



WHA CORPORATION PUBLIC COMPANY LIMITED
SUSTAINABILITY REPORT 2020



SMART
ECO





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WHA Group will continue to strive in its field to be “Your Ultimate Solution Partner” by creating sustainable values and adhering to the balanced business principle. The

Group will remain active in driving Thailand’s economy while ensuring environmental, social responsibilities and good governance, in order to safeguard the future for all of its stakeholders.

”

CEO MESSAGE

Extensive technological advancements drive the society in the 21st century to become more fast-paced than it has ever been and will continue to be so in the future. The dimensions of economic, social and environment are connected, and are driven by the new digital technological and innovation transformation, which have tremendous impacts on the society's lifestyle, business activities, and posing disruption in competitive environment in different industries. The year 2020 has been challenging, especially with the spread of the COVID-19 pandemic, a game changer, which has become a catalyst in driving a large-scale digital transformation. The transformation covers many factors including economic, commercial business and investment, international relations, supply chains, as well as changes in lifestyle and life quality within the society. All of these factors are facing continuous changes together with the digital transformation.

Regardless, with WHA Group's diverse business activities, this digital transformation poses significant opportunities to the Group. As the all-round leader in Logistics Property, Industrial Estates development, Utilities and Power and Digital Platform business in Thailand, WHA Group sets its mission and strategies to responds to these changes with investing and integrating the use of digital technologies, innovations and WHA's infrastructures, across its value chain. This is portrayed through the on-going efforts from its four main business hubs to focus their strategic directions, business targets and actions, governance and financial plans, and management approach that care for all of WHA Group's stakeholders, whilst balancing the Group's responsibility on environmental, social and governance dimensions. This signifies that WHA Group operates with consideration for conservation of natural resources, development and retention of its workforce as well as establishment of a strong governance foundation along with a focus on the organization's business growth and a strong financial position.

Outstandingly, WHA Group's achievement in the past year for Thailand's Largest Solar Carpark of 4.9 MWh at SAIC MOTOR-CP Co., MG Manufacturing Plant, illustrates its environmental responsibility by contributing to the direct reduction of greenhouse gas emission and promoting the production and consumption of energy from renewable source to its customers. Likewise, WHA Group has been progressing and continuously improving its highly successful wastewater treatment projects, under the concept of 'Clean Water for Planet'. The project includes constructing wetlands for the treatment process to communities. Inspired by the late H.M. King Bhumibol Adulyadej The Great (King Rama IX)'s Sufficiency Economy Philosophy; it has guided the implementation of this eco-friendly, cost-effective and low maintenance wastewater treatment approach. Correspondingly, the wetland project also exemplify WHA Group's social responsibility by providing local communities with access to clean water, while the facility is also opened to Government agencies and university students, and offers internship and training programs.

Moreover, WHA Group is focusing on incorporating new technological advancements and innovations into management approach in order to enhance efficiency and reduce losses. Examples of these actions are SMART Logistics that utilize artificial intelligence, robots, and automation systems as part of the management system in production facilities. This has become a leading example for efficient production management system that can be adopted to other production facilities across the country. Another example include the SMART industrial estates, which adopted the use of technologies and innovations like Internet of Things (IoT), SCADA and CCTV systems, in the management within the industrial estates in order to minimize risks, promote safety and reduce in losses of employees' life or of customers' resources within the industrial estates, and create comfort for communities within the premises.

Simultaneously, WHA Group recognizes that good governance provides a strong foundation for sustainable business growth. Hence, WHA Group commits to conduct its business ethically, transparently, and responsibly to encompass 'good corporate governance' within the Group. Particularly, risk management is a highly necessary approach, which is paramount in order to achieve good governance. In like manner, WHA Group is in the development process to create a digitalized system with the ability to portray all key risk statuses to effectively monitor and track its risk management implementations. As a result, WHA Group has received many awards such as Corporate Governance Report (CGR) of Thai Listed Companies Project in the 'Excellent' criteria, AMCHAM CSR at Excellent Gold level for 11 consecutive years, as well as Platinum level for the second years. Furthermore, 6 of WHA Group's industrial estates received Eco-Industrial Town Awards in which 4 received the Eco-Industrial Awards in the Eco-Champion category and 2 received the Eco-Industrial Awards in the Eco-Excellence category and special Eco-Industrial Town 4.0 Award in the SMART Water category. Nonetheless, WHA Group has prioritize human resource development in order to drive growth with the Group's business, and ensure a happy working environment for its employees. In 2021, WHA Tower will become the Group's new headquarter. The Tower has been designed in accordance to the "Work-life solution" principle that has a flexible working environment suitable for creating new ideas and results and for employees to establish and strengthen relationships.

Endeavored to raise the bar for WHA Group's sustainability pursuit and long-term growth, the Group has introduced its Sustainability Strategy along with the long-term sustainability goals in 2020. The goals address the Group's nine material topics covering governance/ economics, social and environmental aspects that are articulately designed to align with the needs of the society and stakeholders as well as the risks and opportunities analyzed from international trends.

Finally, as the Chairman of Board of Directors, Chief Executive Officer of WHA Corporation Public Company Limited and the representative of the Board of Directors, I would like to give thanks to all of WHA Group's stakeholders for continuously supporting the Group's business. I would also like to show my sincere appreciation in trusting and cooperating with the Group in order to move forward with sustainable growth, and allowing us to continue to create shared values to the society, investors, customers, and all of our stakeholders. Moving forward, WHA Group will continue to strive in its field to be "Your Ultimate Solution Partner" by creating sustainable values and adhering to the balanced business principle. The Group will remain active in driving Thailand's economy while ensuring environmental, social responsibilities and good governance, in order to safeguard the future for all of its stakeholders. Ultimately, WHA Group hopes to inspire others in similar fields or related industries to follow its footsteps, and becoming a helping hand for Thailand's achievement and contribution to the global sustainable development goals.



Ms. Jareeporn Jarukornsakul
Chairman and Group CEO

WHA Corporation Public Company Limited

AWARDS AND MEMBERSHIP

AWARDS

WHA TOWER Work Life Solutions

Premium Office
next to MEGA Bangna

Gateway to the EEC

completion by end 2020
02-719-9555
www.wha-group.com
marketing@wha-group.com

ASIA PACIFIC PROPERTY AWARDS ARCHITECTURE
in association with
GROHE
AWARD WINNER
COMMERCIAL HIGH RISE ARCHITECTURE (THAILAND)
WHA Bangna Business Complex
by Palmer & Turner (Thailand) Ltd
2020-2021

Asia Pacific Property Awards

WHA Tower, designed by an international design firm 'Palmer & Turner (Thailand)', won a "Commercial High Rise Architecture Thailand" award during Asia Pacific Property Awards. The building is designed for maximum efficiency and equipped with state-of the art technologies featuring cost-effective and eco-friendly approaches.

AMCHAM CSR Excellence Recognition Award

WHA Group received AMCHAM CSR Excellence Recognition Award 2020 for its 11th consecutive year and its 2nd Platinum level. This reflects the company’s commitment to the sustainable social responsibility and community development.



Six Eco-Industrial Town Awards

Four WHA Industrial Estates received Eco Industrial Town Award in Eco-Champion level, and one WHA Industrial Estate received Excellence-Champion level at the ECO Innovation Forum 2020. Apart from that, WHA Eastern Seaboard Industrial Estate (WHA ESIE1) also received a special Eco-Industrial Town 4.0 Award in the SMART Water category for the first time this year.

FIABCI -Thai Prix D' Excellence Award 2020

WHA Group received the FIABCI-Thai Prix d'Excellence Award 2020 in the Environmental (Rehabilitation/Conservation) Category for its Clean Water for Planet Project. The project initiates effective and sustainable wastewater management and treatment facility beneficial to the community surrounding WHA industrial estates.



“Thailand Sustainability Investment 2020” Recognition

WHA Group received Thailand Sustainability Investment (THSI) recognition 2020 in the category of Property and Construction at the “SET Awards 2020” ceremony. This award recognizes WHA Group as a listed company with excellent responsibility on Environment, Social, and Corporate Governance (ESG) aspects which demonstrates the company’s commitment to sustainability and business ethics.

MEMBERSHIP OF ORGANIZATION

1. American Chamber of Commerce (AMCHAM)
2. The Australian-Thai Chamber of Commerce
3. British Chamber of Commerce Thailand
4. German-Thai Chamber of Commerce
5. European Association for Business and Commerce (EABC)
6. Franco-Thai Chamber of Commerce
7. Japanese Chamber of Commerce
8. Malaysian-Thai Chamber of Commerce
9. New Zealand-Thai Chamber of Commerce
10. Singapore-Thai Chamber of Commerce
11. South Africa-Thai Chamber of Commerce
12. The Thai Chamber of Commerce
13. Thai-Vietnam Business Council
14. Thai-Chinese Chamber of Commerce
15. Thai-Italian Chamber of Commerce
16. The Danish-Thai Chamber of Commerce
17. Automotive Focus Group
18. Thai-European Business Association
19. Thai Industrial Estate and Strategic Partner Association
20. The Federation of Thai Industries
21. The Federation of Thai Industries, Rayong
22. Thai Autoparts Manufacturers Association

REPORT

Gross Sales by Sales Analysis

April May June July August September



BUSINESS REPORT

DISTANCE (MILES) FUEL (GAL / MILE)

100 75 50 25 0

100 75 50 25 0

100 75 50 25 0

100 75 50 25 0

100 75 50 25 0

100 75 50 25 0

100 75 50 25 0

100 75 50 25 0

100 75 50 25 0

100 75 50 25 0

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100 75 50 25 0

100 75 50 25 0

100 75 50 25 0

100 75 50 25 0

100 75 50 25 0

100 75 50 25 0

100 75 50 25 0

100 75 50 25 0

100 75 50 25 0

DATE TIME DISTANCE (MILES) FUEL (GAL / MILE) NOTES

4/1/19 10:00 AM 100 10.0

4/2/19 11:00 AM 200 20.0

4/3/19 12:00 PM 300 30.0

4/4/19 13:00 PM 400 40.0

4/5/19 14:00 PM 500 50.0

MY RUNNING LOG

DATE TIME DISTANCE (MILES) FUEL (GAL / MILE) NOTES

4/1/19 10:00 AM 100 10.0

4/2/19 11:00 AM 200 20.0

4/3/19 12:00 PM 300 30.0

4/4/19 13:00 PM 400 40.0

4/5/19 14:00 PM 500 50.0

4/6/19 15:00 PM 600 60.0

4/7/19 16:00 PM 700 70.0

4/8/19 17:00 PM 800 80.0

4/9/19 18:00 PM 900 90.0

4/10/19 19:00 PM 1000 100.0

4/11/19 20:00 PM 1100 110.0

4/12/19 21:00 PM 1200 120.0

4/13/19 22:00 PM 1300 130.0

4/14/19 23:00 PM 1400 140.0

4/15/19 00:00 AM 1500 150.0

4/16/19 01:00 AM 1600 160.0

4/17/19 02:00 AM 1700 170.0

4/18/19 03:00 AM 1800 180.0

4/19/19 04:00 AM 1900 190.0

4/20/19 05:00 AM 2000 200.0

ABOUT THIS REPORT

WHA Corporation Public Company Limited (WHA 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 2nd sustainability report, which covers the period from 1st January to 31st December 2020.

The report has been prepared in accordance with Global Reporting Initiatives (GRI) Standards: Core option. In 2020, WHA Group has improved the materiality assessment to be more efficient and comprehensive, in which 20 material topics were identified, similar and some renamed compared with those disclosed in the previous report. Responsible investment, risk and crisis management and stakeholder engagement are new material topics covered in this report. WHA Group has adopted United Nations Sustainable Development Goals (UN SDG) as a framework for the Group's progress and performance report. The information in this report disclose all business operations of WHA Group and its subsidiaries in Thailand, and that WHA Group holds the total share of 50% and is able to exert operational control.

This report did not receive external party verification, but the contents and data were reviewed and approved by top executives from relevant functions to ensure its accuracy and completeness.

For more information, please contact:
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WHA Corporation Public Company Limited (WHA)
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Debaratna Road (Bangna-Trad) KM.7,
Bang Kaeo, Bang Phli, Samut Prakarn 10540
Tel : (662) 719-9555
E-mail : 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

- Fulfill requirement of the key major business partners, shareholders and stakeholders
- Focused on innovative and effective strategic, business, finance, service quality, safety, environment, community, and governance disciplines
- Create a last-long relationship with strategic alliance
- Provide unrivalled quality products with knowledge and expertise leading to win-win-win solution
- Maintain financial discipline to maximize return on equity
- Develop world class logistics facilities, industrial estates, utilities, power and property customer solutions
- Differentiate a comprehensive platform for both infrastructure data center as well as customized service solutions for leading MNCs and Thai conglomerates
- Develop, engage talent and experience team and enhance organizational core competency



VALUE & CULTURE



ADVANCED

To be initiative and proactively work to inspire, create, or adjust practical concept, means, or be innovative in order to fulfill customers' requirement and organizational goal.



CHAMPION

To achieve success, which results in business excellence.



RESOURCEFUL

To build relationship with customers as a consultant and provide professional advice.



PARTNERSHIP

To reinforce lasting relationship and build trust as a business alliance with customers and partners, and reinforce internal favorable relationship in order to attain the organizational goal together.



INTEGRITY

To cultivate and develop trust and confidence from customers with transparent working culture, adhere to promise, sincerity, diligent, ethical and socially responsible.



Established in 2003 by a group of forward-thinking entrepreneurs involved in Logistics property development, that is well-constructed warehouses with premium quality to match customer requirements and response to growing demand of both existing and new customers seeking for custom Built-to-Suit and Warehouse Farm project which is a mixed project type between high standards Built-to-Suit and Ready-Built. In 2012, through sustained efforts of the Group's management team, WHA Corporation Public Company Limited was listed on the Stock Exchange of Thailand (SET). The Group then acquired WHA Industrial Development Plc. (formerly known as Hemaraj Land and Development Plc.), Thailand's largest and leading industrial estate developer, utilities & power and property solutions in 2015. Later in 2017, one of the Group's company, WHA Utilities & Power Public Company Limited (WHAUP), the leader of utilities and power services for the industrial estate, was also listed on the Stock Exchange of Thailand. 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.

As Thailand's leader in fully integrated logistics and industrial facilities, WHA Group has mapped out a business strategy to become the most desirable partner, "Your Ultimate Solution Partner", for companies that would like to start or expand their businesses in the country, or elsewhere in Southeast Asia. Its core competency lies in best-in-class facilities, prime logistics locations, and its ability to provide dedicated services that are tailor-made for specific needs. WHA Group now offers integrated services and provides customers with turn-key solutions through the Group's four major business hubs: WHA Logistics, WHA Industrial Development (WHAID), WHA Utilities and Power (WHAUP) and WHA Digital Platform.





LOGISTICS & INDUSTRIAL PROPERTIES

The Company is committed to be a leading company as a warehouse project developer, distribution center, and high quality factory 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.





#1 LOGISTIC FACILITIES DEVELOPER

OFFERING A VARIETY OF PREMIUM FACILITIES UNIQUELY SERVICING OUR CLIENTS' NEEDS



2.5 Million Sq.m.

UNDER OWNERSHIP & MANAGEMENT



200⁺

WELL-KNOWN TENANTS PROFILE ON 41 STRATEGIC LOCATIONS



SUCCESSFUL ASSET MONETIZATION INTO

WHART & HREIT



WHA TOWER

AWARDED "COMMERCIAL HIGH RISE ARCHITECTURE THAILAND" FOR ITS CONTEMPORARY, AND ENVIRONMENTALLY-FRIENDLY DESIGN

NUMBER 1 INDUSTRIAL ESTATE DEVELOPER

DELIVERING WORLD-CLASS SOLUTIONS TO INDUSTRIAL CUSTOMERS



11 OPERATING INDUSTRIAL ESTATES/ ZONES AND OTHERS IN PIPELINE



REAL ESTATE DEVELOPMENT OVER

68,900^{/1} rai

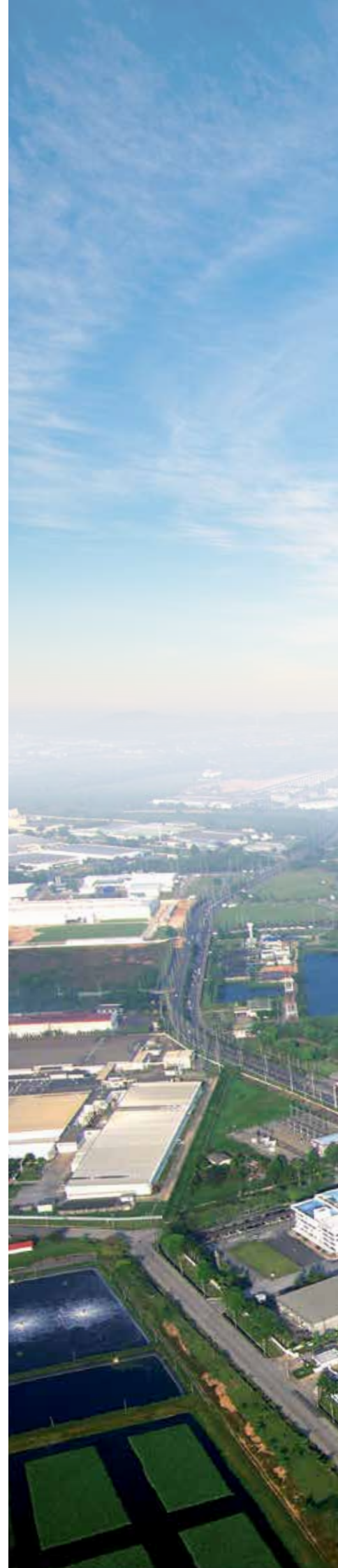
^{/1} Including operate and under development in Thailand and Vietnam.



WHA Industrial Zone 1 - Nghe An
RECEIVING OVERWHELMING INTEREST FROM INVESTORS
AND READY TO DEVELOP THE NEXT PHASE.



PARTNERSHIP
WITH BUSINESS ALLIES IMPLEMENT 1st INNOVATION AND INCUBATION CENTER
TusPark WHA
WHICH WILL BECOME A
SCIENCE PARK
IN THE NEXT PHASE





INDUSTRIAL DEVELOPMENT

Industrial Development Hub is operated through the Company's subsidiary, WHA Industrial Development Plc., 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.



UTILITIES & POWER

Utilities & Power Hub is operated through the Company's subsidiary, WHA Utilities and Power Plc. (WHAUP), the provider of utilities in the WHA 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.





INTEGRATED INDUSTRIAL UTILITIES & POWER PROVIDER WITH SOLID BUSINESS GROWTH



114 Million m³

OF UTILITIES SALES AND
MANAGEMENT VOLUME



**INITIATIVE OF
VALUE ADDED
PRODUCTS** VIA

TECHNOLOGY AND INNOVATION
SUCH AS DEMINERALIZED WATER AND
INNOVATIVE WASTEWATER TREATMENT



LAUNCH
**THAILAND'S LARGEST
SOLAR CARPARK**



POWER CAPACITY
INCREASED TO

590 Equity MW.

DIGITAL PLATFORM

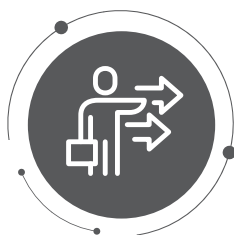
Providing a digital platform solution for leading companies. This fully-integrated and supported initiative adds value to WHA group.



4 DATA CENTERS WITH
TIER III AND IV STANDARD
COMMENCED OPERATION
WITH 459 EQUITY RACKS



**FTTX SERVICE
COVERING
10**
INDUSTRIAL ESTATES



**SPEARHEAD
DIGITAL
INNOVATION &
TRANSFORMATION**



**PARTNERSHIP
WITH BUSINESS ALLIES
DEVELOPING DIGITAL INNOVATION**
5G
SOLUTION IN I.E.



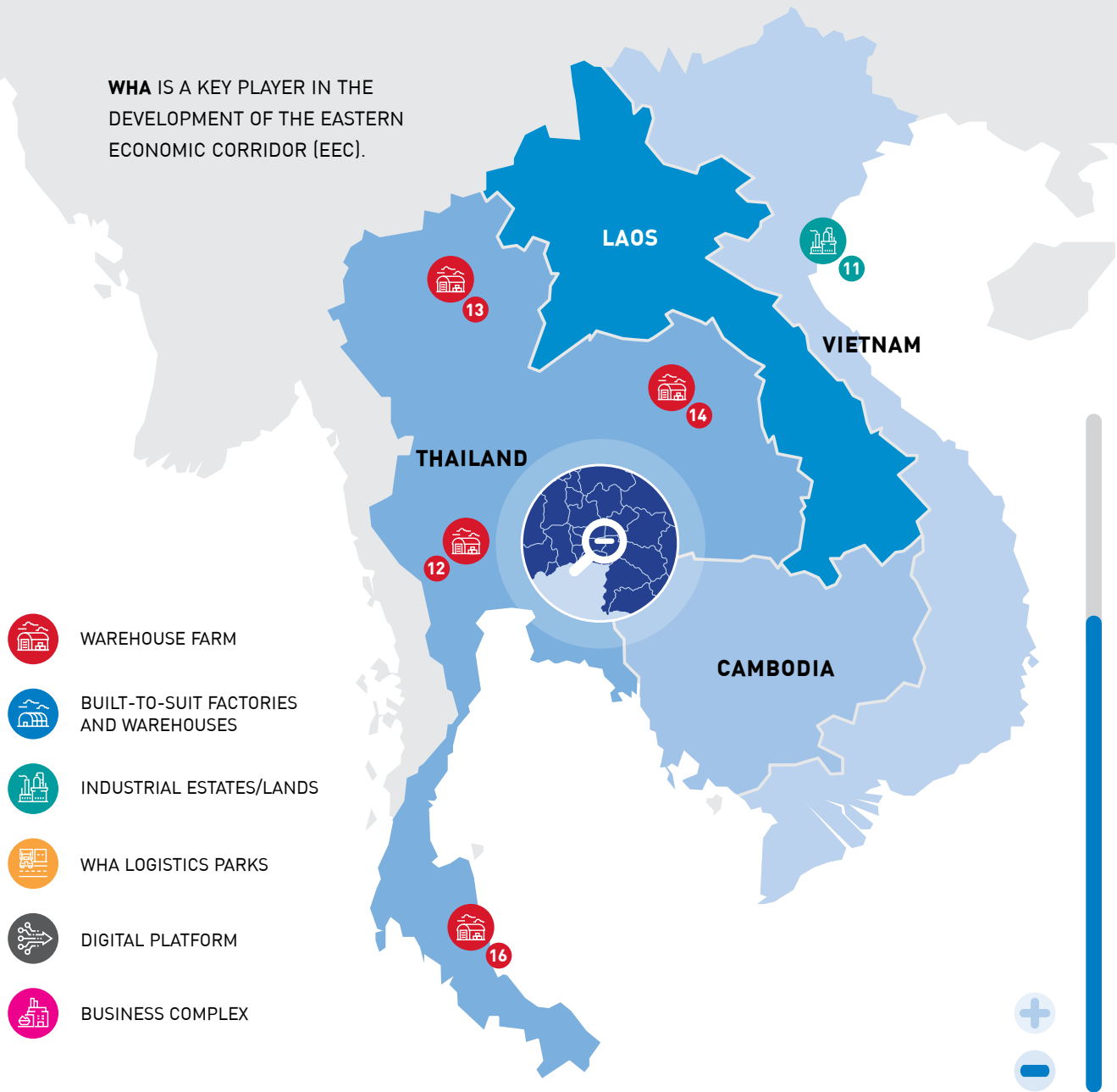


DIGITAL PLATFORM

Digital Platform Hub is operated through the Company's subsidiary, WHA infonite Company Limited, which was granted NBTC internet services (type 1), providing co-location data centers, fiber optic network (FTTx) and also managed services.

WHA 50+ STRATEGIC LOCATION IN THAILAND

WHA IS A KEY PLAYER IN THE DEVELOPMENT OF THE EASTERN ECONOMIC CORRIDOR (EEC).



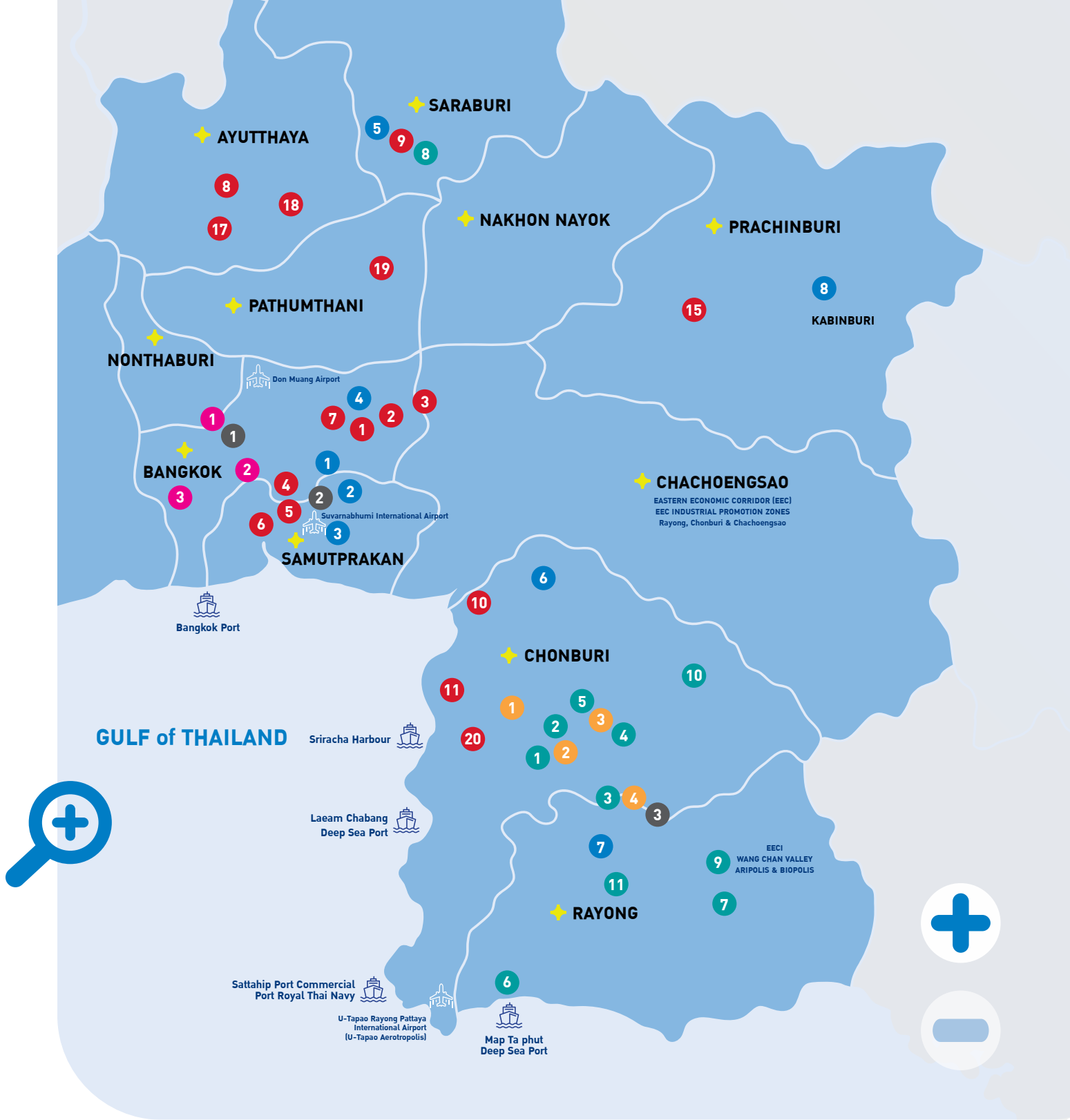
WAREHOUSE FARM

- | | |
|---|---|
| 1. WHA Mega Logistics Center Bangna-Trad km.18 | 11. WHA Mega Logistics Center Laemchabang |
| 2. WHA Mega Logistics Center Bangna-Trad km.19 | 12. WHA Mega Logistics Center Rama II, km.35 |
| 3. WHA Mega Logistics Center Bangna-Trad km.23 (2 Phases) | 13. WHA Mega Logistics Center Lampoo |
| 4. WHA Mega Logistics Center Chonlaharnpichit km.3 (2 Phases) | 14. WHA Mega Logistics Center Khon Kaen |
| 5. WHA Mega Logistics Center Chonlaharnpichit km.4 | 15. WHA Mega Logistics Center Kabinburi |
| 6. WHA Mega Logistics Center Chonlaharnpichit km.5 | 16. WHA Mega Logistics Center Suratthani |
| 7. WHA Mega Logistics Center Ladkrabang | 17. WHA Mega Logistics Centers Wangnoi 61 Phase 2 |
| 8. WHA Mega Logistics Center Wangnoi 61 | 18. WHA CENTRAL Mega Logistics Center Wangnoi 63 |
| 9. WHA Mega Logistics Center Saraburi | 19. WHA Mega Logistics Center Lum Luk Ka |
| 10. WHA Mega Logistics Center Panthong, Chonburi (2 Phases) | 20. WHA-E commerce Park |



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. Diaper Manufacturing
6. Consumer Goods Distribution Center
7. Aerospace Manufacturing
 - Motorbike Manufacturing
 - Automation & Robotics
 - Aerospace Factory
8. WHA Ready Built Factory Park 1 @Hi-tech Kabin



INDUSTRIAL ESTATES / LANDS

1. WHA Chonburi Industrial Estate 1 (WHA CIE 1)
2. WHA Chonburi Industrial Estate 2 (WHA CIE 2)
3. Eastern Seaboard Industrial Estate (Rayong) (ESIE)
4. WHA Eastern Seaboard Industrial Estate 1 (WHA ESIE 1)
5. WHA Eastern Seaboard Industrial Estate 2 (WHA ESIE 2)
6. WHA Eastern Industrial Estate (Map Ta Phut) (WHA EIE)
7. WHA Rayong Industrial Land (WHA RIL)
8. WHA Saraburi Industrial Land (WHA SIL)
9. WHA Eastern Seaboard Industrial Estate 4 (WHA ESIE 4)
10. WHA Eastern Seaboard Industrial Estate 3 (WHA ESIE 3)
11. WHA Rayong 36 Industrial Estate
12. WHA Industrial Zone 1 - Nghe An Vietnam



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)



DIGITAL PLATFORM

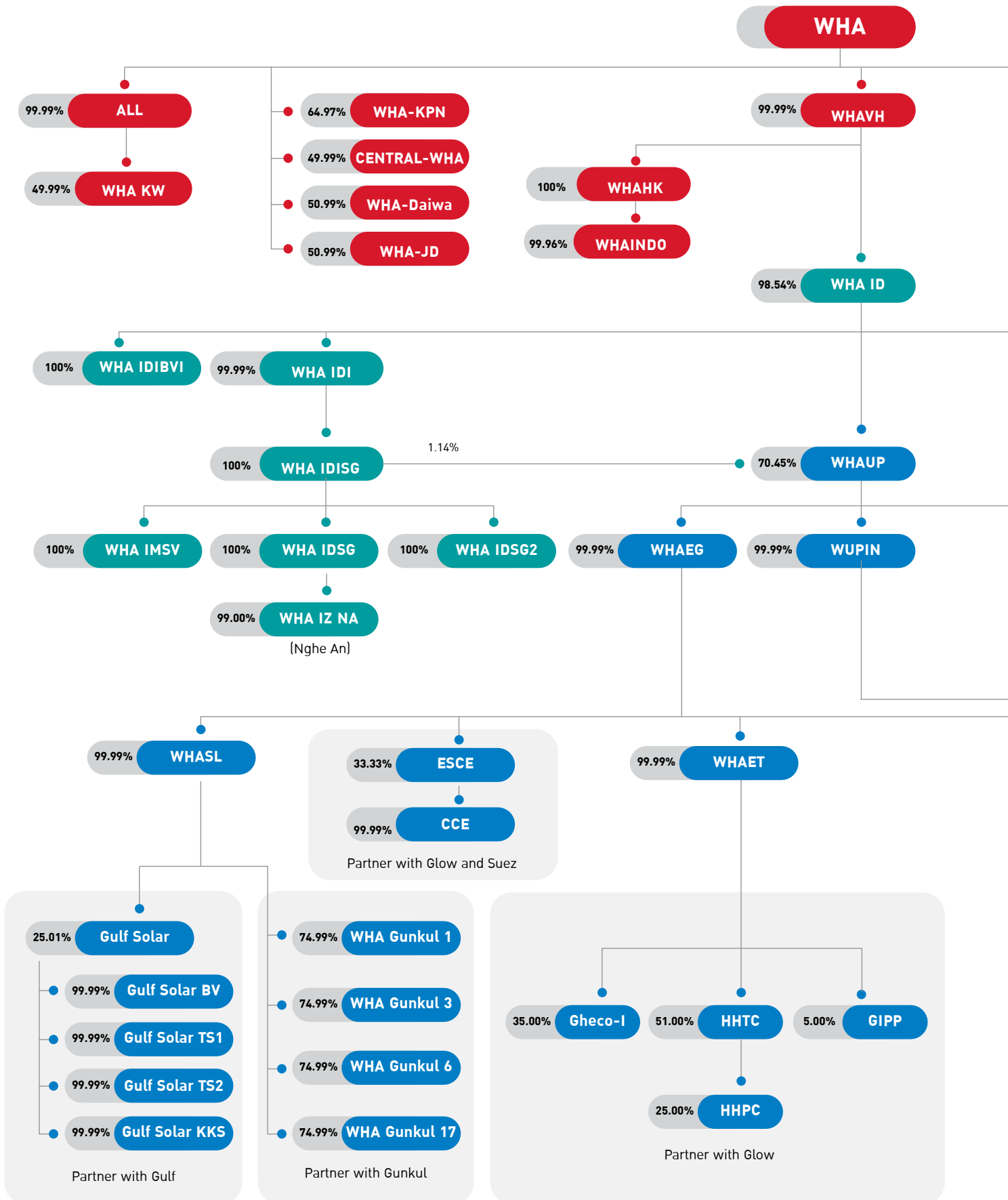
1. WHA Mega Center Vibhavadi-Rangsit
2. WHA Mega Center Bangna-Trad
3. WHA Mega Center Eastern Seaboard



