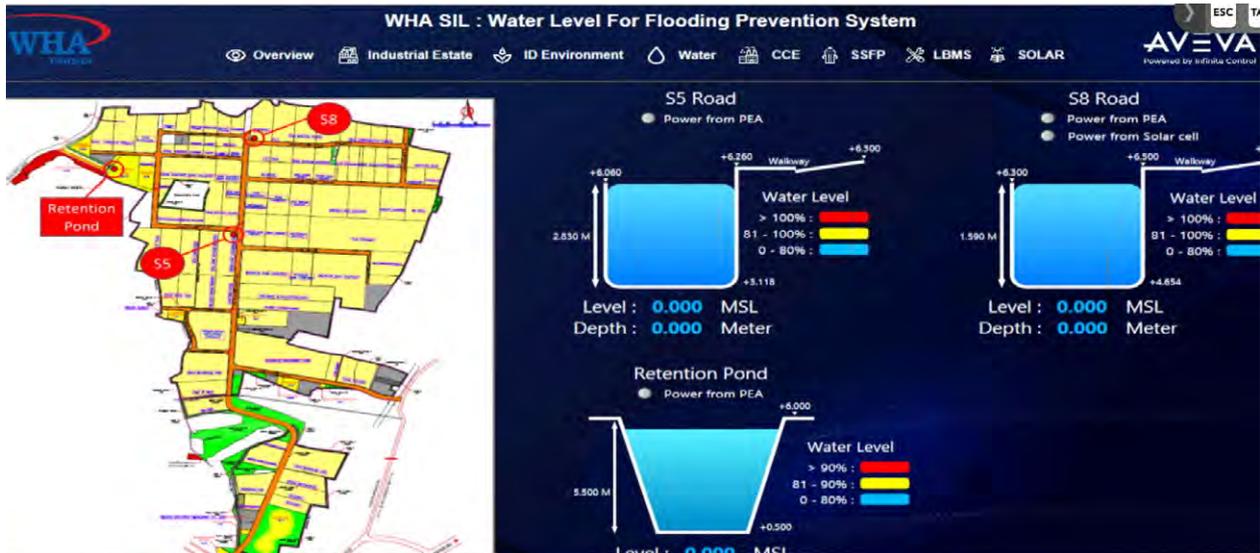
Opportunity	Financial impact	
	IEA STEPS	IEA NZE 2050
<p><b>Demand shift:</b> Customer Preference Shift to Low-Carbon Products and Services</p>	<ul style="list-style-type: none"> <li>The growing market demand in the real estate sector for renewable energy, eco-friendly practices, and energy-efficient buildings offers a substantial business opportunity for WHA Group.</li> <li>WHA Group can increase market opportunity from sustainable built environment (BREEAM, LEED, etc.)</li> <li>WHA Group can reduce waste generation through circular economy principles.</li> <li>WHA Group and WHAUP can focus on providing renewable energy services, such as solar panel installations, to support customers who seek to utilize renewable energy sources.</li> </ul> <p><b>Short-term:</b> No Impact  <b>Medium-term:</b> WHA may be impacted (Impact level has not been quantified)  <b>Long-term:</b> WHA may be impacted (Impact level has not been quantified)</p>	<ul style="list-style-type: none"> <li>The growing market demand in the real estate sector for renewable energy, eco-friendly practices, and energy-efficient buildings offers a substantial business opportunity for WHA Group.</li> <li>WHA Group can increase market opportunity from sustainable built environment (BREEAM, LEED, etc.)</li> <li>WHA Group can reduce waste generation through circular economy principles.</li> <li>WHA Group and WHAUP can focus on providing renewable energy services, such as solar panel installations, to support customers seeking to utilize renewable energy sources. This opportunity is valued at approximately 413 million Baht, with estimated development costs around 231 million Baht.</li> </ul> <p><b>Short-term:</b> No Impact  <b>Medium-term:</b> WHA may be impacted (Impact level has not been quantified)  <b>Long-term:</b> WHA may be impacted (Impact level has not been quantified)</p>

The business strategy and operational approach of WHA Group encompass not only the market opportunities but also address the risks and opportunities arising from climate change. This ensures that the business model remains flexible and drives continuous organizational development. Based on the assessment of risks associated with climate change mentioned above, WHA Group has developed plans to adapt to future risks. The following are the strategies and actions in place:

## PROJECTS AND PLANS FOR ADAPTING TO PHYSICAL AND TRANSITION RISKS

### MANAGING FLOOD RISK

- Selecting areas with low risk of natural disasters or no reported history of disasters for project development: The majority of WHA Group’s projects are located in the Bangna-Trad or Eastern Economic Corridor (EEC) region, which has a low risk of natural disasters.
- Designing and constructing flood prevention systems that are appropriate for the rainfall and water conditions in each project area, including the installation and monitoring of water levels in water storage reservoirs and rainwater retention ponds for every industrial estate project. Additionally, WHA Group excavates pits to accommodate continuous water drainage in the event of regular flooding. However, it is essential that the design of the drainage system does not impact the natural water systems and surrounding communities by avoiding the construction of barriers to natural watercourses.



UOC – flooding prevention system at WHA SIL

- Continuously installation and monitoring of rainfall depth measurements in every industrial estate.
- Inspect and maintain water barriers and water pumps as required to ensure they are in proper working condition at all times.
- Install water level monitoring and alert systems in the drainage channels of the WHA SIL in order to provide timely notifications and enable proactive planning and problem prevention in case of flooding.
- Install water level monitoring and alert systems, including SCADA systems, to control the operation of water pumps and closely monitor water levels. Additionally, allocate raw water quantities in the raw water reservoir and water retention ponds within ESIE, WHA ESIE 1, and WHA RIL.
- Establish emergency response plans and procedures, including conducting drills to prepare for and respond to volatile weather conditions.
- Regular assessment of environmental and surrounding area changes in each project.
- Consider local government or private sector water sources that have the potential to increase the raw water supply for industrial customer services (Alternative Raw Water Resources). Study and develop desalination technologies to convert seawater into fresh water (Desalination Technologies).
- Monitor and assess the usage of water from natural sources and provide reports to relevant parties at least once a month to keep them informed.
- Repairing and maintaining the surrounding soil around the water barriers in the water distribution system to prevent erosion and instability.
- Constructed additional ponds and reservoirs to ensure an adequate water supply in the WHA SIL industrial zone. A new reservoir will be built in the WHA SIL area, increasing the water capacity from 416,671 cubic meters to 800,271 cubic meters. In addition, floating pumps will be installed to maximize the water pumping capability up to the minimum capacity level of the reservoir, which is 998,798 cubic meters.
- Upgrading the groundwater reservoir at WHA RIL industrial zone to increase the water supply efficiency within the area by a daily increment of 1,121 cubic meters, which accounts for 10% of the water demand.
- WHA Group implements a water reclamation system, which helps reduce reliance on natural water sources. This system enables the reuse of wastewater and reduces the volume of discharged water into public water sources. The project not only reduces the cost of sourcing raw water but also

### MANAGING DROUGHT RISK

- Implement the Natural Water SCADA project to efficiently manage the utilization of water from natural sources. This includes installing water level monitoring devices in water storage reservoirs and an automated control system for water pumping equipment to closely monitor water levels. Additionally, allocate the raw water quantity in raw water storage tanks and water retention ponds in ESIE, WHA ESIE 1, and WHA RIL industrial zones.



Reclamation plant at ESIE

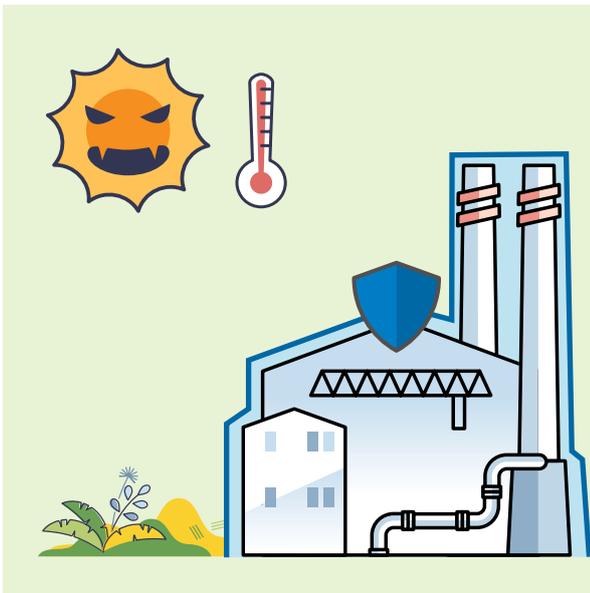


Water Reservoir Construction Project at WHA SIL



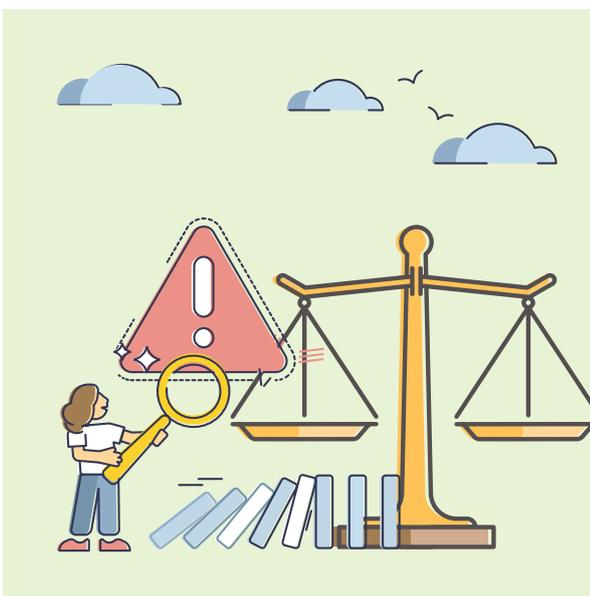
**MANAGING STORMS AND LIGHTNING RISK**

- Selecting construction materials and equipment that meet high standards to ensure durability and withstand severe weather conditions.
- Studying and developing innovative materials and equipment used in the construction of solar power generation projects to reduce temperatures, prevent overheating, and protect against lightning strikes.
- Monitor closely the weather conditions and changes through various news channels and inform customers to be prepared.
- Regularly assess the environmental changes and the surrounding areas of each project.



**MANAGING RISKS FROM INCREASE IN AIR TEMPERATURE**

- Choose innovative materials for constructing warehouses that can help reduce internal temperatures and enhance the efficiency of the overall structure, including air ventilation.
- Develop a long-term disaster management and risk mitigation plan.
- Upgrade the infrastructure to accommodate events that may arise from climate change
- Enhance awareness and capabilities to effectively manage the entire value chain



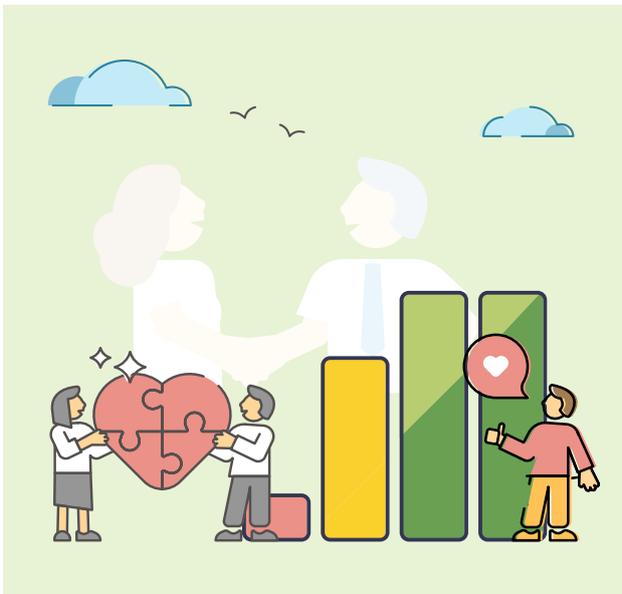
**TRANSITION CLIMATE RISK ADAPTATION PLAN MANAGING POLICY & LEGAL RISK**

- Track relevant legal changes and establish guidelines for effective mitigation actions
- Plan to increase energy production from renewable energy to reduce greenhouse gas emissions and environmental impact as well as control greenhouse gas emissions
- Focus on the use of construction materials that reduce greenhouse gas emissions, including the use of high-performance construction materials to reduce the generation of waste, and try to reuse construction materials through processes of recycling and re-use



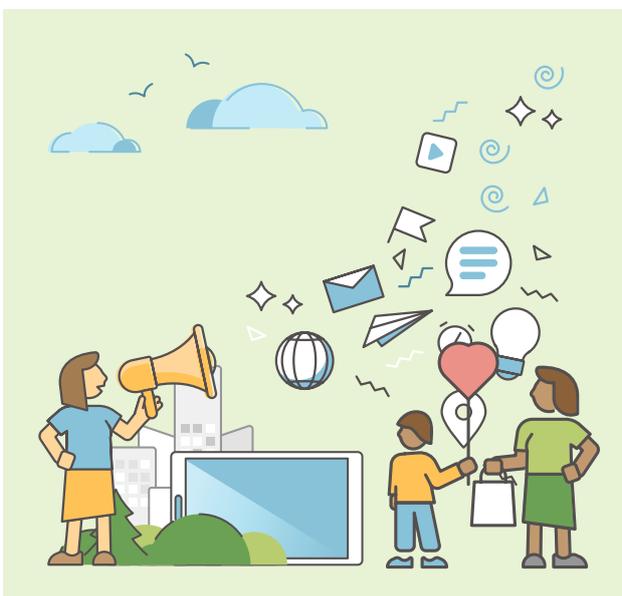
### MANAGING TECHNOLOGY RISK

- Expand to alternative energy services for customers. With the readiness from the design process of the building that can install solar panels on the roof immediately. The aforementioned solar panel installation service is provided by WHAUP, an expert who can offer a full range of services to customers.
- Study various technologies in the reabsorption and storage of carbon dioxide to reduce the impact of climate change in the future.
- Study technologies that impact both construction processes and building materials in order to prepare for technological changes.