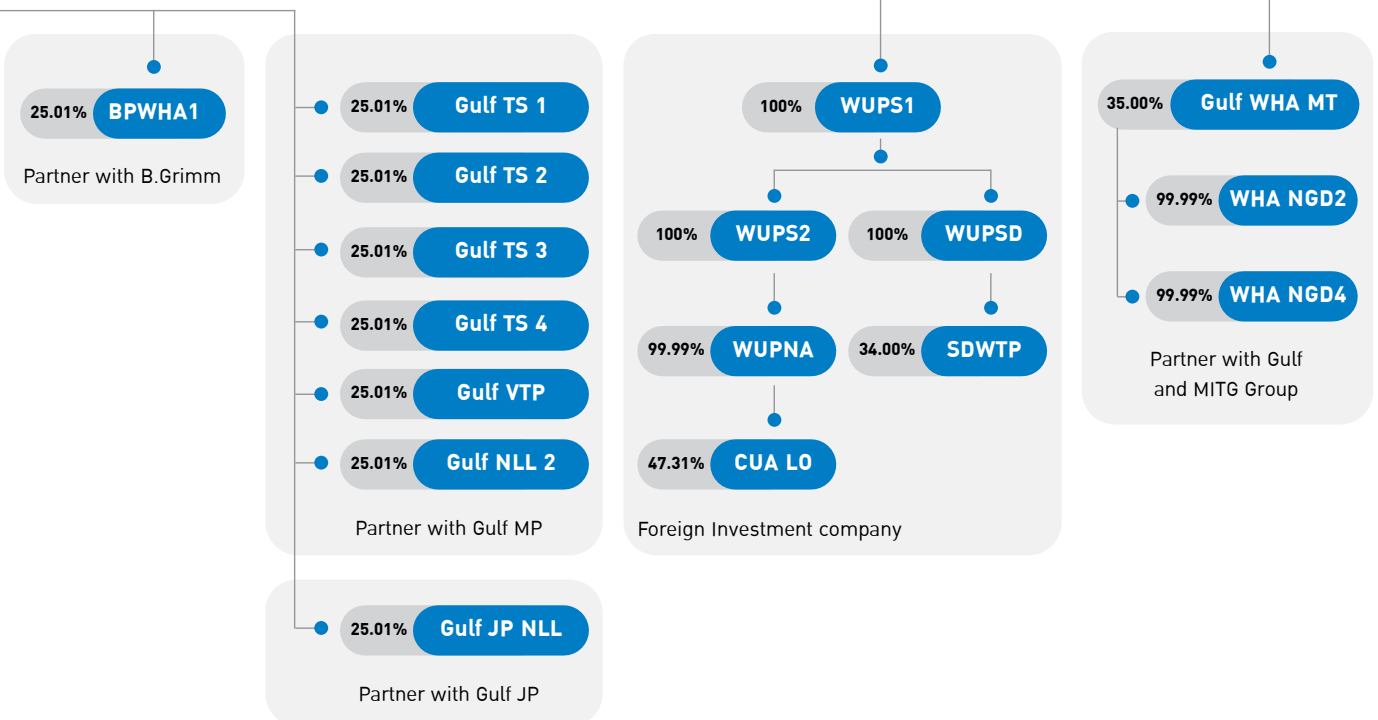
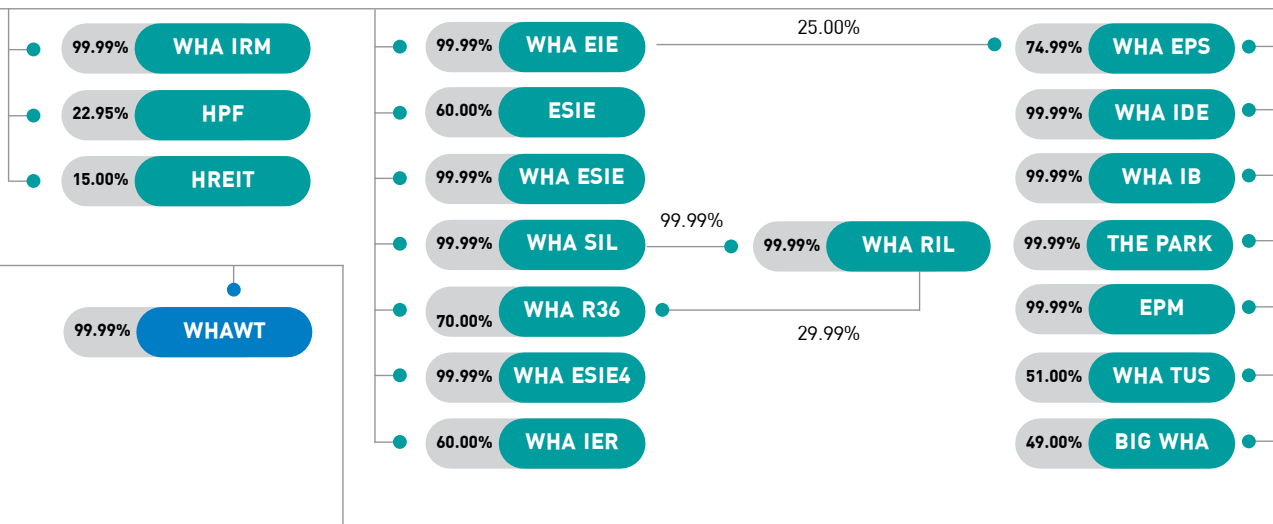
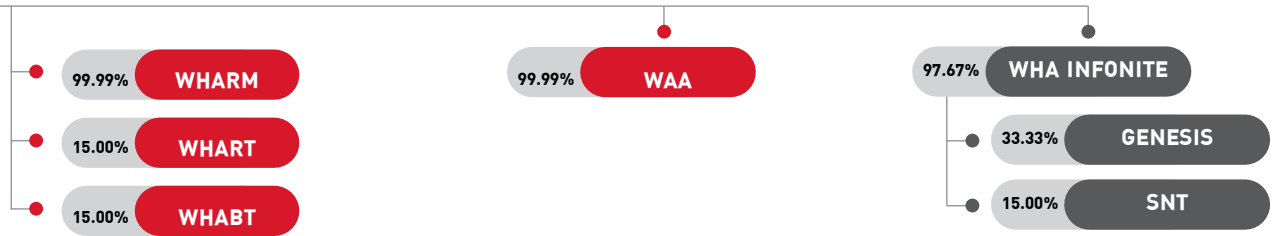
BUSINESS COMPLEX

1. SJ Infonite I
2. WHA Tower and WHA Bangna Business Complex
3. TusPark WHA incubation Center

GROUP SHAREHOLDING STRUCTURE

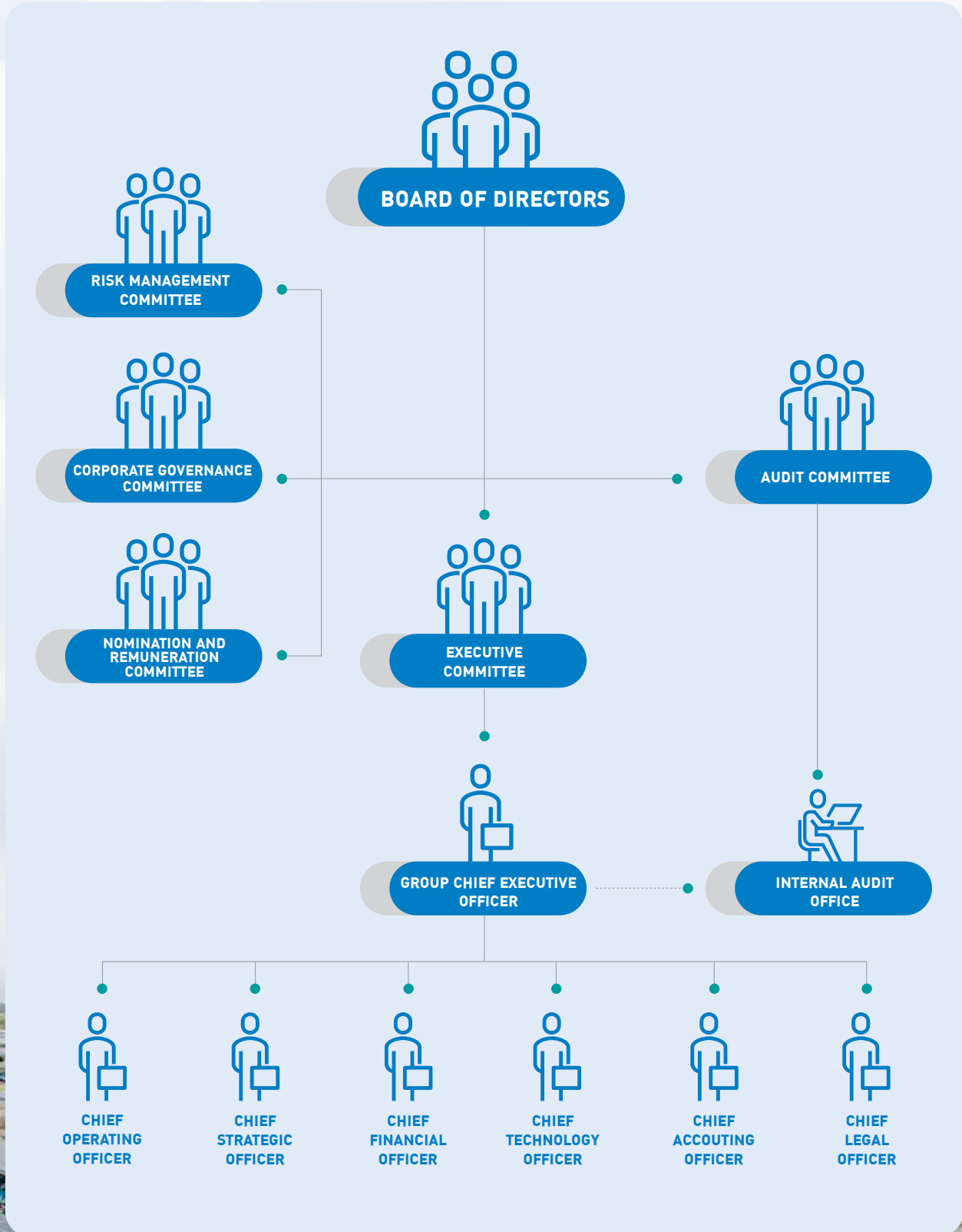


AS OF 31 DECEMBER 2020






ORGANIZATION CHART

AS AT 31 DECEMBER 2019



WHA GROUP VALUE CHAIN

BUSINESS HUBS	UPSTREAM	OPERATIONS	DOWNSTREAM
 <p>LOGISTICS HUB</p>	<ul style="list-style-type: none"> • Land acquisition • Property development 	<ul style="list-style-type: none"> • Warehouse leasing and sale • Asset management 	<ul style="list-style-type: none"> • Maintenance • Customer service
 <p>INDUSTRIAL DEVELOPMENT HUB</p>		<ul style="list-style-type: none"> • Industrial plot sale • Asset service management 	
 <p>UTILITIES & POWER HUB</p>	<ul style="list-style-type: none"> • Raw Water Procurement • Fuel and solar panel procurement 	<ul style="list-style-type: none"> • Water production • Wastewater treatment • Power production • Solar rooftop installation 	
 <p>DIGITAL PLATFORM HUB</p>	<ul style="list-style-type: none"> • IT product and service procurement 	<ul style="list-style-type: none"> • Data Center service and solution management • Network service management • Managed services and solutions management 	



SUSTAINABILITIES AT WHA GROUP

In 2020, WHA Group has rolled out its 5-Year Sustainability Framework, endorsed by the Executive Committee, to drive corporate sustainability actions to build upon, and align with the Group’s business direction to become “Your Ultimate Solution Partner”. To achieve its aspiration, the Framework is built on the foundation of good corporate governance, human capital as strategic enabler and key driving forces including digitization and natural resources. The long-term corporate sustainability goals address the Group’s material topics that are important to WHA Group and the key stakeholders. Furthermore, the Group ensures to stay ahead by taking into consideration the risks and opportunities analyzed from global existing and emerging trends.



SUSTAINABILITY MATERIALITY ISSUES

WHA Group conducts annual materiality assessment to consider issues that have impacts or influences toward the stakeholders and the Group's operations. Considering internal and external factors, material topics are identified in three aspects: governance/ economic, social, and environment. The materiality assessment process is based on the Global Reporting Initiative (GRI) Standard framework. This allows the Group to address the corporate risk management and global trends as well as manage the stakeholders' expectations in a balanced and effective manner.

MATERIALITY ASSESSMENT PROCESS



1. IDENTIFICATION

Identify relevant material topics by considering internal and external factors: business strategic direction, corporate risk profile, relevant standards and requirements (e.g., United Nation Sustainable Development Goals (UN SDGs)), global trends relevant to WHA Group's four main businesses, COVID-19 pandemic impacts and the needs and expectations of WHA Group's stakeholders.



2. PRIORITIZATION

The material topics were prioritized on the basis of two criteria: 1) the significance of the topic to WHA Group's governance/ economic, environmental, and social impacts and 2) the topic's importance to stakeholders. The material topics were ranked from 1 to 4 which prioritized the material topics into four levels of importance: important, medium, high and very high. In 2020, the materiality prioritization results indicated that the material topics are ranked within the medium, high and very high levels.



3. VALIDATION

WHA Group conducted a materiality endorsement meeting consisting of Executive Committee with senior management from all business hubs and chaired by the Group CEO. The management took the responsibilities for reviewing and validating the proposed materiality assessment results, and provided approval for information disclosure.

SUSTAINABILITY MATERIALITY ISSUES AND IMPACT BOUNDARY

REPORT DIMENSION	MATERIAL ISSUES	CORRESPONDING GRI TOPIC	KEY STAKEHOLDERS AND IMPACT BOUNDARY		SDGS	PAGE
			INTERNAL	EXTERNAL		
GOVERNANCE/ ECONOMICS	Stakeholder Engagement	<ul style="list-style-type: none"> 103 Management approach 102-40 List of stakeholder groups 102-42 Identifying and selecting stakeholders 102-43 Approach to stakeholder engagement 102-44 Key topics and concerns raised 	Employee	<ul style="list-style-type: none"> Community Government/Regulator Shareholder/Investor Media Financial Institution Supplier/Creditor Customer 		029-033
	Codes of Business Conduct	<ul style="list-style-type: none"> 103 Management approach 102-16 Values, principles, standards, and norms of behaviour 102-17 Mechanisms for advice and concerns about ethics 205-2 Communication and training about anti-corruption policies and procedures 205-3 Confirmed incidents of corruption and actions taken 	Employee	<ul style="list-style-type: none"> Supplier/ Creditor Government/ Regulator Financial Institution Customer 		035-039
	Risk and Crisis Management	<ul style="list-style-type: none"> 103 Management approach 	Employee	<ul style="list-style-type: none"> Financial Institution Government/ Regulator Customer Shareholder/ Investor 		040-046
	Responsible Investment	<ul style="list-style-type: none"> 103 Management approach 	Employee	<ul style="list-style-type: none"> Financial Institution Media Shareholder/Investor 		047-049
	Supply Chain Management	<ul style="list-style-type: none"> 103 Management approach 308-1 New suppliers that were screened using environmental criteria 308-2 Negative environmental impacts in the supply chain and actions taken 414-1 New suppliers that were screened using social criteria 414-2 Negative social impacts in the supply chain and actions taken 	Employee	<ul style="list-style-type: none"> Supplier/Creditor Customer 		050-054
	Customer Relationship Management	<ul style="list-style-type: none"> 103 Management approach 	Employee	<ul style="list-style-type: none"> Customer Supplier/Creditor 		055-060
	Innovation Management	<ul style="list-style-type: none"> 103 Management approach 203-1 Infrastructure investments and services supported 	Employee	<ul style="list-style-type: none"> Shareholder/ Investor Customer Financial Institution Government/ Regulator Supplier/Creditor 		061-074, 118
	Data Security	<ul style="list-style-type: none"> 103 Management approach 418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data 	Employee	<ul style="list-style-type: none"> Customer Financial Institution Shareholder/Investor Supplier/Creditor 		075-080

REPORT DIMENSION	MATERIAL ISSUES	CORRESPONDING GRI TOPIC	KEY STAKEHOLDERS AND IMPACT BOUNDARY		SDGS	PAGE
			INTERNAL	EXTERNAL		
SOCIAL	Human Rights	<ul style="list-style-type: none"> 103 Management approach 412-2 Employee training on human rights policies or procedures 	Employee	<ul style="list-style-type: none"> Community Government/Regulator Media Supplier/Creditor Customer 		083-084
	Labor Practice Indicators	<ul style="list-style-type: none"> 103 Management approach 405-1 Diversity of governance bodies and employees 	Employee	<ul style="list-style-type: none"> Media Supplier/Creditor 		085-086, 091
	Talent Attraction and Retention	<ul style="list-style-type: none"> 103 Management approach 401-1 New employee hires and employee turnover 401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees 404-3 Percentage of employees receiving regular performance and career development reviews 	Employee	<ul style="list-style-type: none"> Supplier/ Creditor 		087-091
	Human Capital Development	<ul style="list-style-type: none"> 103 Management approach 404-1 Average hours of training per year per employee 404-2 Programs for upgrading employee skills and transition assistance programs 	Employee	<ul style="list-style-type: none"> Shareholder/Investor Supplier/Creditor 		092-096
	Occupational Health and Safety	<ul style="list-style-type: none"> 103 Management approach 403-1 Occupational health and safety management system 403-2 Hazard identification, risk assessment, and incident investigation 403-3 Occupational health services 403-4 Work participation, consultation, and communication on occupational health and safety 403-5 Worker training on occupational health and safety impacts directly linked by business relationships 403-6 Promotion of worker health 403-7 Prevention and mitigation of occupational health and safety management system 403-9 Work-related injuries 	Employee	<ul style="list-style-type: none"> Customer Community Supplier/Creditor 		095, 097-104
	Community Development	<ul style="list-style-type: none"> 03 Management approach 201-1 Direct economic value generated and distributed 413-1 Operations with local community engagement, impact assessment, and development programs 	Employee	<ul style="list-style-type: none"> Community Government/ Regulator Shareholder/ Investor Media Customer 		105-121
ENVIRONMENT	Biodiversity	<ul style="list-style-type: none"> 103 Management approach 304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas 	Employee	<ul style="list-style-type: none"> Customer Supplier/ Creditor Government/ Regulator Community Financial Institution Shareholder/ Investor Media 		128-129
	Water Management	<ul style="list-style-type: none"> 103 Management approach 301-2 Recycled input materials used 303-1 Interactions with water as a shared resource 303-2 Management of water discharge-related impacts 303-3 Water withdrawal 303-4 Water discharge 	Employee	<ul style="list-style-type: none"> Customer Supplier/Creditor Government/Regulator Community 		130-134
	Waste Management	<ul style="list-style-type: none"> 103 Management approach 306-1 Waste generation and significant waste-related impacts 306-2 Management of significant waste-related impacts 306-3 Waste generated 306-4 Waste diverted from disposal 306-5 Waste directed to disposal 	Employee	<ul style="list-style-type: none"> Customer Supplier/ Creditor Government/ Regulator Community 		135-141
	Air Emission	<ul style="list-style-type: none"> 103 Management approach 305-7 Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions 	Employee	<ul style="list-style-type: none"> Customer Supplier/Creditor Government/Regulator Community Financial Institution 		142-145
	Climate Change (Physical and Transition risks)	<ul style="list-style-type: none"> 103 Management approach 305-1 Direct (Scope 1) GHG emissions 305-2 Energy indirect (Scope 2) GHG emissions 	Employee	<ul style="list-style-type: none"> Customer Supplier/ Creditor Government/ Regulator Community Financial Institution Shareholder/ Investor 		146-148
	Energy Management	<ul style="list-style-type: none"> 103 Management approach 302-1 Energy consumption within the organization 302-4 Reduction of energy consumption 	Employee	<ul style="list-style-type: none"> Customer Supplier/Creditor Government/Regulator Community Financial Institution Shareholder/Investor 		149-153

STAKEHOLDER ENGAGEMENT

Strong engagement and effective communication are fundamental means to all business successes. Striving to become the ultimate solution partner, 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 stakeholder' expectations and concerns. By that, WHA Group can proactively and effectively mitigate negative and maximize positive impacts.

MANAGEMENT APPROACH

Creating an effective stakeholder engagement at WHA Group initiates with a group-level stakeholder identification and prioritization on an annual basis. The stakeholders are defined as individuals, groups of individuals or organizations in the Group's value chain that could potentially be affected by WHA Industrial Development, WHA Utilities and Power, WHA Logistics and WHA Digital Platform's activities, products or services and associated performances. The identified

stakeholders are prioritized based on the extent of their dependency, directly or indirectly, towards the Group's activities, products, performances or services, and their influence or impacts to the Group's strategy or operational decision-making. In 2020, the Group identified eight equally prioritized key stakeholders including, employee, shareholder/investor, customer, supplier/creditor, government/regulator, community, financial institution, and media. The stakeholders' opinions and concerns were attained via various engagement approaches and available channels as described in the following subsections of this Report. Concerns received from the engagements were further reported to the Group's Supervisor and the Sustainable Development working group, comprising of manager levels and responsible personnel from relevant departments, to acknowledge, assess and strategize efficient and suitable responses to ensure that the stakeholders' expectations are met. The results of stakeholder engagement process were then subsequently reported to the executives as inputs for maturing business decisions.



RESULTS FROM STAKEHOLDER ENGAGEMENT

1. EMPLOYEE

ENGAGEMENT CHANNELS AND FREQUENCY	KEY TOPICS AND CONCERNS	ACTIONS AND RESPONSE
<ul style="list-style-type: none"> Various all time communication channels (email, supervisor, intranet etc.) Annual CEO Town Hall Quarterly Executive Sharing Annual employee satisfaction and engagement survey Suggestion box Whistle blowing channel Monthly management meeting 	<ul style="list-style-type: none"> WHA Group outlook 	<ul style="list-style-type: none"> Update the performance and business outlook
	<ul style="list-style-type: none"> Business trends and updates 	<ul style="list-style-type: none"> Share business trends and updates via WHA's communication channels
	<ul style="list-style-type: none"> Update on news and knowledge sharing 	<ul style="list-style-type: none"> Communicate and share updated situations and Executive knowledge
	<ul style="list-style-type: none"> Training and career development program 	<ul style="list-style-type: none"> Develop and provide suitable training programs
	<ul style="list-style-type: none"> Work environment 	<ul style="list-style-type: none"> Communicate on corporate values and strategy
	<ul style="list-style-type: none"> Compensation, welfare, and benefits 	<ul style="list-style-type: none"> Regularly review and improve employees' compensation and benefits
	<ul style="list-style-type: none"> Management of occupational health and safety 	<ul style="list-style-type: none"> Promote good occupational health and safety culture Regular communication of COVID-19 related news via internal SharePoint and emails Implementation of management approaches to prevent COVID-19 impacts (e.g. Work From Home, sanitation as per best practices and regulations)
	<ul style="list-style-type: none"> Business continuity plan 	<ul style="list-style-type: none"> Update and communicate business continuity plan via various communication channels in a timely manner Conduct business continuity plan rehearsals to ensure practices and requirements are strictly and effectively followed

2. SHAREHOLDER/INVESTOR

ENGAGEMENT CHANNELS AND FREQUENCY	KEY TOPICS AND CONCERNS	ACTIONS AND RESPONSE
<ul style="list-style-type: none"> Annual general meeting Annual Report and Sustainability Report Roadshow Analyst meeting Outlook meeting Investor site visit Opportunity Day Various all time communication channels (e.g. telephone, email, website etc.) 	<ul style="list-style-type: none"> Business performance, such as returns, benefits and profits 	<ul style="list-style-type: none"> Improve business competitiveness and business directions to be up-to-date Respond to all received inquiries regarding COVID-19 impacts to financial portfolio via email, Group's website and public relations media Communicate about the insignificant impacts due to COVID-19 on the Group's business performance via Microsoft Teams and Zoom platforms
	<ul style="list-style-type: none"> Business transparency 	<ul style="list-style-type: none"> Ensure good corporate governance Take part in Thai Private Sector Collective Action Against Corruption (CAC)
	<ul style="list-style-type: none"> Changes in business management and business risks 	<ul style="list-style-type: none"> Conduct enterprise risk management and establish short and long-term plan
	<ul style="list-style-type: none"> Sustainability performance 	<ul style="list-style-type: none"> Manage sustainability material topics Ensure environment and social compliance Promote innovation and sustainability initiatives

3. CUSTOMER

ENGAGEMENT CHANNELS AND FREQUENCY	KEY TOPICS AND CONCERNS	ACTIONS AND RESPONSE
<ul style="list-style-type: none"> Roadshow/ marketing events/ webinar Quarterly business meeting/ video conference Annual customer satisfaction survey Quarterly customer clubs Quarterly WHA Connect magazines Various all time communication channels (i.e. telephone, email, key contact personnel, social media etc.) 	<ul style="list-style-type: none"> Product and service inquiry 	<ul style="list-style-type: none"> Provide product and service information on website and other media Provide prompt response to customers' inquiry
	<ul style="list-style-type: none"> Quality of after sale services 	<ul style="list-style-type: none"> Establish effective customer relationship management Continuously improve customer relationship management from customer's comments / suggestions
	<ul style="list-style-type: none"> Environment management, compliance and standards 	<ul style="list-style-type: none"> Strictly comply with related laws and regulations and apply international environmental management standards where possible
	<ul style="list-style-type: none"> Risk and crisis management 	<ul style="list-style-type: none"> Conduct risk and crisis assessment and implement appropriate mitigation actions Inform customers of relevant risks and crisis management plans and measures Communicate about the COVID-19 response procedures and appointment of emergency contact personnel Reduction of Management Fee attained from WHA Industrial Development's customers during 2nd - 3rd Quarters of 2020 to help with challenges from COVID-19 impacts

4. SUPPLIER/CREDITOR

ENGAGEMENT CHANNELS AND FREQUENCY	KEY TOPICS AND CONCERNS	ACTIONS AND RESPONSE
<ul style="list-style-type: none"> Supplier event Supplier site visit Telephone and Email Self-evaluation and onsite visits 	<ul style="list-style-type: none"> Transparency in procurement process 	<ul style="list-style-type: none"> Developed procurement policy and procedure
	<ul style="list-style-type: none"> Business opportunities and collaboration 	<ul style="list-style-type: none"> Conduct Suppliers-meet- Customers day
	<ul style="list-style-type: none"> Compliance with WHA Group's standard 	<ul style="list-style-type: none"> Communicate on WHA Group's procurement policy Conduct supplier assessment and provide feedback/ corrective action plans to guide suppliers for improvement
	<ul style="list-style-type: none"> On-time payment and following the contract agreement 	<ul style="list-style-type: none"> Follow the contract agreement Disclose information according to the agreed condition
	<ul style="list-style-type: none"> Environment, social and governance management 	<ul style="list-style-type: none"> Communicate concerns related to environment, social and governance criteria Communicate about the COVID-19 response procedures Communicate about the insignificant impacts due to COVID-19 on the Group's business performances to assure suppliers' confidence and trust Reduce face-to-face meetings to reduce COVID-19 risks Evaluate supplier criteria to ensure that environmental, social and governance concerns are limited Ensure environmental management compliance are strictly followed

4. SUPPLIER/CREDITOR

ENGAGEMENT CHANNELS AND FREQUENCY	KEY TOPICS AND CONCERNS	ACTIONS AND RESPONSE
	<ul style="list-style-type: none"> Material quality and its environmental impacts 	<ul style="list-style-type: none"> Develop screening process to ensure that it complies with the Supplier Code of Conduct
	<ul style="list-style-type: none"> Labor conditions (i.e. human rights) 	<ul style="list-style-type: none"> Ensure there is no violations of labor conditions or human rights issues

5. GOVERNMENT/REGULATOR

ENGAGEMENT CHANNELS AND FREQUENCY	KEY TOPICS AND CONCERNS	ACTIONS AND RESPONSE
<ul style="list-style-type: none"> Meeting on occasion Various all time communication channels (i.e. telephone, email and Line application) 	<ul style="list-style-type: none"> Regulatory compliance 	<ul style="list-style-type: none"> Strictly comply with relevant laws and regulations
	<ul style="list-style-type: none"> Stakeholder impact management 	<ul style="list-style-type: none"> Develop effective stakeholder engagement plans
	<ul style="list-style-type: none"> Corporate governance and transparency 	<ul style="list-style-type: none"> Corporate governance and transparency Ensure good corporate governance and implementation of business code of conduct

6. COMMUNITY

ENGAGEMENT CHANNELS AND FREQUENCY	KEY TOPICS AND CONCERNS	ACTIONS AND RESPONSE
<ul style="list-style-type: none"> Public hearing and meeting Community activities Community engagement survey Local community representatives Site visits 	<ul style="list-style-type: none"> Business operations' impacts on communities' well-being (i.e. traffic jam, safety, water withdrawal, etc.) 	<ul style="list-style-type: none"> Conduct regular community feedback survey to ensure there is no impact on local community Implement mitigating actions where business operation activities affect community's well-being (i.e. use of smart traffic management to improve traffic problem) Involve surrounding communities in crisis management and emergency drill
	<ul style="list-style-type: none"> Environmental management performance 	<ul style="list-style-type: none"> Ensure compliance with environmental related laws and standards
	<ul style="list-style-type: none"> Community development and support 	<ul style="list-style-type: none"> Initiate community development programs regularly Share WHA Group's expertise with local communities Implement community development initiatives that support the communities to tackle COVID-19 impacts
	<ul style="list-style-type: none"> Community engagement 	<ul style="list-style-type: none"> Provide effective and prompt response to community complaints Conduct community meeting to understand communities' needs and suggestions

7. FINANCIAL INSTITUTION

ENGAGEMENT CHANNELS AND FREQUENCY	KEY TOPICS AND CONCERNS	ACTIONS AND RESPONSE
<ul style="list-style-type: none"> • Various all-time communication channels (i.e. email, phone, line application, conference, etc.) • Annual greetings • Quarterly analyst meetings 	<ul style="list-style-type: none"> • Business performance and outlook 	<ul style="list-style-type: none"> • Improve and keep business competitiveness and business directions up-to-date • Respond to all received inquiries regarding COVID-19 impacts to financial portfolio via email, Group's website and public relations media • Communicate about the insignificant impacts due to COVID-19 on the Group's business performance via Microsoft Teams and Zoom platforms
	<ul style="list-style-type: none"> • Business transparency 	<ul style="list-style-type: none"> • Ensure good corporate governance • Strictly comply with Disclosure Policy
	<ul style="list-style-type: none"> • Changes in business management and business risks 	<ul style="list-style-type: none"> • Notify significant updates or changes in a timely manner
	<ul style="list-style-type: none"> • Sustainability performance 	<ul style="list-style-type: none"> • Manage sustainability material topics • Promote innovation and sustainability initiatives • Assess sustainability issues along with investment decision process
	<ul style="list-style-type: none"> • Green initiative 	<ul style="list-style-type: none"> • Seeking out new funding that concerns with green issues and related aspects

8. MEDIA

ENGAGEMENT CHANNELS AND FREQUENCY	KEY TOPICS AND CONCERNS	ACTIONS AND RESPONSE
<ul style="list-style-type: none"> • Various weekly or bi-weekly communication channels (i.e. press release, photo captions, executive interview and news article) • Annual press conference, press tour/visits and annual greetings • Quarterly Group interviews • Bi-annual press briefings 	<ul style="list-style-type: none"> • Business outlook/ Business direction • Strengthening relationships 	<ul style="list-style-type: none"> • Hold annual press conference to update business plan and directions
	<ul style="list-style-type: none"> • Updates on products and services • New customers • CSR initiatives and environmental management • Business outlook • Financial results 	<ul style="list-style-type: none"> • Frequently update on the development of company's activities through media channels • Disclose accurate information on the basis of facts
	<ul style="list-style-type: none"> • Technological advancements 	<ul style="list-style-type: none"> • Maintain good and long-term relationships with the media • Communicate through online platforms to reduce COVID-19 impacts from face-to-face meetings

GOVERNANCE AND ECONOMIC DIMENSION



CODES OF BUSINESS CONDUCT

Good corporate governance is the backbone of a sustainable, long-term business growth. It is the foundation of ensuring that a company is managed responsibly and ethically. Core principles of good corporate governance are developed based on the act of transparency, accountability, responsibility and fairness. Thus, the Board of Directors at WHA Group carries crucial responsibilities to oversee the Group's operation. The encapsulated good corporate governance signals to customers that WHA Group is well managed, and that the stakeholders' interests are aligned with the managements' perspectives.

MANAGEMENT APPROACH WHA GROUP CODE OF CONDUCT

WHA Group aligns its good corporate governance management approach in accordance with the national guidelines developed by the Stock Exchange of Thailand as well as international approaches such as the United Nations Global Compact.

To ensure that business operations are pursued in accordance with the principles of integrity, ethics and responsibility towards the environment, society and governance, a group-wide Code of Conduct (CoC) was established by the Governance Sub-Committee, and endorsed by the Board of Directors. The CoC governs the practices of all employees, suppliers, contractors, joint ventures and subsidiaries throughout all four business hubs. The CoC is available in both Thai and English languages to ensure widespread understanding and transparency for all local and foreign stakeholders. The CoC is subjected for review annually, and the most recent revision is publically disclosed on the Group's website and intranet, such that employees and external stakeholders can conveniently access the information. WHA Group's Code of Conduct can be found at link <https://www.wha-group.com/Uploads/elFinder/pdf/cg/20200825-wha-code-of-conduct-en.pdf>

WHA GROUP CODE OF CONDUCT

<p>1</p> <p>CORPORATE ETHICS</p>	<p>2</p> <p>UNDESIRABLE PRACTICES</p>	<p>CONFLICT OF INTERESTS</p> <p>3</p>	<p>4</p> <p>USE OF THE INSIDER INFORMATION</p>
<p>5</p> <p>ANTI-CORRUPTION</p>	<p>PROTECTION THE COMPANY'S ASSETS</p> <p>6</p>	<p>7. PREPARATION AND KEEPING OF THE INFORMATION</p> <p>7</p>	<p>8</p> <p>INTELLECTUAL PROPERTY AND USE OF THE IT</p>
<p>9</p> <p>HUMAN RIGHT</p>	<p>PRACTICES TOWARDS THE STAKEHOLDERS</p> <p>10</p>	<p>11</p> <p>SAFETY, HEALTH, HYGIENE AND ENVIRONMENT AT THE WORKPLACE</p>	<p>12</p> <p>WHISTLEBLOWING OR COMPLAINTS</p>

ANTI-CORRUPTION

WHA Group strives to empower all employees to act with integrity to create compelling impacts throughout the Group’s business operations. All forms of corruption are classified as unacceptable practices, therefore, an Anti-Corruption Policy was announced and enforced to all of the employees, subsidiaries, suppliers and contractors. The objectives of the Policy are to prevent misuse of authorities, prohibit engagement with any forms of fraud or bribery and to operate business in a lawful manner. The Company’s stance against corruption, therefore, are fully captured under the Group’s Code of Conduct and Anti-Corruption Policy.

Subsequently, an Audit Committee was established to oversee and ensure that the Group’s performances are in alignment with the enforced policy. The Committee has clear responsibilities to manage and mitigate risks against unlawful activities, prevent corruption within the Group as well as monitor any fraudulent actions. Furthermore, an Internal Audit department was also appointed to assess potential risks related to corruption and determine mitigation measures. The Internal Audit department’s scope of work expands to external stakeholders including WHA Group’s interactions with customers and business partners.

To affirm WHA Group’s commitment to anti-corruption and bribery for business interests, the Group continues to be a certified member of Thailand’s Private Sector Collective Action Coalition Against Corruption (CAC) of

the Anti-Corruption Organization (Thailand). WHA Group was certified by the Thai Institute of Directors (IOD) since 2014 and has been recertification on 30 June 2020, also WHA Utilities and Power (WHAUP) were certified by IOD since 2019, respectively. Additionally, in November 2020, WHA Group recommunicated to managing directors, suppliers and business partners on the “No New Year Gifts for Year 2021” to elevate good corporate governance practices and standardize transparency throughout all business operations.



100%
of employees have been
communicated on the
Code of Conduct

COMPLIANT MANAGEMENT

To illustrate WHA Group’s transparent corporate environment, a whistleblowing process has been established. This provides a channel for employees and external stakeholders to confidentially report and inform clues, suspicions, advice, grievances or complaints regarding misconduct, corruption or violations against the law, regulatory requirements, corporate governance principles or WHA Group’s Code of Conduct including human rights violation and Anti-Corruption Policy. As a whistleblower, the employee or external stakeholders are protected from victimization.

REPORTING CHANNELS





CHANNELS FOR EMPLOYEES

- <https://www.wha-group.com/en/corporate-governance/corporate-governance>
- Human Resource Department
- Comment Box
- Ceo_office@wha-group.com
- auditcommittee@wha-group.com



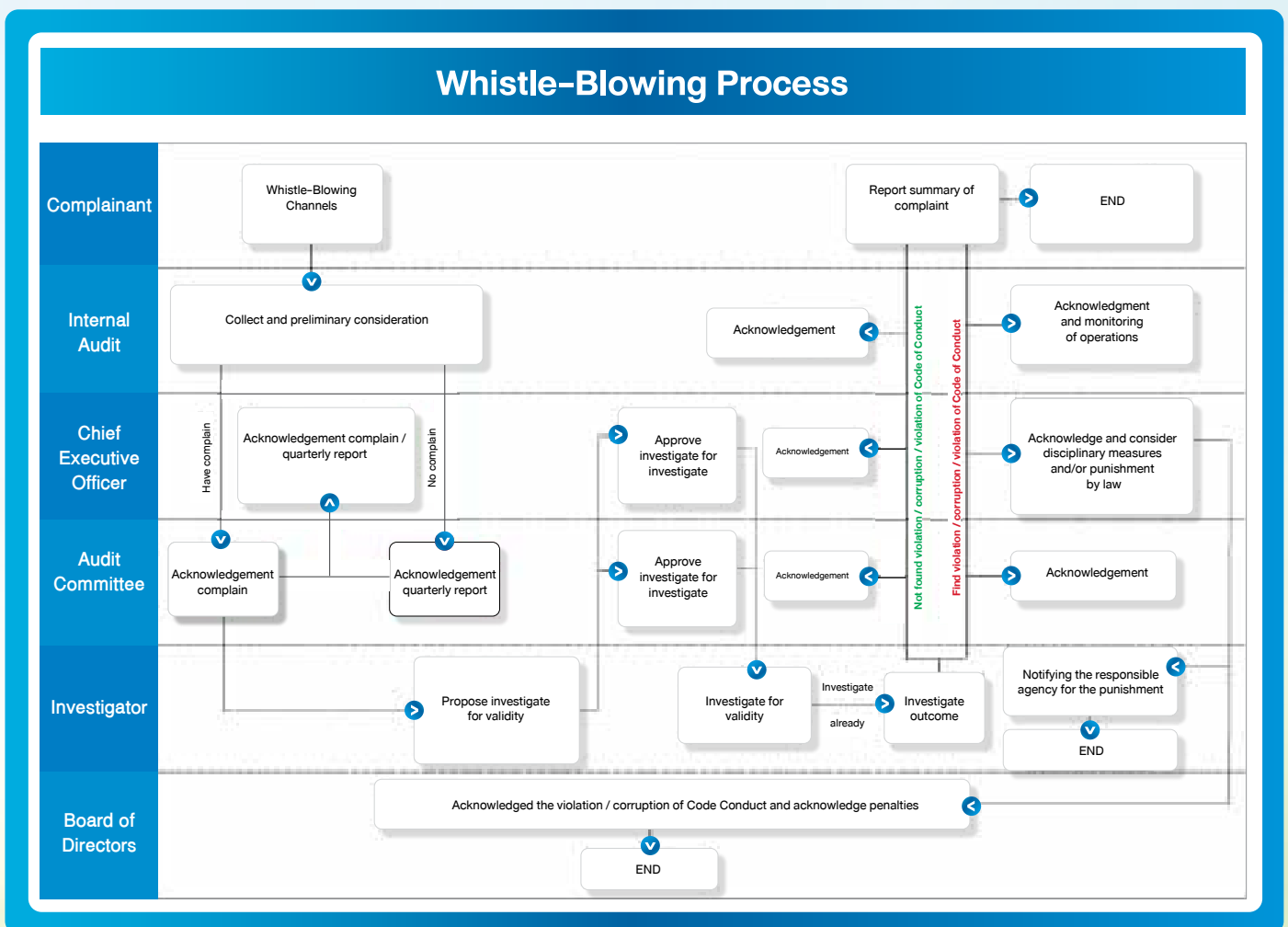
CHANNELS FOR EXTERNAL STAKEHOLDERS

- <https://www.wha-group.com/en/corporate-governance/corporate-governance>
- Ceo_office@wha-group.com
- auditcommittee@wha-group.com

In the event that the Group receives a report regarding corruption, the Audit Committee is responsible to report and conduct investigation, as appropriate. Based on the conclusion of such investigation, appropriate disciplinary actions will be taken. For any cases violating applicable laws, the Group will prosecute to necessary legal actions. Starting in 2020, the Group conducts internal audit and if complaints are received, the case will be reviewed quarterly through the Audit Committee meeting, and communicated as one of the meeting agenda in the Board of Directors meeting. This process, therefore,

ensures that the reoccurrence of potential cases are prevented.

Nevertheless, in 2020, no violations against regulatory requirements or the Group's policy was identified. Additionally, no reports or complaints were made regarding the topic of corporate governance and corruption were submitted through the established channels.





ENHANCE AND AWARENESS RAISING FOR GOOD CORPORATE GOVERNANCE

Corporate governance is intertwined under the Group's corporate value of 'integrity'. Upholding integrity value throughout the business operations enables WHA Group to cultivate trust and enhance stakeholders' confidence that the company abides by the principles of good corporate governance.

INTEGRITY

"To instill mutual trust and confidence, create a culture that fosters transparency and work ethics as well as demonstrates a sense of corporate responsibility."



ADVANCED



CHAMPION



RESOURCEFUL



PARTNERSHIP



INTEGRITY

To increase the employee’s awareness towards the Group’s good corporate governance, the following trainings and activities were initiated:

- All new employees are required to surpass the compulsory trainings on Code of Conduct and Anti-Corruption principles, as part of their orientation program.
- In 2020, the Human Resource department initiated a mandatory online refreshers trainings through a “self-learning program” for current employees on

the Group’s CoC and Anti-Corruption Policy. The employees’ understanding were analysed through compulsory questionnaires at the end of each individual online session. For those who are unable to complete the online training, responsible departments will conduct an in-class refreshers training course. This online training is a lasting refreshers program that will be conducted annually or upon revisions to the corporate governance related policies.

CODE OF CONDUCT AND PRACTICES

CODE OF CONDUCT AND PRACTICES
จรรยาบรรณธุรกิจและแนวทางปฏิบัติ

บริษัท ดับบลิวเอชเอ คอร์ปอเรชั่น จำกัด (มหาชน) และบริษัทในกลุ่ม (“กลุ่มบริษัทดับบลิวเอชเอ”) ชัดเจนในการดำเนินธุรกิจตามแนวทางปฏิบัติตามกฎหมาย กฎระเบียบที่เกี่ยวข้องกับการดำเนินธุรกิจทั้งภายในประเทศและต่างประเทศ มีนโยบายที่จะส่งเสริมบรรษัทภิบาลขององค์กรอย่างต่อเนื่อง โดยมุ่งเน้นการดำเนินธุรกิจตามหลักคุณธรรม จริยธรรม มีความรับผิดชอบต่อสิ่งแวดล้อม สังคม และบรรษัทภิบาล (Environment Social and Governance : ESG) โดยการดำเนินงานอย่างโปร่งใส คำนึงถึงผู้มีส่วนได้ส่วนเสีย มีศักยภาพในการแข่งขัน และสามารถสร้างผลตอบแทนได้ในระยะยาว ซึ่งจะนำไปสู่ความเป็นองค์กรแห่งความยั่งยืน

โดยปี 2563 ที่ประชุมคณะกรรมการบริษัท ดับบลิวเอชเอ คอร์ปอเรชั่น จำกัด (มหาชน) ได้มีมติอนุมัติปรับปรุงจรรยาบรรณธุรกิจและแนวทางปฏิบัติ (Code of Conduct and Practices) ฉบับปรับปรุงครั้งที่ 3 เมื่อวันที่ 11 สิงหาคม 2563 โดยมุ่งหมายให้กรรมการ ผู้บริหาร และพนักงาน ทุกคนในกลุ่มบริษัทดับบลิวเอชเอ ได้มีความรู้ความเข้าใจเกี่ยวกับจรรยาบรรณธุรกิจ มีความตระหนักถึงหน้าที่และความรับผิดชอบสามารถนำแนวทางปฏิบัติต่างๆ ที่เกี่ยวข้องกับการจรรยาบรรณธุรกิจไปใช้ได้อย่างมีประสิทธิภาพและโปร่งใส (Whistleblowing)

จึงเรียนแจ้งต่อผู้บริหารเพื่อรับทราบ และกำหนดให้ พนักงานกลุ่มบริษัทดับบลิวเอชเอทุกคน ต้องอบรมความรู้ในเรื่อง Code of Conduct and Practices ประจำปี 2563 โดยสามารถเรียนรู้ด้วยตนเองผ่าน WHA Group - HR Sharing (SharePoint) พร้อมทั้งทำแบบประเมินทดสอบความรู้ตามที่บริษัทกำหนด โดยคลิกที่ปุ่ม “คลิกเพื่อเริ่มการเรียนรู้” และทำแบบประเมินทดสอบความรู้” ด้านล่างนี้ ได้ตั้งแต่วันที่ 1 - 30 ธันวาคม 2563

***** พนักงานที่ไม่ได้ทำแบบประเมินทดสอบความรู้จะต้องเข้ารับการอบรมในหัวข้อ Code of Conduct แบบ Classroom ซึ่งบริษัทฯ จะแจ้งให้ทราบต่อไป *****

สอบถามรายละเอียดเพิ่มเติมได้ที่ : คุณปณชวีร์ ชัยยะรุ่งสกุล เบอร์ติดต่อ 02-719-9555 ต่อ 232 Email : poonyaveec@wha-group.com

TARGET GROUPS	2020 PERFORMANCE	2025 TARGET
Percentage of employees acknowledging and communicated of the Code of Conduct.	100%	100%
Percentage of Joint Ventures and other partners acknowledging and communicated of the Code of Conduct.	20%	100%
Percentage of suppliers/ contractors acknowledging and communicated of the Code of Conduct.	20%	100%

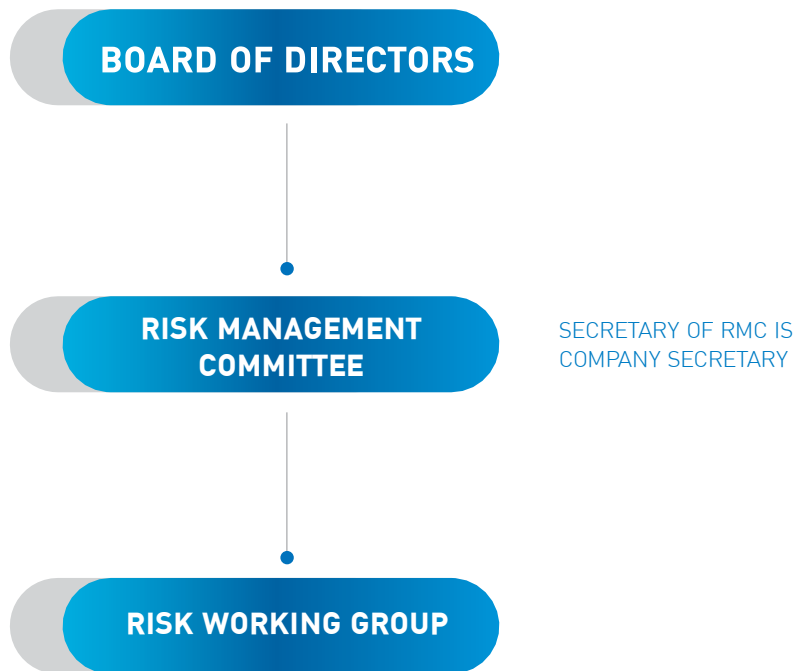
RISK AND CRISIS MANAGEMENT

Constant global economic fluctuations and uncertainties, amplified by the unprecedented events faced throughout 2020, have raised the levels of concerns and challenges imposed on business operations. This highlights the paramount importance of an organization’s effective risk management approach to support business objectives and sustainable growth. Thus, WHA Group has in placed a proactive management approach to manage any potential risks. Such structural and systematic approach enables the Group to increase agility, openness and responsiveness to potential uncertainties.

MANAGEMENT APPROACH RISK MANAGEMENT ORGANIZATION

Risk management structure, roles and responsibilities are clearly established. The Board of Directors (BoD)

are responsible to ensure that risk management are appropriately and effectively managed. WHA Group and WHAUP both established its Risk Management Committee (RMC), which comprises of the entity respective CEO and members from the BoD, to oversee overall risk management implementation. Risk Working Groups, comprising of executives and department heads from WHA Logistics, WHA Industrial Development and WHAUP business hubs, were appointed to manage risks in their entity in accordance with the RMC’s guidance. The Risk Working Groups hold regular meetings to monitor group-wide risk profiles and identify any potential emerging risks, and reports to the entity RMC for subsequent address in Board meetings. Risk assessment along with the appointment of a Risk Working Group for WHA Digital Platform hub will be implemented in 2021.



RISK MANAGEMENT FRAMEWORK

The Risk Management Policy and framework, developed by the RMC, was effectively implemented throughout the business operations. The Policy is reviewed annually by the RMC to ensure that all material risks are captured and appropriate measures are taken to manage and monitor the risks; balanced against business opportunities and up-to-date with the global trends.

In alignment with the Group's Policy, a Risk Management Framework was developed in accordance with the Committee of Sponsoring Organizations of the Treadway Commission (COSO), specifically the COSO Enterprise Risk Management (ERM). Such framework provides a guideline for risk management approach for all employees to implement consistently. The following portrays WHA Group's risk management methodology:



Internal and external risk factors on four major areas comprising of strategy, operational, financial and compliance risks were assessed. Material risks and the respective measures are regularly communicated to all employees to build the overall awareness of risk management within the Group. With employees understanding the importance of risk management, a uniform vision is created, thus supporting the Group to readily prepare and mitigate any potential disruptions. Additional details of the identified material risks can be found in WHA Group's Annual Report 2020.



EMERGING RISKS

WHA Group is not only attentive to materiality risks but also places importance in analyzing potential game changers. Striving to stay ahead, acknowledgement and consideration of emerging risks allows the Group to determine or modify strategic business plans and shift critical assumptions in order to minimize, or prevent negative impacts as a result of potential emerging risks. Thus, the following emerging risks were identified and taken into consideration:



DIGITAL DISRUPTION

RISK DESCRIPTION AND ITS IMPACTS

Digital disruption is an unstoppable force and to try and fight it is tough. Digital disruption and digitization are the most important movements facing businesses today. Emergence of new digital technologies disrupt the current market and causes the need for both WHA Group and its customers to keep up and embrace digital transformation. As a service provider, disruption to customers' businesses will also pose direct impacts to WHA Group's business performances. Therefore, it is essential for both parties to stay ahead of the game. WHA Group works with the digital trend to stay competitive, respond to changing market conditions

and expectations to drive further growth, grasp new business opportunities and enhance customer relationships.

Moreover, due to the COVID-19 pandemic, it accelerates the pace of digital disruption by forcing people to stay at home and use online platforms as part of their daily life activities, such as online shopping, virtual meetings, etc. From such reason, the total value of e-commerce has grown exponentially ever since. Thus, this is a key business opportunity for WHA Logistics to respond to growing demands for warehouse facilities—gaining potential new customers, thus, increase in revenue.

OUR MEASURES

WHA Group has conducted multiple digital innovations to respond and seize the opportunities from digitization trend throughout all of its business areas. The Group continuously works to transform all of its operating industrial estates into SMART Eco-Industrial Estate that are equipped with cutting-edge technologies to ensure the safety, efficiency and reliability of services provided to housed customers. Additionally, WHAUP aims to extend its capacity with new utility products as well as broaden its power portfolio with innovation energy solutions through SMART Grid. Furthermore, SMART Logistics are also embraced with new technologies to ensure that constant modernized facilities are provided to customers.



CLIMATE CHANGE TRANSITION RISK

RISK DESCRIPTION AND ITS IMPACT

The global climate has shown increased rapid change in the recent years. WHA Group recognizes the significant transition risks and opportunities of climate change that could impact its business operations as a result of legal issuance or enforcement of a more stringent climate change related laws and regulations. To cope with such transition risks as a result of climate change, many industries are portraying increased interest in renewable energy. This is presumed as a key business opportunity for WHAUP to gain more customers through its solar rooftop services. Alternatively, WHA Group can utilize solar rooftops for the following benefits: 1) minimize carbon footprint within its own operation and 2) provide carbon credits to other companies to offset their carbon emission. However, risk on potential non-compliance to regulatory changes could also impact WHA Group's business in terms of reputational, financial penalties and legal liabilities, if any.

OUR MEASURES

The Group has various initiatives and monitoring measures in place that contribute positively to climate change, including reduction of natural water consumption, waste to landfill and greenhouse gas emission. Examples of initiatives conducted include, water reclamation, solar rooftop installation, producing fertile soil from sludge, etc. Furthermore, the Group also provides renewable solar energy as one of its core services to customers. This ensures avoided carbon emissions for customers throughout the Group's value chain. With these efforts, WHA Group is moving towards becoming a low-carbon organization and reducing the impacts of green-house gas on the environment and on society.



CRISIS MANAGEMENT AND BUSINESS CONTINUITY MANAGEMENT

Integrated as part of the Group's Risk Management approach, WHA Group has developed a Business Continuity Plan (BCP) to enable the smooth operation of all business hubs. In 2020, the Group has revised its BCP to cover all unfortunate events identified through risk assessment that could cause potential business disruptions, for instance: natural disasters, fire, pandemic, information security, etc.

One of the factors leading to the revision of the BCP is due to the sudden emergence of the global pandemic COVID-19 pandemic. The BCP was revised to incorporate the pandemic risk factors. Details of the BCP covered scenarios where

employees of WHA Group, or industrial operators in the Group's industrial estates are identified to have COVID-19 (inclusive of WHA Group's immediate supply chain). In addition, the BCP also covers the event where WHA Group's operation sites are located in a high risk areas as well as the Group response to other plausible business impacts. The BCP provides guidelines for safety measures against the virus spread, including working from home, minimize social interactions, etc. Due to the effectiveness of this robust BCP, no stakeholders relevant to WHA Group were found to have caught the virus.



SHAPING RISK CULTURE

Although risk management and governance frameworks are drivers of a positive risk culture, the underlying factors are the awareness, attitudes and behaviors of employees and executives in the organization. Therefore, it is WHA Group's work in progress to create an effective risk culture throughout all business operations.

The Group has worked on aligning motivational systems from top-down approach. Identified risk aspects are embedded into executive's and risk owner's key performance indicators (KPIs). With risk indicators integrated as one of the performance evaluation criteria, it directly drives the promotion of risk-oriented communication and practices. An example of evaluation criteria used throughout the Group are compliance, reputation, financial performance.

To further strengthen the risk culture, WHA Group regularly organizes trainings and activities on risk management to raise awareness and build employee's competency to identify, control and mitigate potential risks associated with their duties and responsibilities. Key trainings and activities are as follow:

- Executives are updated on global trends via RMC report during the Board meeting. This ensures that throughout the overall risk management process,

executives, RMC as well as Risk Working Groups are well aware of risk profiles, emerging risks and risk mitigation measures. Therefore, it is presumed that 100% of the top managements are trained and informed of risk management.

- In 2020, a risk assessment workshop was conducted for WHA Group's subsidiary companies, WHA Industrial REIT Management Company Limited (IRM) and WHA Real Estate Management Company Limited (REM). During the workshop, participants comprising of the companies' CEO and managers were trained on COSO Enterprise Risk Management Framework, risk assessment and management procedure and identification of risk factors in accordance with the Group's risk assessment criteria. Risk management and mitigation measures were identified for the risk factors, in which WHA Group will continue to monitor the two entities' risk profiles after the workshop date.
- In 2021, WHA Group plans to implement risk assessment and management at WHA Digital Platform. During the initiation of this program, the Group will facilitate a training for relevant personnel from the respective business hub, while also inviting employees from other business hubs as a refresher for the Group's risk assessment procedure.



- In 2020, WHA Group adopted the Three Lines of Defence (3LOD) model to effectively enhance the communications on risk management and control by clarifying essential roles and duties of relevant employees involved. In the 3LOD model, management control is the first line of defence in risk management, the various risk control and compliance oversight functions established by management are the second line of defence, and independent assurance is the third. Each of these “lines” plays a distinct role within the organization’s wider governance framework. Therefore, the employee groups involved are functions that own and manage risks, functions that

oversee risks and functions that provide independent assurance. All relevant functions are expected be well aware and communicated on such model to ensure effective risk management within the organization.

- In 2021, WHA Group aims to conduct risk management trainings to employees at management levels throughout the business hubs. By conducting this training program, all employees will be well-aware of the risk profiles and risk mitigation measures at their responsible areas of work. Thus, enhancing an effective risk culture.



In addition, WHA Group aims to adopt digital innovations to promote effective risk culture. The Group is developing a digitalized system, equipped with an alarm, to portray all key risk statuses to effectively monitor and track the risk management implementation.

TARGET

100%

EMPLOYEES AT ALL LEVELS
ARE TRAINED ON RISK
MANAGEMENT BY 2022



RESPONSIBLE INVESTMENT

Investments involve risks; risks may translate to losses. The concept of responsible investment refers to the approach undertaken by companies to achieve long-term sustainable business objectives. Environmental, social and governance (ESG) aspects are receiving increased interests as it is acknowledged that the potential and long-term sustainable returns are dependent on the company's stable, well-functioned and governing of social, environmental and economic systems. Therefore, WHA Group ensures to consider ESG features at the

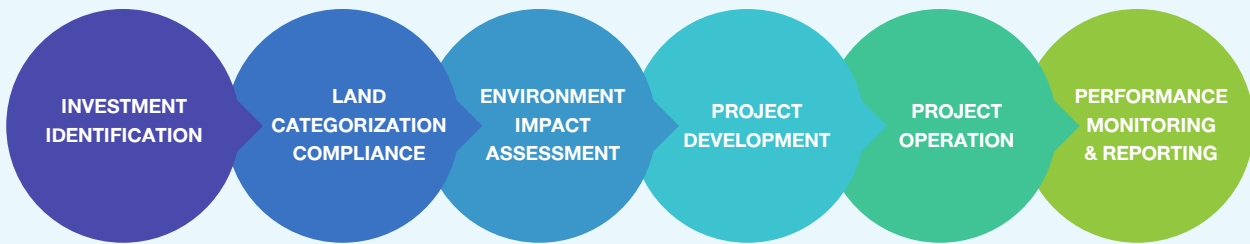
very earliest stages of its investment identification for all its business hubs. Such considerations are at the forefront used by managements to steer business operations and mature decisions in order to create long-term values. Moreover, demonstrating the practices of responsible investment assure stakeholders including customers and financial institutions that ESG are fully featured throughout project development cycle, thus, enhance their confidence and trust in performing businesses with WHA Group.



MANAGEMENT APPROACH

WHA Group underpins responsible investment for all four business hubs by abiding with the local and regional regulatory requirements, such as the Environmental Impact Assessment (EIA) and land zoning requirements.

INTEGRATION OF ESG FACTORS INTO PROJECT PORTFOLIO



Prior to any investment agreements on a specific plot of land, WHA Group takes into account of the respective land zoning categorization as well as the restrictions or advantages in terms of ESG management. For instance, WHA Group is permitted to develop its business projects within the designated zone characterized as industry and warehouse areas by the Town Planning Act, B.E. 2518 (1975). The Group avoids investments in lands that have high biodiversity risks, environmental concerns, located immediately adjacent to conservation areas, or those that will potentially cause severe disruptions to the local communities from its business operations that cannot be resolved by suitable mitigation measures. Moreover, WHA Group also takes into account of the strategic benefits of investment opportunities in the Eastern Economic Corridor (EEC) as well as the incentives and schemes (e.g. tax deductions, connectivity in trade routes, real estate ownership by foreign entities,

etc.) that may attract and provide for its customers. The Group conducts Environmental Impact Assessment (EIA) study that covers the impacts of the industrial estate, logistic and utilities and power development projects. The assessment study does not only ensure compliance with required laws, but also assures that the developed projects are approved by relevant authorities, and that all its associated environmental and social risks are assessed with proper mitigation measures. The following environmental and social related indicators and concerns were assessed during EIA and raised by stakeholders during public participation, and appropriate precautionary and mitigation measures were defined for each project's development through to operation phases. WHA Group abides by the requirements as stipulated in the EIA reports, and conducts continuous monitoring throughout project implementation to ensure sustainable operations are achieved throughout the project lifecycle.



ENVIRONMENTAL INDICATORS

- Topography
- Air Quality
- Ambient Noise
- Soil Quality
- Water Quality
- Biodiversity
- Green Area

SOCIAL INDICATORS

- Land Use Planning
- Transportation
- Flood and Drought Prevention
- Waste Management
- Socio-Economics
- Public Health and Hygiene
- Occupational Health and Safety

Furthermore, WHA Group favors investment opportunities that generate potential tangible sustainable ESG benefits for its business and stakeholders in the value chain. Examples of the Group's offered services that are derived from responsible investment are the provision of renewable energy through solar rooftop, reclamation water and waste-to-energy projects. Details of the sustainable outcomes of these responsible investment projects are described in the subsequent Environment chapters.



SUPPLY CHAIN MANAGEMENT

As integral component of business operations, effective supply chain management illustrates the mutual responsibility distributed within an organization. However, as experienced in 2020, factors including pandemic, international restrictions, market contraction, regulations or uproar regarding online privacy - all emphasize the need for a dynamic supply chain management approach. For WHA Group, it is unquestioned that the focus regarding environmental, social and governance aspects should be put towards the Group's suppliers. As a collective representative of WHA Group, actions and reputations of WHA Group's suppliers also reflect the overall perception of external stakeholders on the Group. To oversee and regulate this challenge, WHA Group fundamentally directs business operations based on a fair and transparent model, further enhancing suppliers competency to improve and grow sustainably together.

MANAGEMENT APPROACH

Based on the diverse business activities of WHA Group, each of the four business hubs organically interact with several suppliers across the Group's value chain. As sustainable operations and strict adherence to regulatory requirements are of WHA Group's priority, the Group ensures that selected suppliers hold such aligning values and principles. Captivating this, WHA Group has developed a Supplier Code of Conduct which consists of requirements on business ethics, fundamental human rights, occupational health and safety and environmental management. In 2020, 100% of suppliers have been communicated in which 50% have signed acknowledgement to the Supplier Code of Conduct. All 100% of the suppliers will have acknowledged the Supplier Code of Conduct by 2021.





As logistics infrastructures and industrial estate development are parts of WHA Group's diverse services, procured construction materials are nevertheless important factors that the Group takes into account of during project development cycle. WHA Group practices sustainable sourcing for products such as raw materials, equipment and construction materials to ensure that none originates from protected areas. Additionally, WHA Group places great importance in procuring suppliers that can provide services or products (e.g. building materials) that align with the Group's green building designs or initiatives. WHA Group prioritizes environmental care as stated under the Environmental Quality, Energy Conservation and Biodiversity Policy, therefore, expects its suppliers from project construction to operation phases to abide, reduce resource consumption and manage environmental practices accordingly as stated under the Supplier Code of Conduct.

WHA Group's Procurement Department is responsible for overlooking overall supply chain management at a group level. The supplier screening and assessment process is in line with the Group's Procurement Procedure that is reviewed on an annual basis. During the supplier screening process, all suppliers are required to complete the Pre-Qualification (PQ) form which evaluates their qualifications associated with product and service quality, price and capacity, as well as governance, environmental and social specific management systems for business integrity, safety, social and environmental impacts. Furthermore, the PQ form also assesses whether the procured products are sourced from areas with high biodiversity risks. In 2020, 100% of all new suppliers were screened using such PQ form. This screening process helps assure that selected suppliers to the approved vendor list (AVL) will conduct business in a sustainable manner.

SUPPLY CHAIN RISK ASSESSMENT



CRITICAL SUPPLIER IDENTIFICATION

- Critical suppliers are identified through Spending Analysis based on criticality of provided components or service, difficulty to substitute, etc

SUPPLIER SUSTAINABILITY RISK ASSESSMENT

- Suppliers' risks in terms of governance, environment and social aspects are assessed and prioritized.

RISK MANAGEMENT MEASURE

- Based on supplier risk profiles, appropriate mitigation measure will be carried out including implementation of corrective actions or

CRITICAL SUPPLIER IDENTIFICATION

In 2020, there were a total of 745 suppliers in the Group's supply chain, categorized into each respective business hubs as the following table.



Critical suppliers are identified by considering the spending analysis frequency of procurement and type of procurement job that depends on project development. In 2020, the total numbers of identified critical suppliers are 38 following the aforementioned criteria, representing 5.10% of WHA Group's total active supplier base, and covered up to 80.78% of WHA Group's total purchases.

SUPPLIER SUSTAINABILITY RISK ASSESSMENT

Every year, the Group conducts an evaluation process to assess the critical suppliers' risks associated with governance, social and environmental aspects. The users of the suppliers' services, together with the group-level Procurement Department, assess the

suppliers' performances by completing an evaluation form, which consists of assessment components including quality of products/ services provided, price, delivery and cooperation. In addition to the aforementioned criteria, the supplier evaluation form also assesses the suppliers' compliance with WHA Group's environmental related policy, quality and health and safety procedures, etc. Upon completion of the evaluation process, the Group will inform final results and management measures categorized for respective scoring results achieved to the respective suppliers. Alternatively, in the event that the evaluation results are poor for a period of two consecutive years, the suppliers will be notified and removed from the approved vendor list and a written notice will be issued.

SUPPLIER PERFORMANCE CLASSIFICATION



PERFORMANCE: EXCELLENT

- Score range 80-100 %
- Action: Supplier to complete self-evaluation every two year



PERFORMANCE: GOOD

- Score range 60-79%
- Action: Supplier to complete self-evaluation annually



PERFORMANCE: FAIR

- Score range 25-59%
- Action: Supplier to submit ESG Corrective Action Plan and complete the action within 6 months period with re-audit.



PERFORMANCE: POOR

- Score below 25%
- Action: Supplier to submit ESG Corrective Action Plan and complete the action within agreed timeline. Business contract shall be terminated if the supplier fails the re-audit.

In 2020, WHA Group started conducting ESG evaluation process through onsite audits to assess the qualifications and performances associated with business ethics, environmental, health, safety and social management of the critical suppliers in accordance with the Group's requirements and standards. In 2020, WHA Group had audited altogether 43 suppliers in which 31 were critical suppliers from all four business hubs. All assessed suppliers surpassed the evaluation criteria with an average score of 83.73% in the 'excellent' performance range. Moreover, WHA Group had taken this audit program as an opportunity to train and share knowledge on governance, environmental and social practices to the suppliers. Training critical suppliers are the prevailing enables that create beneficial impacts both within and beyond WHA Group boundaries. Moving forward, the Group aims to conduct onsite audit for all of its existing critical suppliers.

SUPPLY CHAIN MANAGEMENT DURING THE CRISIS OF THE COVID-19 PANDEMIC

WHA Group concerns the impact of the crisis of Covid-19 pandemic, which may affect supplier's operations and cashflow liquidity. Agreeing the appropriate credit term to our suppliers is an important factor for sustainable business operation to our value chain. Due to various operations in all four business hubs, the credit term will be determined and received from suppliers approximately 30-45 days. In 2020, WHA Group has not been significantly impacted by this crisis and able to manage cash flow effectively. As a result, WHA group has not encountered any problems with payment to our suppliers as well as able to meet the specified credit term as stated in the policy.