### MANAGING MARKET RISKS

- Continue to adopt cutting-edge technologies to complement the concept of SMART ECO Industrial Estates, which supports and ensure smoothness of the production of factories, logistics and other businesses processes.
- Design and construct buildings that are environmentally friendly and adhere to international standards.
- Provide alternative energy services, especially solar energy, fully integrated in the Group's warehouse building that can enable customers to reduce energy costs including reducing the environmental impact of customers as well.



### MANAGING REPUTATION RISK

- Planning and implementing strategy towards becoming Net Zero while also supports customer and partners in utilizing and transitioning to renewable energy.
- WHA Group hopes to work together with our customers and partners to reduce climate change challenges throughout our business value chain.

avoids potential conflicts arising from shared resources with the local community. As a result, the project has been considered for license renewal to continue our sustainable business operations.

- Assessing the changes in the environment and the surrounding areas of each project on a regular basis.

## STRATEGIES AND BUSINESS OPPORTUNITIES IN RESPOND TO CLIMATE CHANGE

WHA Group believes that every crisis comes with opportunities, but the climate crisis cannot be delayed. However, WHA Group has implemented sustainability projects to address the climate crisis that may impact business operations in both the short and long term. These projects include reducing energy consumption, promoting the use of renewable energy, and decreasing the use of water from natural sources for industrial purposes. Additionally, the Group operates through the Circular Economy and Green Economy models, which aim to maximize resource efficiency throughout their life cycles. For example, developing water reclamation systems, and investing in various technologies to extend the usability and value of waste and residual materials (more details can be found in the Water Management and Waste Management sections). Furthermore, WHA Group has been continuously developing energy solutions, especially renewable energy, to ensure customers have efficient access to clean energy. The Group also has projects to enhance the efficiency of energy and resource use in various activities within the organization.

These projects not only help reduce climate change risks but also enable WHA Group to manage operational costs more efficiently. Additionally, they enhance the flexibility of business operations, leading to greater business sustainability. Furthermore, WHA Group plans to set targets to respond to climate change based on Science-based Targets. This includes setting short-term and long-term goals for Scope 1 and Scope 2 greenhouse gas emissions, as well as long-term goals for Scope 3 greenhouse gas emissions.

## CLIMATE CHANGE ADAPTATION

WHA Group recognizes that the impacts of climate change can affect business operations and may also impact other stakeholders, such as customers in industrial estates and surrounding communities. To promote efficient business operations and prevent disruptions that could affect other parts of the value chain, WHA Group has developed a risk management process to address climate-related risks. This process plays a crucial role in managing both the risks and opportunities arising from climate change. Although WHA industrial estates have never faced risks or been affected by floods, due to the Group's effective site selection process that ensures areas with no history of flooding, WHA Group continues to assess and establish comprehensive and strict risk mitigation measures. These measures are in place to manage risks effectively. WHA

Group is consistently prepared to respond to and adapt to climate change scenarios, with the CEO setting policies and monitoring environmental operations within the organization.

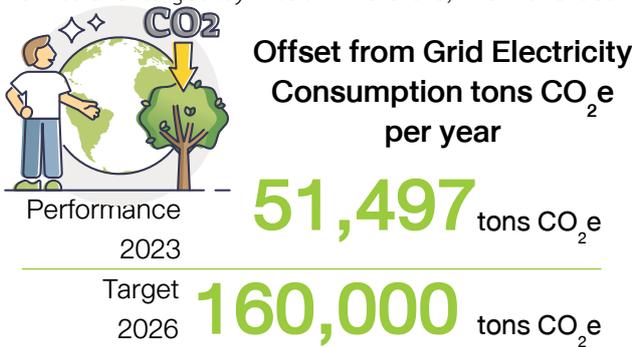


In 2023, WHA Group set the following climate change targets:

**GHG emission reduction targets (e.g. scope 1, scope 2, scope 3)**

In 2023, WHA Group achieved our goal of providing renewable energy systems, including solar power, which amounted to a total of 311 megawatts. Considering the amount of renewable electricity sold in 2023, this can be equated to a reduction in greenhouse gas emissions (Scope 2) of up to 51,497 tons CO<sub>2</sub>e

WHA Group also committed to achieving net zero emissions target by 2050. Therefore, we have set



**SHORT-TERM EMISSION REDUCTION TARGETS**

short-term and long-term emission reduction targets linked to our net-zero commitment in alignment with the Science Based Targets initiative (SBTi) guidelines as follows:



**TARGETS WITHIN 5 YEARS FROM THE BASE YEAR:**

- Absolute greenhouse gas emission reduction target (Scope 1 and 2) by **18.7** by **2025** from the base year **2021**.
- Greenhouse gas emission intensity target per total revenue and share of profit (Scope 1 and 2) to be

**LONG-TERM EMISSION REDUCTION TARGETS**

**1.45** tCO<sub>2</sub>e per **1** million THB of total revenue and share of profit by **2025** from the base year



**TARGETS BEYOND 5 YEARS FROM THE BASE YEAR:**

- Absolute greenhouse gas emission reduction target (Scope 1 and 2) by **42%** by 2030 and by 90% by **2050** from the base year 2021.
- Greenhouse gas emission reduction target (Scope 3) by reducing intensity emissions for investments by **74%** by 2030 and by **90%** by **2050** from



the year **2021**.

- Net emissions target by **2050**

**WASTE MANAGEMENT TARGET**

- WHA Group has set a target to operate our business based on the principles of a fully circular economy (**100%** Circularity) by **2050**. This will be achieved through operations under three main principles: Design & Resource, Green Products, and Operational Excellence
- WHA Group has a strategy to operate according to circular economy principles and to achieve our Zero Waste goal for waste management through the following initiatives:
  - Integrating circular economy principles into the operations of utilities and power processes
  - Promoting the use of renewable energy and recycled materials in construction and manufacturing processes to reduce waste and waste
  - Extending the lifespan of products, such as reuse, repair, adding value, and refurbishing products to have properties similar to new ones
  - Promoting product leasing programs instead of purchasing
  - Rethinking and transforming business models towards Products as a Service and Sharing Platforms
  - Utilizing digital technology to improve business operations
  - Studying and researching innovations and new materials to extend the life of materials and products
  - Collaborating with customers, partners, suppliers, regulators, and oversight agencies throughout the product value chain to promote a circular economy
- WHA Group targets to optimize proportion of waste to landfill or incineration without energy recovery by 2025 **2025**.



**ENERGY Target**

- WHA Group targets to reduce grid electricity consumption within our own operation by 3% within 2024 against **2019** baseline.



## COMMITMENT TO MANAGING CLIMATE CHANGE

As the Group's business directly relies on natural factors and aims to avoid having a negative impact on the environment, sees an opportunity to address this issue through technology. The Group is committed to managing greenhouse gas emissions and addressing global warming by reducing negative impacts through greenhouse gas reduction. Additionally, the Group aims to create important infrastructure, promote the use of renewable energy, and study various innovations and technologies to sustainably address global warming throughout our value chain. The Group achieved Carbon Neutrality within 2021. However, WHA Group remains committed to reducing our environmental impact and being part of the solution to climate change, aiming for Net Zero Emission by 2050, following the Science Based Targets Initiative (SBTi) guidelines. WHA Group also commits to seek validation to the target by the SBTi within 2025 for the absolute greenhouse gas emission reduction target (Scope 1 and 2), the absolute greenhouse gas emission reduction target (Scope 3) and net zero emissions target.

WHA Group has planned operations to reduce greenhouse gas emissions through business operations, such as developing projects and constructing buildings with efficient resource use concepts, reducing energy consumption from greenhouse gas-emitting sources to the maximum extent possible, and promoting renewable energy. WHA Group aims to achieve our goal by installing and selling 300 MW of electricity from renewable energy sources in 2023, as well as managing climate change by promoting the use of alternative energy to customers through offering solar power system installation services on rooftops. WHA Group invests in installing solar power systems on customers' rooftops and is a distributor of electricity through long-term power purchase agreements (PPAs). Through investing in such projects, in 2023, WHA Group had a return on investment from the solar energy business of approximately 424 Million Baht.

WHA Group has also established channels for receiving complaints and feedback from stakeholders, including customers and the surrounding community, in order to listen to their opinions and suggestions for future development and improvement. In this regard, WHA Group has implemented a complaint management process in line with the ISO 14001:2015 standard, which involves investigating the root causes, implementing corrective actions, and mitigating recurring impacts. Appropriate preventive measures are also established to prevent the recurrence of similar issues.

For performance indicators, WHA Group emphasizes the importance of measuring various gas emissions, including Scope 1, Scope 2, and Scope 3 greenhouse gas emissions that impact the atmosphere. This is achieved by controlling the emission rates to comply with relevant legal standards. The group also reports on the release of ozone-depleting substances (ODS), such as chlorofluorocarbon CFC-11 or its equivalent. Additional information on gas emissions can be found in performance data at the end of the report.

Additionally, WHA Group has been continuously accelerating our efforts to achieve the Paris Agreement's goals of limitation of global temperature and greenhouse gas emissions reduction in all areas of our operations. Therefore, in 2023, WHA Group collaborated with partners from leading educational institutions, private companies, and public sector organizations to establish the Thailand CCUS Consortium.

This consortium aims to enhance Thailand's competitiveness in Carbon Capture Utilization and Storage (CCUS) technology. The goal is to drive the development of CCUS technology in Thailand in a sustainable manner for maximum future benefits, including the limitation of global temperature rise to no more than 1.5 degrees Celsius in alignment with the Paris Agreement's target.



## CLIMATE-RELATED MANAGEMENT INCENTIVES

In addition to business performance, WHA Group has set climate change as a key performance indicator (KPI) for all executives and employees involved in related operations. The KPI varies for each position and role, reflecting different proportions of responsibilities. Specifically, WHA Group set emissions reduction KPI for the Group's CEO, and energy reduction KPIs for the executive officers of our business units. Compensation and bonuses linked to these KPIs will be allocated to the relevant executives upon achieving the following targets:

- 1) WHA Group meets the target of contracting and providing renewable energy system totaling 300 MW in 2023 which can reduce scope 2 greenhouse gas emissions by approximately 51,497 tons CO<sub>2</sub>e per year.
- 2) Business Unit achieves the energy reduction target of 3% Achievement of individual KPIs will relate to their performance bonus, if the base target is met.

For example, WHA Utilities and Power (WHAUP) has set a KPI for increasing the capacity of electricity production from renewable energy sources, accounting for 10% of the overall business group's KPI. This is coupled with financial performance evaluation. Setting climate change as a KPI is crucial for motivating the organization to achieve its goals. In 2023, all executives and employees involved were able to achieve their KPIs. WHA Group will continuously enhance and challenge the climate change KPI in each succeeding year.

## ACTION PLANS TO REDUCE THE IMPACTS OF CLIMATE CHANGE

WHA Group has responded to climate change with two main objectives: to prevent risks that directly and indirectly impact the Group, the environment, and society from our operations, and to ensure that our environmental operations are crucial in driving Thailand towards its goals, particularly achieving Carbon Neutrality by 2050 and Net Zero greenhouse gas emissions by 2065. This is being pursued through various projects such as renewable energy, energy efficiency, and environmental awareness programs. The Group achieved Carbon Neutrality in 2021 and aims to achieve Net Zero emissions by 2593. Additionally,

the Group measures and controls greenhouse gas emissions in Scope 1 and Scope 2 throughout the supply chain to ensure that our business operations align with the organization's, national, and global goals. Moreover, the Group has expanded our controls to reduce greenhouse gas emissions to Scope 3 for all stakeholders, including contractors, customers, and logistics activities in all dimensions.

Alongside the goals related to climate change, WHA Group has undertaken initiatives to reduce the impact of our operations on biodiversity and deforestation in the operating areas. The Group has placed significant emphasis on measures such as Avoid, Reduce, Regenerate, Restore, and Transform to manage risks and impacts on biodiversity. Additionally, the Group has expanded our scope by encouraging supplier to participate in operations aimed at biodiversity goals. The Group believes that these efforts represent a significant transition towards a new era of operations that prioritize environmental concerns, which can have positive impacts on stakeholders and society as a whole. For example, the Group has been able to save energy costs through renewable energy projects and has had the opportunity to offer these projects to customers. At the same time, communities and society can trust that they will not be adversely affected by the Group's operations.

Even though in 2023 WHA Group was able to achieve our energy and environmental goals, the Group will not rest but continue to pursue new projects that incorporate technology to drive towards becoming a Net Zero emissions organization by 2050. Some of these new projects include:

### ENERGY CONSERVATION PLAN

WHA Group is committed to efficiently using energy to maximize benefits and focuses on developing energy conservation projects to improve energy efficiency and reduce greenhouse gas emissions. The Group places great importance on measures to avoid, reduce, regenerate, restore, and transform (Avoid, Reduce, Regenerate, Restore, Transform) to manage risks and impacts on biodiversity, including expanding our scope to engage partners in energy-efficient projects. The objective is to focus on improving processes to increase productivity, reduce costs,

generate additional revenue, and reduce losses at every stage of the process. The Group also focuses on results that align with the organization's sustainable strategy. At the same time, it maintains cooperation with partners and supports policies related to energy conservation by linking to projects and activities that focus on environmental conservation and energy conservation as daily operational principles. The operations demonstrate the ability to reduce energy consumption and greenhouse gas emissions, such as presenting products certified as green products for building and factory construction, with criteria for selecting materials and tools for business operations. The installation of solar LED lighting on roads in the industrial estate of the Group, and the application of technology in the operations process to analyze and improve energy use and reduce unnecessary losses. These projects create positive impacts on energy use and sustainable business continuity in the Group's future.

### CLIMATE CHANGE PLAN

WHA Group has assessed climate change as a material issue and has defined key operational strategies to reduce greenhouse gas emissions in the short, medium, and long term, aiming for net-zero emissions by 2050. The detailed action plan includes:

- Increasing the proportion of production and use of renewable energy.
- Increasing the Green Portfolio within the business group.
- Supporting the use of electric vehicles in the organization, industry sector, and Thailand.
- Improving and changing business processes to enhance energy efficiency.
- Developing and offering products and services that help reduce greenhouse gas emissions throughout the value chain.
- Planning reforestation, forest conservation, and increasing green spaces to naturally absorb carbon dioxide from the atmosphere.
- Raising awareness of energy conservation and climate change among employees, business partners, and stakeholders involved.

One of the projects that the Group has been implementing since 2023 and has made significant progress is the Green Logistics project. This project involves defining activities and strategies to reduce

environmental impact in the transportation and logistics industry by applying green technology to customers in the logistics business group. This includes using electric vehicles for transporting goods, installing electric vehicle charging stations, using renewable energy as a power source for electric vehicle charging stations, and using digital technology to control the operations of electric vehicles, all aimed at efficient energy use. Additionally, this initiative helps reduce long-term logistics costs for the country through a digital platform that helps manage and improve fleet management operations, including monitoring, controlling, and analyzing various aspects of electric vehicle operations to maximize efficiency. The project is based on the importance of reducing energy consumption, reducing greenhouse gas emissions, and reducing waste generation, with the main goal being to increase resource efficiency and reduce pollution in the transportation process. This results in reducing climate change and fossil fuel combustion, as well as promoting efficient resource use. By implementing the Green Logistics project, it is expected to reduce greenhouse gas emissions for the Group's stakeholders by up to 14,400 tons of carbon dioxide equivalent, or equivalent to planting over 1,600,000 trees. This calculation is based on the plan to switch to electric vehicles estimated in 2024, with more than 1,000 vehicles expected.

### BIODIVERSITY AND NO DEFRESTITATION PLAN

WHA Group is committed to promoting biodiversity and comprehensive environmental systems in our operations, extending these efforts to key stakeholders, including partners and business associates. Recognizing the importance of conserving biodiversity and preventing deforestation, the Group has developed plans for biodiversity conservation and forest protection to prevent the loss of biodiversity in our operational areas. The Group has plans to implement reforestation projects in the green areas around our industrial estate to enhance the environment. Additionally, they benefit from the carbon sequestration of trees, which has a positive impact on climate change mitigation. Furthermore, WHA Group collaborates with local organizations and communities to care for, maintain, and support reforestation projects, aiming for sustainable and environmentally friendly reforestation results in the long term.

## ENERGY MANAGEMENT



WHA Group is well aware that business operations unavoidably involve production and energy use, which directly impact climate change. Moreover, these activities can potentially pollute communities and nearby environments if not managed properly. Therefore, the Group is committed to conducting business with quality and global standards, alongside environmental conservation efforts through energy conservation activities. To this end, WHA Group has established an energy conservation policy approved by management, assigning an Environmental Committee to develop plans and guidelines for environmental operations. This includes setting targets for environmental and energy conservation operations, as well as implementing activities and projects to demonstrate the necessity of energy conservation projects within the Group. This policy covers the practices of all employees, as well as the management of construction and utility systems of all four business groups to comply with the Building Control Act B.E. 2540 (1997) and the Environmental Conservation Promotion and Enhancement Act (No. 2) B.E. 2550 (2007). This is to align with the global move towards the Net Zero emissions target and Low Carbon Society.

As “The Ultimate Solution for Sustainable Growth,” WHA Group offers services to customers seeking to offset their carbon footprint through a variety of renewable energy services. The use of renewable energy helps customers manage energy more efficiently, reduce reliance on the electricity grid, and minimize environmental impact. Additionally, it adds business value. WHA Group provides customers with a comprehensive solar energy service on a long-term post-installation contract basis, without any upfront costs. This includes design services, permit applications, long-term operations, and maintenance.





Even though WHA Group, as an industrial estate developer and logistics real estate developer and manager, does not have the authority to control industrial operators in industrial estates or warehouse tenants to reduce energy consumption, WHA Group is committed to supporting our customer base in transitioning to renewable energy. This is achieved by offering a variety of renewable energy solutions and projects to meet the specific needs of every customer. WHA Utilities & Power (WHAUP) specializing

in renewable energy, provides solar energy system services. This commitment is evident in the Group’s achievement the goal to increase our renewable energy production capacity to 300 megawatts in 2023. Additionally, the Group has set targets to reduce electricity consumption from non-renewable sources in our operations. Furthermore, the Group has projects to reduce energy consumption in industrial estates and office buildings, coupled with solar energy services.

## OVERVIEW OF ENVIRONMENTAL PROJECTS AND PROGRESS IN REDUCING GREENHOUSE GAS EMISSIONS

In order to be a part of reducing the impact of climate change and mitigating negative effects on biodiversity, WHA Group has integrated our expertise to develop a framework to reduce greenhouse gas emissions into the rapidly changing climate. This is to move towards the goal of achieving net-zero greenhouse gas emissions.

### ENERGY EFFICIENCY PROJECT

WHA Group has implemented energy-saving projects in industrial estates, utility systems within industrial estates, and warehouse rental projects, including the WHA Tower building, to promote energy-efficient practices, as follows:



**ENERGY SAVING IN INDUSTRIAL ESTATES**

WHA Group has implemented an energy-saving project in the industrial estate by designing the utility systems and warehouse rental projects to be more energy-efficient. For example, using LED lights for signage and streetlights in the industrial estate, and replacing electrical equipment to be more suitable for energy consumption. In 2023, the energy-saving project within the industrial estate was able to reduce electricity consumption by approximately 509,655 KWh per year, or equivalent to reducing greenhouse gas emissions by about 255 tons CO<sub>2</sub>e.

**ENERGY SAVING IN OFFICE BUILDINGS**

In addition to implementing energy-saving projects within the industrial estate, all business groups also collaborate to fully support energy conservation efforts in the WHA Tower and office buildings within the industrial estate through the “Let’s Save the World Together” project. The objective of this project is to inspire employees to change their energy consumption behaviors to help save energy. This includes optimizing the use of air conditioning and lighting systems, such as turning off electrical appliances, using stairs instead of elevators, and more. This project has led to positive behavior changes towards energy conservation. Furthermore, in 2023, the Group was able to significantly reduce electricity consumption within the WHA Tower office building through various measures. These measures included optimizing the efficiency of operation of the cooling water and air replenishment system for the building’s air conditioning system, adjusting the light control system to better suit the nature and working hours of the building’s occupants, and installing equipment such as inverters to control electricity usage for optimal efficiency compared to the energy used. These measures implemented in 2023 resulted in a reduction in electricity consumption of more than 445,308 KWh, or approximately 222 tons CO<sub>2</sub>e in greenhouse gas emissions.

**SOLAR ENERGY PROJECT WITHIN WHA GROUP’S OPERATIONAL AREA**

WHA Group has been highly successful in increasing the use of renewable energy in the operations each year. Clean energy produced from solar panels on the roofs of industrial water treatment plants in WHA EIE and ESIE has allowed the Group to reduce

our use of electricity from commercial fuel sources by approximately 1,249,074 kilowatt-hours per year, resulting in a significant reduction of 624 tons CO<sub>2</sub>e in Scope 2 greenhouse gas emissions. In 2023, the Group expanded the solar energy system installation on the roofs of office buildings in WHA ESIE 1, and ESIE, which efficiently produced solar energy to replace electricity from the grid by 164,400 kilowatt-hours per hour, preventing 82 tons CO<sub>2</sub>e of greenhouse gas emissions. When combined with the solar energy systems installed in parking lots at ESIE Plaza 1 and ESIE Plaza 2 in ESIE and WHA ESIE 4, the Group’s solar energy projects efficiently produced solar energy to replace electricity from the grid by a total of 411,898 kilowatt-hours per hour, preventing more than 206 tons CO<sub>2</sub>e of greenhouse gas emissions. Additionally, in 2024, the Group plans to further expand our solar energy system installations with a target to reduce electricity consumption by 1,473,500 kilowatt-hours per hour, or prevent approximately 700 tons CO<sub>2</sub>e of greenhouse gas emissions per year.





### BATTERY ENERGY STORAGE SYSTEM: BESS

WHA Utilities & Power (WHAUP) has undertaken a pioneering project to install solar panels along with a Battery Energy Storage System (BESS) on the roofs of water treatment plants in the Eastern Seaboard Industrial Estate (Rayong) (ESIE) to enhance the Group’s ability to produce renewable energy. In 2023, WHAUP installed solar panels with a total capacity of 813.2 KW, along with a BESS system capable of storing 550 KWh of electricity. This project has helped WHAUP reduce its electricity consumption from the grid by approximately 1,150 MWh per year,

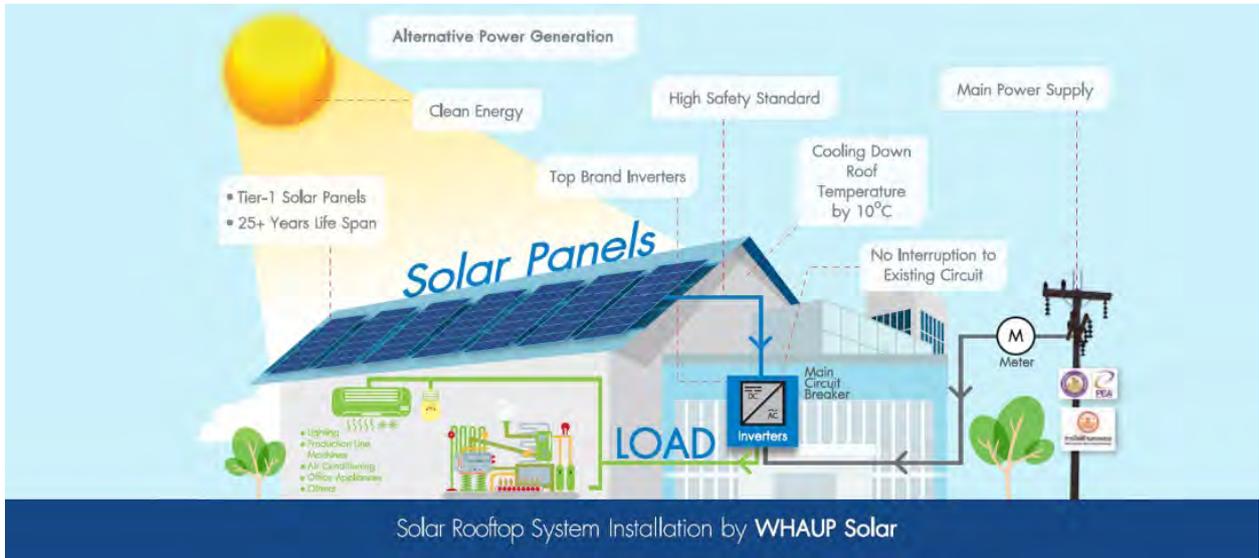
or equivalent to saving about 4 million baht per year in electricity costs. It has also helped WHAUP reduce greenhouse gas emissions over the project’s lifespan by 16,100 tons CO<sub>2</sub>e from using renewable energy instead of grid electricity. To further expand renewable energy production capacity, WHAUP plans to install solar panels with a total capacity of 40,000 KW and a BESS system with a capacity of 24,000 KWh by 2029, with a goal to reduce electricity consumption by 56,000,000 KWh per year, or equivalent to saving about 195 million baht per year in electricity costs. Additionally, this expansion will enable WHAUP to reduce greenhouse gas emissions by 784,000 tons CO<sub>2</sub>e over the project’s lifespan.



### INTEGRATED SOLAR SYSTEM SOLUTIONS FOR CUSTOMERS

Due to the increasing interests from industrial operators looking to transition to green energy for lower costs and to protect the environment, installing solar rooftops have matured into the preferred solution. WHA Group’s reputation for high engineering and safety standards along with expertise in solar roof has fundamentally embedded the trust of customers to shift towards renewable energy use through WHAUP’s service.

WHAUP offers an all-in solar rooftop service package for customers including design, permitting, installation, and long-term operation and maintenance at no upfront cost to customers. With zero investment and zero maintenance costs, WHAUP’s solar rooftop package helps businesses be a part of the green energy cycle under a long-term power-purchase agreement. This solar rooftop is cost-effective and has less impact on the environment. The integrated solar system solutions for customers are as follows:



### FORD SOLAR CARPARK PROJECT



The solar power project for Ford Motor Company (Thailand) Limited, a global car manufacturing plant, is the largest Solar Car Park project in Thailand. It has a capacity of 7.7 MW, installed on the company’s parking lot area of 59,000 square meters. This installation will supply electricity to the company’s factory. This initiative will help reduce greenhouse gas emissions and electricity costs for customers, saving over 755 Million Baht over the project’s 25-year lifespan.

### MEGA BANGNA SOLAR PROJECT



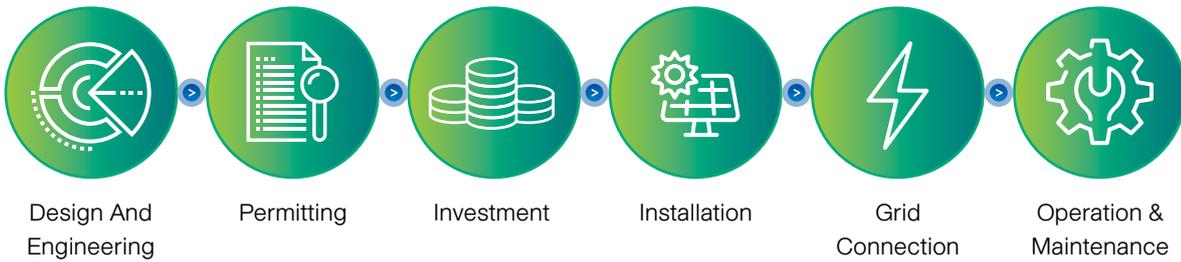
The solar power system for Mega Bangna is installed on the roof of the Mega Bangna shopping mall, covering an area of 60,000 square meters. It has a capacity of 9.89 MW, which can reduce greenhouse gas emissions and electricity costs, saving over 1.04 Billion Baht over the project’s 25-year lifespan.