SUPPLY CHAIN MANAGEMENT INITIATIVE

“E-PROCUREMENT”

In 2020, WHA Group leveraged innovative technology by implementing phase 1 of the E-Procurement system to assure efficiency, transparency and streamline the overall project bidding process. Prospect suppliers are able to conveniently upload quotations directly to the system, which will be approved by designated responsible personnel depending on the project contract values.

Furthermore, the system also contains a comparative database to ensure that selected suppliers are within the competitive market price. In the future years, the Group aims to launch phase 2 of the system which will be incorporated with functions where users will be able to conduct PQ screening process, ESG audits and manage vendor list within the system. Moreover, the system will also enable automated bidding process where the pricing, analysis and award are conducted without manual intervention.

CUSTOMER RELATIONSHIP MANAGEMENT

Strong customer relationships are built upon the trust between WHA Group and its customers. It is a foundation and core strategy used to support the long-term economic growth for WHA Group, and to further reinforce the stakeholders' confidence within the value chain. Driven by the commitment to be "Your Ultimate Solution Partner", WHA Group's four business hubs are strategically operated to play its roles in offering integrated solutions for the Group's customers.



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 its 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, 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 at 32%. Hence, WHAID will continue to pursue its best efforts to serve its customers through service developments and improvements, which corresponds with the Group's mission to become "Your Ultimate Solution Partner". As a result, sustaining its leading position in the market.



MANAGEMENT APPROACH

WHA Group's business areas are strategically and comprehensively designed to suit customers' diversifying needs, therefore, customers' opinions and relationships are crucial, and managed at a group-wide level. WHA Group has in-placed a Customer Relationship Management system that serves as a standardized and centralized database platform used for housing and managing all four business hubs customers' information and requests. In 2020, research was conducted in order to prepare for a potential system upgrade into an application platform, which allows more effective and prompt response to customers' requests. The application is expecting to be launched in 2021, aiming to further reinforce customer relationships and experiences.

Customer relationships are strengthened through effective communication in which the Group ensures that it's provided channels and methods are accessible,

accurate and convenient for all customers under the four business hubs. The Group distributes quarterly 'WHA Connect Newsletter' to inform customers on company news, activities, training programs and CSR activities as well as customer's products and activities showcase.

Furthermore, to ensure two-way communications are achieved, the 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 every six months.

To assess the success of customer relationship management, WHA Group conducted its annual customer satisfaction survey at WHAID and WHAUP, which covered topics including satisfaction towards the quality of services provided, tidiness of the industrial estates' common areas, quality of communicated news and quality of the trainings provided. Concerns raised through the surveys were addressed by the Group's Customer Development Department in which its root causes were identified to prevent future reoccurrence. The survey results were communicated during management meeting, to ensure that customers' concerns were taken into account when maturing business strategies for product and service development.



CUSTOMER SATISFACTION SCORE*



*Presently, the customer satisfaction score covers for WHAID and WHAUP. Moving forward, WHA Group plans to combine response from customers under other business hubs, WHA Logistics and WHA Digital Platform

Based on the customer satisfaction survey results conducted in 2020 and complaints received through the aforementioned communication channels and approaches, it was identified that the following areas can be improved to further enhance customers' experiences.

KEY AREA OF CONCERNS	MITIGATION MEASURES IMPLEMENTED
Nuisance from odor generated from factories located in the industrial estate.	WHAID cooperated with the Industrial Estate Authority of Thailand to monitor and investigate the filed issue. Factories generating odors have established plans to install additional treatment systems to prevent future disturbances.
Traffic congestion outside industrial estate especially during rush hour and during construction periods.	WHAID initiates this as a proactive key performance indicator of 2021, and sets budget for implementation of Smart Traffic Management Program in 2020. The program includes installation of an adaptive CCTV system at important intersections within the industrial complex to monitor traffic volume and automatically control traffic lights time interval. This portrays WHA Group's strong commitment to find the best solutions for its customers.



CUSTOMER RELATIONSHIP ENHANCEMENT INITIATIVES

Customer relationship is a given priority due to the subsequent impacts of the long-term economic growth of WHA Group. Therefore, the following initiatives were conducted to build and ensure excellent customer relationship management throughout WHA Group's business operations.



WHA CUSTOMER CLUB

WHA and WHAUP established multiple customer clubs which are considered as communication channels to closely interact with customers to address their interests or concerns. Three customer clubs highlighted in 2020 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 2020, a total of seven trainings and seminars were facilitated for the club members, including:
 - Industrial Waste-to-Energy seminar;
 - Japan External Trade Organization (JETRO) meet with Japanese Businessmen event;
 - Building Aviation Portfolio for 2020 Global Aviation Market webinar;
 - How to Work Remotely and Effectively while Away from Office webinar;
 - Post Covid-19 Strategy and Framework for Emerging Risks and Recovery Opportunities webinar;
 - ASEAN — Thailand Automotive Outlook post Covid-19 webinar; and
 - Accelerating 5G Network for SMART Manufacturing webinar.
2. Director Club was continuously hosted for the 12th year, which comprises of members at General Manager and Director Levels from international manufacturing companies operating in the Eastern Seaboard Industrial Estate. Activities conducted under this club include monthly alternate factory visits and networking events.
3. Japanese Club is established for over 20 years which comprises of 150 Japanese representatives from factories located within the Eastern Seaboard Industrial Estate. In 2020, the Club organized monthly meetings, in which examples of meeting topics were on waste management, waste-to-energy and property tax transfer.

HUMAN RESOURCE CLUB



In 2020, two Human Resource Clubs (HR Club) were established with the objectives to assist and provide convenience for WHA and WHAUP's potential customers that are interested to establish factories in Thailand. Through the HR Club, WHA Group ensures that customers are supported throughout the investment process including permit application and liaise with government authorities; ensuring that vital relationships are established from the very start.

By that, Eastern Seaboard Industrial Estate Human Resource Club (ESIE HR Club) was established since 1997 and Eastern Seaboard Labor Relations Club (ESLR Club) was established since 2005. Through the Eastern Seaboard Industrial Estate Human Resource Club (ESIE HR Club), which consists of members from over 250 companies operating within WHA Group's industrial estates, the members were regularly updated on labor laws and any labor related news that are useful for completing human resource related tasks as well as received trainings facilitated by experts in the profession of human resource on a regular basis.

Eastern Seaboard Labor Relations Club (ESLR), on the other hand, is comprised of members from 135 companies operating in WHA Group's industrial estates. The ESLR Club served as a central labor related information support platform for members focusing on the labor union, regulations and coordination/advice on any arbitration or matters related to labor agreements.

Both clubs meet on a monthly basis to ensure that information communicated to the member are up-to-date.

INVESTOR CLUB

WHA Group recently held its Investor Club Seminar under the theme Industrial Waste to Energy at Pattana Golf and Sports Resort in Chonburi. The seminar aimed to introduce participants including WHA's customers to the benefits of the waste-to-energy solution. Mr. Neil Andrew Allen (2nd left), General Manager of Chonburi Clean Energy (CCE), shared an overview of the newly opened CCE facility. Located at WHA Chonburi Industrial Estate 1 (WHA CIE 1)



INTERVIEWS SHOWCASING
POSITIVE CUSTOMER RELATIONSHIPS

“

Our collaboration with WHAUP has been a win-win situation for both parties. We foresee a bright outlook for the development of more solar energy projects in our region that is blessed with abundant sunshine

”

Mr. Visarut Palarit,

Marketing Manager of Wisewoods Co., Ltd., reaping the benefits of cost-effective solar energy provided by WHAUP.



“

WHAUP is responsible for the investment of the solar equipment, its installation and its maintenance. ZF Thailand is expected to be supplied by solar energy up to approximately 49% of its current energy consumption and reduce CO2 emissions by 550 tons per year. We are delighted to collaborate with WHAUP in this exciting project. This fits in perfectly with our group's environmental objectives and we are grateful to WHA Industrial Development and WHAUP for giving us the opportunity to enhance our factory with this “win-win” agreement

”

**Mr. Thinus Steyn,**

ZF Lemforder Head of Region South East Asia, India and Pacific for the Chassis Systems Business Unit.

INNOVATION MANAGEMENT

When the world is moving at an incredibly fast pace, innovation management has become one of the essential factors to drive businesses toward sustainable growth. Presently, industries are being pushed to leap from conventional ways to embrace innovative technologies to gain competitive advantages. Therefore, WHA Group continuously undertakes measures to develop and structure new innovations throughout all four business hubs to foster smooth, efficient and agile operations that respond to the ever-changing needs as well as to continuously provide the best possible services for its valued customers.

MANAGEMENT APPROACH

To accomplish the Group's mission of being "Your Ultimate Solution Partner", WHA Group conveys its innovation management directions to all four business hubs through five strategic approaches, including: 1) Broadening internationally, 2) Extending product range through innovative and technology-driven solutions, 3) Establishing win-win collaborations with partnerships,

4) Maximizing synergies among WHA Group and 5) Digitalization. Furthermore, the Group pushes progressively for innovations that also bring environmental, social and governance advantages incoherent with economic benefits in terms of generating revenue or reducing cost and thus, to enhance the firm value. Innovation management are carried out by all departments under the four business hubs, including spanning of new products as well as innovating develops to improve the process efficiency. Nevertheless, innovating is integrated as one of the key performance indicators for all WHA Group's functions in order to support and drive the Group's sustainable growth.

In 2020, WHA Group mainly focused on developing innovations at four business hubs that are under the theme of preparation, resilience building and leveraging technologies to transform its business services to become a digitalized company. Moreover, the innovations developed were also aimed to further enhance and provide value-added services for its customers.



SMART LOGISTICS

The logistics business is expanding along with the growing E-commerce market in Thailand. To take advantage of such change, WHA Logistics continuously embraces new innovative technologies to provide modernized infrastructures for its potential customers. Thus, the following technological initiatives were carried out by WHA Logistics in 2020.

E-COMMERCE PARK

WHA Logistics launched Thailand's first E-commerce Park located along Bangna-Trad KM.37 road, Bangpakong district, Chachoengsao province, with the total area over 200,000 m2. The E-Commerce Park offers advanced features such as automation technology, robotics and smart logistics to facilitate all forms of e-commerce activities and operations.



FIRE PUMP SENSOR SCADA PROJECT

SCADA technology was adopted at WHA Logistics' nine 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 May 2020, the SCADA system saved approximately 900,000 Baht worth of asset damage as it was able to detect early equipment malfunction. The report generated by SCADA system captured that a jockey pump at a warehouse farm located at Wangnoi district operated with an abnormal frequency. Due to this, an alarm was notified to a relevant response team who were able to respond prior to damages. Moreover, records after SCADA system was adopted portrayed that the technology can detect potential early piping leakages,

pressure relieve valve malfunction and damaged gate valve cases. As a result, adopting the SCADA system can prevent the aforementioned incident from occurring, which can save cost of 2,200,000 Baht of potential damage from one incident, at worst case.

Due to the positive responses received from implementing the SCADA technology, the Group intends to install this system at Laemchabang Project and new warehouses in the future years.



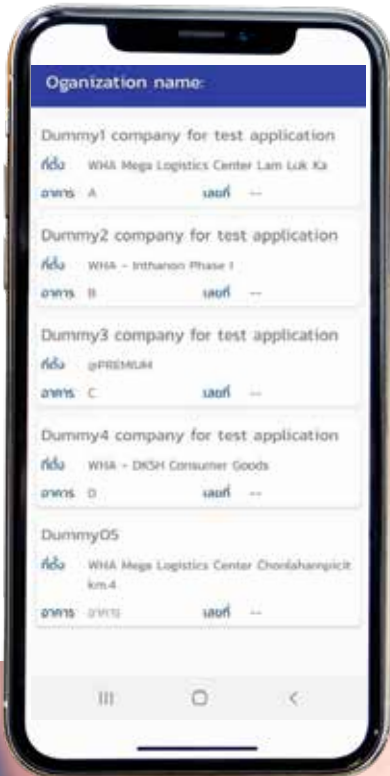
VIRTUAL TOUR 360°

WHA Logistics is currently studying to utilize an advanced technological development such as drones to capture aerial photographs and videos. Potential customers will be able to have a virtual and real-time tour of the warehouse infrastructures, remotely. This initiative is seen as a potential game changer for overcoming challenges such as inconvenience to travel to site, travel restrictions, etc. The Virtual Tour 360° service is expected to roll out to customers in February 2021.



LOGISTICS AND BUILDING MAINTENANCE SERVICES (LBMS) APPLICATION PROJECT

WHA Group has developed and piloted an application for Built-to-suite warehouse and Ready-built warehouse/factory customers to conveniently request for maintenance issues, insurance claims and quality-assurance control. The application was aimed to increase prompt response to customers' requests, and provide convenience and organization in terms of status tracking. During the application pilot phase from February to August 2020, 132 notifications were reported from 37 customers through the LBMS application. This represented the most numbers of notifications received compared to other available channels. This showcased that the customers are readily opened to using this application system.



Moreover, feedbacks received from the pilot group indicated that the application fastened response time to inquiries by approximately 50%. WHA Group will develop the application for all available software to enable accessibility, thus, increase number of users. It is expected that this application will be rolled out in January 2021, and training sessions on the application's functions will be conducted for all relevant users.



SMART ECO-INDUSTRIAL ESTATE

WHA Industrial Development (WHAID) concurrently developed and optimized numerous innovation technologies to support its aspiration to become a SMART Eco-Industrial Estate. The following innovations were conducted in 2020 to optimize technologies, enhance customers' satisfaction, effectively utilize limited resources, stream line management of services and ultimately provide competitive edge and distinguished advantages in the market.

UNIFIED OPERATIONS CENTER (UOC)

In 2019, WHA Group implemented the Unified Operations Center (UOC) which projects real-time monitoring results of all relevant environmental parameters such as air quality, rainfall volume and wastewater quality, and serves as a complaint handling center. In this chapter, promising progress in this reporting year (2020) is focused while further detail of UOC is provided in the Environmental Impact Management chapter. Key progress made in 2020 include:





- The UOC was connected to all installed CCTVs throughout WHA Group’s Industrial Estate. Imagery of these CCTV projections are displayed at the UOC which allowed valuable assets such as lift stations to be monitored at all times. From the first 6 months of investing in the CCTV monitoring system, a total of 775,000 Baht has been saved from security guard costing.
- In Eastern Seaboard Industrial Estate, the CCTVs installed at the wastewater treatment plants’ pumping stations and projected at UOC were updated to have motion detecting functions and level alarms called Smart Motion Detector. This initiative enhanced security as the CCTVs can now detect and warn in case of any intrusions. In addition to theft prevention, the alarms will also ensure there are no risk of wastewater off-standards, while also monitor the operating systems of the lift stations. The system will notify of this emergency case to the responsible person at UOC and through Line application in order to respond to the case accordingly. Furthermore, as

security guards are not required to visit the sites as often, this alarm system helps to reduce air pollution and greenhouse gas emissions from travelling. Likewise, it also minimized risks and the occurrence of road accidents, hence, promoting safety for both its employees and relevant stakeholders.

After the development and implementation of the UOC, WHA Group can reduce operating costs and workload of employees whose skills could be potentially developed to perform more complex tasks to support sustainable growth of the Group. Moreover, this implementation could provide safety to communities and stakeholders surrounded in industrial estates and could reduce air pollution, air emission and dust produced by vehicles commuted in day to day operation. As a result, WHA Group could maintain air quality level that complies with the requirements and standards specified in the Environmental Impact Assessment (EIA) and able to reduce approximately 75.4 tCO₂e of direct GHG (Scope 1) per year from reduction of car fuel used in operation.

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VEHICLE MANAGEMENT SYSTEM (VMS)

The Vehicle Management System (VMS) is continuously being developed to enhance safety and security of vehicles that enter the Group's industrial complex. VMS is a technology that can recognize license plates, and is equipped with a vehicle counting tool. By 2022, VMS will be installed at a total of 38 main entrances to WHA Group's industrial estates. From 2018 to 2019, VMS was installed at ten entrances across the industrial estates. In 2020, significant movements have been made as VMS was installed at 15 entrances across the Group's five industrial estates including WHA Chonburi Industrial Estate 1, Eastern Seaboard Industrial Estate, WHA Eastern Seaboard Industrial Estate 1, WHA Rayong Industrial Land and WHA Saraburi Industrial Land. The Group aims to install VMS at 11 and 2 more entrances in 2021 and 2022, respectively.



5G SMART ECOSYSTEM

With the emerging digital trends and extensive amount of wireless communications, the reliable, fast, stable and secure connection is the corner stone of digital transformation. WHAID foresees the potential derived value of 5G, the 5th generation technology standard, for cellular networks and its positive contributions, applications, and benefits for its valued industrial customers.

WHAID recently obtained a 5G sandbox license to perform research and development for 5G solutions in the Eastern Economic corridor (EEC). The EEC is considered an ideal location to exploit the maximum potential of 5G together with Internet of Things (IoT). To bring this effort forward, WHAID has successfully signed Memorandum of Understanding (MoU) with 4 of 5 Thailand's leading telecommunication operators including AIS, True Corp., DTAC and CAT. This collaboration will allow 5G network and frequency planning in WHA Group's industrial estates.



Enabling the access of 5G network systems will allow WHA Group's customers to access lightning-fast data transfer, reduce latency and improve network reliability. Hence, provides convenience for remote working, a significant benefit in times where workplace flexibility is promoted. Additionally, having a reliable network, supports WHA Group's future enhancement of

technological advancement systems such as artificial intelligence. Moreover, the successful implementation of 5G within the designated areas will not only advance Thailand's industrial sector but also increase the attractiveness from international investors due to the promising telecommunication system.

INDUSTRIAL GAS SUPPLY

WHAID and Bangkok Industrial Gas Co., Ltd. (BIG) established a joint-venture company called BIG WHA Industrial Gas Company Limited (BIGWHA). In line with WHAID strategic plan, this joint-venture is an example of establishing a win-win partnership with an industrial expert in order to offer value-added products and services to WHA Group's customers. The goal of BIG WHA is to improve reliability in the supply of industrial gases such as Nitrogen, Oxygen or Argon in the industrial estates as well as reduce cost associated with supplying the gas. Providing increased reliability as well as enabling lower costs for customers will help sustainably enhance the growth of Thailand's EEC projects.

In a first stage, the joint venture company will build a gas-generation plant with a pipeline to provide its customers with Nitrogen in the Eastern Seaboard Industrial Estate (ESIE) and adjacent WHA Eastern



Seaboard Industrial Estate 1 (WHA ESIE 1), home to Thailand's automotive cluster. Initial supply of Nitrogen via pipeline is expected to commence by end 2021. Production and distribution via pipeline of oxygen, or other industrial gases will subsequently be added to the JV product portfolio. In addition, from a geographical expansion perspective, this JV company will grow to other WHA industrial estates in Chonburi and Rayong provinces.

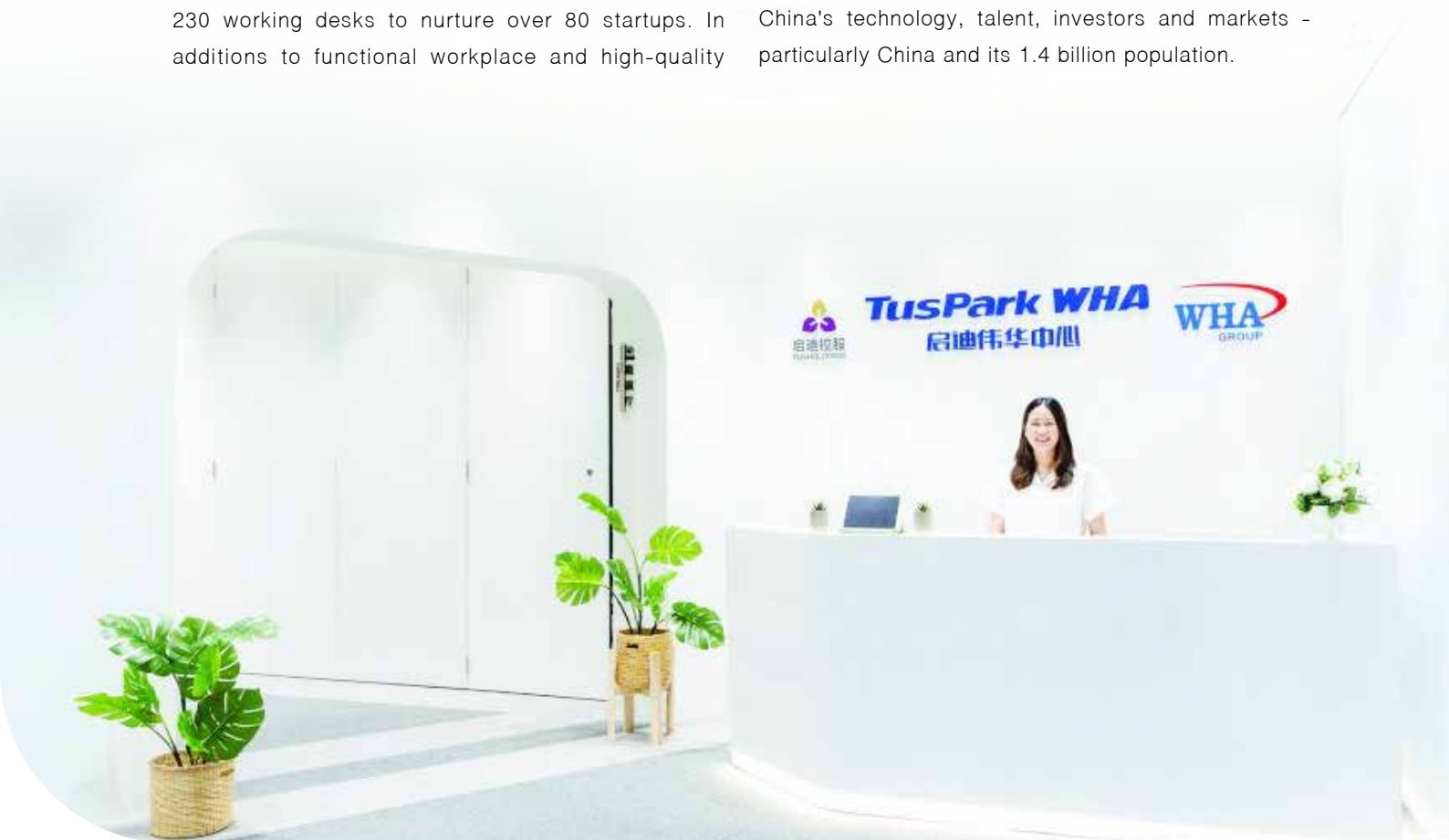


SCIENCE & TECH TusPark WHA

In 2020, WHA Group by WHAID and Tus-Holdings Co., Ltd. (TUS), a leading Chinese Science and Technology service group, have announced the establishment of a joint-venture company to establish Thailand's first TusPark, as an Innovation and Incubation Center in downtown Bangkok. The aim of this project is to incubate startups and promote cooperation in Science and Technology between China, Thailand and other ASEAN countries.

Strategically located within the compound of Chulalongkorn University along Rama IV Road, the 1,408 sq.m. TusPark WHA Incubation Center offers more than 230 working desks to nurture over 80 startups. In additions to functional workplace and high-quality

facilities, the center also provides tenants with Incubation Services which include entrepreneurship salon, venture tours, project optimizing, online training etc. Soft-landing Services will also be provided and include company registration, legal, financial, taxation advices and intellectual property services. In addition, TusPark WHA's facilities of more than 400 sq.m. can accommodate exhibitions, seminars, town hall, product launching, and business matching events. TusPark WHA Incubation Center will create an innovation ecosystem, in partnership with Chinese's government authorities, universities and research institutes as well as Thailand's leading industrial developer, to enable the development of Thai startups and to create a bridge for Thai entrepreneurs to access China's technology, talent, investors and markets - particularly China and its 1.4 billion population.

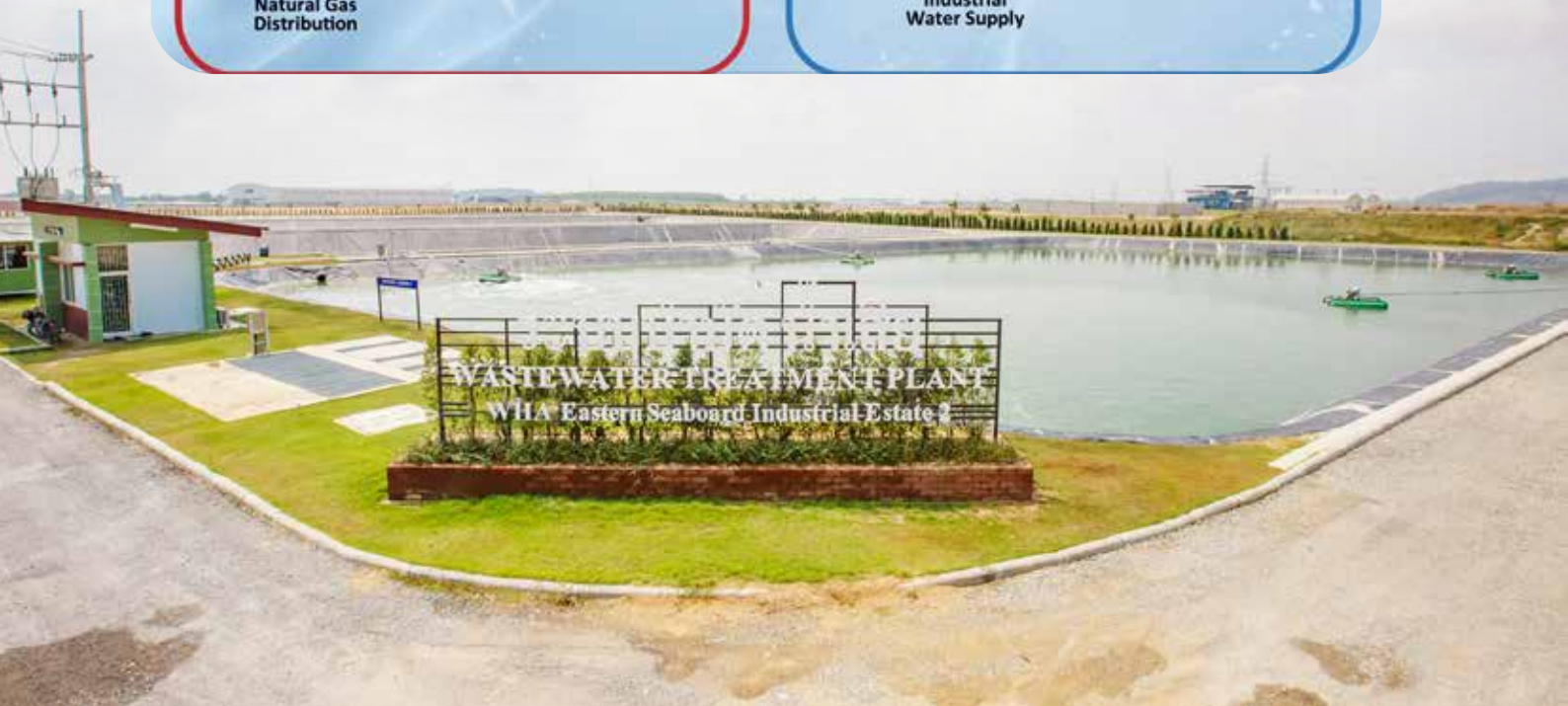
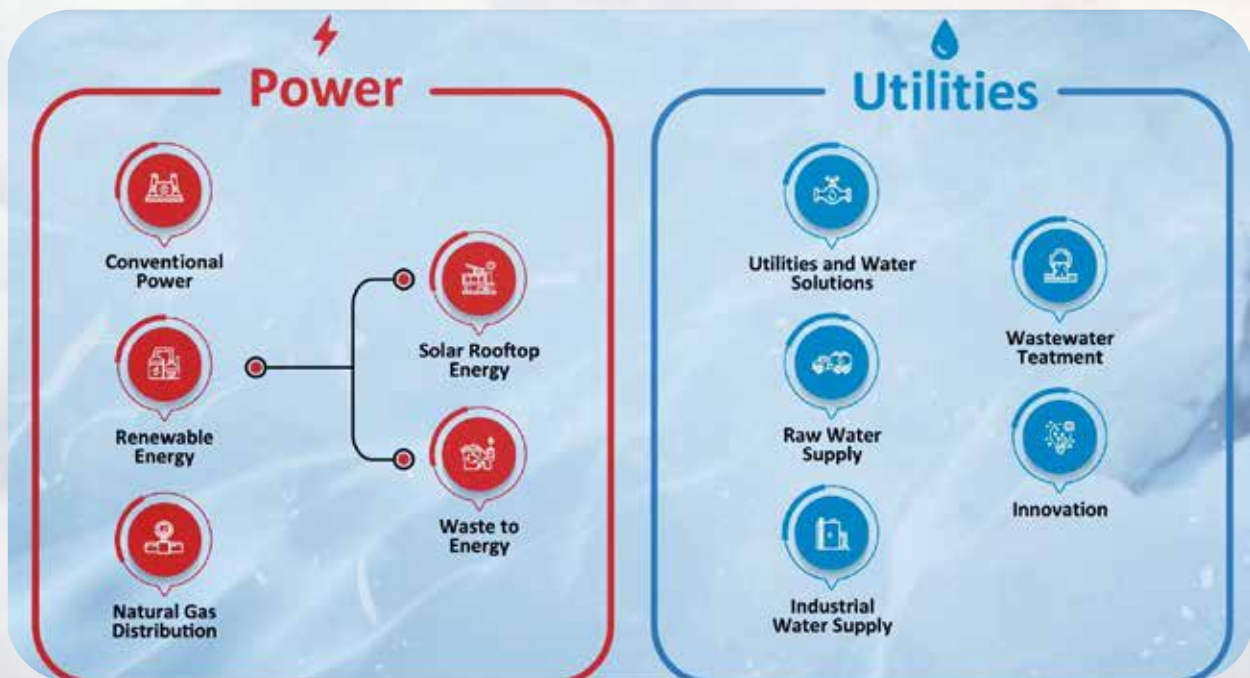


ONLINE PROGRESS REPORT

In this digital era, WHA Group has undertaken efforts to capture the benefits and drive digital transformation within the organization. In 2020, an online progress reporting platform is currently being developed to streamline the process that WHA's employees and contractors have to coherently prepare paper-based maintenance reports. The objectives of this web-based platform are to provide organized report documentation, reduce potential work duplication and reduce human errors associated with manual report preparation. This initiative will provide convenience as the reports can be directly reviewed by management through the platform. Access controls will be adopted to ensure security protection of the reports stored on this online platform. This platform is expected to be officially launched in 2021.

SMART UTILITIES & POWER

WHA Utilities and Power (WHAUP) aims to extend its capacity with new utility products as well as broaden its power portfolio with innovative energy solutions. Considering the community's quality of living and environmental impacts, WHAUP is continuously putting efforts into developing new utility services including wastewater reclamation, demineralized water, and sea water desalination. In 2020, WHAUP optimized the following innovative technologies to enhance its service capabilities.





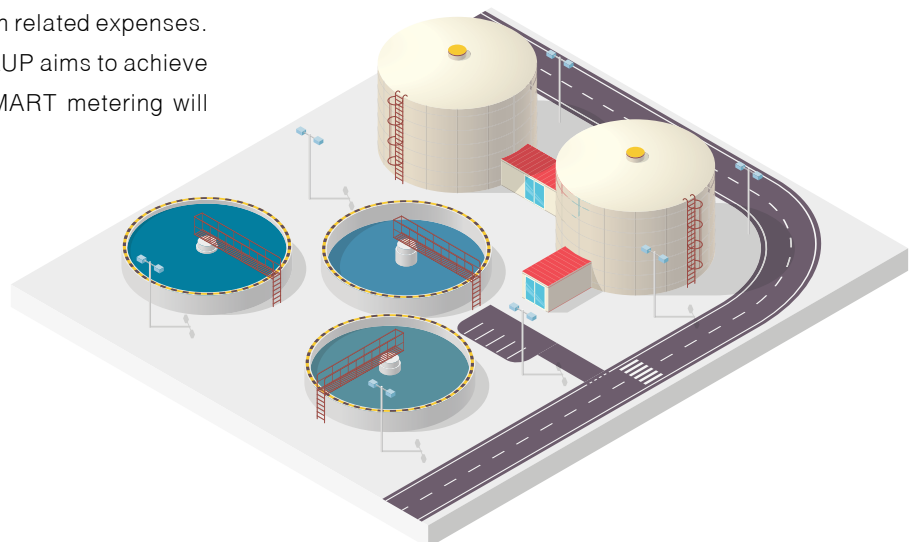
SUPERVISORY CONTROL AND DATA ACQUISITION (SCADA) TECHNOLOGY AT WASTEWATER TREATMENT PLANT

WHAUP is currently conducting studies to optimize SCADA technology at its wastewater treatment plant located within the Eastern Economic Corridor of Innovation (EECI) in Wangchan district, Rayong province. This technological system can help monitor the wastewater treatment's performances on a 24 hour basis, thus, the Group can save cost from appointing on-site personnel. It is expected that the construction of such wastewater treatment plant along with the installation of SCADA technology will be completed in 2021.

SMART UTILITIES SMART METERING

Thinking ahead, WHAUP is developing the SMART Metering initiative to further enhance the traceability of utilities provided. Starting in late 2019, WHAUP converted the installed analog water meters that record the volume of water supplied and usage by industrial operators throughout the industrial complex to generate digital output. This digitized data recording reduced labor expenses that initially had to collect and compile data from all meters for invoicing purposes. The initiative also enables unusual water consumption behaviors and irregularities to be detected and addressed promptly. Monitoring for potential water transmission losses and pin-pointing leakage events can also be done through this online metering system.