### AAT SOLAT FLOATING PROJECT

The solar power project for AutoAlliance (Thailand) Co., Ltd., a manufacturer and assembler of Ford and Mazda vehicles, is a Solar Floating project with an 8-megawatt capacity installed on a 60,000 square meter water surface in the Eastern Seaboard Industrial Estate (Rayong). It is expected to start commercial operation in September 2024, which will help AAT reduce energy costs, use clean energy up to 9.6 million units per year, and reduce greenhouse gas emissions by over 5,400 tons of carbon dioxide per year.



In 2023, WHA Group installed a total of 106 megawatts of full-cycle solar power systems for all customers.



### GREEN BUILDING PROJECT

WHA Group has a policy to design and build environmentally friendly warehouses, such as using precast systems in the construction process to help reduce waste that impacts the environment, as well as noise pollution, dust, and traffic issues at construction sites. Additionally, the selection of environmentally friendly construction materials avoids using materials that emit volatile organic compounds (VOCs) and those containing asbestos. It also avoids using construction materials that contain various hazardous substances. Furthermore, building designs are aligned with the Leadership in Energy and Environmental Design (LEED) standards. WHA Group also considers resource utilization by using water-saving fixtures, installing solar energy systems, and implementing electricity monitoring systems in buildings to assess energy use in more detail (efficient building energy use standards that are globally recognized). Additionally, the Group’s warehouses are also designed to accommodate energy production, especially structures that support solar power systems. In 2023, WHA Group completed the construction of a LEED GOLD-certified building at the WHA Mega Logistics Center Theparak Km. 21. The building has a total floor area of 27,212 square meters, including a solar rooftop system with a capacity of 0.28 megawatts to help save energy for the building. Currently, the building is open for customer use.

### SMART BUILDING PROJECT

WHA Group has constructed the WHA Tower, a premium office space for rent, in line with the Group’s policy to design and build environmentally friendly buildings. The office space features a high ceiling height of 2.9 meters and large, thick glass windows that can be opened to allow natural light into the office, creating a pleasant working environment and reducing the need for electricity. The glass used is also 70% efficient in blocking heat, reducing the need for air conditioning. LED lights are installed throughout the building, helping to save up to 50% of electricity. Additionally, there is a chilled water air conditioning system to ensure comfort while saving energy. The landscape is designed with green spaces both inside and outside the building, including rooftop gardens accessible to building occupants, decorated with water features to bring people closer to nature. The building is also designed with international standards to accommodate the diverse needs of users, with staircases to save energy from elevator use. WHA Group has also incorporated technology into the WHA Tower to make it a smart building, with touchless access control systems, temperature detection systems, and various security systems such as fire detection systems, vehicle registration recognition systems, and 24-hour CCTV cameras. Additionally, WHA Group offers shuttle services from the WHA Tower to public transportation systems and nearby shopping centers to reduce energy consumption and greenhouse gas emissions.

WHA Group is constantly developing and improving energy-saving and renewable energy projects to be more efficient. The group also listen to the viewpoints and feedback of stakeholders, including the surrounding communities, employees, and business partners, to develop energy projects that meet the needs of all stakeholders. This approach benefits the environment as a whole in the long run.

### WHA GROUP'S GHG EMISSION DATA

Performance	Unit	2018	2019	2020	2021	2022	2023
Direct (Scope 1) GHG emissions 	tons CO <sub>2</sub> e	667	693	644	1,146	1,322	1,401
Energy indirect (scope 2) GHG emissions 		14,696	19,419	18,671	18,104	15,722	17,209
GHG emissions (Scope 1 and Scope 2) 		15,363	20,112	19,315	19,250	17,044	18,610
GHG emissions Intensity (Scope 1 and Scope 2) 	tons CO <sub>2</sub> e/ THB Million	1.3	1.5	2.1	1.6	1.1	1.1
Coverage	%	100	100	100	100	100	100

Performance	Unit	2020	2021	2022	2023	Target 2023
Amount of energy consumed from non-renewable sources 	kWh	30,937,402.00	36,267,052.00	36,023,757.00	38,766,830	35,000,000.00
Amount of energy consumed from non-renewable sources per total revenue and share of profit 	kWh/ THB Million	3,289	3,031	2,314	2,278	2,300
Amount of energy consumed from renewable sources 	kWh	555,990	863,029	1,656,836	1,677,549	1,700,000

## RENEWABLE ENERGY CONSUMPTION AND ON-SITE ENERGY GENERATION

Altogether, operational energy used in buildings in WHA Group's investment portfolio and projects derived from renewable sources (wind, water, solar, biogas) are demonstrated below:

Indicator	2019	2020	2021	2022	2023
The use of electricity from renewable sources (wind, water, solar, biogas) used in buildings in portfolio (kWh)	623,105	555,990	863,029	1,656,836	1,677,549
					

## TARGET OF PROVIDING RENEWABLE ENERGY SERVICES

In 2023, WHA Group achieved the goal of contracting and providing renewable energy systems totaling 300 megawatts. By the end of 2023, the Group had installed solar rooftop systems for customers, with a total installed capacity of 109 megawatts. The electricity generated from these solar panels can replace power from the grid, thereby reducing Scope 2 greenhouse gas emissions by approximately 51,497 tons CO<sub>2</sub>e per year. Additionally, by reducing greenhouse gas emissions from the sale of electricity to customers, the Group can offset our own greenhouse gas emissions. In 2023, the Group's Scope 1 and Scope 2 emissions were less than the amount offset, achieving carbon neutrality. The Group has a long-term plan to increase production capacity and expand long-term contracts in the future as follows:

Production Capacity	Performance	Target	
	2023	2023	2026
Capacity of Renewable Power Purchasing Agreement (PPAs) at Year-End (MW) <sup>1</sup> 	311	300	600
Annual reduction of the amount of greenhouse gases from substituting electricity of the power supply system provided to customers per year which can be used to offset the carbon emissions of WHA Group (tCO <sub>2</sub> e) (assuming full year operation basis) <sup>2</sup> 	51,497	50,000	160,000

**Remark:** <sup>1/</sup> Included MW under both operation and development stage; as of end 2023, operational 109 MW and 74 MW under development

<sup>2/</sup> Expected level of GHG offset on per year basis. Actual level can be varied with multiple operating parameters and standard used to calculate kg CO<sub>2</sub>e/kwh of the grid

Capacity of operating solar projects selling to industrial customers increased from 97 MW to 109 MW in 2023. Energy supplied to customers total 112,921 MWh in 2023, accounted for 51,497 tons CO<sub>2</sub>e avoided emissions.

## ENERGY AUDIT

To ensure energy efficiency in operations, WHA Group conducted an energy audit in 2023 at Eastern Seaboard Industrial Estate (Rayong) and WHA Eastern Industrial Estate (Map Ta Phut), WHA Chonburi Industrial Estate 1 and WHA Water Co., Ltd, carried out by EQS Consultant. This energy audit assessed the potential for energy conservation and identify opportunities for improving energy performance at various levels:

- Organization Level: Service Utilization and Output, Electrical Energy System, Fuel Consumption for Power Generation, Energy Usage Proportion by System

- Service Level: Specific energy usage of usable space.
- Product Level: Water Supply Production, Wastewater Treatment, RO Water Production, DI Water Production
- Machinery/Equipment Level: Energy Efficiency of Lighting Systems, Energy Efficiency of Air Conditioning Systems, Energy Efficiency of Water Pumping Systems, Energy Efficiency of Wastewater Treatment System

The assessment was conducted in compliance with the ISO 50001 standard.

## RAISING AWARENESS ON ENERGY CONSERVATION



WHA Group recognizes the importance of effective and sustainable energy management, understanding that the cornerstone of driving this strategy lies in every individual within the organization. Therefore, in 2023, the Group organized the development of personnel skills related to energy management as follows:

- A practical workshop on energy conservation awareness and energy-saving techniques was conducted for the operational staff of Eastern Seaboard Industrial Estate (Rayong) Co., Ltd. (ESIE) on October 30, 2023, with a total of 43 participants.
- The “Walk Rally” event for Energy Conservation Promotion was organized for the operational staff of Eastern Seaboard Industrial Estate (Rayong) Co., Ltd., WHA Eastern Industrial Estate Co., Ltd., and WHA Industrial Development PLC. on Wednesday, November 22, 2023, with a total of 167 participants.



- Promoting employee participation in environmental management within the organization through various projects, such as the Bootcamp project, which encourages employees to collaborate and compete in creating innovative projects that promote sustainability. Additionally, employees are provided with training and knowledge through the WHApy project, with the theme “WHApyVerse: The Land of Sharing”. This event provided knowledge and activities to raise employee awareness about the importance of sustainability operations.

## BIODIVERSITY AND NO DEFORESTATION



WHA Group understands that our business operations and activities throughout the value chain, from building construction, water consumption from natural sources, logistics, to production within industrial estates, inevitably create direct impacts on the surrounding biodiversity, ecosystems, and nature. Therefore, the Group is committed to minimizing the impact of business operations on diversity by establishing a biodiversity policy. The policy is approved by a dedicated oversight committee annually to align with the global trends and follows the principles of the Mitigation Hierarchy (avoid, reduce, regenerate, restore, transform) as a part of the Group's approach to manage the risks and impacts on biodiversity. Additionally, the Group also annually conducts a biodiversity risk assessment to ensure that our business activities impact the least on biodiversity.

WHA Group committed that our business operations can generate net positive impact or, at the very least, no net loss in terms of biodiversity values by 2030. As a part of our current operations, we strictly adhere to legal requirements and regulations specified in Environmental Impact Assessment (EIA) reports. Additionally, we avoid negative impacts by carefully selecting business sites and implementing appropriate design and construction plans. We have a policy in

place to avoid conducting business operations in areas registered by the United Nations Educational, Scientific and Cultural Organization (UNESCO) as World Heritage Sites or protected areas under IUCN Category HIV. However, if any business operations areas are in proximity to these conservation areas, WHA Group will undertake measures to mitigate any negative impacts. If the forest resource destruction is unavoidable, the Group will compensate for the loss by replanting forests in another area. The compensatory forest plantation must be equal to or larger than the area affected by deforestation. Furthermore, the Group implements control measures to reduce other negative impacts, restore any damages resulting from our business activities, and compensate any negative impacts occurred.

Additionally, WHA Group also establish the biodiversity policy to cover all our suppliers and contractors, especially contractors and suppliers directly engage with the Group (Tier-1), and business partners. If any entities are unable to follow the regulations in the policy, the Group will immediately investigate to raise awareness of contractors and business partners on forest and biodiversity conservation during the operations. We also conducted a risk assessment from business activities to ensure that such activities do not generate negative impacts on biodiversity.



## BIODIVERSITY ACTION PLAN

WHA Group has developed the Biodiversity Action Plan (BAP) as a part of the Group's risk management plan to mitigate the impacts on plants, wildlife, and the environment. The BAP includes:

- Assessing and managing biodiversity through the enforcement of the Group's Environmental Quality, Energy Conservation, and Biodiversity Policy
- Conducting a biodiversity risk assessment in our own operations and critical suppliers to ensure that areas with biodiversity risks are strictly controlled and managed
- Operating business with the highest responsibility in the Group's operational areas and addressing biodiversity sensitivities
- Identify actions to avoid and mitigate negative impacts on biodiversity.
- Applying the Mitigation Hierarchy framework (avoid, reduce, regenerate, restore, transform), starting with avoiding and reducing severe impacts by improving the operations while regenerating and restoring the affected ecosystems as well as addressing the nature loss
- Encouraging community and key stakeholder engagement to improve the efficiency of biodiversity management, emphasizing participation and consultation in related operations
- Collaborating with external partners and biodiversity experts to conserve, restore, and evaluate biodiversity to find the biodiversity management approach to achieve the business commitment to no net loss of biodiversity values.

## BIODIVERSITY CONSERVATION MEASURES

EIA results show that 2 out of 11 WHA Group's industrial estates (total 667 hectares) were identified to have biodiversity concerns due to their proximity to protected areas. These industrial estates are WHA Chonburi Industrial Estate 2 (WHA CIE 2) with an area of 101 hectares, and WHA Eastern Seaboard Industrial Estate 2 (WHA ESIE 2) with an area of 566 hectares, which are located close to Khao Khiao-Khao Chompu Wildlife Sanctuary in Chon Buri. However, WHA Group strictly adheres to the preventive and mitigative measures stipulated in the report of each industrial estate to minimize and alleviate the impacts.

At WHA ESIE 2, the Group is required to monitor the species count and abundance of wildlife within the industrial complex and surrounding areas every two years. Furthermore, WHA ESIE 2 will monitor ambient air quality and provide support for research conducted by local forest conservation organizations or educational institutions on the effects of industrial operations on the ecosystem.

WHA Group clearly defines the area scope of operation at WHA ESIE 3 and conducts activities only within the WHA ESIE 3 area, avoiding disturbance to the surrounding forest. Furthermore, promote the planting of trees that have the potential to reduce pollution from WHA ESIE 3 activities, such as the Burma Padauk and the Mast Tree, etc. Additionally, employees of WHA are not permitted to cut down trees, hunt, or engage in illegal activities that harm habitats and wildlife.

It is necessary to monitor nearby aquatic ecology within the reservoir into which the industrial estate discharges its treated wastewater. A baseline study of each biodiversity parameter (phytoplankton, zooplankton, aquatic animals, aquatic plants, and benthos) was conducted to allow for comparison with monitoring results. On a biannual basis, such monitoring is carried out at the upstream and downstream of the wastewater discharging point. Based on 2023 monitoring results, the diversity index remains at a moderate level, confirming that the operation of WHA's industrial estates has no significant impact on biodiversity. Moreover, WHA Group also initiated water quality development project to promote biodiversity.

All EIA-required monitoring results are reported to local authorities as well as the Industrial Estate EIA Committee. Furthermore, biodiversity risks at WHA ESIE 2 and WHA CIE 2 are re-assessed every two years, as required by the EIA, to investigate changes and additional impacts caused by industrial developments on forest resources and wildlife.

## NO DEFORESTATION

In line with the biodiversity guidelines, WHA Group has established a no-deforestation policy which is approved by a dedicated oversight committee annually. WHA Group committed to compensating for deforestation resulting from the operations of WHA Group, tier-1 suppliers, and partners with future reforestation (no net deforestation) which we have successfully achieved. We are currently focusing on our commitment to end all deforestation (no gross deforestation) in our own operations, tier-1 suppliers, and partners by 2050.

Furthermore, WHA Group has developed supporting plans to manage and mitigate risks and impacts in line with the anti-deforestation policy. A monitoring and compliance system has been established to ensure the diligent implementation of the policy and adherence to relevant forestry regulations and/or mandatory standards. The implementation and oversight of these measures are assigned to the Operations Department (IEO) to conduct regular inspections and controls, including reporting on the results. These actions are specified in the Environmental Impact Assessment (EIA) conducted every 6 months.



## BIODIVERSITY RISK ASSESSMENT

In 2023, WHA Group conducted a biodiversity risk assessment, considering dependency-related biodiversity risks and impact-related biodiversity risks of our own operations, adjacent areas, upstream activities, and downstream activities. This assessment analyzed the risks and impacts of business operations on biodiversity in these areas. In the assessment, we considered 3 levels of biodiversity including 1) genetic diversity, 2) species diversity, and 3) ecological diversity. This assessment was conducted under the framework of the National Environmental Protection and Preservation Act B.E. 2535 (1992) and (No. 2)

B.E. 2561 (2018) using the Integrated Biodiversity Assessment Tool (IBAT). The risk assessment results are used to develop the Biodiversity Action Plan (BAP) in the potential high biodiversity risk area.

In 2023, WHA Group conducted a biodiversity risk assessment in the areas with biodiversity concerns including WHA Chonburi Industrial Estate 2 (WHA CIE 2) and WHA Eastern Seaboard Industrial Estate 2 (WHA ESIE 2) with a total area of 667 hectares covering our own operations areas and other nearby areas, as detailed in the following table.

### Biodiversity Exposure



Site	Areas	Exposure	Assessment	Management Plan
WHA Chonburi Industrial Estate 2 (WHA CIE 2)	631 rai or 101 hectares	located near Khao Khiao Khao Chompu Wildlife Sanctuary in Chonburi province.	Environmental Impact Assessment (EIA) • Terrestrial: No impact • Marine: No impact	• Monitoring ambient air quality and provide support for research conducted by local forest conservation educational institutions on organizations or the effects of industrial operations on the ecosystem.
WHA Eastern Seaboard Industrial Estate 2 (WHA ESIE 2)	3,536 rai or 566 hectares			
Upstream & Downstream		Aquatic ecology within the canal into which the industrial estate Withdraw water and discharges its treated wastewater	A baseline study of each biodiversity parameter (phytoplankton, zooplankton, aquatic animals, aquatic plants, and benthos) was conducted to allow for comparison with monitoring result	Biodiversity risks at are re-assessed every two years, as required by the EIA, to investigate changes and additional impacts caused by industrial developments on forest resources and wildlife.

Results from the biodiversity risk assessment indicate that while biodiversity risk remain, they are minimal. This is the result from the Group’s adherence to acceptable environmental standards.



## PROJECTS TO PROMOTE BIODIVERSITY

WHA Group, in collaboration with Ta Sit Subdistrict Administrative Organization, Industrail Estate Authority of Thailand (IEAT) through Eastern Seaboard Industrial Estate (Rayong) office and WHA Eastern Seaboard office, organized the local forest conservation project 2023. This project aimed to conserve natural resources in Ta Sit subdistrict area, increase green space as oxygen-producing zones and the new lungs for the community, reduce GHG to mitigate global warming, and encourage sustainable business practices among industrial estate enterprises. This activity was held on June 23, 2023, at the multipurpose building of Ta Sit Subdistrict Administrative Organization. Participants, including local government officials, industrial estate developers, companies within the industrial estates, and community representatives, planted 100 trees of 4 species: resin trees, sarapee trees, trumpet trees, and angšana trees.



## WATER QUALITY DEVELOPMENT PROJECT TO PROMOTE BIODIVERSITY

In addition to studying water quality to assess our impact on aquatic ecology, the Group also initiated various projects to ensure that our water-related operations are sustainable, of high quality, and not harmful to biodiversity. These initiatives include:

The wastewater treatment project to minimize the amount of wastewater released into natural sources. The Amount of wastewater from this project is equivalent to the water consumption of 240,000 people per day (based on an estimated water consumption of 150 litre per person). This means that WHA Group can conserve natural land about 32% of the total population of Rayong (based on the registered population of 771,189 people in Rayong in 2023).

Furthermore, WHA Group implemented measures to add oxygen in wastewater before discharging it into public water sources such as installing cascades at WHA Eastern Seaboard Industrial Estate 2 (WHA ESIE 2) and WHA Eastern Seaboard Industrial Estate 4 (WHA ESIE 4) to increase the oxygen levels in the water to over 4 milligrams per liters. This can help enhance the biodiversity of aquatic lives.



## THE TRIPARTITE COMMITTEE MEETING TO RAISE AWARENESS ON ENVIRONMENTAL ECOSYSTEMS

WHA Group participates in a tripartite committee meeting to communicate with stakeholders to recognize the significance of the ecosystem in each WHA Group's Industrial Estate. The tripartite committees are appointed in accordance with the quality-of-life measures (society and economy) outlined in the EIA report. The tripartite committee is comprised of representatives from the Group, representatives from the public sector, and representatives from government agencies who work together to ensure that WHA Group's operations do not have a negative impact on the community, society, or the environment. WHA Group also supports and promotes the quality of life in the surrounding community and the environment. This is consistent with the foundation of determination to run the company for long-term growth. The Tripartite Committee will meet at least twice a year, depending on the measures jointly established in each industrial estate to jointly monitor performance. This meeting also serves as a channel for listening, consulting, and resolving complaints from various stakeholder groups in order to further improve and develop environmental policy and measures. The meeting's outcomes will be reported in an EIA report to the Office of Natural Resources and Environmental Policy and Planning. The issue of biodiversity is one of the issues that the tripartite committee is constantly monitoring to prevent any impact from the Group's operations.



## WATER MANAGEMENT

Water can be considered the heart of life, directly affecting the existence of people and creatures. Moreover, it is also a crucial component in the development and driving of a country's economy, whether in agriculture or industry. Currently, natural disasters resulting from climate change have affected the quantity and quality of water resources, leading to problems such as water scarcity (droughts) or water abundance (floods). Additionally, there are social inequalities in accessing clean water sources. These issues have repercussions on the economy, the environment, and people in all sectors, especially businesses that rely on water sources.

WHA Group recognizes that water is a vital resource, which not only directly impacts business operations but also has broad implications for the economy, society, and the environment. Therefore, we prioritize the efficient use of water and responsibility, or sustainable water usage principles. Consequently, water resource management poses a challenge for the Group, as service providers in the utility sector who must procure water for consumption and ensure sufficient supply for business operations while respecting the rights of stakeholders along the supply chain. This drives the Group to enhance water management efficiency, including sourcing reserve

water and treating wastewater before discharge outside the industrial area, to minimize the impact on society, communities, and the environment. This is in line with our commitment to sustainable economic and environmental growth.

WHA Group is well aware that efficient water usage and cooperation from all sectors in water management are effective solutions to address persistent water scarcity issues sustainably. Furthermore, effective water management creates a sustainable environment and improve ecosystems to support the circular economy principles. Over the past years, the Group has transitioned from traditional to digital water management systems, leveraging modern technologies to reduce natural water usage. Examples include developing water reclamation systems and establishing water reservoirs as reserve natural water sources for the Group within and outside the industrial estate of WHA Industrial Estate. These actions aim to reduce the extraction of water from external natural sources such as reservoirs and canals, which are crucial water sources for people's livelihoods. Furthermore, the Group conducts regular and thorough inspections to ensure that there is no extraction of water from water stress areas or areas where water quantities are insufficient for sustainable use in the long term.



In addition to the success in reclaiming wastewater and sourcing reserve water for the industrial estate and becoming a leader in providing comprehensive utility and power services, WHA Utilities & Power (WHAUP), responsible for supporting utilities within WHA Group, has expanded wastewater reclamation systems beyond the industrial estate of WHA Industrial Estate. In 2023, the Group treated and reused reclaimed wastewater within the Asian Industrial Estate, reinforcing the role as providers of utilities and amenities within industrial estates, aligning with the strategy to continuously develop utility and power businesses. This includes plans to expand service coverage to all 12 industrial estates and business parks of WHA Industrial Estate and other areas, promoting the circular economy principles and laying a significant foundation for becoming leaders in water management in industrial estates. Additionally, in the past year, the Group initiated a water footprint study to prevent water scarcity and reduce natural water usage, further enhancing sustainability in water management systems. This effort includes distributing reclaimed wastewater to natural water bodies at a rate of 6.8%, promoting sustainable community water usage.

As a provider and producer of water for industries, including comprehensive wastewater treatment services, WHA Group is acutely aware of the impact of our business operations on natural water sources and communities, in terms of economy, environment, and society. Therefore, the Group recognizes the necessity of water management, both in meeting the needs of industrial entrepreneurs within the Group's industrial estate and in promoting water resources to communities in surrounding areas, ensuring equitable access to water resources for all stakeholders without conflict in resource allocation.

WHA Group has a robust water management policy, prioritizing all stakeholders, including economic, environmental, and social aspects. Water management is set as a key agenda item in quarterly management meetings to establish up-to-date environmental policies and guidelines, as well as jointly setting challenging goals for water management that are achievable. This water management policy is accompanied by Environmental Quality, Energy Conservation and Biodiversity Policy, which have been approved and accepted by the boards of directors of all 4 business groups. This policy provides an

efficient framework for maintaining water balance, infrastructure maintenance, water production systems, and wastewater treatment systems to ensure minimal environmental impact and reduce dependence on natural water sources. The Group has tasked our environmental committees with planning and providing guidance to achieve water management goals, promoting the involvement of all managers and employees in water resource management through water production control to minimize losses. This includes the development of water reclamation systems, the creation of water reservoirs. The water management within the Group is supervised by the Industrial Estate Operation (IEO) which is a department of WHAID together with the utilities' operation of WHAUP. Both parties collaborate to develop water resource quality and reduce potential environmental impacts, as well as emphasizing the importance of wastewater quality management according to standards set by the Ministry of Industry, the Industrial Estate Authority of Thailand (IEAT), and the Ministry of Natural Resources and Environment. After treatment by the central wastewater treatment system of the industrial estate, water quality is measured to meet the standards before discharge to external water intake points, and this water can be reused within the industrial estate to protect the environment and nearby communities. Additionally, this approach also reduces the use of water from external sources.

## THE APPLICATION OF TECHNOLOGY IN WATER MANAGEMENT

WHA Group's water management plans include sourcing water, industrial water production, wastewater treatment, water reuse, and minimizing water loss in production and distribution systems. WHA Group has devised suitable and efficient water resource management strategies to reduce risks and ensure compliance with relevant regulations, aiming to achieve water resource management goals. Additionally, these strategies aim to reduce impacts on communities. The Group has adopted technologies to aid in sourcing new water, such as research and development of technologies that reduce reliance on surface water. Furthermore, innovations and new technologies are being applied diversely in water management, such as upgrading wastewater treatment technologies to increase reclaimed water capacity from 36,200 cubic meters per day, to 60,400 cubic meters per day or approximately 22 million cubic meters per year by 2025.

Moreover, WHA Group is continually developing to add value and offer new utility products and services to meet the diverse needs of entrepreneurs. We have initiated projects with new management concepts and methods, transitioning from traditional to digital water service and management systems. For example, real-time monitoring and control of water management systems through SCADA systems, establishment of Unified Operation Center (UOC), and implementation of Smart Utilities Solutions at industrial estates such as WHA Eastern Industrial Estate (Map Ta Phut) (WHA EIE) through equipment upgrades, including smart meters, pressure transmitters, and data integration systems.

Furthermore, WHA Group has expanded the use of the “WHAUP Intelligence Platform” technology platform to transform the organization into a Tech Company by 2024. This platform helps enhance efficiency and accuracy in generating as-built drawings of digital wastewater management systems. Leveraging smart data analytics and smart operation technology, it has been utilized to develop various projects undertaken by the Group. These include the GIS Hydraulic Model system, Smart Metering system, OCR technology for image-to-digital data conversion, Automatic Meter Reading (AMR) system, Pressure Transmitter equipment, and Data Integration Database system. The Group has allocated a budget for projects under this platform amounting to 2 Million Baht per year.

## **WATER RECLAMATION PROCESS, INPUT RECYCLE, AND PRODUCT RECYCLE**

The development of a water reclamation system by WHAUP to reduce dependency on natural resources and reusing for the ultimate benefit is considered a genuine alternative water production method to foster sustainable development, particularly in the Eastern Economic Corridor (EEC). This project integrates traditional technologies with new innovations to add value to wastewater by transforming it into demineralized water, removing various minerals to create high purified industrial water for the production process in certain industries such as power plants, petrochemicals, and electronics. We also have premium clarified water, the industrial water with higher quality than general industrial water produced by high quality membrane technology, mainly for customers in power plant industry. This is the process to create a higher market value product while reducing costs.