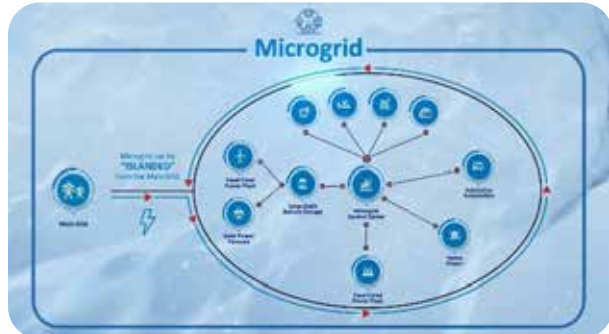
Similarly, in 2020, WHAUP began to adopt an online monitoring system that records the solar energy consumption by WHAUP's customers, which provides convenience for invoicing scheme. Such data are projected at WHA Tower, therefore, employees are no longer required to travel to each customer site and manually record their energy consumption data. As a result, this initiative made invoice process faster, and was able to save 3,000 Baht/MW from related expenses. According to the business plan, WHAUP aims to achieve 300 MW in 2023. Therefore, the SMART metering will save expense by 900,000 Baht.





SMART ENERGY

Following WHA Group's enthusiasm in innovative energy solutions, WHAUP continued its on-going cooperation under the Memorandum of Understanding (MOU) with the Provincial Electricity Authority (PEA) for joint development of smart energy and microgrid system to reduce electricity cost and increase reliability within the industrial complex. The first project to reach implementation phase in 2021 is the Peer-to-Peer Energy Trading system which enables direct buying and selling of solar power between industrial users within the Eastern Seaboard Industrial Estate Complex via smart energy trading platform that uses block-chain technology. The system, once fully implemented, will pave way for at least additional 50 MW of solar power available for use within the industrial complex, enabling industrial users to save more than 25 Million Baht per year and achieve over 1,000,000 Tonnes of carbon reduction over the project life cycle.





SMART DIGITAL

As digital and industrial growth are indirectly intertwined, WHA Digital Platform continuously ensures that leading digital infrastructures are developed and provided for its customers. Investments were made in laying fiber optic network (FTTx), providing Data Centers with 24/7 Network Operating Center (NOC) and additional projects to improve network infrastructures. The cloud business unit including back-up, disaster recovery (DR) and data storage, has also been enhanced to support the growth of operations that are driven by data. Apart from that, WHA Digital Platform also provides other managed services and digital solutions including equipment rental, IT outsourcing, Video Management Service, telephony with IP-PBX technology and call center, email, website, firewall, security and storage, backup system, colocation and access control system.



WHA GROUP CEO SHARES INSIGHTS ON DIGITAL TRANSFORMATION IN THE EEC

Ms. Jareeporn Jarukornsakul, Chairman and Group CEO of WHA Corporation PCL, was among the guest speakers at the recent Driving Thailand's Recovery with Digital Economy panel discussion, hosted by the Matichon Group. She shared her insights on the role of digital transformation in reshaping industries to enhance the promising trend of investors in the EEC. She also explained how the latest technologies can help different sectors integrate Industry 4.0 effectively to help Thailand take the lead in the region.

The panel also included executives from government agencies such as the Digital Economy Promotion Agency (DEPA), the Office of the National Digital Economy and Society Commission (ONDE), Thailand Post, and industry leaders such as Huawei and SEA Thailand. They discussed the importance of public and private cooperation to build an efficient digital economy to bring sustainable progress to the country.



WHA GROUP HOSTS 5G SMART ECOSYSTEM FOR INDUSTRIAL CUSTOMERS

WHA Group hosted 5G WHA Smart Ecosystem, a showcase to provide information to industrial estate customers on its strategic priorities in relation to 5G network and digital transformation.

The event offered a one-stop shop for present customers and potential investors seeking to boost their operations through 5G. Tech giants AIS, Bosch, China Mobile, dtac, Huawei and Schneider Electric were invited to set up showcases to present their technology, infrastructure and solutions.

Over 150 representatives from 100 companies went from booth to booth to explore the technological innovations and services on offer, and to hold one-on-one discussions on partnering opportunities. WHA Group showcased the IT solutions they currently propose to WHA customers, such as FTTx Service, Rental/Leasing Equipment & Software Service and System Integration. Other exhibitors were AIS 5G (5G solutions adapted for industrial sector), Bosch (“connected life” in the industrial scene, and “invented for life”), China Mobile (iSOLUTIONS for smart manufacturing), dtac 5G (Smart MDB Care for connectivity services and business solutions) and Schneider Electric (Digital Transformation of Energy Management and Automation). WHA customers found the event very informative and engaging

6 EXHIBITORS SHOWCASE THEIR TECHNOLOGY.



DATA SECURITY

WHA Group strives to stay competitive through digital transformation which led to significant investments and heavy reliance on information technologies and systems. However, rapid progression of technologies in the present days could increase the risks of potential cybersecurity and information security threats. As a result, internal and customers' assets and information could be destroyed or misused leading to severe impacts on the company. The potential impacts range from losing customers' trusts to financial disruptions and in some cases, could lead to non-compliance, lawsuits or business disruptions at the utmost. WHA Group is aware that data security lies at the core of running all of its business hubs successfully as it gives the Group's customers and employees the confidence that

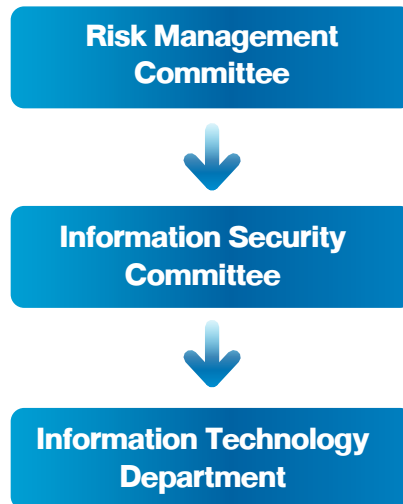
their data are being collected, processed and transferred securely.

In addition, during the pandemic COVID-19 outbreak in 2020, businesses are increasingly exposed to significant cyber risks ever since the shift to working from home. Remote work causes surge in data security as a result of potential unsecured assets, provision of new assets and vulnerability due to human errors. On a larger scale, the pandemic outbreak has also provided opportunities for cybercrimes to take place such as, using COVID-19 news as baits to retrieve sensitive information and credentials. Therefore, it is crucial for WHA Group to ensure that their data security practices are well managed and protected at all costs.



MANAGEMENT APPROACH

To ensure effective protection of customer and internal data, WHA Group is committed to comply with the Personal Data Protection Act (PDPA) B.E. 2562 (2019) and Cybersecurity Act B.E. 2562 (2019). Hence, the Group's Information Security Policy was revised in 2020 to ensure that PDPA requirements are complied. The Information Security Policy can be found at link <https://www.wha-group.com/en/about/privacy-data-protection>



WHA GROUP INFORMATION SECURITY ORGANIZATION CHART

An Information Technology Department (ITD) was appointed to undertake holistic review of information technology security throughout WHA Industrial Development, WHA Logistics and WHA Utilities and Power (WHAUP). ITD is responsible for information technology system installation and maintenance. Additionally, the ITD is also required to summarize all information security events that were reported, including the types and details of the issues faced (e.g. place of occurrence, consequences imposed, immediate response conducted), root cause and mitigation measures implemented. The ITD reports directly to the established Information Security Committee that is made up of department heads, and responsible for approving policies and provide directions, perform key decisions related to data security and cyber security issues. The Information Security Committee subsequently reports to the corporate Risk Management Committee (RMC) biannually to ensure that risks related to information technology are fully captured. The RMC review the information security risks through quarterly meetings, which are attended by a member that is knowledgeable and experienced about information technology. The RMC then subsequently reports to the Board of Directors.

In 2020, WHA Group adopted digital transformation to ensure effective data security systems to support its goal to achieve 100% data breach prevention by 2025. A group-wide assessment on data loss prevention was conducted by ITD, and results were reported to the Group's executives. This led to the development of an information asset register, a centralized platform which accumulates all inbound and outbound data stored throughout four business hubs. By utilizing this centralized platform, the ITD is able to identify potential sources of data risk and ensure that the appropriate technical and operational measures are implemented to protect the Group's most important data and assets from threats and vulnerabilities. To assure security of the system, WHA Group plans to conduct penetration and vulnerability tests by 2021. Through the launch of this system, WHA Group aims to instill employees' awareness towards the importance of data security. Additionally, the Group has also developed a systematic application, in response to the PDPA requirements, which can track both internal and external breach cases including the extent of its impacts. Such application will be launched in 2021.

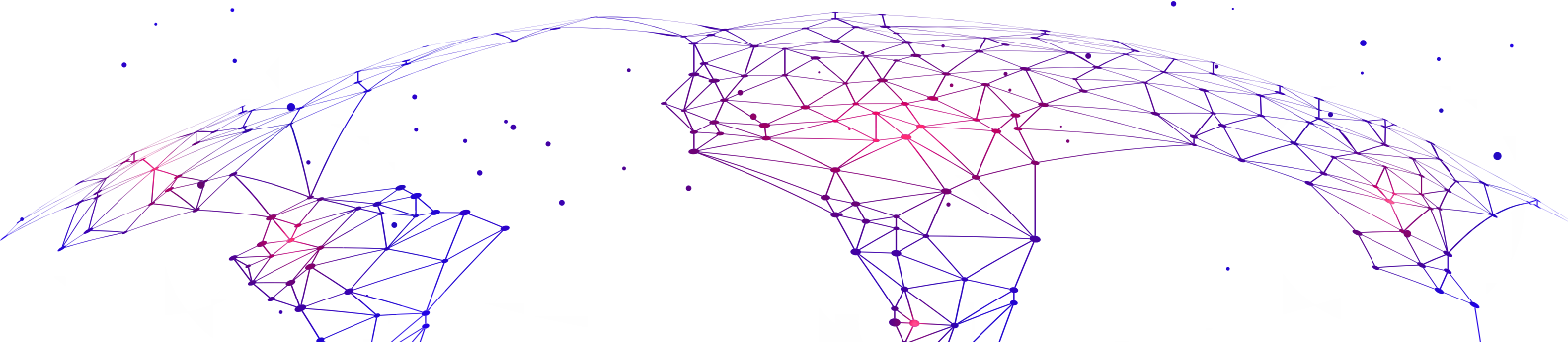


INFORMATION SECURITY BUSINESS CONTINUITY PLAN (BCP)

With regards to the pandemic COVID-19 outbreak and the potential occurrence of cyber risks as a result of remotely working from home, WHA Group's BCP includes security practices for employees when using online communication channels or when accessing the company's confidential data through online platforms and shared drive systems. Subsequently in 2021, WHA Group's ITD will conduct business impact analysis of all in-placed information technology systems, and develop specific business continuity procedures for the respective systems.

INFORMATION SECURITY RESPONSE MECHANISM

The security and confidentiality of information are also governed by the Group's Code of Conduct and Practices. Any suspicions, grievances or breach cases on potential violations to such principles can be reported, and investigated following the established whistle-blowing process as stated in the Codes of Business Conduct chapter. Additionally, the Group has conducted a breach assessment and implemented an Information Security Management Policy in August 2020, which will be fully implemented in 2021. The Policy, enforce to all employees, states the procedures and responsible personnel for management and reporting of information security events in respondent to a reported breach case.





INFORMATION SECURITY AND DATA PROTECTION AWARENESS CAMPAIGN

Furthermore, all WHA Group's employees will receive information security awareness, education and training, at least once a year which covers all topics related to information security as verified by the Security Standards Council. The training includes physical security, email security, password security, mobile devices, wireless network and security, workplace security and malware. While training for employees in the ITD, will be provided once a year by a competent external facilitator.

ENSURING CUSTOMER'S DATA SECURITY

As the Group provides information technology solutions through WHA Digital Platform, protection of the customer's data is prioritized equally as security of its own internal data. By that, WHA Group continues to improve and keep its technological services up-to-date.

WORLD CLASS STANDARD DATA CENTERS

WHA Digital Platform is operated through WHA Infonite Company Limited, a subsidiary company of the Group, which provides variety of digital solutions for customers. One of the services provided is the Data Center which

is a dedicated space for customers to rent or lease out storage space to house their computer systems and associated components. WHA Group currently established four data centers that are fully equipped with high-speed communications and linkages as well as a high-security operating system, an experienced consultant service in accordance with the information security management system ISO/IEC 27001: 2013. With these advanced features, the data centers are popular amongst customers as their main database or disaster recovery site. To ensure of the security of customers' data, the data centers' infrastructures are constructed and operated in accordance with the "Best Practices" in conformance to world-class standard, the Tier III Compliances Uptime Institute. Among the four established data centers, one of them received the Tier IV Gold Certificate, while the other three received the Tier III Gold Certificates. In addition to the infrastructure advancements, all of the data centers are equipped with an emergency electricity backup generators to prevent down time. Moreover, all data centers are ensured 24-hours ambience monitoring including controlled temperature and humidity, allowing server to function efficiently together with longer machine life expectancy.

Nevertheless, to improve the security system, CCTV cameras were installed at all entry and exit points within the facilities together with 24 hours onsite security staffs to prevent trespassing activities, thus safeguarding the customers' valuable and confidential data. Fire alarms have also been put in-placed throughout the facilities. Physical access to all the data centers are strictly monitored through cardholder data environment (e.g. badges, locks and keys). Physical and logical control measures have also been imposed to network access, restricting public access and bypassing those explicitly authorized. Lastly, 24-hours Business Continuity Plan (BCP) is provided on-site in order to assist customers to manage their IT systems contentedly.

In 2020, the Company was certified with PCI-DSS "Payment Card Industry Data Security Standard"

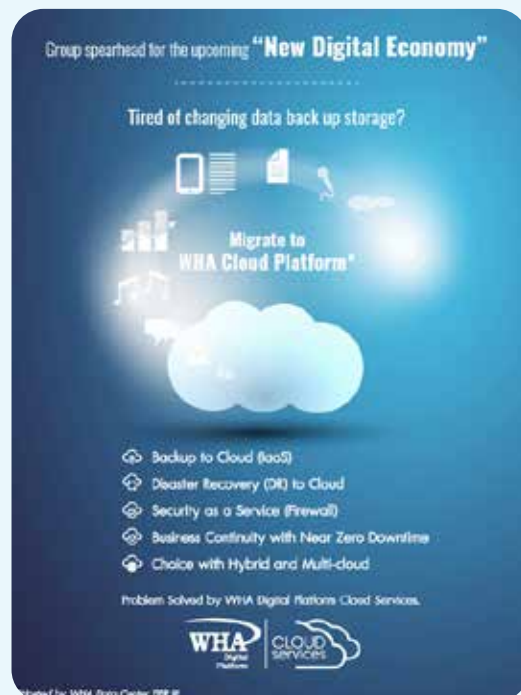
standard for customers' financial transactions. This achievement enabled WHA Group to build trust with financial and banking customers about security in storing their financial information.



CLOUD SERVICES SECURITY

On top of the data centers, WHA Group also offers cloud services to customers. WHA Group cloud services have flexible options enabling the customers to choose between public and private, multi-cloud and hybrid cloud services. The Group provides computer resources, both hardware and software, and computer networks supported with FTTx infrastructures which allow customers to access fast speed, high security, and low latency connections. The cloud services are supported by experienced professionals with certification from world class agencies such as Dell Certification, Hitachi Data System Certification, VM Ware Certification, and OpenStack Certification to provide advice and control the computer network system.

To ensure the ability to deal with any data security related risks, the Group offers a range of pro-active approach that customers can choose to secure their data such as firewall, Anti-Virus, information back-up system, security system, access control systems, etc. With these data security approach, the customers can ensure business continuity as data security risks are minimized.



PERFORMANCE

WHA Group commits to continuously improve its data security management and systems in order to continuously ensure that 100% data breach prevention in terms of data leaks, thefts or losses of both inbound and outbound data are achieved.

TOTAL NUMBER OF COMPLAINTS RECEIVED
FROM OUTSIDE PARTIES AND
SUBSTANTIATED BY THE
ORGANIZATION

2019 | 2020

0 | 0

TOTAL NUMBER OF COMPLAINTS FROM
REGULATORY BODIES

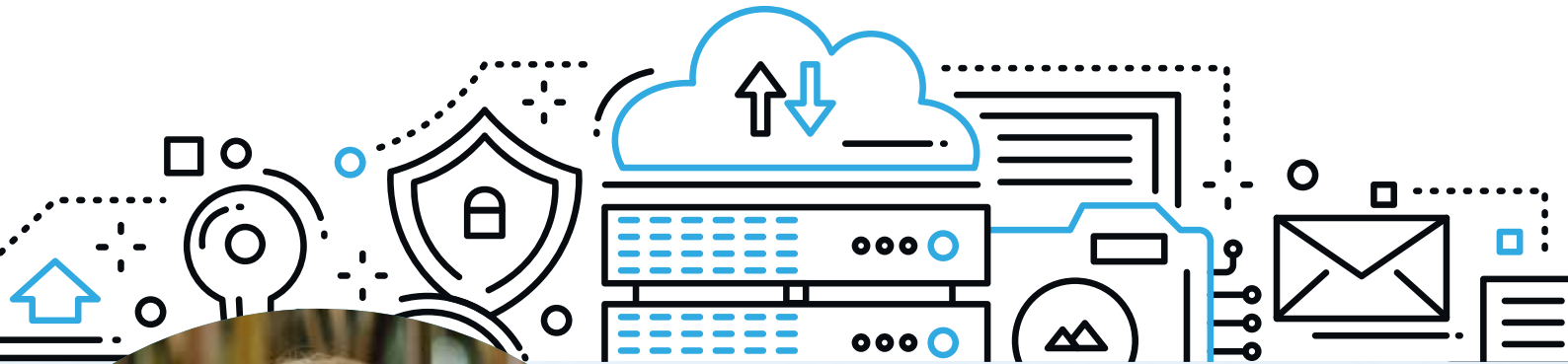
2019 | 2020

0 | 0

TOTAL NUMBER OF IDENTIFIED LEAKS, THEFTS, OR LOSSES
OF CUSTOMER DATA

2019 | 2020

0 | 0

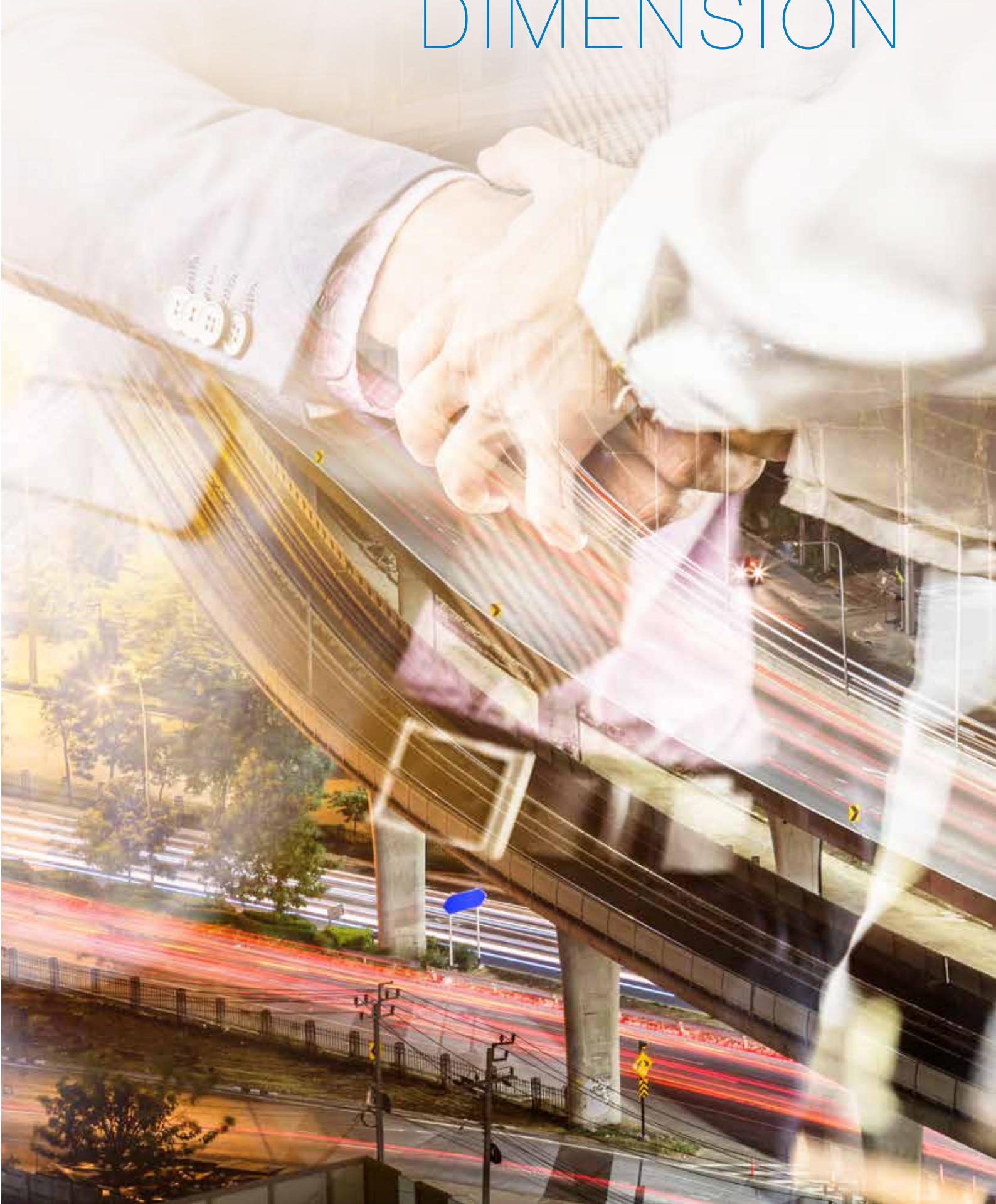


In today’s digital era, and as shown by the COVID-19 crisis, we know that data is one of the most valuable resources for any business. Continuous and safe access to digital infrastructure is almost as important as access to electricity and other utilities



Ms. Jareeporn Jarukornsakul
Chairman and Group CEO, WHA Corporation PCL

SOCIAL DIMENSION



HUMAN RESOURCE MANAGEMENT

Human resource has always been an essential part of a business, leading to its success and sustainable growth. Notably with the on-going and fast-paced societal and environmental changes, the shift in consumers' behaviors and the digital transformations - it is crucial that WHA Group enhances its human resource management effectively. This implies to prioritizing efficiency and to constantly improve the management system in order to effectively recruit and retain skilled employees, while also promoting employees' engagement culture within the Group. Moreover, in the recent years, with various social movements and community considerations, diversity and inclusivity has become increasingly prevalent, which can be seen in the present workforce demographics. Altogether, this reflect the needs for a human resource management approach that is suitable for the new workforce characteristics.

WHA Group recognizes these changes and has continuously put tremendous efforts into all aspects of its human resource management system. This is portrayed through the Group's thorough talent attraction

and retention process and efficient human capital development. The management approach takes into account the health and safety of its employees and with consideration for labor practices that is fair, ethical, respectful towards human rights and ultimately, having the employees' best interest at heart.

WHA CORPORATE VALUES

WHA Group has adhered and endorsed WHA Corporate Values as an essential foundation for employees throughout the four business hubs. The corporate values instill and foster employees' mindset to act and perform their roles with inclusivity and harmony in the most effective ways. Advanced, Champion, Resourceful, Partnership and Integrity are the five elements of the corporate value, which are delicately designed to support the development of employees' leaderships and competencies. These play important roles in capacitating WHA Group to improve business through its digital transformation aspiration as well as in driving business achievements.

LIVE WITH WHA GROUP CULTURE



ADVANCED

"ก้าวล้ำกว่าใคร"



CHAMPION

"ที่หนึ่งไม่ใจ"



RESOURCEFUL

"รอบรู้สมองไว"



PARTNERSHIP

"รู้ใจเป็นคู่คิด"



INTEGRITY

"สุจริตรักษาเกียรติ"

เราาร่วมใจกันปฏิบัติตามวัฒนธรรมองค์กรของ WHA GROUP เพื่อนำพาองค์กรของเราไปสู่ความสำเร็จ

HUMAN RIGHTS

All human beings are born with human rights without conditions. Yet global citizens encounter circumstances due to violation of human rights-related laws, international standards or commitments as well as human rights violation. Notorious human rights circumstances that captured the world's attention and triggered challenges to business operations are due to unsafe working conditions from insufficient management of occupational health and safety, excessive environmental pollution, restrictive freedom of speech, resettlement and relocation from improper land acquisition and use of illegal forms of labor from unsystematic recruitment processes. In 2020, additional circumstance due to COVID-19 had resulted in potential violations to employees' rights to health. With additional issues linked with human rights violation, businesses are stimulated to avoid the human rights risks and impacts, negative reputations, complaints from human rights' defenders and protests by right holders.

MANAGEMENT APPROACH

As an operator of multiple business services, WHA Group realizes it is a fundamental practice to protect the rights of all stakeholders across the value chain. Human rights due diligence was conducted to assess human rights related risks, which led to the development of the Group's Human Rights Policy. The Policy was made in accordance with international guidelines such as Universal Declaration of Human Rights (UDHR), United Nation Guiding Principles on Business and Human Rights (UNGPR), United Nation Global Compact (UNGC) and the International Labor Organization's Declaration on Fundamental Principles and Rights at work. The Policy addresses non-discrimination

practices, human rights violations against stakeholders, human rights risk assessment and due diligence, human rights promotion, human rights communication and reporting of violation cases. The scope of the Human Rights Policy explicitly covers all internal and external stakeholders within the Group's value chain. Furthermore, the Policy was communicated to all employees at every business hubs by a group-level Human Resource Department.

Human rights risk assessment was also conducted for all industrial development projects as part of its respective Environmental Impact Assessment (EIA) study. Human rights risk indicators such as resettlement, socio-economic, environment, safety and foreign human capital were assessed with appropriate mitigation and monitoring measures throughout the project life cycle from construction to operation phases. 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. Furthermore, the Group has in placed a whistle-blowing channel in which stakeholders could conveniently access to report any potential human rights violation acts, or those against the Human Rights Policy. The grievance mechanism is as detailed under the Codes of Business Conduct chapter. In 2020, no human rights violation cases were reported.





HUMAN RIGHTS AWARENESS

WHA Group strives to continuously develop and build its employees' understandings and awareness regarding human rights. Therefore, Human Rights Policy is incorporated as an agenda in the induction program for all new employees, facilitated by the group-level Human Resource Department. In 2020, all 100% of the 108 new joiners across WHA Group's business hubs have surpassed the orientation programs. There were orientation programs organized on a quarterly basis for

new joiners in 2020. Additionally, the Human Resource Department provided public relations on the importance of the following topics: nationality, religion, language, age and gender. The developed materials are attached with the Human Rights Policy, through the internal SharePoint platform to raise existing employees' awareness on human rights issues and serve as a refresher to revisit the Policy.

นโยบายการปฏิบัติด้านแรงงานและสิทธิมนุษยชน

เพื่อให้มั่นใจว่ากลุ่มบริษัท มีการดำเนินงานและบริหารมีธรรมาปฏิบัติตามกฎหมายและนำหลักสากลว่าด้วยสิทธิมนุษยชน ได้แก่

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)

โดยมีแนวการปฏิบัติด้านต่าง ๆ ต่อไปนี้

1. การจ้างงานเบื้องต้น

2. การฝึกอบรมเด็ก

3. การใช้งานพนักงานหญิง

**4. การใช้งานแรงงานต่างด้าว
อย่างถูกต้องตามกฎหมาย**

**5. การแบ่งแยก
หรือเลือกปฏิบัติ**

**6. เสรีภาพในการสมาคมและ
การรวมกลุ่มเพื่อเจรจาต่อรอง**

**7. สภาพแวดล้อมในการทำงาน
และคุณภาพชีวิตแรงงาน**

**8. ความรับผิดชอบของลูกจ้าง
เกี่ยวกับการถูกคุกคามและ
หรือถูกล่วงละเมิดทางเพศ**

9. ค่าตอบแทนการทำงาน

10. ชั่วโมงการทำงาน

**11. การเลิกจ้างและ
การจ่ายค่าชดเชย**

**12. ผู้ค้าทางธุรกิจ
ผู้รับเหมา ในห่วงโซ่อุปทาน**

หมายเหตุ : นโยบายสิทธิมนุษยชนฉบับนี้ครอบคลุมการดำเนินงานทั้งหมดของคู่ค้าบริษัทฯ บริษัทย่อย และบริษัทร่วมทุน รวมถึงการดำเนินงานเชิงบรรณาธิกงาน และผู้ค้าทางธุรกิจ

LABOR PRACTICE INDICATORS

With the advent of global economic crisis and the need for response to persisting unemployment, laws and regulations are ever-changing. Changes to regulatory requirements put pressure on businesses to continuously reform labor practices to prevent potential violations and negative impacts to their employees and media presence. WHA Group is aware of the concern, thus, puts utmost efforts to manage its labor practices effectively and appropriately.

MANAGEMENT APPROACH

With the intention to enhance employees' prosperity, ensure diverse work environment and to treat employees in accordance with proper labor practices, WHA Group puts great importance to improve organizational labor practices as addressed in the Employee Regulation Manual. Furthermore, the Group ensures that its employee management practices abide by the national labor laws and regulations.

The Group gives high importance to anti-discrimination throughout its operations and promote diversity in its workforce at both management and staff levels. WHA

Group has appointed a Nomination Remuneration and Compensation Committee (NRC) which is comprised of members from the Board of Directors. The NRC is responsible to perform duties to nominate qualified persons, with no limitations or discrimination regarding the gender, age, color, race, ethnicity, nationality and cultural background to serve as directors and top executives. The NRC is also responsible for proposing principles and guidelines to clearly, fairly and appropriately fix remuneration that is consistent with the labor market conditions. The NRC conducts bi-annual meetings and subsequently reports to the Board of Directors.

DIVERSITY OF DIRECTOR TO EXECUTIVES LEVEL BY AGE (PERSONS)	2018	2019	2020
< 30 Years old	0	0	0
30-50 Years old	20	17	25
> 50 Years old	14	13	13



WHA Group promotes diversity in the workforce by supporting and facilitating an inclusive environment that creates a workplace where differences are valued. The Group provides equal opportunities for employees across the business hubs from recruitment to career advancement. The Group adopted a fair and non-discriminatory recruitment process to ensure equal opportunities for all candidates. Fair compensation are provided and reviewed based on personal performances and achievements. Furthermore, the Group has engaged with external institutions to assess the employees'

payments to assure that it remains competitive in the labor market. WHA Group ensures fair lay off through an established transparent process. Moreover, employees are able to express opinions and propose suggestions on labor practices to the established Employee Committee or other provided channels acquainted with an established grievance mechanism process (refer to details on whistleblowing in Codes of Business Conduct chapter). In 2020, WHA Group received zero reports regarding violations to labor laws and regulations.



TALENT ATTRACTION AND RETENTION

To cope with the fast-paced recruitment of the world today, human resource management systems need to ensure that the process for talent attraction and retention are aligned with the growth of new business opportunities. It is crucial for companies to seek out innovative ways of recruiting new talents, for instance, marketing and selling the companies' expertise or presenting new challenges to test employees' logics and abilities during the interview process. Comparatively, it is also essential for companies to ensure that their high-skilled and talented employees remain within the companies in the long-term such as by offering recognitions, incentives and other motives, while also promoting employees' engagement with the companies in order to strengthen their relationships and company's loyalty.

Furthermore, in 2020, the impacts of the global pandemic crisis resulted in the societal behaviors' changes where online communication and technological uses became the norm. Together with the 'working from home' culture, it is especially important to obtain employees with skills and knowledge that are suitable and adaptable to these societal changes (e.g. technological-specific skills). Fundamentally, human resource is one of the critical drivers in gearing the company towards achieving business visions and successes.



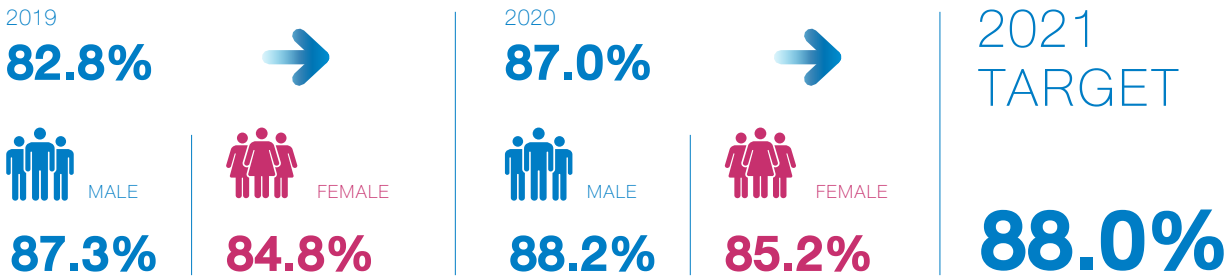
MANAGEMENT APPROACH

Talent attraction and retention management across all four business hubs is under the responsibility of the group-level Human Resource Department. WHA Group realizes that low employee turnover rate helps to maintain the company’s productivity and experienced talents, and that recruiting is a costly endeavor that is also time consuming. To save itself from such hassle, WHA Group has initiated to reduce the total turnover rate at 7.2%, voluntary turnover rate at 5.5%, and turnover rate of talent at 5%.

One significant approach that WHA Group has adopted to retain its talent pool is by conducting employee engagement to understand the factors that contribute to employees’ turnover intentions. Employee engagement is a process that promotes employees’ satisfaction, maintain efficiency, and ensures all employees feel valued and involved in their everyday work. Employees

across four business hubs that have been employed for over six months are subjected to conduct this survey. Starting in 2020, the survey was conducted by an external third-party company, NIDA, through the Employee Engagement on Meter (EMO Meter) methodology in order to ensure that collected data are truthful and unbiased. The survey assessed employees’ satisfaction on eight categories including: communication, leadership, core value, career, teamwork, work support, work life balance and employee engagement. The engagement survey results were communicated to the Executives and the respective business hubs’ management levels, and results were also shared to all employees via the internal SharePoint platform. In 2020, 90.02% of the total eligible workforce had completed the survey, and received a favorable score rating of 87% surpassing the target of 85.8%. To get a more accurate engagement result, WHA Group aims to survey 100% of full time employees by 2022.

EMPLOYEE ENGAGEMENT SURVEY RESULT SCORE



% OF TOTAL EMPLOYEES COVERAGE





To further enhance employee engagement and satisfaction to the company, the Group provided the following initiatives, including:

- WHA Group has established the Facebook “Advance” Campaign which is an internal communications platform that allows the company, by the Human Resource Department, to share information and executive interviews on the internal SharePoint platform. The shared information will allow the employees to keep-up with the trend, and be aware of the business directions through executives conducted interviews.
- To increase employee engagement, WHA Group organized an annual Town Hall Meeting facilitated by the Group’s CEO in 2020 to keep the employees engaged and informed on the business strategies of each business hubs for the upcoming year.
- WHA Group leveraged digital technology to support human resource department by developing an application ‘At Work’. This is a centralized human resource communication platform for employees across all business hubs to conduct employee self-services and have access to e-application online and the company’s announcements. In 2020, the application was used by a pilot group of employees, and satisfaction feedbacks obtained are 83%. The application is expected to be launched in the first quarter of 2021.

Furthermore, WHA Group conducts annual performance review in accordance with the Performance Management System to acknowledge the employees’ performances against their KPIs. In 2020, 100% of the employees have completed the performance review. Employees’ insights from the engagement survey and performance review were gathered and analyzed to promote career advancement or formulate meaningful development programs, job-rotation programs, pre-retirement plans and to fill internal job opportunities.

WORK-LIFE SOLUTIONS

Additionally, in 2020, WHA Group has constructed a new headquarter, WHA Tower, located in the Bangna business center that will be ready for use in January 2021. This construction project creates a working environment that allows for creativity, innovation and collaboration with new advanced technologies — thus enhance employees’ satisfaction and attracts potential talents to the workforce. WHA Tower project has received an award for “Commercial High Rise Architecture Thailand”.



This transition to a new headquarter will promote employees' work-life solution. This is because WHA Tower has a working environment that is easily adjustable, and consists of various amenities such as co-working space, coffee shop that is surrounded by beautiful scenery, garden and fountain. There is also a versatile open area for activities in order for employees to have an effective working experience, while maintaining a balanced, and healthy lifestyle, with relaxation and entertainment.



Moreover, WHA Tower has advanced technologies, incorporating with safety and flexibility, as well as innovation technologies that is operated by digital system that is highly known for its effective safety management. The technologies within the building include a face scanner for when entering or exiting, a body temperature monitoring system to ensure good public health, parking lots of up to 500 spaces, as well as, innovative technologies that is environmentally friendly and a light rail project that is expected to be completed in 2023.

Nonetheless, the transition to a new headquarter is also a process to group together all the business units into one location. This is to increase work performance, reduce transportation, and minimize communication limitations between the business units.



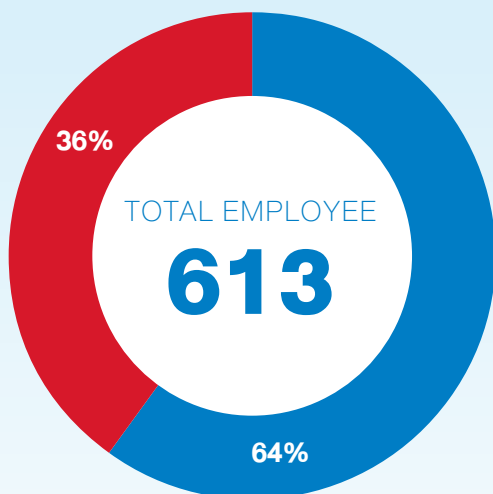
Moreover, WHA Tower located on Debaratna Road (Bangna Trad) KM 7. The 25-storey Grade A office building offers gross area of 52,000 sq.m. available for tenants. The building won the "Commercial High Rise Architecture Thailand" for its modern and environmentally friendly design that promotes creativity and work-life balance.

WELFARE AND BENEFITS

Following the Group’s aspiration to attract and retain its talent pool, WHA Group places importance in promoting good living standards for all employees and their families. Welfare and benefits are provided appropriately to employees and exceeds the regulation requirements where possible. All employees were informed of their rights to receive the welfare and benefits at the beginning of their employment. All WHA Group’s full time employees are entitled to a standard WHA Group benefit package which consists of life and accident insurance, health insurance covered to staffs’ family members, annual health check, safety uniform, provident fund and financial assistant fund. A communication channel for

employees to propose benefits improvements was set up through the Welfare Committee and Human Resource Department.

Moreover, WHA Group is working on creating a positive atmosphere with boosted employee morale. As the group values the well-being of the employees, WHA Group arranged employee well-being activities and programs. In 2020, WHA Group organized the AIA Vitality Program, which offered “How to use AIA Vitality Application”. Altogether, there were a total of 250 participants to the event.



EMPLOYEE PROFILE



36%
 218 PERSONS



64%
 395 PERSONS

HUMAN CAPITAL DEVELOPMENT

In the past, employee development programs were designed through top-down process. However, with the realization of the importance of employees' skills relating to market trends and opportunities, the approach for designing employee development programs were shifted to bottom-up process in order to proliferate benefits. As a result, number of businesses were driven to pursue new dimensions of human capital development programs.

WHA Group values all employees as they are the drivers in ensuring business successes, achievement of business visions and play critical roles in the organization's sustainable growth. Therefore, the Group prioritizes human capital development to support its employees to reach their full potential and capabilities.

MANAGEMENT APPROACH

Human resource related matters are managed at a group-level by the Human Resource Department. WHA Group realizes that investing in employee trainings and development not only serve as a motivation, but it also enables the organization to create a highly skilled workforce. Therefore, the Group provides comprehensive development programs to support personal and career advancement, which in turn leads to greater job satisfaction and motivation.

The training and development programs provided were focused 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.



MANAGEMENT SKILLS

BUSINESS & DIGITAL KNOWLEDGE

SOFT SKILLS

TECHNICAL SKILLS

TALENT MANAGEMENT

To foster the employees' knowledge and capabilities, WHA Group also analyses human capital return on investment (HCROI) to serve as an indicator to reflect appropriate levels of employee investment. In 2020, the Group had HCROI at 10 times and also initiated its long-term 5 years goal to maintaining its HCROI rate at 12 times in 2021 and 14 times in 2025. In addition, WHA Group dedicated 1.9 million Baht in people development in 2020, which was accounted as 3,300 Bath per FTE. Considering the opened positions in 2020, 5.5% of the positions were filled by internal candidates.

MANAGEMENT SKILLS DEVELOPMENT

In 2020, WHA Group organized the following training programs with the objectives to provide the employees with knowledge on management skills.

- The Finance for Non-Finance training program was offered to WHA Group's employees at Management level. The training was conducted for 12 hours with a total of 28 participants from upper Director and key persons of each department. During the training program, the participants who have no prior familiarity with finance were trained on various financial knowledge. This course covers the basics of financial valuation as well as tools of capital budgeting.
- WHA Group collaborated with "AMCHAM Academy" to initiate Leadership Program in which two participants at management level (Vice President) were nominated to attend. During the training program, all participants shared their business views and in return, the participants' leadership insights were enhanced. This program focused on personal, career and leadership development and exposing the cohort to exclusive group seminars with executives from leading organizations in Thailand and the United States.

BUSINESS AND DIGITAL KNOWLEDGE DEVELOPMENT

The following training programs were organized with the aim to build employees' understandings and knowledge on business and digital aspects.

- The Shift Your Presentation is a training course with the objectives to build participants' essential presentation skills. This helps to enhance employees' confidence and capabilities to deliver engaging and powerful presentations. The training was organized for Management until Senior Associates levels from WHA Group. The training was conducted over 12 hours in which 12 participants joined the training. Positive feedbacks received from participants include improved presentation skills, confidence and tactics from practicing in real situations.



- The Infographic Medias & Presentation training program was offered to employees at director-associate levels across the four business hubs. The program was facilitated over two sessions by Professor Kasiti Panthanom, Cityhubs Co., Ltd., in which each session was conducted over 12 hour's duration. Altogether, there were a sum of 32 participants that attended the two sessions. Post training, the participants were required to develop/prepare their PowerPoint, and results portrayed that the employees were able to effectively use PowerPoint presentations.

SOFT SKILLS DEVELOPMENT

The following training program were initiated or organized with the objective to develop and enhance the employees' soft skills.

- WHA Group organized a training session to enhance effective communication skills in order to be able to communicate effectively with potential business partners. The training activity was facilitated by Junlachai Junjua. The session was conducted for employees at senior supervisor to associate levels over two days, accounting for 12 hours in total. Altogether, there were a sum of 82 participants from WHA Industrial Development (WHAID) and WHA Utilities and Power (WHAUP). Post training session, communication skills from the workshop were practiced.
- Starting in 2021, WHA Group will provide a digital transformation program to upskill and reskill digital mindset and digital literacy for employees at all levels across the four business hubs.

YOUR NEXT YOU

Due to the COVID-19 pandemic outbreak in 2020, WHA Group adjusted its human resource development training to suit the situation through online learning virtual course. The training program is named 'Your Next You' which is organized by the SEAC Institute. The training aims to enhance employees' knowledge, capabilities and innovative mindset including design thinking, creative thinking blocker, growth mindset, outward mindset, recharge creative capacity and step-in-leader, etc. The objectives of the project were development of employee's Soft Skills and increasing their ability. Additionally, the program also motivated to changes various perspectives and habits of employees to support creativity and innovation, which is consistent with the purpose of WHA Group to drive innovation from employees and for the purpose of entering to the new era of the digital world. There were 33 employees that attended this training program. The program lasted for 3 months in which participants were required to attend the online virtual course for no less than 30 hours in total.

TECHNICAL AND FUNCTIONAL SKILLS DEVELOPMENT

In 2020, WHA Group organized the following competencies and development training programs for employees to improve their functional and technical skills and knowledge they need, such as compulsory occupational safety and health trainings.

- Safety training programs covering the following topics were provided as per required by the regulations including occupational, health, safety and environment in workplace, working at height, confined space, overhead crane, electrical safety, fire drills, hazardous chemicals, etc. Such training programs were provided for WHAUP and WHAIDs' relevant employees at various levels from managers to operation staffs. Altogether, the total training hours for safety programs are 114 hours, with a sum of 385 participants across all sessions.



TALENT MANAGEMENT

INDIVIDUAL DEVELOPMENT PLAN

To retain talented employees, WHA Group prepared short and long-term individual development plans (IDP) for each employee to cater for their career advancement and growth. The IDP helps to identify and outline the employees' knowledge, skills, and abilities as well as to improve their performances and sharpen their professional competencies.

INNOVATION LEADERSHIP PROGRAM

In 2019 -2020, WHA Group initiated the Innovation Leadership Development Program for the 45 chosen potential talents from manager to director levels across four business hubs. The program promoted the participants' necessary skills and capabilities to lead the organization through changes and disruptions. During the program, the potential leaders were engaged in enriching innovation project experiences which promoted start-up minds and customer-oriented mindsets. This helped to encourage an innovative workplace and enhanced innovative culture. In the year 2020, the project has

been selected some innovations that arise from some participants to be developed with for actual use in the business. In addition, the participants of the program are assessed by external institutions which their results of the assessment was used as part of individual development planning for 2020 and beyond, as well as information for executives in planning their in-depth career paths for each of the participating employees.

CORPORATE CULTURE ENHANCEMENT TRAINING

- On August 2020, WHA Group organized an activity to promote the corporate culture "Partnership" for its employees.
- WHA Group organized a "WHA Corporate Culture Activity" which aims to instill the Group's corporate culture to the new recruits. The activity was facilitated by the Human Resource Department in which the participants gained knowledge on the corporate culture. Altogether, 50% of the new recruits across all four business hubs participated in this activity.



MANAGEMENT PERFORMANCE

In 2020, performance in terms of average hours of training per year per employee are as portrayed in the following table.

NUMBER OF TRAINING HOURS			
BUSINESS UNIT	NUMBER OF AVERAGE TRAINING HOURS/YEAR (HOURS)	2020	
		MALE	FEMALE
WHA Group	Hour/Person/Year	10.3	8.75
WHA Logistics	Hour/Person/Year	16.00	11.22
WHA Industrial Development	Hour/Person/Year	4.36	7.51
WHA Utilities and Power	Hour/Person/Year	20.63	12.00
WHA Digital Platform	Hour/Person/Year	2.36	1.50

OCCUPATIONAL HEALTH AND SAFETY

Due to the nature of WHA Group's business operations, there are risks related to occupational, health and safety (OHS) that could have adverse impacts to its employees, customers and communities, such as exposure to chemical substances or spill incidents within the workplace, accidents or incidents from road safety, construction and maintenance activities. WHA Group, therefore, has a strong commitment to promoting safety culture throughout the organization. The Group has been proactively protecting the safety and well-being of all the employees and relevant stakeholders associated with the industrial complex. This include implementing of preventive measures, organizing safety trainings as well as fostering an internal safety culture to promote employees' confidence and morale to work with WHA Group. The aim is to prevent and minimize the occurrence of accidents, occupational injuries and illnesses.

MANAGEMENT APPROACH

WHA Group strictly abides by the Occupational Safety, Health and Environment Act, B.E. 2554 (2011) and all related rules and regulations, as well as, international safety standards to ensure that safety is effectively managed. A Safety Committee was established,

comprising of managements and employees from all business hubs, to regularly review health and safety within workplaces. Furthermore, the Group appointed a Safety Department, led by the Chief Operating Officer, to oversee OHS matters throughout four business hubs, and ensure that the group-wide zero incident goal for its employees and contractors is met.

WHA Group has implemented an OHS Management System to identify and address the different OHS related risks and issues throughout the four business hubs. The scope of the Management System covers employees and extends to its contractors and customers. Subsequently, a risk assessment is conducted by the Safety Department to identify the potential hazards associated with operational activities, and implement control measures in order to eliminate hazards and minimize risks. The risk assessment is subjected for review annually or whenever there are changes to the operational activities. In 2020, the key risks identified and implemented mitigation measures are as detailed in the following sections. Concurrently, the risk assessment formed the basis of the work-related procedures, which were then integrated and implemented into the day-to-day operations.





However, there was one recorded work related injury case of a contractor performing work on behalf of WHAUP. The contractor experienced a cut when cleaning the solar panel. The injured contractor received immediate medical assistance and were able to come back to work to perform a different role. There were no reported cases of spill incident that occurred in 2020. Correspondingly, WHA Group commits to regularly and continuously improve the OHS system in order to prevent any past incidents from reoccurring, and achieve its target of zero incident goal.

ENHANCING OCCUPATIONAL HEALTH AND SAFETY

In 2020, WHA Group focused on enhancing its OHS system and approach through the 'SMART Safety' concept, which addressed three key areas including: 1) Emergency Response, 2) Road Safety and 3) Protect Estate Property. The idea of SMART safety is to promote safety culture as well as to effectively manage safety precautions across the Group's industrial estates and its surrounding areas.

EMERGENCY MANAGEMENT

In case of emergency, employees can report all work-related incidents through event submission form, complaint form or directly report to their supervisors. These cases will then be investigated according to the Group's Emergency Calls Process. Employees are highly encouraged to follow the protocol when an incident happens and in extreme cases, to be responsible for removing themselves out of the situation. Likewise, all of the incidents will then be thoroughly reviewed by the Safety and Security Departments to protect employees from any reprisals and prevent future accidents from occurring again.

Deriving from WHA Group's risk assessment process, one key safety risk identified is the potential accident due to construction works. Contractors or WHA Group's employees may encounter injuries or fatalities from performing construction activities due to accidents from falling from height, amputation of limbs, burnt, etc. Therefore, WHA Group established and implemented the following mitigation plan, which include:

- Developed contractor handbook in which contractors are required to follow safety standards;
- Job Safety Analysis was conducted and safety procedures were developed;
- Work Permit System implemented; and
- Surveyed orderliness within the industrial estates.

FIRE AND EVACUATION

WHA Group established an Emergency Control Center (ECC), which are located at nine of the Group’s industrial estates to monitor and suppress emergency situations. The ECC is managed by occupational health and safety experts and equipped with fire control systems, ready to operate at any time. In 2020, the ECC stopped one emergency case at a factory located within the Group’s industrial estate. In addition, the ECC also supported the local authority to suppress 12 emergency cases in the surrounding communities outside of the industrial complex premises.



Nevertheless, WHA Group sets up emergency drills, which occur on a yearly basis. The annual drill is planned for different emergency events including firefighting and evacuation, hazardous chemicals spillage, traffic accident, flood and emergency events relating to the factories within the industrial estates. In 2020, WHA Group hosted fire response drill at WHA Eastern Industrial Estate (WHA EIE) in which a total of ten employees participated in the drill. The drill covered training on advanced level firefighting. The evaluation of the drill performance, which assessed employees on their preparedness for all processes including Personal Protective Equipment (PPE), responding, and reporting process and time, has received 100% review score.

SPILL INCIDENT

Through the risk assessment process, WHA Group has identified chemical exposure at water treatment plant as one of its safety risks. The Group is concerned that employees working at the water treatment plant may be exposed to Chlorine and Sodium Hydroxide. As a result, the following mitigation measures were identified and implemented to manage the risk:

- All employees are provided with suitable personal protective equipment (PPE);
- Installation of Chlorine detector;
- Conduct workplace monitoring annually; and
- Provision of annual medical health surveillance for employees.

In July 2020, WHA Group hosted an emergency response drill for chemical spillage incident at WHA Eastern Seaboard Industrial Estate (WHA ESIE) which involved a total of 250 personnel from the Industrial Estate Authority of Thailand (IEAT) representatives, Department of Disaster Prevention and Mitigation, Department of Labor Protection and Welfare, local authority offices, local communities, local hospital, customers, the Group’s employees, etc. The drill covered response mechanisms from emergency reporting, first-aid, PPE selection, order and control, etc.



In 2020, an accident occurred at WHA ESIE where a customer's chemical transportation truck fell into the waterways and resulted in a spillage incident. None of WHA Group's employees were injured during the incident. Nevertheless, WHA Group is continuously developing and improving its road safety precautions as preventive measures post the incident to resiliently and effectively respond to similar cases in the future.





COVID-19

In 2020, with the on-going spread of the pandemic virus, COVID-19 has been identified as a potential threat that could impact the health of WHA Group's employees, contractors, or those exposed to such risks. Therefore, good OHS practices are especially crucial in the times of the pandemic. With the rapid spread of the COVID-19 virus, there is a high risk of infection amongst the employees and workers within WHA Group's estates and workplaces. Likewise, it is important for WHA Group to take appropriate actions and precautions

in response to the risk imposed by the virus. WHA Group has established a COVID-19 Procedure which prescribes precautionary practices that are in line with the regulatory requirements instated by the Ministry of Public Health. This include regular sanitization of facilities with alcohol, body temperature check and record of personal data upon entrance to workplaces, etc. Moreover, all employees were communicated on any updated news regarding COVID-19 through internal SharePoint and emails.



ROAD SAFETY

The roads in the industrial estates' premises are used by various stakeholders which could lead to potential traffic congestion or accidents. Road safety is, therefore, another key safety risk identified through the risk assessment process. The Group's employees, customers and commuters could encounter potential road accidents when travelling within the industrial estates. Therefore, the Group conducted the following mitigation measures to manage the risk:

- Construction of speed humps on its main roads, barrier concrete, new turnaround lane for incoming vehicles from local road to reduce traffic congestion;
- Continuous inspection, monitoring and improvement of road conditions;
- Developed traffic control systems; and
- Initiated Safety Driving Campaigns to train employees and customers on driving skills, organized by the Safety and Environment Club at every industrial estates. In 2020, 250 participants including 170 customers and 80 WHA Group's employees attended the training session.



WHA Group takes road safety very seriously, constantly improving infrastructures and developing technologies to further enhance the road safety to the best of its abilities. Starting in 2018, the Group implemented a Vehicle Management System, installed at entrances as stated in the Innovation Management chapter, to address road safety and traffic jams within the industrial complex. With this system in-place, WHA Group were able to attain accurate numbers of vehicles including its license plate numbers, in order to manage traffic congestion and cope with hit-and-run incidents. At WHA ESIE, there were approximately 144,420 cars entering the premises/day so around 52,713,300 cars/year in 2020. Furthermore, WHA Group integrated digital transformation to further study adaptive traffic control system to monitor the level of congestion and automatically changing the traffic lights to release traffic flow. It was shown that by using these technologies, WHA ESIE were able to reduce traffic congestion time from ten minutes to three minutes, and fatalities from traffic accidents reduced from five cases in 2019 to three cases in 2020.

Similarly, WHA Group is currently studying the use of drone technology for road and traffic monitoring during rush hours. The drones will help monitor any accidents occurring on the roads. It can also be used to detect any potential risks that can be further analyzed to identify and implement preventive actions to limit any future accidents. In the case of accidents, the drones will allow for a faster and more effective emergency response and actions. Indirectly, by limiting number of accidents will also reduce the traffics on the roads. Such drone technology will be used in 2021 onwards.

In 2020, there were altogether a total of 245 road accidents from commuter at the Group's industrial estates. The accidents resulted in 107 injured cases and 3 fatalities; none of which are WHA Group's employees. However, the Group is committed to reduce these numbers and continue to practice road and other safety measures as well as applying new innovations to reduce the accident rates.

PROTECTING ESTATE PROPERTY

In 2020, WHA Group adopted digital advancements such as upgrading the nine installed CCTVs at ESIE wastewater treatment facility's pumping station to have motion detection function and control cable alarms, as stated in the Innovation Management chapter. With this technology, the motion detection sensors can detect and alert whenever trespassers are detected, thus, protecting the facility's assets. Therefore, the system allowed for a more automated and effective monitoring of the risks and operations, and minimized the needs for employees to conduct constant on-site monitoring and examinations. As a result, WHA Group were able to reduce nine employees and transferred them to more complex job, and reduced traffic accidents and incidents from monitoring activities.



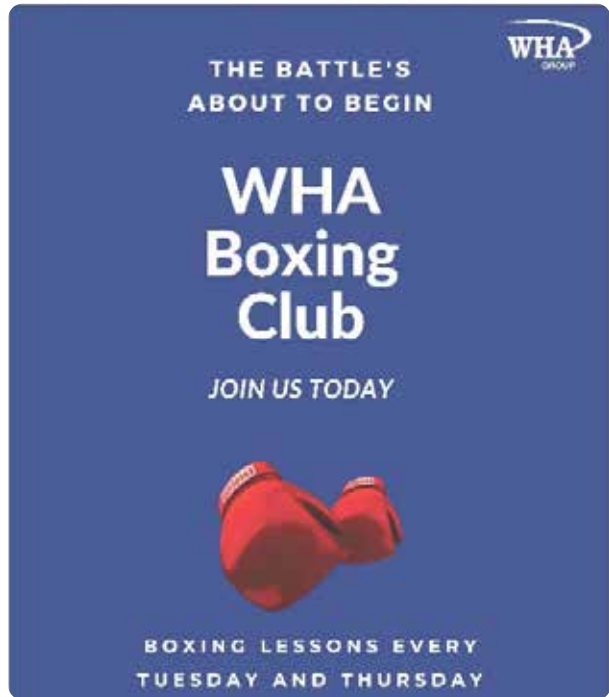
SAFETY CULTURE

WHA Group provides training programs, as required by the regulations, to employees in order to foster a robust understanding and awareness of OHS practices. The Group provides and ensures that all employees receive suitable health surveillance programs on an annual basis. Furthermore, employee's access to medical services is ensured through provision of health and safety insurance. Nevertheless, WHA Group welcomes and encourages its employees to provide any suggestions on improving working conditions to their supervisors, Human Resource Department and Safety Department.

Notably, WHA Group also extends the concerns for safety to the Group's contractors. It is crucial that these stakeholders strictly follow the Group's safety requirements to the best of their abilities. As a result, prior to work, the contractors will receive a training covering three areas on environmental policy, relevant regulations and safety standards. Subsequently, those that have surpassed the training course will receive a contractor card that will expire in one year from issuance date. Such training course was conducted in 2020 for 20 new contractors and for 50 contractors with expired contractor cards. Contractors who perform short term works are also required to surpass the training to a one-time work permit.

Apart from safety training programs, WHA Group established the Safety Club in order to cooperatively enhance safety measures amongst stakeholders. The Club is comprised of employees, contractors and customers of WHAID and WHAUP. The objectives of this Safety Club is for participants to share opinions and views on safety practices. The Club conducts quarterly meetings in which the latest was carried out in November 2020. During this meeting, there were a total of 240 participants, and the topics of discussion include traffic management, road safety, drug addiction/abuse control, first aid, cardiopulmonary resuscitation and benefits of community enterprise.

Furthermore, the Group promotes employees' recreation activities by supporting employee clubs such as fitness club, boxing club, Yoga club, Football club, Badminton club, etc. to encourage good health and wellbeing of the employees.



COMMUNITY DEVELOPMENT



With the world moving towards a sustainable economy, there has been increasing awareness for many businesses on the impacts their operations have toward the local communities. It is believed that a business will grow sustainably if it brings about development and prosperity to the community and society that it serves as their acceptance and trusts are significant to the business's successes. Nonetheless, some business may find it challenging to effectively engage and contribute to the development of the local communities. One of the crucial reasons underlying WHA Group's business success is due to its ability to harmonize, and gain acceptance from the local communities throughout 33 years of its operation. Therefore, WHA Group recognizes its responsibilities to continuously give back to the society and contribute to the development of its surrounding communities.

MANAGEMENT APPROACH

As part of the Environmental Impact Assessment (EIA) study conducted for WHA Industrial Development (WHAID) and WHA Utilities and Power (WHAUP) businesses, communities' perception as well as all social and environmental impacts toward the communities are identified and assessed with proper in-placed mitigation measures. Various social engagement approaches and communication channels, including phone calls, emails, engagement activities, surveys, appointing local community representatives and whistle blowing platform (see detail of response mechanism under the Code of Business Conduct chapter) was established to attain the communities' opinions. All received feedbacks and concerns are reviewed by an established Corporate Social Responsible Committee which conducts monthly meetings to formulate appropriate community development initiatives, and subsequently reports to the Board of Directors.

WHA Group established a group-wide strategy to contribute positively to its neighbors and society through sustainable programs focusing on three pillars: education, well-being and environment development to support and address community's needs and concerns. In 2020, WHAID together with WHAUP conducted various corporate social responsible initiatives with the communities residing within a 5-10 km radius from the industrial complex. The Group contributed 52.43 million Baht to corporate social responsibility (CSR) as characterized within the following table. A total of

7,633 employee working hours were contributed towards implementing the CSR initiatives. There were altogether 191,585 people from 159 communities that received benefits from such community development projects.

WHA Group has set its Community Engagement Level goal to reach out more than 98% of communities in the vicinity. The company achieved this goal in 2020 by engaging with a total of 156 out of 159 villages in Rayong, Chonburi and Saraburi. Its community engagement goal for 2021 will be at 97%

TYPES OF PHILANTHROPIC ACTIVITIES	AMOUNT (MILLION BAHT)	PERCENTAGE (%)
1. Charitable Donations	10.5	15.7
2. Community Investments	41.9	62.6
3. Commercial Initiatives	14.5	21.7
Total	66.9	100.0

EDUCATION DEVELOPMENT PROJECTS

In 2020, WHA Group carried out the following CSR projects which focused on educational development for community members at all ages.



ART CAMP FOR STUDENTS



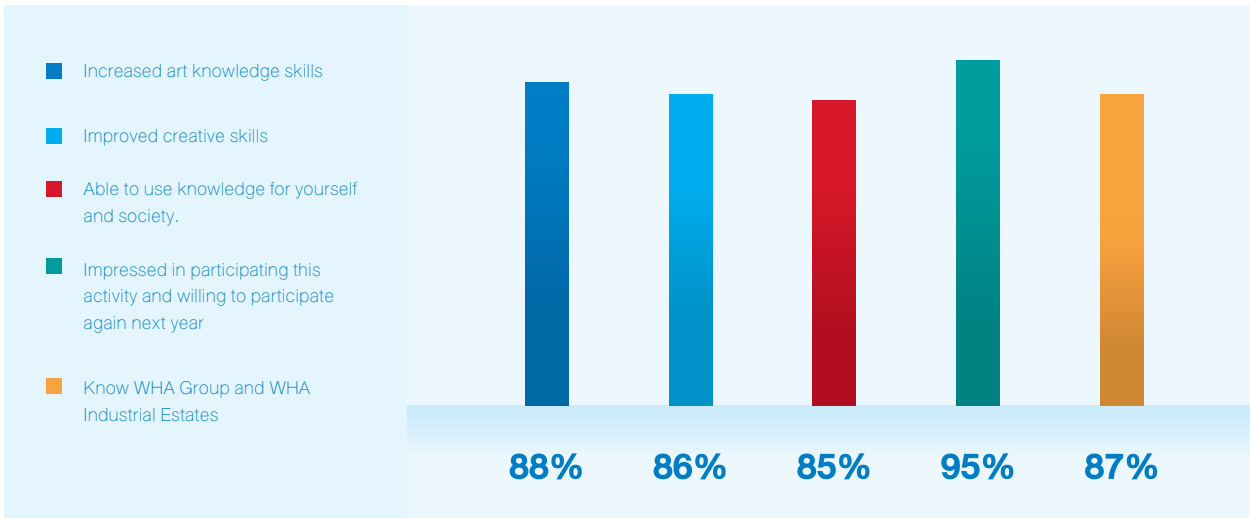


The 12th WHA Art Camps took place in 2020, at the hometown of primary school students from Rayong and Chonburi. The first organized Art Camp is dedicated to students from upper elementary school, and focused on activities that allow students to learn basic art knowledge. Environmental conservations, history, and local culture teachings were also incorporated into the curriculum as well. The second organized Art Camp is for junior high school students, where the students met peers from various schools and participated on field trips together. Despite the pandemic crisis, WHA Group continued to make a difference in these students' lives by supporting education through art in order to help with self-development and other necessary skills.

Altogether, there were a total of 563 students from 20 upper elementary schools and 29 students from 6 junior high schools that attended the program. The satisfaction score from the survey conducted during the two organized Art Camps were 88% and 93%, respectively. The majority of the students felt that the program enhanced their basic art skills, and that the knowledge gained can be useful for daily lives. The programs were successful in promoting and excelling education for Thai students which is vital to the development of communities and the country as a whole.

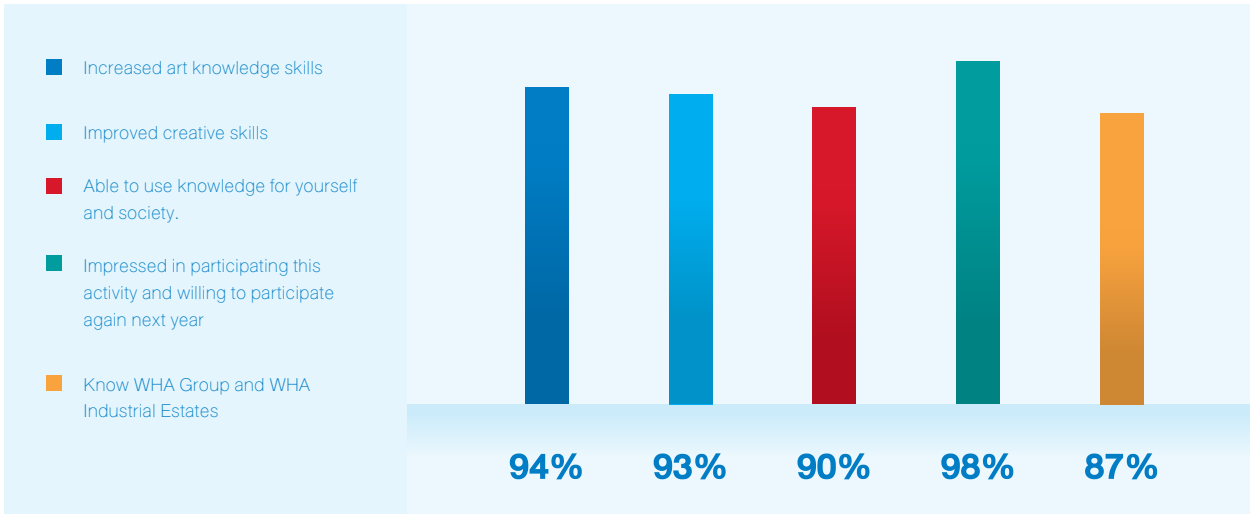
THE SATISFACTION SURVEY 2

2020 Art Camp in Home Town : 532 students from 19 schools in Rayong and Chonburi
July – August 2020



THE SATISFACTION SURVEY

2020 Art Camp Trip : 29 students from 6 schools in Rayong and Chonburi
14-16 September 2020



Children represent the future workforce and are the drivers of the nation. WHA Group recognizes that some students, despite being very talented and skillful, may not be able to pursue their educations to their fullest capabilities due to certain financial constraints. The Group, therefore, considers educational support as an important scheme for the community development. WHA Group aspires to assist youth in having the opportunity to develop their competency and potentially improve

their quality of life. Hence, WHA Group continuously provides educational support through scholarship funds for students to attend vocational trainings. Ultimately, nurturing the competent youth from the initial steps. Presently, WHA Group has given 79 scholarships to students, with the total funds of 727,600 Baht. In 2020, there were 22 students participating in these scholarship programs.



The Eastern Economic Community (EEC), covering the strategic provinces of Rayong, Chonburi and Chachoengsao, continues to attract more private investment. With infrastructure as one of the pillars of development, the government is currently developing major projects, such as motorways and double-track railway systems, as well as the expansion of U-Tapao airport and seaport facilities.

The challenge that must be addressed today is the need for well-trained skilled workers. Thanks to the cooperation between the educational sector and private companies, the Dual Vocational Training (DVT) initiative was created by the Office of Vocational Education, allowing students to get on-the-job training along with theoretical education.

GRANTS FOR THE SMART AND SKILLED

Vocational college and university graduates are highly in demand. However, due to financial challenges, many promising students are not able to finish their courses. In view of this, WHA Group, in cooperation with Ban Khai Technical College in Rayong, has been supporting the DVT Program for the last 9 years, by giving grants to smart, disadvantaged undergraduates. In addition, WHA helps them find on-the-job training opportunities among customers in its industrial estates.