WHA Group has set a target to double our water production capacity from wastewater treatment processes from 30,200 cubic meters per day in 2020 to 60,400 cubic meters per day by 2025. In 2023, the Group’s water production capacity was at 36,200 cubic meters per day, generating a revenue of 232.4 Million Baht from the Water Reclamation project, representing 15.9% of total revenue and profit share from utility businesses, a significant increase from 7.6% in 2022. The strategy of reclaiming treated water for reuse helps the Group to reuse up to 7.3 million cubic meters of water, reducing water usage from natural sources by 7.3 million cubic meters, accounting for 9.5% of total water usage in 2023. Therefore, this project significantly benefits the environment and society by reducing wastewater discharge, minimizing water extraction from natural sources, and mitigating potential conflicts with nearby communities using the same water resources.

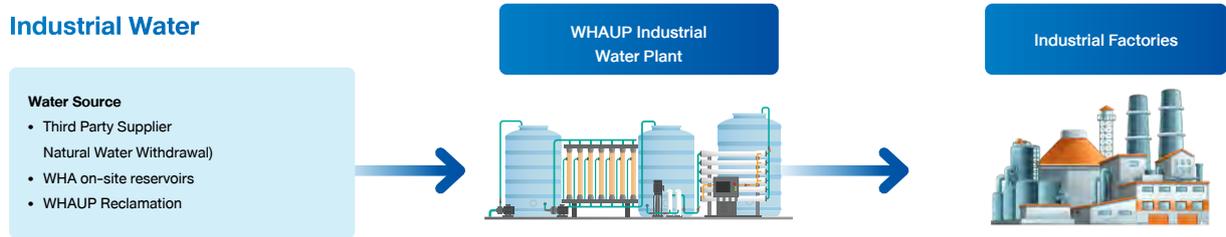
## **WATER USAGE AND WATER MANAGEMENT**

The water resources utilized by WHA Group come from two main sources: natural water sources and direct purchases from water suppliers. These water sources undergo detailed scrutiny and quality checks according to established standards on every occasion. The water is then utilized in manufacturing processes and distributed to customers across various industries. Furthermore, to reduce reliance on natural water sources and direct water purchases, the Group has constructed both internal and external water reservoirs within the industrial estate to serve as backup water sources for use within the industrial estate. Simultaneously, the Group has implemented measures for wastewater reclamation, which involve treating used water in central wastewater treatment plants primarily through the Reverse Osmosis (RO) process. This process purifies the treated water and reintroduces it into the manufacturing processes. Additionally, biological wastewater treatment methods are employed for wastewater intended for discharge into natural water bodies to ensure compliance with environmental standards and safeguard the health and well-being of surrounding communities and resources.

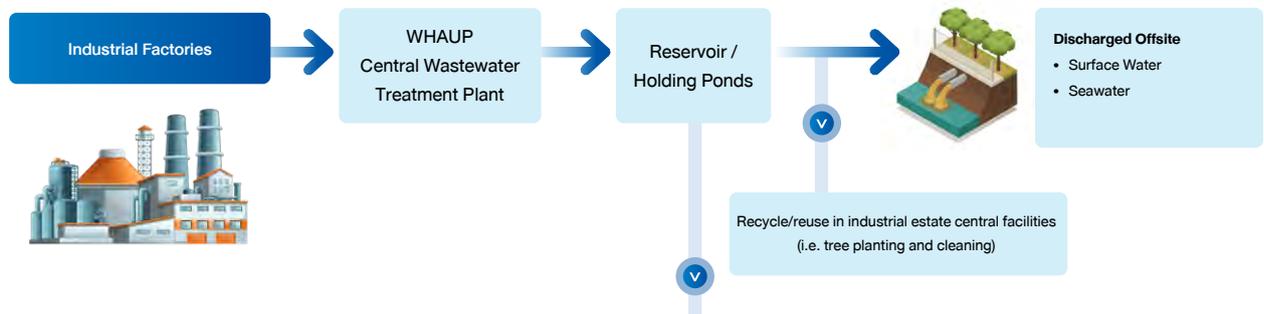
## TREAT AND REUSE WASTEWATER VIA REVERSE OSMOSIS (RO)

Moreover, WHA Group also provides wastewater treatment services to other industrial estates according to the specific industrial processes of the clients, such as Activated Sludge (AS) treatment systems, Aerated Lagoon (AL) systems, and Hybrid-Rotating Biological Contactor (Hybrid-RBC) systems. The Hybrid-RBC system combines Rotating Biological Contactor (RBC) and Activated Sludge (AS) treatment systems, offering enhanced efficiency in treating wastewater with higher Organic Loading Rates (OLR) compared to conventional levels. Additionally, the Group utilizes Vertical Flow Constructed Wetland systems, which have been employed since 2003, and shares this knowledge with local communities to enhance wastewater treatment efficiency, providing appropriate techniques and budget allocation through the WHA Clean Water for Planet project, aimed at promoting and developing wastewater treatment for external individuals.

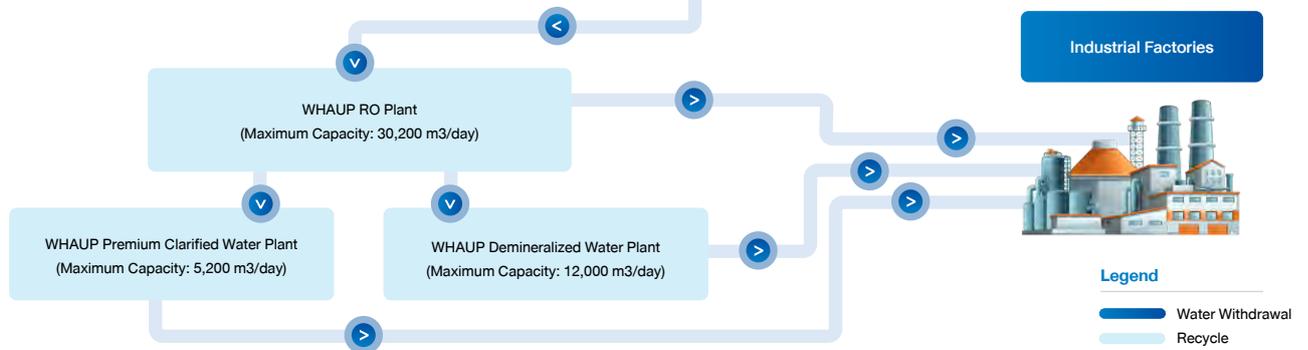
### Reverse Osmosis : RO



### Wastewater Treatment



### Reclamation Water



After wastewater treatment in centralized wastewater treatment plants, WHA Group conducts quality assessments of the water according to standards set by the Ministry of Natural Resources and Environment, the Ministry of Industry, the Industrial Estate Authority of Thailand, and Environmental Impact Assessments (EIA) before discharge. This ensures no adverse environmental effects. In 2023, all indicators remained within the standard criteria set. Furthermore, the water sources from which water was released have been verified not to be densely populated residential areas, and the residents there do not rely on water from these sources for their daily lives. Additionally, the water sources supporting wastewater discharge from industrial estates have been assessed since the industrial estate's EIA process, confirming their capability to discharge wastewater without adverse environmental impacts. The impacts of water on all stakeholders, including communities, customers, and contractors, are measured annually through engagement processes to identify impacts resulting from the Group's operations. The outcomes of this engagement are used to improve future operations, including planning mitigation measures for those affected by actual impacts, to restore their confidence that everything will return to its original state. In 2023, there were no complaints from stakeholders regarding the quantity and quality of water resulting from the Group's operations or within our 4 business groups.

### **DEMINERALIZED RECLAIMED WATER: THE REAL SUSTAINABLE RESOURCE FOR FUTURE DEVELOPMENT**

WHAUP has invested in the Demineralized Water project, a large-scale project developed at the Eastern Industrial Estate (Map Ta Phut) (WHA EIE) aiming to improve water quality in wastewater treatment systems with reduced costs and environmentally friendly processes. This project comprises two parts: the Demineralized Water Plant for WHA EIE, with a production capacity of 3.15 million cubic meters per year, and the Demineralized Water Plant for PURAC (Asia Industrial Estate), with a production capacity of 0.80 million cubic meters per year. Together, these two parts have a total production capacity of 3.95 million cubic meters per year, covering 3 percent of the total

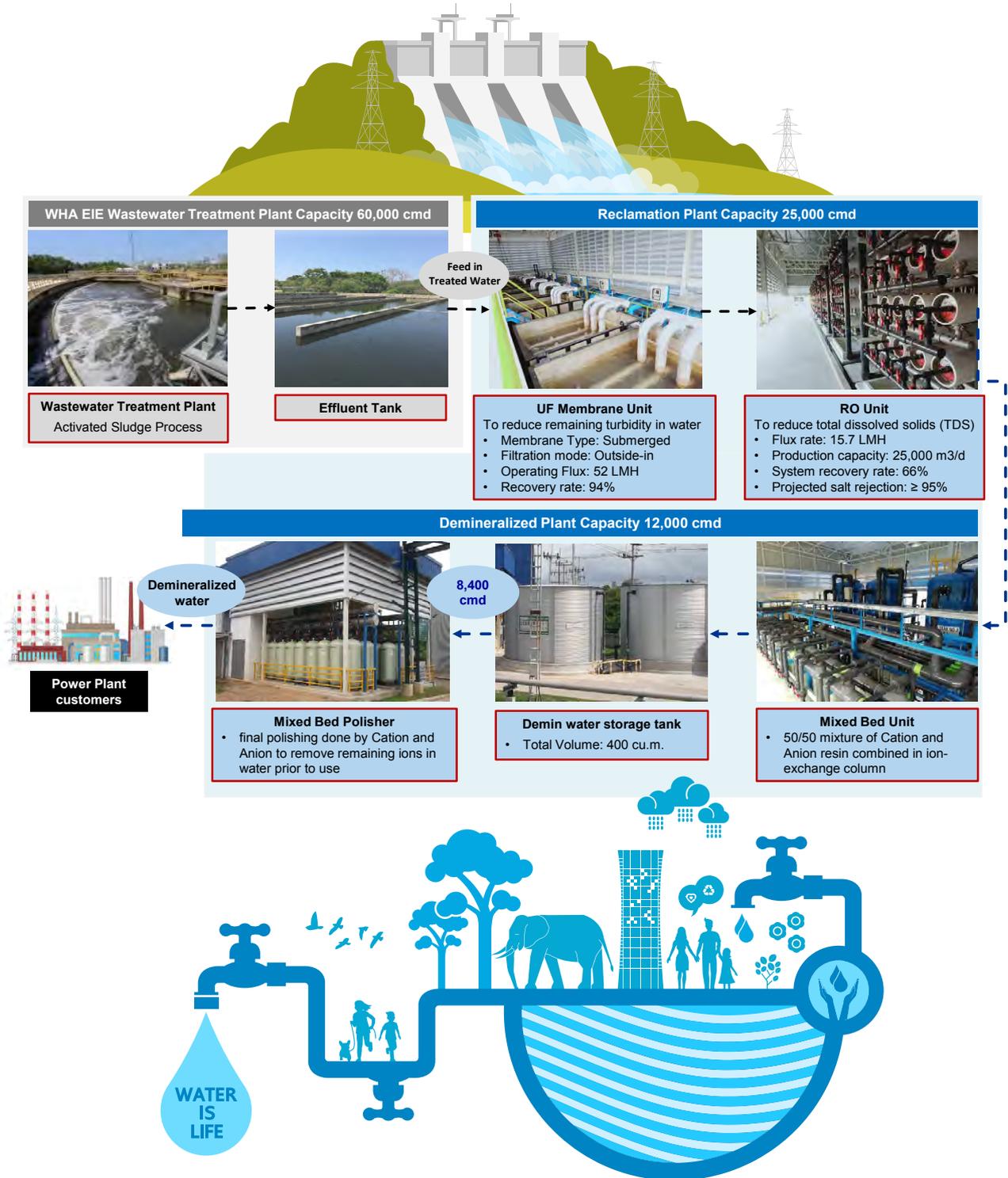
capacity of industrial water production. This project was developed to be an alternative water source for sustainable industrial development in the country. It integrates existing technologies while creating new innovations to enhance product value. By treating wastewater from treatment systems into mineral-free water for industrial use, it supplies various industrial operators.

This project has positively impacted industrial development in several dimensions:

1. Significantly reduce the amount of wastewater entering the environment.
2. Reduce government investment budget in the development of water storage and delivery.
3. Reduce conflicts between the community and industry on the allocation of water resources.
4. The industry uses high quality water at a competitive cost.
5. Industrial operators in WHA Group's estates receive comprehensive utility services, with a wide variety of products.

The project also helps WHA Group in reducing our dependence on major raw water distributors as well as alleviating uncertainty and impacts on both the quantity and quality of upstream water sources due to drought, pollution, contamination, etc., which are the main risk factors for utility providers. This is because if the water source is not sufficient for production to meet the demand of industrial water for a certain period, it will have a significant impact on the business continuity from the operations of customers within the industrial estates. Moreover, the project also helps WHA Group's industrial customers gain access to high quality water products and services at reasonable price. In addition, the innovation of this project is a prototype that can be adapted in new industrial estates of WHA Group as well as expanding the results to the community, for example, using treated wastewater from community to produce clarified water, etc. Through such demineralized water systems, the Group was able to reduce 3 million cubic meters of total water usage from external water sources per year. The Group could also save cost on raw water sourcing by 35 million baht per year.

## DEMINERALIZED RECLAIMED WATER



## SUPERVISORY CONTROL AND DATA ACQUISITION (SCADA) TECHNOLOGY AT WASTEWATER TREATMENT PLANT

Currently, WHAUP has implemented SCADA technology to maximize efficiency in wastewater treatment plants across all industrial estates within the Eastern Economic Corridor of Innovation (EECi) in Wang Chan District, Rayong Province. This technology enables continuous monitoring of wastewater treatment operations 24 hours a day. By utilizing SCADA technology, WHA Group can save operational costs by reducing the need to employ on-site staff by up to four individuals, resulting in annual savings of up to 1 million baht. Moreover, the Group has established Control Center at WHA EIE and ESIE, and there are plans to integrate Artificial Intelligence (AI) technology. By utilizing data collected through SCADA technology, AI will be employed for Predictive Maintenance, forecasting maintenance requirements for machinery to ensure continuous operation and minimize the risk of equipment failure.

## SMART METERING TECHNOLOGY

The “Smart Metering” technology has been implemented by WHAUP to enhance the capability of tracking water consumption. This involves replacing analog water meters previously installed for recording water usage with digital display systems. Additionally, Pressure Transmitters are installed to monitor pressure values for industrial operators within the industrial estates. The digital data recording helps reduce personnel costs involved in collecting and organizing data from all water meters for billing purposes. Furthermore, this concept can be expanded to allow customers access to their own water usage data on an hourly basis, enabling them to observe usage patterns and detect abnormalities promptly. For instance, it

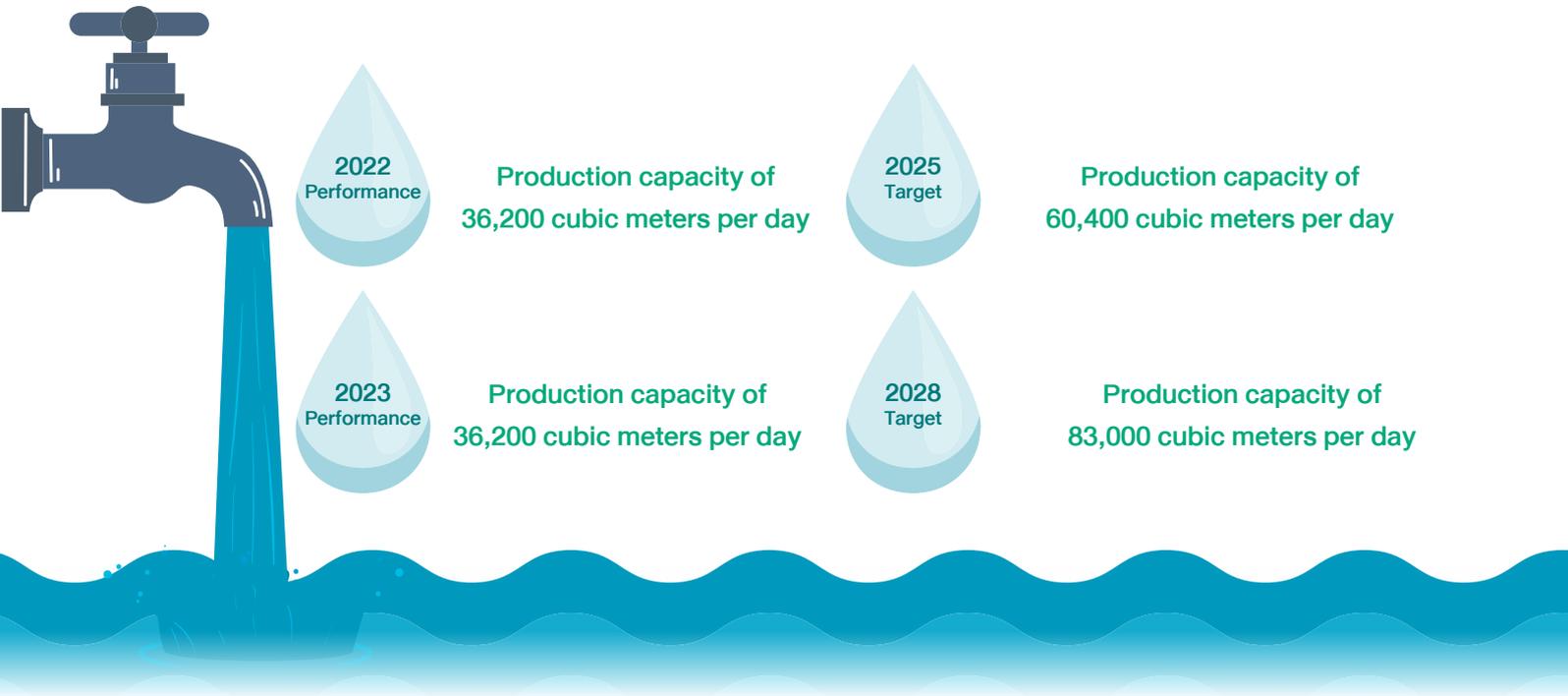
facilitates real-time monitoring of potential leaks in the water distribution system. Moreover, it assists WHAUP staff in efficiently tracking and addressing meter irregularities. The system streamlines billing processes by transmitting and storing data at the WHA Tower, eliminating the need for staff to travel to customer locations and manually record water usage data. Currently, the Smart Metering system is operational within the WHA Eastern Industrial Estate (Map Ta Phut) (WHA EIE).

## ONLINE METERING FOR CUSTOMERS

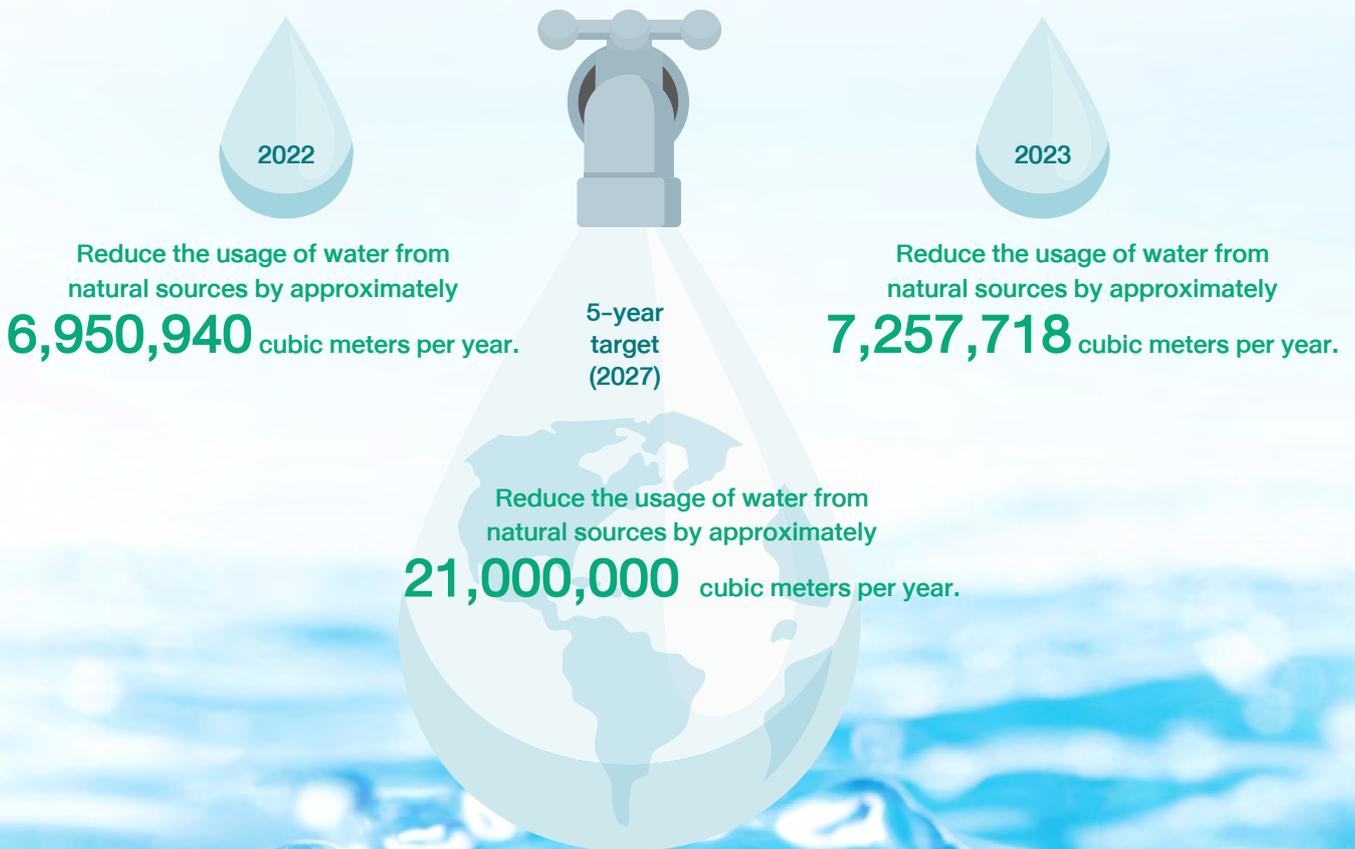
In addition to utilizing SMART metering technology in WHA Group’s business operations, the Group has planned to extend our usage to a project called “Online Metering” for new customers within the industrial estate areas. Currently, this project is in the development phase of the online meter platform for customers to access water usage data more efficiently. We will start the services to customers in 2024, with the objective to reduce customer costs on water management and support them in fast and sustainable water management operations. The Group aims to alleviate the workload of customers in recording water usage data and facilitate convenient and efficient monitoring of water usage performance.



## THE PRODUCTION CAPACITY FOR WATER RECLAMATION PROJECT



## THE REDUCTION OF WATER USAGE FROM NATURAL SOURCES



WHA Group strongly believes that water management within the organization in accordance with the Circular Economy framework, is crucial in driving Thailand's industrial sector towards the goals set by the government. This is because the water management efforts, led by WHAUP, integrate profit-driven operations with environmentally balanced and sustainable practices, aligning with the rapidly changing economic and climatic conditions.

WHA Group believes that success in integrating innovative technologies with water management not only reduces negative environmental and social impacts but also generates positive outcomes for both the environment and society. For example, the Water Reclamation project plays a significant role in social and environmental development by reducing the amount of wastewater discharged into natural water sources. Moreover, the Water Reclamation project can significantly reduce water extraction from natural sources by up to 7.3 million cubic meters in 2023, equivalent to the water usage of over 200,000 people in one year. This project is considered one of the most successful initiatives within the group. Additionally, the Group has implemented water management projects in collaboration with local communities, such as WHA Clean Water for Planet project. This initiative sets a precedent for strong and sustainable environmental and economic collaborations

with communities near WHA industrial estates. It also encourages public commitment and understanding towards long-term water conservation and natural resource preservation.

As WHA Group always values water management since the beginning of utility and power businesses in 2008, the Group has continually strived to enhance our water management capabilities both in the short and long term through robust management plans. In 2023, the Group's utility business (WHAUP) achieved the highest performance targets in both financial and environmental aspects since its establishment. To continuing this success in 2024, the group set a target to increase production capacity and expand business operations for water reclamation project which aims to reduce water usage from natural sources by at least 21,000,000 cubic meters per year by 2027. Furthermore, the Group plans to develop new projects utilizing technology and innovation to maximize operational performance and positively impact the environment. These include the AI & SCADA project to enhance operation and maintenance efficiency and the online metering project for water management such as assessing water loss, controlling water distribution systems, reducing reliance on human resources, and also improving data accuracy and billing efficiency, etc.



## GRI Content Index

GRI Standard	Disclosure	Location		Omission	
		Chapter	Page/ Note	Requirement (s) Omitted	Reason
<b>General Disclosure</b>					
<b>GRI 2: General Disclosure 2021</b>	2-1 Organizational details	About Report	10		
		WHA Group Strategic Locations	22-23		
		Shareholding Structure	24-27		
	2-2 Entities included in the organization's sustainability reporting	About Report	10		
		Shareholding Structure	24-27		
	2-3 Reporting period, frequency and contact point	About Report	10		
	2-4 Restatements of information	(No restatements in 2022)	-		
	2-5 External assurance	External Assurance	296-297		
	2-6 Activities, value chain and other business relationships	Shareholding Structure	24-25		
		Value Chain	29		
	2-7 Employees	Performance Data 2023	-		
	2-8 Workers who are not employees	Performance Data 2023	-		
	2-9 Governance structure and composition	Codes of Business Conduct	44-46		
	2-10 Nomination and selection of the highest governance body	Codes of Business Conduct	46		
	2-11 Chair of the highest governance body	Codes of Business Conduct	44-45		
	2-12 Role of the highest governance body in overseeing the management of impacts	Codes of Business Conduct	44-47		
	2-13 Delegation of responsibility for managing impacts	Codes of Business Conduct	44-45		
	2-14 Role of the highest governance body in sustainability reporting	Sustainability Material Issues	32-34		
Codes of Business Conduct		45			
2-15 Conflicts of interest	Codes of Business Conduct	44-46			
2-16 Communication of critical concerns	Codes of Business Conduct	49-51			
2-17 Collective knowledge of the highest governance body	Codes of Business Conduct	44-46			
2-18 Evaluation of the performance of the highest governance body	Codes of Business Conduct	47			

GRI Standard	Disclosure	Location		Omission		
		Chapter	Page/ Note	Requirement (s) Omitted	Reason	Explanation
<b>General Disclosure</b>						
	2-19 Remuneration policies	Codes of Business Conduct	47	a.) iv.	Data unavailable	No policy on clawbacks / on process of development
	2-20 Process to determine remuneration	Codes of Business Conduct	47			
	2-21 Annual total compensation ratio	-	-	a.) b.) c.)	Confidentiality Constraint	Annual total compensation ratio is confidential constraint information for WHA
	2-22 Statement on sustainable development strategy	CEO Message	3-5			
	2-23 Policy commitments	Codes of Business Conduct Labor Practices Human Rights	47-52 125 145			
	2-24 Embedding policy commitments	Codes of Business Conduct	47-52			
	2-25 Processes to remediate negative impacts	Codes of Business Conduct	49-51			
	2-26 Mechanisms for seeking advice and raising concerns	Codes of Business Conduct	49-51			
	2-27 Compliance with laws and regulations	Performance Data 2023	-			
	2-28 Membership associations	Awards and Memberships	6-9			
	2-29 Approach to stakeholder engagement	Stakeholder Engagement	35-42			
	2-30 Collective bargaining agreements	Human Rights	151			
<b>GRI 3: Material Topics 2021</b>	3-1 Process to determine material topics	Sustainability Material Issues Stakeholder Engagement	32-34 35-42			
	3-2 List of material topics	About Report	34			