Mr. David Nardone, Group Executive Industrial and International, WHA Industrial Development PLC, sees this as a way of empowering young people to face the future confidently. “Seeing the potential of the youth in the residential communities around the EEC is truly inspiring. WHA is proud to provide full scholarships plus allowances to disadvantaged students who are fully motivated and have the right aptitude. We are pleased to give them a head start in their professional life, so they can reach their full potential.”

Bankhai Technical College in Rayong is the only educational establishment qualified for the DVT Program. Its Director, Mr. Prateep Chulalert expressed his gratitude to WHA for supporting the program year after year. “This is beneficial for the students, the companies, the EEC, and of course, members of the local communities. Training and orienting the students right in the workplace can bring them more job opportunities. The companies are able to teach and strengthen specific skills that they need, and in many cases, offer full employment upon graduation. Students who complete the DVT Program become role models for the younger students, because they see that there are high-paying jobs out there for them.”

SETTING A GOOD EXAMPLE IN THE COMMUNITY

DVT participants are jointly selected by the college and the company according to the individual’s abilities and motivation to learn. Mr. Prasith Ramchatu, an employee of NT Seimitsu (Thailand), relates how he landed his job with the Japanese company. “Coming from a poor family, I could only dream of working with a foreign company. I consider myself very fortunate to have qualified for the WHA grant” recounts Prasith. “Without the scholarship, I would never have been able to finish my studies or learn from mentors and colleagues who taught and trained me patiently for 11 months. As soon as I graduated, I became a permanent employee and was finally able to help my family. In addition, the work experience made me realize the importance of knowing how to communicate in a foreign language if you want to work with an international company and advance in your career.

The DVT Program is a win-win situation for all parties. WHA Group is proud to support this excellent initiative that helps provide qualified, skilled workers, especially for sectors such as next-generation automobiles, smart electronics, agriculture and biotechnology, robotics and the other S-curve industries, that the EEC is welcoming under the Thailand 4.0 scheme.



TEACHER FELLOWSHIP PROGRAM



Currently, our society is faced with issues from the lack of qualified teachers. Thus, WHA Group supported the schools within the Group industrial premises, in Rayong and Chonburi provinces, by providing a total of 1,260,000 Baht funds for teachers from 7 different schools in the area.



WHA GROUP SCHOOL CONTRIBUTION PROGRAM



deliver much-needed supplies and sports equipment for the mental, physical, social and academic development of 20,400 children. Each child received backpacks, notebooks, pens, pencils, crayons and other basic instruments for creative and educational learning in and out of the classroom. Due to the pandemic, the Group representatives led by Ms. Siyaphas Chantachairoj, Director of Corporate Marketing, distributed alcohol gel to all schools to ensure that teachers and students prevent and protect themselves against the spread of COVID-19.

For the 23rd year, WHA Group, in collaboration with over 50 companies in WHA industrial estates, helped students from low-income families use education as a stepping stone to improve their quality of lives. Through practical donations, WHA Group’s Annual School Contribution Program continued to make positive impacts on the neighboring communities and society.

“For over two decades, we have successfully shared with our employees, management and customers from the different industrial estates to join this worthy program. This reiterates our belief that together, we can help bring change through education. We would like to thank all our sponsors for their generous support throughout the years.” - Mr. David Nardone, Group Executive Industrial and International, WHA Industrial Development PLC.

For five days during the month of July, WHA Group executives visited 50 schools and 15 child development centers in the vicinity of the Group’s industrial estates to



COMMUNITY DEVELOPMENT PROJECTS

To enhance the livelihood of the communities, WHA Group has carried out the following projects in 2020.



MOBILE MEDICAL



Mobile Medical Unit was a key health approach utilized to improve access to health care services in remote areas. WHA Group recognizes the direct correlation of good health and livelihood of the community, therefore, has organized annual Mobile Medical Units to reach out to neighboring community members within the Group's industrial estates premises in Rayong and Chonburi provinces. Provision of vaccines to prevent influenza and bug-out bags/survival kits were distributed to community members to support the members to live healthier lives.

In 2020, WHA Group had provided the community members with vaccine doses for influenzas as follow:

- 400 of vaccine doses were offered to community members in the Khao Khansong Sub-District, Chonburi province;
- 400 doses were offered to community members from Chom Phon, Chao Phra Ya Sub-district, Rayong province;
- 300 doses were offered to community members from Bo Win Sub-district, Chonburi province;



- 280 doses were offered to community members from Pluak Daeng District, Rayong province.

Additionally, WHA Group provided the bug-out bags/survival kits as follow:

- 90 of bug-out bags/survival kits were offered to the community members from the Tasith Sub-district, Rayong province; and
- 15,000 THB worth of bug-out bags/survival kits for bedridden patients were offered to the community members from Pluak Daeng District, Rayong province.



SPONSOR OF THERMOMETER ROBOT

In addition to financial aids offered to the Faculty of Medicine of Siriraj Hospital and Ramathibodi Hospital to help those affected the most by the COVID-19 crisis, WHA Group also sponsored two “CU-RoboCovid”, a thermometer robot created by the Faculty of Engineering, Chulalongkorn University. The thermometer robot, also known as “Pinto” robots, are robots used to assist doctors and nurses with their tasks to detect COVID-19 cases. Moreover, through the Tele-presence System, doctors, nurses, and patients were able to communicate to each other through the robots, therefore, limited face-to-face interactions and the further spread of virus. This technological advancement hence reduced the risks of infection, safeguarding numerous medical front liners.

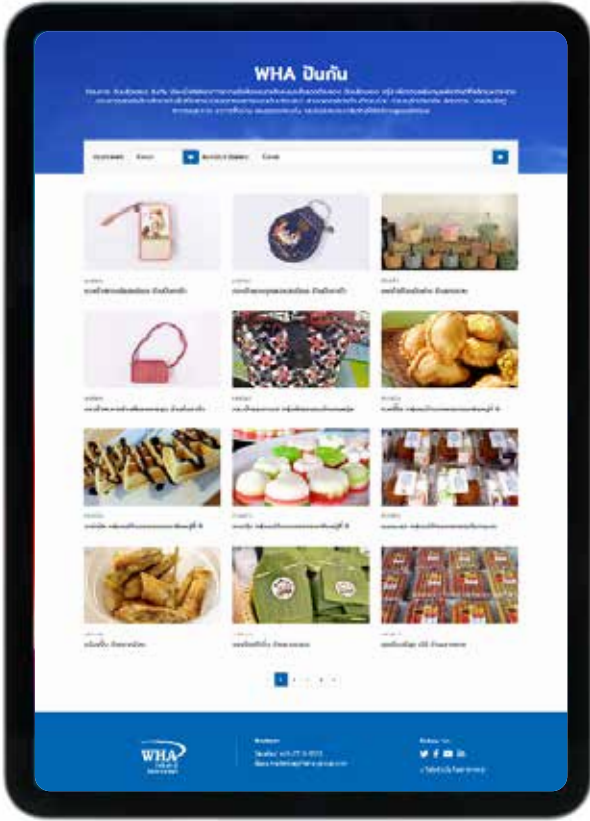


COOPERATION WITH CUSTOMERS



WHA Saraburi Industrial Land (WHA SIL) and WHA Rayong Industrial Land (WHA RIL), together with its housed customers, have established a Community Relationship Committee. Members of the Committee cooperatively collect funds to conduct social development programs to enhance the surrounding communities' livelihoods. There are currently 64 members in WHA SIL's Community Relationship Committee with a shared budget of 30,000 Baht/member/year from the participating factories, and 23 members in WHA RIL's Committee with a shared budget of 23,000 Baht/member/year. In 2020, altogether 2,462,000 baht of funds were collected and allocated towards scholarship, religious & youth activities and “We Care Nong Kae Project”.





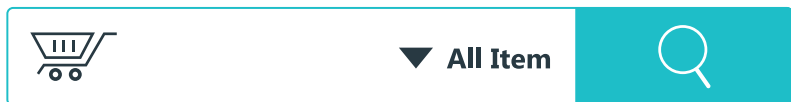
PAN GAN PROJECT

In 2020, WHA Group launched PAN GAN, an online marketplace to promote and sell homemade products and homegrown specialties made by people residing around nine of the Group’s industrial estates in Chonburi and Rayong provinces.

The new website, pangan.wha-industrialestate.com/en/home, aims to link sellers with shoppers, by offering a showcase of products in different categories ranging from handmade crafts and traditional medicines to local food items and homemade delicacies.

The program was welcomed by micro-entrepreneurs, food producers, small cottage industry owners and housewives, who were invited to join, so that they could promote and sell their products to a wider market. WHA Group’s CSR initiative encourages job creation and local economic development. For many households, this opportunity represents a new source of revenue or side income to uplift their lives and secure a better future for the youth. In addition, it is also a way of preserving the community’s heritage and passing on the art of handicrafts and specialty food products from different hometowns. It focuses on creating value based on local traditions, the availability of agricultural products and natural materials, and the handing down of skills from one generation to the next.

Marketplace



SURMOUNTING CHALLENGES OF COVID-19 PANDEMIC

COVID-19 has shaken the world in many unprecedented ways, and its repercussions are still difficult to assess. In Thailand, both the physical and psychological health of countless individuals, families and communities were greatly impacted while many victims were claimed by the virus. The pandemic affected many businesses and the lives of the most vulnerable in the society.



Since its inception, WHA Group has been looking after the well-being not just of the communities located around its industrial estates, but also of the widest number of people it can reach. During these tiring times, the company deployed numerous initiatives as below to adjust to the situation and support those in need.



- Tackling the COVID-19 Crisis Together

Despite the anxiety and uncertainty brought about by the COVID-19 pandemic, WHA Group did not slow down its efforts to make a difference in the lives of its neighbors. WHA Group donated a brand new vehicle to be used by the local police to ensure safe working and living environment for all. Furthermore, to help protect medical front liners bravely serving COVID-19 patients at Ban Khai Hospital, the Group donated a much-needed negative pressure cabinet built to prevent the proliferation of germs and viruses; it is crucial for reducing the risk of infection among patients and medical staff. Food packs



were distributed to vulnerable families with limited access to food or who suffered economic consequences as a result of the pandemic. In conjunction with Thai Red Cross Rayong Chapter and Rayong Hospital, a blood donation event was organized to ensure that blood supply is always adequate and ready for those in need.



Over at Aor Bor Tor Nong Sua Chang community, the Group representatives provided care packages containing first aid kits, adult diapers, soaps and basic medicines to senior citizens and those who suffer from limited or impaired mobility. WHA Group's employees also participated in a clean-up activity in Ban Khai district, creating a stronger bond with local residents through environmental awareness.



- Supporting Local Front Liners and First Responders
- Helping the Community Observe Health and Safety Protocols



WHA Group teams were also busy distributing KN-95 masks and hand sanitizers to Pluakdaeng Hospital in Rayong, the Pattaya Administrative Office and other public institutions in the Eastern Economic Corridor. They also went to Maenamkoo district in Rayong to provide support for the manufacturers of masks for monks and villagers.

The Group handed over 1,000 Personal Protective Equipment (PPE) suits to Ramathibodi Hospital to be distributed to hospitals nationwide. In addition, over 5,000 KN-95 masks were also given to various provincial health administrations and hospitals across the country to ensure that medical staff members are properly protected from catching the virus. A substantial amount of money also went to help front liners who bravely and selflessly performed their duties.

Since the start of the outbreak, the Group has been distributing hand sanitizers to 65 local schools, as well as hospitals, healthcare centers and provincial administrative offices. In addition to this donation, the Group executives and staff also reached out to schools and child development centers to promote personal hygiene and health awareness through interactive games to keep students safe as schools reopened.

Food donations, consisting of nutritious food packs and freshly-cooked meals were also arranged through a giving back program called We Care for Nong Kae for the province of Saraburi to relieve the impact of COVID-19 on vulnerable residents of the nearby communities.



• **WHA E-Job Market**

In 2020, WHA Group collaborated with public companies and industrial operators within the Group’s premises, in Rayong and Chonburi provinces, in organizing “WHA E-Job Market” Project.



WHA E-Job Market, an online platform that will match its customers’ recruitment needs with the qualifications of job seekers. As part of WHA Group’s CSR initiatives, the E-Job Market program is easily accessible through the company’s website. WHA’s website is also linked to the Vocational Education Commission’s website where vocational and/ or technical graduates nationwide can visit and check job announcements.



The project aims to increase the hiring rate for the surrounding communities in the time of COVID-19 pandemic by offering jobs within the industrial premises. There were 149 job positions/ roles opportunities and 400 community members submitted their applications through this project.

ENVIRONMENT DEVELOPMENT PROJECTS

WHA Group conducted the following initiatives to raise awareness, create a better understanding and highlight the importance of the environment in order to instill a sense of responsibility among the community members to take care of its precious natural resources.

CLEAN WATER FOR PLANET

Established in 2016, the Clean Water for Planet project is comprised of three key activities as detailed below.



1) TRAINING COURSES FOR STUDENTS AND KNOWLEDGE-SHARING WITH LOCAL ORGANIZATIONS.

Collaborating with Chulalongkorn University, WHA Group offers training courses on water conservation and wastewater management to engineering students. Every year, WHA Group offers internship programs for university students to gain newfound knowledge from the Group's expertise and specialization in wastewater and water management services. In 2020, there were seven students participating in the internship program



2) LEARNING CENTERS TO TACKLE ENVIRONMENTAL ISSUES WITHIN WHA GROUP'S INDUSTRIAL ESTATES.

In 2020, there were a total of eight visiting groups that visited and observed WHA Group's expertise in wastewater treatment at the constructed wetland project. The visitor groups comprised of provincial governmental authorities, representatives from Industrial Estate Authority of Thailand and local members.

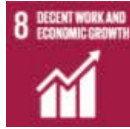


3) PROVIDE CLEAN WATER FOR LOCAL COMMUNITIES.

One of the greatest achievements from this program, to-date, is the completion of a constructed wetland system that was delivered to Pluak Dang Sub-District Office in Rayong province. See the overall treatment process of the wetland system in the Water Management chapter.

Moving forward, WHA Group has established a plan to develop similar sustainable wastewater treatment system at Nong-kla municipality, Chantaburi province. The system is estimated to treat up to 800 cubic meter of wastewater/ day. WHA Group sees the two-way benefits of this project as it provides the Nong Kla communities with access to clean water source, and the Group can reserve such water supply as backup in the event of droughts. Construction will begin in 2021.

Overall, the Clean Water for Planet Project received the FIABCI- Thai Prix d' Excellence Award 2020 in the Environmental (Rehabilitation/Conservation) Category for its tremendous results in the overall environmental impact and benefits to the local communities around WHA Group's industrial estates.



WATER HYACINTH PROJECT

To generate additional income flows toward the local communities of its operations, WHA Eastern Seaboard Industrial Estate (WHA ESIE) implemented an initiative for its surrounding community in the Baan Kai District, Rayong province in 2020. The community can take unwanted water hyacinths from WHA ESIE’s wastewater



polishing pond on a monthly basis without charge, and use for producing and selling straw woven baskets. This helped the community generate income, save cost from purchasing such water hyacinths that is approximately 80-100 Baht per bundle or 100 strands, and have a secure source of raw material on a monthly basis. Coherently, WHA ESIE was able to save approximately 15,000 Baht per month on contractor expenses for removing such water hyacinths. In addition, WHA ESIE designed and provided the community with dryers that cost altogether 50,000 Baht to further improve the woven basket’s quality in terms of moisture content, extending the product’s life span. Furthermore, the Group supported this business by purchasing 300 woven baskets from the local community to make use as new year gifts in 2021, in which the recipient portrayed satisfaction towards the gifts received. This contributed to 120,000 Baht of income to the community. In addition, the woven baskets are also promoted and sold via WHA Group’s PAN GAN online market place. By purchasing and making use of the woven baskets and other goods sold through PAN GAN as new year gifts, WHA Group were able to save 25% of expenses compared to purchasing from other sources.





GREEN EFFORTS PROJECT

WHA Group participated in a reforestation project with community volunteers to plant 200 samplings of indigenous trees such as afzelia xylocarpa, lamduan, and mahogany at a tropical forest in Bo Win sub-district. Students of Ban Khao Hin School in Chonburi were also invited so they could learn the importance of trees to the ecosystem and the impacts of climate change on daily lives. Aside from offering shade, healthy trees provide oxygen and minimize carbon in the air, while providing food and shelter for wildlife, and maintaining favorable water and soil conditions.

In addition, WHA Group and the local authorities, industrial operators and communities conducted a Tree-Planting Project to restore the ecosystem and promote biodiversity at the Khao Kheow Chomphu Wildlife Sanctuary in Chonburi. The Group supported 30,000 Baht to purchase 1000 seedlings that were planted within an area of 7-00-88 Rai in the Sanctuary.

Another activity on the green agenda was teaching children about recycling and practicing environmentally-friendly lifestyle. WHA Group's employees delivered color-coded trash bins to the Ban Phan Sadet Nok School in Sri Racha, Chonburi province, and explained to the students the concept of sorting and recycling to keep the planet clean. The young students participated in interesting discussions on how to sort waste materials and listened to suggestions and tips concerning waste reduction and reuse. Sharing the importance of doing good deeds for nature and the environment can start at a very young age.





MARINE ECOSYSTEM PRESERVATION

WHA Group’s employees had a chance to visit the local communities on a 2-day Community Visit event, in Toei Ngam Beach, Sattahip Naval Base in Chonburi province. Together with the community leaders and local residents, WHA Group Team visited the site in order to learn more about how to protect and preserve Thailand’s tropical ecosystem. The overviews were given by the Royal Thai Marine Corps’. The first initiative launched on-site was the mangrove forest planting project. WHA Group Team also got an opportunity to participate in environmental-related activities along with the community members such as releasing baby nurse sharks back into sea, an activity aiming to contribute to the balance of nature. Moreover, the community members also joined in the planting of coral, using artificial planting beds. Corals are home to fish and other sea creatures, therefore, increasing the amount of live coral under the sea will increase the biodiversity of the fish population as well.



“Ecological balance is very important for coastal communities to survive. They depend on the sea for a stable supply of food and a source of income. Enhancing awareness for preserving marine life is necessary for the well-being of the people and can lead to positive impact on different communities” - said Ms. Siyaphas Chantachairoj, Director — Corporate Marketing, WHA Corporation PCL.



ENVIRONMENT

DIMENSION



ENVIRONMENTAL IMPACT MANAGEMENT



It has always been WHA Group's policy and focus to ensure that the Group's business operations, surrounding communities and the environment co-exist in a harmonious and sustainable manner. In support of this, WHA Group is aware of the paramount importance regarding environmental management and resource conservation. Hence, WHA Group has sought for a sustainable operation, emphasizing on a practical environmental management system. This includes the active management and monitoring of key environmental parameters including biodiversity responsibility, wastewater quality, waste disposal, emissions and resource conservations. These are the key parameters based on the nature of WHA Group's operations in connection with customers, suppliers and surrounding communities, as well as the ability to influence the Group's business operations.

WHA Group's efforts to drive sustainable operations are governed by the Group's Environmental Quality, Energy Conservation and Biodiversity Policy, which was approved by the Board of Directors. The Policy

outlines WHA Group's commitment to prevent and minimize environmental impacts whilst continuing to improve quality, ensure regulatory conformances and align practices with international standards including the International Organization for Standardization (ISO) 14001 Environmental Management System and ISO-9001 Quality Management System. Hence, providing a framework to ensure consistent environmental management approach across all WHA Group's business hubs.

ENVIRONMENTAL STANDARD AND PERFORMANCE ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATE

In highlight of the Group's operational practices regarding environmental management, WHA Industrial Development (WHAID) and WHA Utilities and Power (WHAUP) has been certified in accordance with international standards, notably the International Organization for Standardization (ISO) 14001: Environmental Management System.

ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

Adhering to the requirements and conditions as prescribed under the Promotion and Conservation of National Environmental Quality Act, B.E. 2535 (1992), all of WHA Group's required projects have undergone the Environmental Impact Assessment (EIA) Study. The EIA study takes into account of the environmental and social impacts within a 5 kilometer radius of the project premises to ensure that such impacts are monitored, mitigated and controlled in an appropriate manner. The EIA is subjected for approval from the Office of Natural Resources and Environmental Policy and Planning (ONEP) prior to proceeding of project construction, commencement and operation phases.

Following this, WHA Group makes certain that all environmental schemes as stated under the EIA requirements are conformed. The project's performances against the EIA requirements and standards are monitored and reported to the Industrial Estate of Authority of Thailand (IEAT), Natural Resource and Environmental Policy and Planning, local provincial offices on a bi-annual basis, covering the periods of January-June and July-December, respectively. In 2020, no monitoring parameters were found to be non-compliant with environmental related laws and the EIA requirements. Furthermore, WHA Group also oversees the overall environmental management schemes of its customers located within the industrial complex to ensure best practices, and that regulated requirements are complied. If not, WHA Group will further coordinate with the IEAT to take further actions, as appropriate. Additional environmental practices with the customers in accordance with the EIA requirements are as stated in the subsequent chapters.



TARGET

100% EIA COMPLIANCE

UNIFIED OPERATIONS CENTER (UOC)

In 2019, the Unified Operations Center (UOC) system was implemented to centralize, consolidate and project



WHA UNIFIED OPERATIONS CENTER

results from the following three monitoring systems offered at the Group's industrial estates. The key drivers for developing the UOC system was due to the regulatory agencies' requirement to publicize real-time results to the public, and WHA Group's desire to be transparent with its environmental monitoring results.

1. Environmental Monitoring and Control Center (EMCC)

focuses on five monitoring components as follows.

- Real-time Water Quality Monitoring Station (WQMS) monitors treated wastewater quality prior to discharging to natural sources. The monitoring parameters include: organic substances, chemical oxygen demand (COD) levels and bio-chemical oxygen demand (BOD) levels. In the event of a non-compliance, an alert will be sent to the relevant operators for immediate remediating actions to pump and retreat until compliance is met.
- Real-time Air Quality Monitoring Station (AQMS) monitors Total Suspended Particulates (TSP), Particulate Matter (PM-10), Sulfur dioxide (SO₂) and Nitrogen dioxide (NO₂) in ambient air. Additionally, meteorological data such as, wind speed and wind direction, are also monitored accordingly.

- The EMCC discloses environmental monitoring results of the industrial estates as per the EIA requirements. Examples of indicators include ambient volatile organic compounds quality, noise pollution and surface water quality, etc.
- The EMCC provides a channel for factory operators located within the industrial estates to submit their environmental reports as per their respective EIA requirements. Examples of submission reports include air emission quality via stack, EIA compliance, risk analysis or boiler/ steam generator inspection report. The IEAT can effectively review the submitted reports through this system, which also helps to reduce paper consumption.
- Complaints received via available channels are recorded and tracked through this EMCC system until completion following the complaint handling

process. Received complaints are logged into the system, and notified to the responsible personnel to proceed with required response actions.

2. Closed Circuit TV (CCTV) and Vehicle Management System (VMS) Center

Data from all CCTV installed at critical points around the industrial estates' common areas are projected at the UOC. This allows the emergency response team to easily spot and take immediate actions, if required. VMS is also used for collecting all traffic related information at the main entrance of the Industrial Estates, such as license plate number and time of vehicle entry and exit, for better traffic management and safety reasons.



3. Water and Wastewater Treatment Plant Control Center

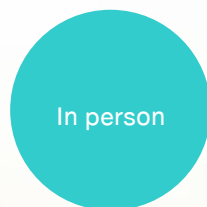
This Center projects and controls the performances of the equipment operated at the water and wastewater treatment facilities. This ensures that both the water and wastewater quality are in compliance with the threshold prior to being supplied to end-users or discharged into public waterways, respectively.





ENVIRONMENTAL COMPLAINT HANDLING PROCESS

Incorporated 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. Compliant handling process is as per guidelines prescribed under ISO14001:2015 where root causes will be identified, and appropriate preventive and mitigation measures will be implemented to prevent future reoccurrences. Available channels include:



In 2020, WHA Group received a total of 8 complaint cases, raised by factories in the industrial estates, on odor concerns generated from other factories. WHA Group then followed the compliant handling process and, as a result, were able to resolve the cases accordingly.



ENVIRONMENTAL SCHEMES AS PER GOVERNMENT POLICY

ECO-INDUSTRIAL TOWN DEVELOPMENT

Eco-Industrial Town is an initiative implemented by the IEAT to promote and gear the economic development and environmental sustainability of industrial estates. The IEAT has specified five dimensions of standard criteria for granting of an Eco-Industrial Town award, consisting of physical, economic, social, environmental, and management which assesses the industrial estate's performances on organization governance, human rights, labor practices, environment, community involvement and development. There are three levels of Eco-Industrial Town development award, namely Eco-Champion, Eco-Excellence and Eco-World Class.

As of 2020, four out of ten of WHA Group's industrial estates have received the Eco-Industrial Town award in the Eco-Champion level. This includes Eastern Seaboard Industrial Estate (Rayong) (ESIE), WHA Chonburi Industrial Estate 1 (WHA CIE 1), WHA Eastern Seaboard Industrial Estate 1 (WHA ESIE 1) and WHA Chonburi Industrial Estate 2 (WHA CIE 2). Moreover, WHA Eastern Industrial Estate (WHA EIE) raised its profile from being an Eco-Champion Industrial Estate to be granted with the Eco-Excellence award. These industrial estates were recognized for their outstanding commitments in operating a conscious yet sustainability driven industrial estate that is in line with the SMART and Eco-Industrial Town concept.

WHA ESIE ALSO RECEIVED A SPECIAL ECO-INDUSTRIAL TOWN 4.0 AWARD IN THE SMART WATER CATEGORY IN 2020.



ENVIRONMENTAL GOVERNANCE AUDIT

The Environmental Governance Audit (White Flag Green Star) is a program initiated by the IEAT to recognize factories with excellent environmental and social performances. Through this program, factories will conduct open-house activities for auditors to assess their manufacturing processes, pollution management procedures and social engagement programs. WHA Group, along with government officials, communities and field experts participated as one of the auditors to assess the factories located in the Group's industrial estates. In 2020, a total of 40 factories across the Group's industrial estates (i.e. 2 at ESIE, 2 at WHA ESIE 1, 2 at WHA CIE 1) were certified with the 'White Flag, Green Star' certification.



BIODIVERSITY

As a leading industrial developer that houses factories on extensive areas of land across Thailand, WHA Group fully understands the potential impacts posed on the environment and biodiversity (i.e. living organisms, species, habitats). There is an urgent alarm, signaling to operators causing potential human interventions, to preserve and protect the ecosystem from such anthropogenic impacts. Hence, it is WHA Groups' responsibility to protect the environment that it operates in, and minimize potential impacts to biodiversity in the local areas.



MANAGEMENT APPROACH

WHA Group's vision towards biodiversity protection is encapsulated under the Environmental Quality, Energy Conservation and Biodiversity Policy. The Policy amplifies WHA Group's commitment and sets a framework towards the conservation of biodiversity of the ecosystems, landscapes and species of the territories in which all its business hubs operate. Furthermore, an Environmental Impact Assessment (EIA) study for all WHA Group's industrial estates was also conducted to assess specific biodiversity risks throughout project construction to operation phases. As part of the EIA

study, the project specific biodiversity risks are assessed. In the event that the project is located within areas with high-biodiversity risks or that its activities pose impacts to neighboring biodiversity, the respective project is required to determine mitigation measures to ensure that the ecosystem is well protected and preserved. WHA Group's responsible Environment Department is assigned to follow through with the identified mitigation and monitoring measures throughout the project life cycle.

BIODIVERSITY PROTECTION MEASURES

Following the EIA process, it was highlighted that three out of ten total WHA industrial estates were identified to have biodiversity concerns due to its close proximity to protected areas. These three industrial estates are WHA Chonburi Industrial Estate 2 (WHA CIE 2) and WHA Eastern Seaboard Industrial Estate 2 (WHA ESIE 2) that are located near Khao Khiao-Khao Chompu Wildlife Sanctuary in Chonburi province, and WHA Eastern Seaboard Industrial Estate 4 (WHA ESIE 4) that is located near Nong Pla Lai canal. Biodiversity within the canal is of a concern as it is a discharging point of treated wastewater from WHA ESIE 4.



WHA Group ensures to follow through with the precautionary actions and mitigations measures identified under the respective industrial estate's EIA report. For instance at WHA ESIE 2, the Group is obliged to monitor the species count and abundance of wildlife within the industrial complex and surrounding areas every two years. In addition, WHA ESIE 2 shall also monitor the ambient air quality, and provides support towards the research conducted by local forest conservation organizations or education institutions on the impacts of industrial operation towards the ecosystem. Specifically for WHA ESIE 4, it is required to monitor nearby aquatic ecology within the canal that the industrial estate discharges its treated wastewater into. A baseline study of each biodiversity parameters (i.e. phytoplankton, zooplankton, aquatic animals,

aquatic plants and benthos) were sampled to allow for comparison with the monitoring results. Such monitoring methodology is conducted at the upstream and downstream of the wastewater discharging point on a bi-annual basis. Based on 2020 monitoring results, the diversity index remains at a moderate level, reinstating that no drastic impacts to biodiversity was observed due to WHA ESIE 4's operation. All EIA required monitoring results are reported to the local authorities as well as to the Industrial Estate EIA Committee. Furthermore, biodiversity risks at WHA ESIE 2 and WHA CIE 2 are re-assessed every two years, as per required by the EIA, to investigate changes and additional impacts consequent to the industrial developments on forest resources and wildlife.

WATER MANAGEMENT

Water is fundamental to our health, social and economic development as well as to the ecosystem. Potential impacts by the expansion of industrial operations and climate change could ultimately result in the degradation of the natural environment. Subsequently, shifts in precipitation patterns could occur, thus, resulting in low water levels in reservoirs. As a result, utility service providers could be faced with challenges to ensure safe and sufficient water supply for its business operations. Alternatively, societal and environmental pressures over the recent years have also led to a forward movement for water industries to reduce generated wastewater and ensure acceptable quality prior to discharging to natural waterways.



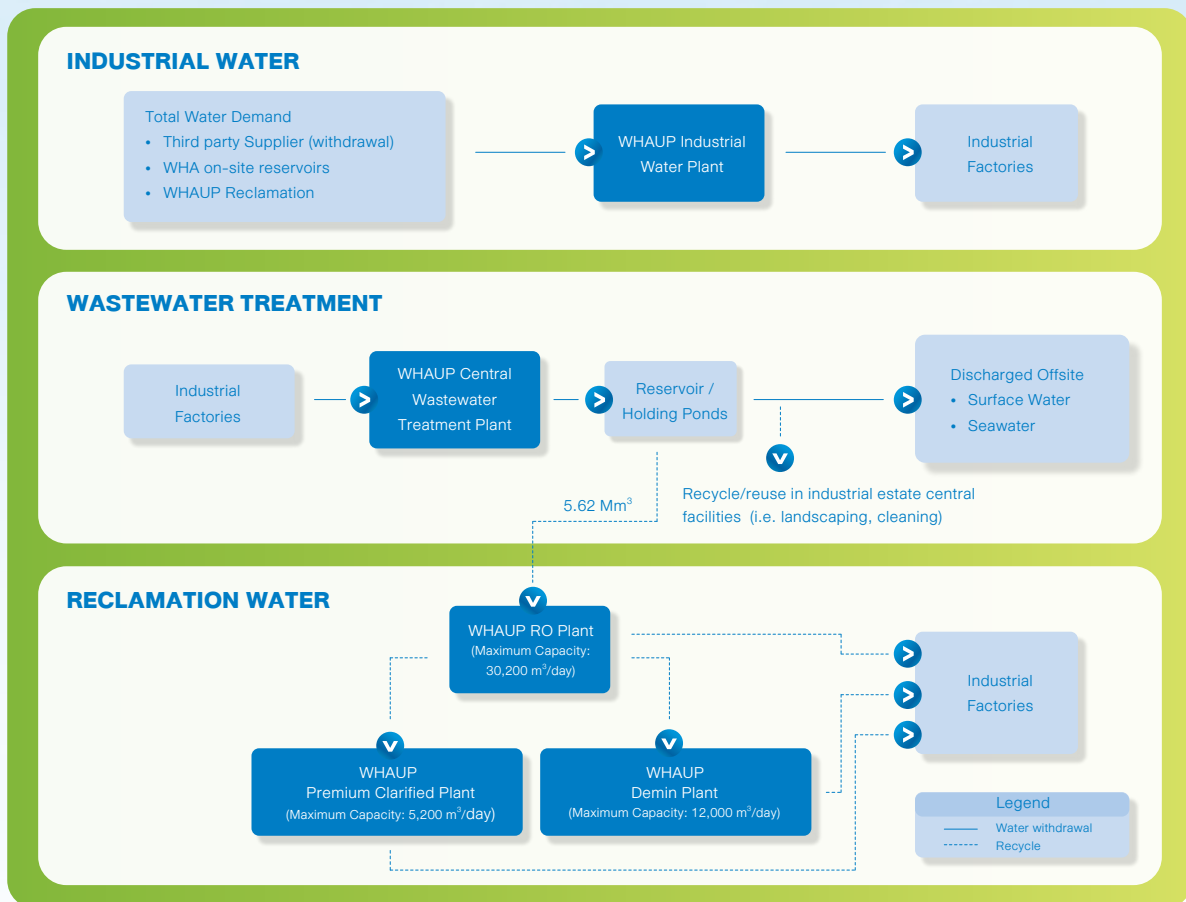
As a provider of industrial water supply and provision of wastewater treatment facilities, water is inevitably a critical shared resource for WHA Group's business operation. Industrial operators located within the Group's industrial estates utilize such provided industrial water and wastewater treatment services, and at the same time, water sources are also shared with the local communities. WHA Group, therefore, recognizes that optimizing treated wastewater along with other efficient water consumption and impact prevention practices are a circular, more sustainable approach to responsibly conserve and manage water resources for its value chain.



MANAGEMENT APPROACH

Water management across WHA Group’s four business hubs are governed by the Environmental Quality, Energy Conservation and Biodiversity Policy that was endorsed by the managements. The Policy provides guidelines to ensure effective water balance without posing negative impacts to the nature. Water management at WHA Industrial Development (WHAID) and WHA Utilities and Power (WHAUP) are overseen by the established Industrial Estate Operator (IEO) Department.