GRI Standard	Disclosure	Location		Omission	
		Chapter	Page/ Note	Requirement (s) Omitted	Reason
<b>Corporate Governance &amp; Ethics</b>					
<b>GRI 3: Material Topics 2021</b>	3-3 Management of material topics	Codes of Business Conduct	44-52		
<b>GRI 205: Anti-corruption 2016</b>	205-1 Operations assessed for risks related to corruption	Risk Management	66		
	205-2 Communication and training about anti-corruption policies and procedures	Performance Data 2023	-		
	205-3 Confirmed incidents of corruption and actions taken	Performance Data 2023	-		
<b>GRI 206: Anti-competitive Behavior 2016</b>	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Performance Data 2023	-		
<b>Customer Relationship Management</b>					
<b>GRI 3: Material Topics 2021</b>	3-3 Management of material topics	Customer Relationship Management	68-84		
<b>Technology and Innovation</b>					
<b>GRI 3: Material Topics 2021</b>	3-3 Management of material topics	Technology & Innovation	94-114		
<b>GRI 203: Indirect Economic Impacts 2016</b>	203-1 Infrastructure investment and services supported	Technology & Innovation	99-114		
<b>Occupational Health and Safety</b>					
<b>GRI 3: Material Topics 2021</b>	3-3 Management of material topics	Occupational Health and Safety	160-179		
<b>GRI 403: Occupational Health and Safety 2018</b>	403-1 Occupational health and safety management system	Occupational Health and Safety	161		
	403-2 Hazard identification, risk assessment, and incident investigation	Occupational Health and Safety	162-166		
	403-3 Occupational health services	Occupational Health and Safety	162		

GRI Standard	Disclosure	Location		Omission		
		Chapter	Page/ Note	Requirement (s) Omitted	Reason	Explanation
<b>Occupational Health and Safety</b>						
	403-4 Work participation, consultation, and communication on occupational health and safety	Occupational Health and Safety	162			
	403-5 Worker training on occupational health and safety	Occupational Health and Safety	167-171			
	403-6 Promotion of worker health	Occupational Health and Safety	168			
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Occupational Health and Safety	167-171			
	403-8 Workers covered by an occupational health and safety system	Performance Data 2023	-			
	403-9 Worker-related injuries	Performance Data 2023	-			
	403-10 Work-related ill health	Performance Data 2023	-			
<b>Water Management</b>						
<b>GRI 3: Material Topics 2021</b>	3-3 Management of material topics	Water Management	280-288			
<b>GRI 303: Water and Effluents 2018</b>	303-1 Interactions with water as a shared resource	Water Management	281-284			
	303-2 Management of water discharge-related impacts	Water Management	283-284			
	303-3 Water withdrawal	Performance Data 2023	-			
	303-4 Water discharge	Performance Data 2023	-			
	303-5 Water Consumption	Performance Data 2023	-			

GRI Standard	Disclosure	Location		Omission		
		Chapter	Page/ Note	Requirement (s) Omitted	Reason	Explanation
<b>Energy Management</b>						
<b>GRI 3: Material Topics 2021</b>	3-3 Management of material topics	Energy Management	265-270			
		Environmental Performance	271-272			Against Target
<b>GRI 302: Energy 2016</b>	302-1 Energy consumption within the organization	Performance Data 2023	-			
		302-2 Energy consumption outside of the organization	Performance Data 2023	-		
		302-3 Energy Intensity	Performance Data 2023	-		
		302-4 Reduction of energy consumption	Performance Data 2023	-		
		302-5 Reductions in energy requirements of products and services	Energy Management	266-270		
<b>Climate Strategy</b>						
<b>GRI 3: Material Topics 2021</b>	3-3 Management of material topics	Climate Strategy	246-264			
		Environmental Performance	271-272			Against Target
<b>GRI 201: Economic Performance 2016</b>	201-2 Financial implications and other risks and opportunities due to climate change	Climate Strategy	255-256			
<b>GRI 305: Emissions 2016</b>	305-1 Direct (Scope 1) GHG emissions	Performance Data 2023	-			
		305-2 Energy indirect (Scope 2) GHG emissions	Performance Data 2023	-		
		305-3 Other indirect (Scope 3) GHG emissions	Performance Data 2023	-		
		305-4 GHG emissions intensity	Performance Data 2023	-		
		305-5 Reduction of GHG emissions	Performance Data 2023	-		
		305-6 Emissions of ozone-depleting substances (ODS)	Performance Data 2023	-		
		305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	Performance Data 2023	-		

# Climate Change Scenario Analysis

		Scenario 1							
		4C Scenario							
		BAU							
		Short Term (1-5 years)				Medium Term (>5 years)			
Risk Type	Specific Risk	WHALG	WHAID	WHAUP (Utilities)	WHAUP (Power)	WHALG	WHAID	WHAUP (Utilities & Power)	WHALG
<b>PHYSICAL RISKS</b>									
Acute	Flooding	●	●	●					
	Drought		●	●					
	Storm and lighting	●	●	●	●				
Chronic	Increase mean temperature	●	●	●	●				
<b>TRANSITION RISKS</b>									
Policy and Legal						●	●	●	●
Technology - New improvements or innovations						●	●	●	●
Market - shift in supply and demand						●	●		●
Reputation - Change in customer and community perception						●	●		●
<b>OPPORTUNITIES</b>									
Market - shift in supply and demand						●	●	●	●
Resource Efficiency & Energy Source						●	●		●
Technology - New improvements or innovations								●	

● Low   ● Medium   ● High   ● Very high

		Scenario 2								
		1.5C Scenario								
		2DS								
Long Term (>10 years)		Short Term (1-5 years)			Medium Term (>5 years)			Long Term (>10 years)		
WHAID	WHAUP (Utilities & Power)	WHALG	WHAID	WHAUP (Utilities & Power)	WHALG	WHAID	WHAUP (Utilities & Power)	WHALG	WHAID	WHAUP (Utilities & Power)
					●	●	●	●	●	●
						●	●		●	●
					●	●	●	●	●	●
					●	●	●	●	●	●
●	●				●	●	●	●	●	●
●	●				●	●	●	●	●	●
●					●	●		●	●	
●					●	●		●	●	
●	●				●	●	●	●	●	●
●					●	●		●	●	
	●						●			●



# LRQA Independent Assurance Statement

## Relating to WHA Corporation Public Company Limited's GHG assertion for the calendar year 2023

This Assurance Statement has been prepared for WHA Corporation Public Company Limited in accordance with our contract but is intended for the readers of this Report.

### Terms of engagement

LRQA (Thailand) Limited was commissioned by WHA Corporation Public Company Limited (WHA) to provide independent assurance on its GHG assertion 2023 against the AccountAbility's AA1000AS v3 assurance criteria to a moderate level of assurance with reference to GRI specific standard disclosures listed below and materiality level of the professional judgement of the verifier is applied, where the scope was a Type 2 engagement.

Our assurance engagement covered WHA's financial control in Thailand only and specifically the following requirements:

- Evaluating the reliability of data and information for only the selected environmental indicators listed below:
  - GRI 305-1: Direct GHG emissions (Scope 1)<sup>1</sup>, 2
  - GRI 305-2: Energy indirect GHG emissions (Scope 2)

Our assurance engagement excluded the data and information of WHA's financial control and activities outside Thailand, as well as suppliers, contractors and any third parties mentioned in the report.

LRQA's responsibility is only to WHA. LRQA disclaims any liability or responsibility to others as explained in the end footnote. WHA's responsibility is for collecting, aggregating, analysing and presenting all the data and information within the Assertion and for maintaining effective internal controls over the systems from which the Assertion is derived. Ultimately, the Assertion has been approved by, and remains the responsibility of WHA.

### LRQA's Opinion

Based on LRQA's approach nothing has come to our attention that would cause us to believe that WHA has not, in all material respects:

- Met the requirements above
- Disclosed reliable performance data and information as no errors or omissions were detected.

The opinion expressed is formed on the basis of a moderate level of assurance and at the materiality of the professional judgement of the verifier.

**Note:** The extent of evidence-gathering for a moderate level of assurance engagement is less than for a high level of assurance engagement. Moderate assurance engagements focus on aggregated data rather than physically checking source data at sites. Consequently, the level of assurance obtained in a moderate assurance engagement is substantially lower than the assurance that would have been obtained had a high assurance engagement been performed.

### LRQA's approach

LRQA's assurance engagements are carried out assurance using AA1000AS v3. The following tasks though were undertaken as part of the evidence gathering process for this assurance engagement:

- Auditing WHA's data management systems to confirm that there were no significant errors, material mis-statements in the report. We did this by reviewing the effectiveness of data handling procedures, instructions, and systems, including those for internal verification. We also spoke with those key people responsible for compiling the data and drafting the report.
- Sampling of evidence during remote verification from facilities level, only the selected indicators to confirm its reliability.

<sup>1</sup> <https://www.globalreporting.org>

<sup>2</sup> GHG quantification is subject to inherent uncertainty.



## Observations

Further observations and findings, made during the assurance engagement, is:

- **Reliability:** Data management systems are properly defined for the selected environmental indicators. However, should consider interim verification to further improve the reliability and timeliness of its disclosed data and information.

## LRQA's Standards, competence and independence

LRQA ensures the selection of appropriately qualified individuals based on their qualifications, training and experience. The outcome of all verification and certification assessments is then internally reviewed by senior management to ensure that the approach applied is rigorous and transparent.

This verification is the only works undertaken by LRQA for WHA Corporation Public Company Limited and WHA Utilities and Power Public Company Limited and as such does not compromise our independence or impartiality.

Dated: 19 April 2024

*Opart Charuratana*  
LRQA Lead Verifier

On behalf of LRQA (Thailand) Ltd.  
No. 252/123 (C), Muang Thai – Phatra Complex Tower B.  
26th floor, Ratchadaphisek Road., HuayKwang, Bangkok, 10310, THAILAND  
LRQA reference: BGK000001000

## Table 1. Summary of WHA Corporation Public Company Limited, GHG Assertion 2023

Scope of CO2 emissions	CY 2021 01 Jan - 31 Dec 2021	CY 2023 01 Jan - 31 Dec 2023
GRI 305-1: Direct GHG emissions (Scope 1). Biogenic emissions.	1,146 41	1,401 101
GRI 305-2: Energy indirect GHG emissions (Scope 2).	18,104	17,209

### Notes:

- Data is presented in tonnes of CO2 equivalent.
- CY2021 is an organization selected base year.

LRQA Group limited its affiliates included LRQA (Thailand) Limited and subsidiaries, and their respective officers, employees or agents are, individually and collectively, referred to in this clause as 'LRQA'. LRQA Group limited assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant LRQA entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.

The English version of this Assurance statement is the only valid version. LRQA Group limited assumes no responsibility for versions translated into other languages.

This Assurance statement is only valid when published with the Assertion to which it refers. It may only be reproduced in its entirety.

Copyright © LRQA Group limited 2024.

# FEEDBACK FORM : 2023 SUSTAINABILITY REPORT

## READER PROFILE

### GENDER

- Female  Male  
 Not Specified

### AGE

- Below 25 years old  25 – 40  
 41 - 60  More Than 60

## RELATIONSHIP WITH WHA GROUP (PLEASE SELECT 1 ANSWER)

- Shareholder/Investor  Customer  Employee  Supplier and Creditor  
 Competitor  Government / Regulator  Community

## WHY DO YOU PREFER READING THIS SUSTIANABILITY REPORT?

- For support investment decision  For understanding more about WHA's business  
 Research and educational purposes  Other (Please specify)

## YOUR SATISFACTION WITH THE PRESENTATION FORMAT OF "SUSTAINABLE REPORT"

- |                                      |                               |                                 |                                       |
|--------------------------------------|-------------------------------|---------------------------------|---------------------------------------|
| Content easy to understand           | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Dissatisfied |
| Content cover your interested topics | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Dissatisfied |
| Reliable information                 | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Dissatisfied |
| The design of this report            | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Dissatisfied |
| Readability                          | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Dissatisfied |
| Overall satisfaction with the Report | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Dissatisfied |

## AFTER READING THIS ANNUAL REPORT, ARE YOU CONFIDENT THAT WHA POTENTIALLY ACHIEVES THE SUSTAINABLE GROWTH?

- Yes,
- No,
- No idea,

## IN YOUR OPINION, WHICH IS THE MOST SIGNIFICANT ASPECT TOWARD WHA SUSTAINABLE GROWTH?

- Economy
- Environment
- Society

## SUGGESTIONS

PLEASE SPECIFY OTHER SUGGESTIONS FOR DEVELOPMENT AND IMPROVEMENT OF SUSTAINABILITY REPORT OF THE FOLLOWING YEAR

**Thank you for your information and valuable opinion which advantages us for improvement of next issue of the report.**

Questionnaire can be sent by postal mail or email to:  
Sustainability Development Working Team : WHA CORPORATION PUBLIC COMPANY LIMITED  
77 WHA TOWER, 23<sup>rd</sup>-25<sup>th</sup> Floor, Moo 13, Debaratna Road (Bangna-Trad) KM.7,  
Bang Kaeo, Bang Phli, Samutprakarn 10540 Thailand  
E-mail : Sustianability@wha-group.com



**WHA Corporation Public Company Limited**

777 WHA TOWER, 23<sup>rd</sup>- 25<sup>th</sup> Floor, Moo 13, Debaratna Road (Bangna-Trad) KM.7,  
Bang Kaeo, Bang Phli, Samutprakarn 10540 Thailand



[www.wha-group.com](http://www.wha-group.com)



[facebook](#)



[YouTube](#)



[LinkedIn](#)