Fundamentally, the Group abides by the regulatory requirements associated with water management as instated by the Ministry of Natural Resources, Industrial Estate Authority of Thailand Act, B.E. 2522 (1979) and Factory Act, B.E. 2535 (1992). Additionally, the Group also follows through with the water-related assessment results and mitigation measures identified under the respective Environmental Impact Assessment (EIA) study.



WASTEWATER TREATMENT

For the wastewater treatment service, WHAUP monitors the wastewater quality against the standards on a regular basis. Sampling of wastewater generated from customers prior to treatment via the central wastewater treatment facility are conducted on a monthly basis for parameters including: heavy metals, conductivity, pH, total dissolved solid (TDS) and dissolved oxygen (DO). The parameters are monitored against the standards as prescribed under the respective EIA report. This enables the detection and prevention of potential impacts to the treatment efficiency of the central wastewater treatment

facilities. In the event that the sampled wastewater generated from the customers exceed the permitted threshold, the Group will pursue with the following measures:

1. Issuance of an official warning letter to inform and authorize for the operators to re-treat its wastewater;
2. If the issue is not remediated, receiving valve at the central wastewater treatment facility will be closed;
3. Stop supplying industrial water; and
4. Contact Industrial Estate Authority of Thailand (IEAT) to take further actions (e.g. operation termination until remediation).

WHAUP offers wastewater treatment technologies at each industrial estate that is most suitable for the customers' industrial activities including activated sludge system, aerated lagoon system and the hybrid rotation biological contactor system (Hybrid-RBC). The Hybrid-RBC system is a combination of the rotation biological contractor and activated sludge system, which is capable to treat wastewater with higher organic loading rates. Once treated at the central wastewater treatment facility, the wastewater quality

are inspected against the standards prescribed by the Ministry of Natural Resources and Environment, Ministry of Industry, Industrial Estate Authority of Thailand and the respective EIA study prior to discharge. The monitored parameters include heavy metals, pH, temperature, biological oxygen demand, chemical oxygen demand, grease and oil, suspended solid and total dissolved solid (TDS). In 2020, all monitoring parameters complied with the prescribed standards.



INDUSTRIAL WATER SUPPLY

For industrial water service, WHA Group recognizes the importance of water availability for its business, and that it is a shared resource amongst industrial operators, local communities and the environment. Due to the severe drought periods that Thailand faced in 2020, the IEAT and Federation of Thai Industries (FTI) have announced a 10% water reduction plan throughout January till June 2020 to ensure sufficient water supply in the country. Drought, as a result, was identified as one of the Group's corporate risk, in which the implemented mitigation measures are as detailed in the Climate Change chapter. To build customers' confidence and take part in the water reduction scheme, WHA Group established a long-term target to double the reclamation capacity from 30,200 m³ per day in 2020 to 60,400 m³ per day by 2025 for industrial use. This, in turns, will reduce the volume of raw water withdrawal from natural sources.

Correspondingly, WHA Group has invested 300 million Baht in 2020 to increase the capacity of the reclamation system at WHA Eastern Industrial Estate (WHA EIE) from 10,000 m³/day to 15,000 m³/day. Additionally, the reclamation system at WHA Eastern Seaboard Industrial Estate (WHA ESIE) has a capacity of 5,200 m³/day. Therefore, the total reclamation profile of the Group is equivalent to 20,200 m³/day. Through such reclamation systems, the Group was able to reduce and minimize 5.62 Mm³ of total water withdrawal and water discharge in 2020, which is approximately 32%



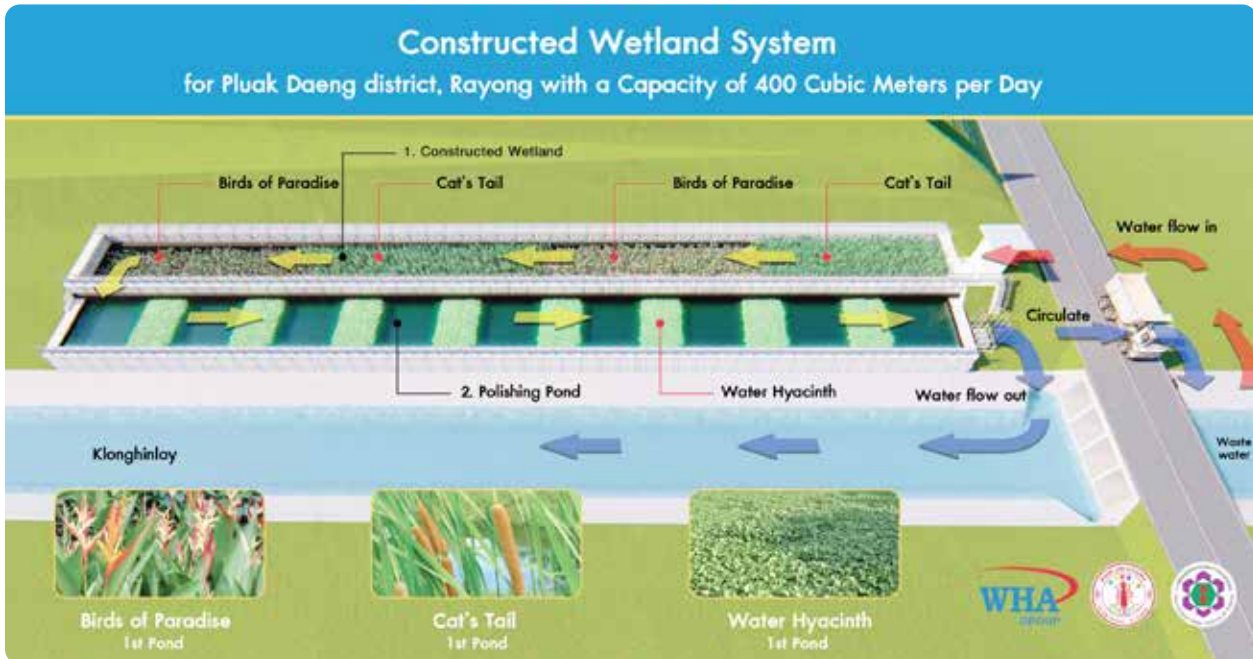
higher than the reclamation performance in 2019. By this reclamation program, the Group could save cost on raw water sourcing by 81.1 million Baht annually.

In addition, WHA Group applies the 3R (Reduce, Re-use, Recycle) and the circular economy principles to recycle treated wastewater for cleaning and landscaping purposes within the Group's industrial estates. Furthermore, WHA ESIE also invested in 66,000 Baht in 2020 to connect HDPE pipe from the main reuse water pipe to its flushing system to reuse water for flushing in toilet. Altogether, reusing of treated wastewater has reduced a total volume of water withdrawal from natural sources by 1.22 Mm³ in 2020. With the reclamation system and water reuse practices, the Group was able to recycle 6.85 Mm³ of water, thus reduced water consumption by 10.5% of the total water withdrawal.



WATER MANAGEMENT FOR COMMUNITY

Scoping beyond WHA Group's own productions and services, the Group also prioritizes supporting the enhancement of wastewater treatment facilities for neighboring communities. Such dedication is carried out under the "Clean Water for Planet" project.



Clean Water for Planet project was first launched in 2016 with the main objectives to raise awareness, create better understanding and highlight the importance of water in hopes to instill a sense of responsibility within community members to protect precious natural resources. As one of its community development projects, WHA Group initiated to construct and deliver wastewater treatment facilities to local communities for treatment water quality within the canal. The wastewater treatment facility is a wetland that optimizes biological plants and microorganisms to naturally treat the water quality. This is an eco-friendly, cost-effective and low maintenance wastewater treatment approach inspired by the late H.M. King Bhumibol Adulyadej The Great (King Rama IX). Presently, WHA Group has successfully delivered this facility to the Pluak Daeng Sub-district Administrative Organization in Rayong Province which treats surface water from upstream of Hin Loi Canal that passes through dense community areas. The constructed wetland has a treatment capacity of 400 m³ per day, allowing a reduction of organic compound by 80%.

With the successfully delivery of this facility to the Pluak Daeng Sub-district Administrative Organization in Rayong Province, WHA Group plans to take part in the development of a wetland project at Nongkla municipality, Chantaburi province. The expected treatment capacity is 800 m³ per day in which construction will begin in 2021.



In collaboration with the IEAT, the Water and Environmental Institute for Sustainability and WHA Group showcased the Clean Water for Planet initiative to Khlong Wang Tanode Basin Committee — a local water basin committee; inspiring other working groups to follow the footsteps that WHA Group has paved.

WASTE MANAGEMENT

In light of population growth, the continuous urbanization and industrialization - the increase in production of waste is unavoidable. As a result, it topples the level of pressure and challenges created on industrial operators to efficiently and sustainably manage waste. Unsustainable treatment of municipal and/or industrial solid waste only amplifies the burden on the environment as well as to the general public health. Correspondingly, WHA Group is putting continuous efforts in order to reduce waste generation from its own operations and ensure proper waste management practices are implemented across its business operations.

MANAGEMENT APPROACH

Due to the diversity of WHA Group's business hubs, there are various types of waste generation from operational activities as a whole. The primary contributors toward the Group's absolute waste footprint are non-hazardous waste associated with domestic wastes from all four business hubs and sludge generated from water and wastewater treatment facilities under WHA Utilities and Power (WHAUP) services, and hazardous industrial

waste. Moreover, WHA Group acknowledges that there are a significant amount of waste generated during the construction of its infrastructures. Thereby, the Group ensures that the selection of suppliers for its construction materials take into account the environmental and social impacts (see more information at Supply Chain Management chapter).

WHA Groups' efforts toward waste management across four business hubs are governed by the Environmental Quality, Energy Conservation and Biodiversity Policy, respective waste management procedures and the Environmental Impact Assessment (EIA) study. A Waste Management Committee was established to oversee and ensure proper waste management practices in adherence to the regulatory requirements. The Committee is responsible for monitoring and categorizing different types of waste generated from operations and instigate effective waste management schemes. In 2020, the Group targets to ensure the proportion of waste to landfill or incineration is below 50% in 2021 and below 20% by 2025 without energy recovery.



WASTE MANAGEMENT INITIATIVES

In 2020, WHA Group has managed to reduce the proportion of solid waste disposed by landfill or incineration (without energy recovery) methods to total amount of waste generation from 91.01% in 2019 to 59.50% in 2020, respectively. The reduction was achieved through a combination of initiatives and efforts, such as conducting research and development on reuse and recycling processes along with investment in technological advancements to provide alternate

solutions to landfilling or incineration. Other initiatives include providing useful resources, and engaging with customers and communities in order to raise awareness and promote sustainability in waste management processes and systems. Waste management projects, focusing on reduce, reuse and recycle to contribute to reduce landfill and incineration (without energy recovery) ambition are as highlighted in the following subsections.



PERCENTAGE OF WASTE TO LANDFILL AND INCINERATION

(WITH NO ENERGY RECOVERY)

2018	2019	2020
61.0%	99.7%	53.7%

TARGET

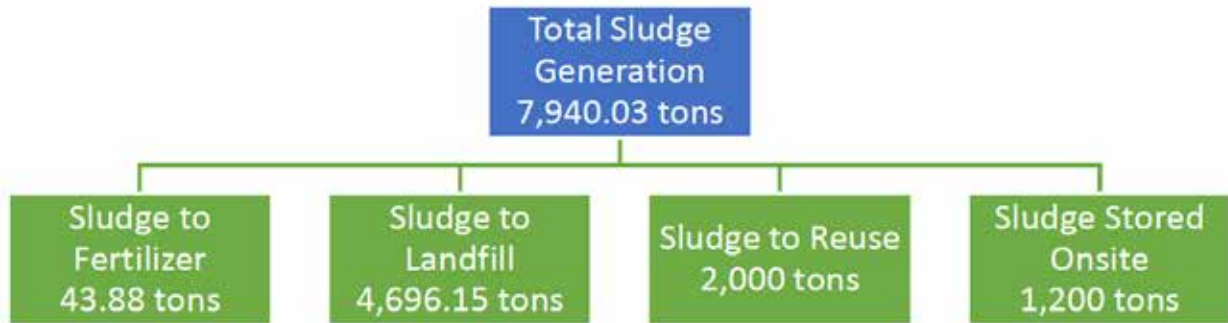
REDUCE PROPORTION OF LANDFILL AND INCINERATION BELOW 50% IN 2021 AND BELOW 20% BY 2025 (WITH NO ENERGY RECOVERY)



SLUDGE TO FERTILIZER

To reduce waste disposal through landfill or incineration methods, WHA Group identified an opportunity to divert sludge generated from WHAUP’s water and wastewater treatment plants to produce fertile soil. Such material are used for soil conditioning purposes throughout the industrial complex. Through aerobic composting, quality of the fertile soil are analyzed to ensure that there are no

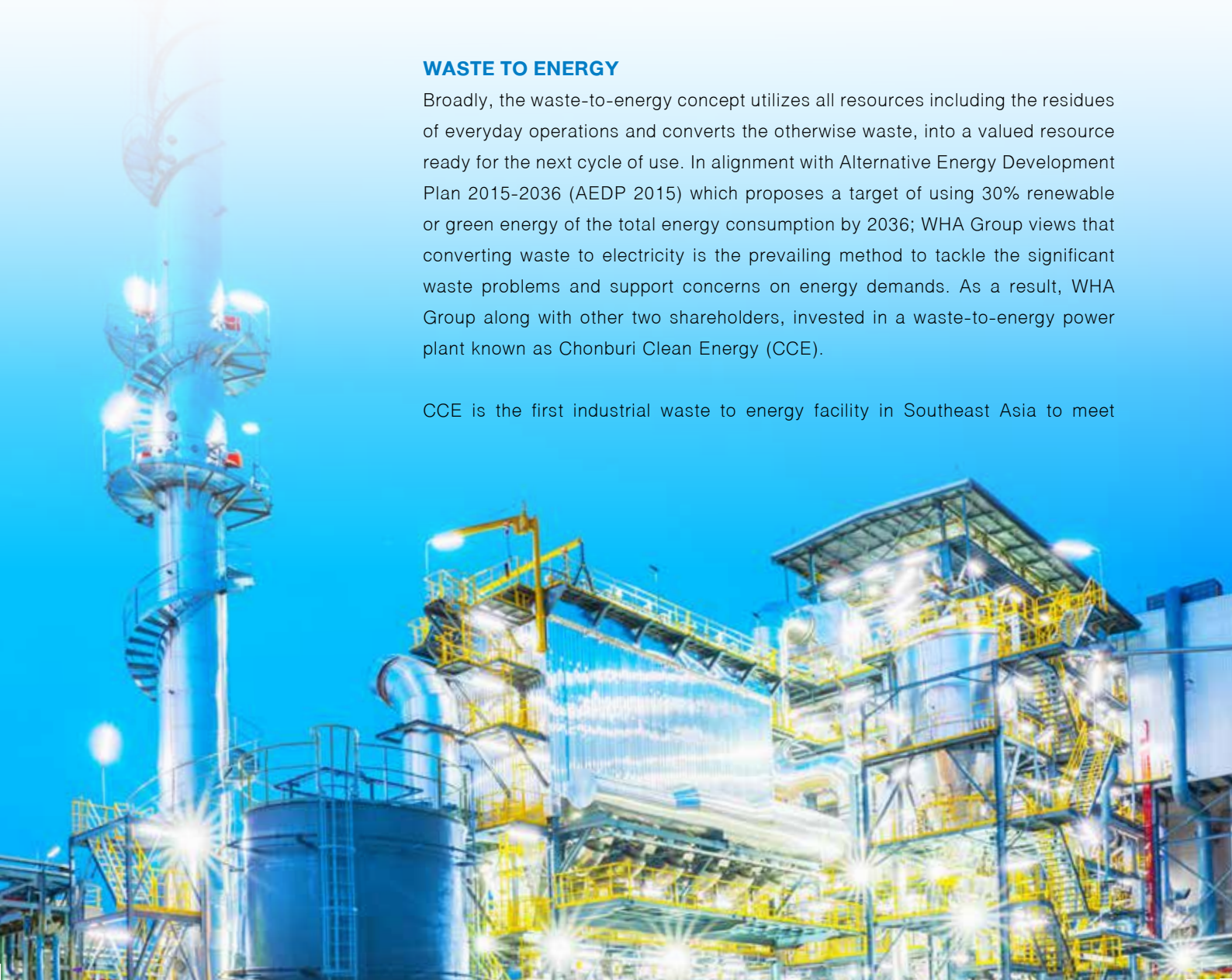
contaminants of heavy metals or high levels of organic compounds or pathogens. Starting in 2020, up to 23.94 tons of sludge were converted to fertile soil instead of being disposed via landfill/incineration methods. In 2021, WHA Group aims to produce fertile soil from 1,000 tons of sludge.



WASTE TO ENERGY

Broadly, the waste-to-energy concept utilizes all resources including the residues of everyday operations and converts the otherwise waste, into a valued resource ready for the next cycle of use. In alignment with Alternative Energy Development Plan 2015-2036 (AEDP 2015) which proposes a target of using 30% renewable or green energy of the total energy consumption by 2036; WHA Group views that converting waste to electricity is the prevailing method to tackle the significant waste problems and support concerns on energy demands. As a result, WHA Group along with other two shareholders, invested in a waste-to-energy power plant known as Chonburi Clean Energy (CCE).

CCE is the first industrial waste to energy facility in Southeast Asia to meet



Grate incineration and horizontal boiler
The power plant is designed using the most reliable technology in the market waste grate incineration. The process is designed to have, in all circumstances, a flue gas temperature greater than 850°C for more than 2s to ensure complete destruction of dioxins and furans. The boiler is designed using low NOx combustion technology which allow high availability of the power plant.

Flue gas cleaning
The power plant is designed with the most proven and reliable flue gas treatment technology, an efficient Dry flue gas cleaning equipped with:
• SNCR in first pass of the furnace to reduce NO_x,
• SO₂ and acid control
• Dioxins and heavy metal control
• Dust and particle control

Continuous emission monitoring system (CEMS)
The project will be completely transparent on emissions with on-line display for:
• The authorities
• The public via internet

Tipping hall and bunker
Enclosed tipping hall and bunker, designed for optimum traffic flow and storage. Minimized odor and dust emissions with negative pressure and odour control system. Optimized mixing for stable and reliable operation.

Turbine hall
Efficient and reliable 8.63 MW steam turbines.

Why it's Better?

- Socially useful**
 - Annual save around 22,400 t of CO₂ emissions. (Electricity generated in Thailand kg CO₂, 0.41 2019 data)
- Fully-Compliant**
 - Thai Regulation
 - Zero Waste to Landfill internal policy
 - Reduce Reuse Recycle internal policy
 - Full Traceability policy & ISO 14001
- Better than Landfill Solution**
 - Produces enough green sustainable energy for 10,000 homes (This consumption data 2019 - \$11 kWh a month)
 - Energy recovery
 - No land heritage for next generations
 - No risk of soil pollution
- Better Efficiency**
 - High efficiency of the energy recovery
 - Adapted to a wide range of waste
 - No pre-treatment needed

Energy Generation from Wastes

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 300 tons per day, or approximately 100,000 tons per year, enabling a maximum output of 8.63 MW

of electricity energy per year.

In 2020, WHA Group has signed a contract agreement with its waste management service provider, Waste Management Siam, to send waste acquired from all industrial factories. Then, WMS will partly send the industrial waste to CCE for energy recovery. As a result, those waste will be diverted from landfill/incineration disposal methods.

PAPERLESS TRANSFORMATION THROUGH

COD Nov 7 2019 - Nov 30th 2020

- 90,025 tons Waste Incinerated**
- 270,000 m³ Landfill Space Saving or = 1.6 times Mahanakhon Tower**
- 56,000,000 kWh Electricity Produced**
- Supplies 7,000 homes or = 2,500 medium sized businesses or = 1,000 large businesses**
- 22,000 tons Carbon Savings or = 7,000 cars per year**

**Information as of 7 Nov 2020*



COVID-19

Accelerated by the effects of the global pandemic COVID-19, adoption of digital technologies has quickly been taken up. For businesses worldwide, including WHA Group, the use of digital technologies have helped reduce face-to-face interactions and safeguard the well-being of employees. Communication, information, and meetings are all made through online platforms, ultimately reducing the Group's consumption of paper. Along with the Group's "E-Paperless" project that was implemented to all business hubs as well as part of the Group's digital transformation aspiration, use of technological appliances are encouraged and promoted. WHA Group provides Executives with tablet appliances to create a paperless culture. Meeting slides, reports, inspection forms and minutes are therefore readily accessible and retrieved. In 2020, the initiative helped avoid 190,814 document paper from being printed, and saved an equivalent of 718,248 Baht of printing expenses. Subsequently, by 2022, WHA Group aims to reduce up to 25% of paper usage.

HAZARDOUS CHEMICAL CONTAINMENT

REDUCTION

WHA Group is dedicated to reduce the total volume of hazardous waste generated from its operation. Therefore, starting in 2020, WHAUP procured most of the chemical substances for its water and wastewater treatment facilities via loading tankers. Poly Aluminium Chloride (PAC) 20% concentration and liquid chlorine are still procured within chemical containers, but an agreement was made for the suppliers' responsibilities to reuse or dispose the empty containers. By procuring via loading tankers, it helped to reduce WHA Group's disposal efforts of empty chemical storage containers to landfill by 2 ton/year.

SORT N' SAVE PROJECT

Initiated from WHA Innovation Leadership Program in 2019, WHA Group has continued to support this project in 2020. The objective of the Sort N' Save Project is to increase environmental awareness amongst WHA Group employees as well as explore plausible innovative business platforms in alignment with the circular economy principles. Behavioral oriented campaigns were launched to increase the awareness and adjust employees' practices on recycling and waste minimization. Communication of these campaigns were made through accessible portals such as default desktop screens, Line-application, email signatures and WHA Group's monthly newsletter.

REDUCE DEPENDENCY ON PLASTICS



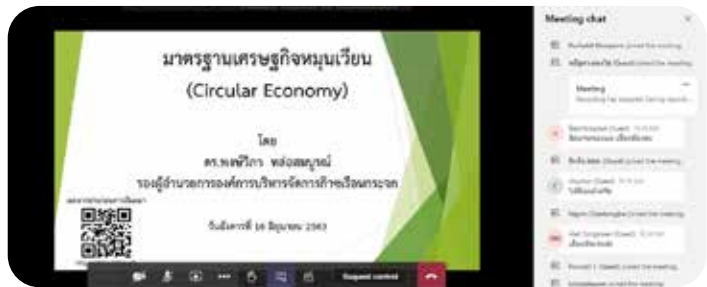
Served together with comfort and convenience, single-use plastics without proper management are the manmade predators in the ecosystem, imposing potential irreversible, global impacts on vital climate processes and biodiversity levels. To combat this, WHA Group are taking steps to reduce the consumption and disposal of single use plastics. In 2020, WHA Group stopped serving plastic bottled drinking water to its guests and visitors, enabling to reduce single-use plastics of more than 20,000 plastic bottles. Collectively, through all of WHA Group's efforts mentioned, the Group was able to reduce up to 0.2 tons of total plastic waste generated as a result of less plastic consumption.

ENHANCE CUSTOMERS' AWARENESS ON INDUSTRIAL WASTE



MANAGEMENT

As an industrial estate developer, WHA Group does not have the authority to control waste management practices that are conducted by the industrial operators within the industrial complex. Nonetheless, the Waste Management Committee is responsible to oversee and ensure that proper waste management in accordance with regulations are carried out by the industrial operators. The Committee takes proactive steps to conduct audits at the operating factories or selected waste disposers, and conducts other waste management schemes as inquired by the managements. Furthermore, a 3R waste campaign called 'Green Industry' was implemented across the Group's industrial estates to promote the 3R (reduce, reuse, recycle) and circular economy principles for industrial factories. As of 2020, there were a total of 53 factories participating in the campaign.



Reducing Water Consumption by 3Rs



GREEN EFFORTS

Educating and empowering posterity to make responsible and environmentally-friendly decisions are WHA Groups' efforts to contribute to a sustainable future. In September 2020, WHA Group travelled to Phan Sadet Nok School in Sri Racha, Chonburi province to teach children about waste minimization, segregation and recycling. Students who participated in the program had interesting discussions on the methodology of waste separation, and listened to the recommendations and tips made concerning waste reduction and reuse. Having the opportunity to work with young audiences allowed WHA Group to be a good role model and shared good practices.



AIR EMISSION

Air quality is tightly linked with the Earth's climate along with the general public's health and well-being. Adverse consequences from air pollution are notably from pollutants such as Total suspended particulate (TSP), particulate matter (PM), nitrogen dioxide (NO₂) and Sulphur dioxide (SO₂). Hence, air pollution has been headlined by international organizations such as the World Health Organization as "the invisible killer".

MANAGEMENT APPROACH

WHA Group recognizes the wider impacts that air emissions from the industrial complex may have on the environment and surrounding communities. Emissions from project construction, operating industrial factories and transportation from both internal and external stakeholders are all general sources of emissions that have impacts toward the ambient air quality. Therefore, it is WHA Group's core value, also established under the Environmental Quality, Energy Conservation and Biodiversity Policy, that industrial estates, communities and nature shall co-exist in a harmonious and sustainable manner. It is the Group's stance to comply with the respective Environmental Impact Assessment (EIA) requirements and standards regarding air emission management throughout project development to operation phases. Additionally, WHA Group enforces an internal threshold where its operational activities and industrial factories, located within the industrial estate, altogether should generate 20% less than the permitted threshold of pollutant emission intensity rate per unit area. To ensure that air emission is considered at the forefront of service agreements through to customers'

operations, WHA Group developed screening criteria to select only potential industrial clusters that generate low air emissions to reside within the Group's industrial estates. The Group also has air emission control measures for factories resided within the Group's industrial estates. If any factories pollute excess level of air emission, the Group will notify such factories as well as inform the Industrial Estate Authority (IEAT) to request for corrective actions that align with the specified standard. However, if air emission level are still out of specified range, the Group and the IEAT will suspend operation of those factories further. In the past, the Group has never experienced any exceeded level of air emission problem to the extent that such factories have to suspend their operations.

Nevertheless, the Group monitors the presence of total suspended particulate (TSP), nitrogen dioxide (NO₂) and sulfur dioxide (SO₂) in the industrial complex's ambient air following the methodology and frequency as prescribed by the respective EIA study. The monitoring stations are distributed within the Group's industrial estates and across communal areas within a 5 km radius of the premises. Monitoring results are collected on a real-time basis and displayed at the Environmental Monitoring and Control Center (EMCC). The monitoring results are submitted to the Industrial Estate Authority of Thailand (IEAT) as part of the EIA Monitoring Report on a bi-annual basis. In 2020, WHA Group's commitment to EIA compliance was achieved as all ambient air quality parameters were in line with the EIA standards.





Furthermore, the Group conducted sampling and testing of particulate matter sized generally 2.5 micrometers or smaller (PM 2.5) within all of its industrial complex. High levels of PM 2.5 could potentially impact the health, especially of the people in surrounding communities with heart and respiratory diseases. Thus, monitoring of this parameter helps to ensure the safety of operators in the industrial estate as well as the local surrounding communities. Samples are monitored against the Notification of the National Environment Board, No. 36, B.E. 2553 (2010) standard. In 2020, the PM 2.5 monitoring results were all within the regulatory threshold. Proactive measures against PM 2.5 are continuously undertaken by WHA Group which includes restriction of burning activities within the industrial

complex. As for construction and operation of WHA Group's industrial development projects, mitigation measures such as fencing, washing of trucks and water sprays were enforced to reduce the level of PM 2.5 emissions.

The Group also requests and records all air emission data from industrial operators in the Group's industrial estates. This ensures that environmental controls implemented by the factories are efficient and emissions are in compliance with the Department of Industrial Work and EIA standards. WHA Group will undertake proactive measures, such as issue warnings if any factories, operating within its industrial estates, were found to emit air pollutions exceeding regulatory threshold.



AIR EMISSION MANAGEMENT INITIATIVES

In 2020, WHA Group conducted various traffic management initiatives in order to control the level of air emissions from internal and external stakeholders transporting within the industrial complex, such as dust and carbon monoxide that could potentially affect local communities and the environment.



ADAPTIVE TRAFFIC CONTROL

In 2020, WHA Group has installed an Adaptive Traffic Control System that uses CCTV to monitor the traffics and calculate the number of vehicles in the industrial complex. This is done in order to appropriately control the traffic lights in response to the current traffic situation. In the event where traffic is light, the duration of the red lights will be lowered, thus, reducing the time in waiting for red light signals. Consequently, vehicle engines are

still running during this waiting period, so by reducing the duration will contribute to reducing the use of energy fuel, reduce air pollution and greenhouse gas emission. By using this system, approximately 573 Liter/week or 29,804 Liter/year of fuel oil can be saved.

DRONE TECHNOLOGY

Similarly, WHA Group is currently studying the use of drone technology in the road and traffic monitoring process during rush hours in 2020. The drones will help monitor any accidents occurring on the roads. It can also be used to detect any potential risks that can then be analyzed and used to identify and implement preventive actions to limit any future accidents. In the case of accidents, the drones will allow for a faster and more effective emergency response and action. Indirectly, by limiting numbers of accidents will also reduce the traffics on the roads. By detecting potential risks of accidents, less fuel will be used by ambulances with less accidents occurring. Altogether, this will help reduce air pollution.





CONTROL CABLE ALARM SYSTEM

Implementing Control Cable Alarm system, as stated in the Innovation Management chapter, is one of the initiatives that could help reduce air pollution. Installation of CCTVs with motion detecting function at the wastewater treatment plants' pumping stations helped eliminate the needs for employees to conduct on-site monitoring that required fuel usage for travelling processes. Before the system was introduced, there were two cars conducting such on-site monitoring for every 2 hours within 24 hours period. With this automated and effective monitoring system, such travelling requirements were eliminated, thus, reduced air pollutions from fuel combustion. As a result, WHA Group is able to control air quality within industrial estates and surrounding areas to meet the requirements and standards specified in the Environmental Impact Assessment (EIA), and also able to reduce approximately 23.9 tCO₂e of direct GHG (Scope 1) per year after the system was introduced.





CLIMATE CHANGE

Throughout 2020, Thailand has seen a marked increase in temperature and changes in rainfall patterns. These changing patterns, higher temperature, flooding and prolonged droughts are results from the climate change phenomenon. Variables influencing the severity of climate change impacts include size of population, consumption of fuel and electricity as well as growth of manufacturing industries. Increase in size, consumption or operation of each factors directly increase the volume of greenhouse gases (GHG) emission - worsening the impacts of climate change. As a result, the impacts transcend back as threats posed on the environment, society and toward

business operations. As WHA Group houses numerous manufacturing productions, incidents such as flooding directly translates to operational disruption to its housed customers. WHA Group's utility services is dependent on the availability of natural resources (e.g. rainfall for water services and solar for renewable solar energy), therefore, impacts from climate change could affect its services and customers. WHA Group recognizes these potential consequences, therefore, assesses and proposes mitigation measures for any risks imposed by climate change upon the Group's value chain and the community it serves.





MANAGEMENT APPROACH

Without effective management against climate change impacts, more frequent and severe weather (i.e. droughts and flooding) can be introduced. Climate change impacts are, therefore, at the forefront of WHA Group's consideration when developing industrial estates and supporting utility services. The Group takes into account of the geographical settings of each industrial estates, beyond the regulatory zoning requirements, to ensure that potential climate change impacts can be managed at the selected locations. Precautionary actions were effectively laid out and implemented throughout the project life cycle in order to safeguard the industrial complex from climate change impacts (e.g. sufficient water reservoir, monitoring schemes, etc.).

WHA Group is aware of the potential operational risks resulting in potential business disruption or asset damage imposed by climate change upon WHA Group's industrial estates and its customers. Therefore, climate change related risk assessment was conducted as part

of the Enterprise Risk Management. The objectives of conducting such risk assessment are to:

- 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; and
- Address future challenges imposed by climate change.

Due to the overall significant low water levels in Thailand and drought periods faced at the industrial estates during the first quarter of 2020, the assessment results indicated climate change as a threat to the industrial complex. Therefore, the following mitigation measures were identified as a result of the risk assessment in which WHA Industrial Development (WHAID) has meticulously implemented at the relevant industrial estates to manage climate change impacts.



RISKS	MITIGATION MEASURES
Flood	<ul style="list-style-type: none"> • Routine monitoring of water storage level at Eastern Seaboard and Northern reservoirs. • Routine inspection and maintenance for dykes and water pumps to ensure effective conditions. • Installation of ultrasonic equipment at WHA Saraburi Industrial Land (WHA SIL) to monitor water levels in the retention pond and raw water reservoir. • Installation of ultrasonic equipment and SCADA system to closely monitor water levels and manage raw water supply at both the raw water retention pond and reservoir at WHA Eastern
Drought	<ul style="list-style-type: none"> • Routine monitoring of water storage level at Eastern Seaboard and Northern reservoirs. • Construction of additional ponds and water reservoir to ensure that capacity of water storage is sufficient for self-supply. <ul style="list-style-type: none"> • Increased storage capacity at WHA SIL by 383,000 m3 or equivalent to 19.2 days of self-supply. • Construction of floating pump with capacity to divert 250,000m3 of water from dead storage. • Renovate underground deep well at WHA Rayong Industrial Land resulting in an increase of water for self-3 Standards supply by 1,121 m3/day or approximately 10% of the water demand.



GREENHOUSE GAS EMISSION REDUCTION

As the effects of climate change can pose significant impacts to business operation and the wider-environment, WHA Group proactively reduces its carbon footprint which is considered as the leading cause of the rapid changing climate. Among WHA Group’s services, WHAID and WHA Utilities and Power (WHAUP) contribute the most direct (GHG Scope 1) and indirect (GHG Scope 2) emissions. GHG Scope 1 are emissions generated from the Group’s own electricity generators and vehicles. In 2020, the Group has conducted the Control Cable Alarm and SMART Metering as described under Innovation chapter which reduced the number of transportations required for monitoring, thus reduced fuel consumption or equivalent to 621.79 tCO₂e of GHG Scope 1 emission. It is to be noted that absolute diesel

consumption significantly increased in 2020 due to the operation of industrial water production process at WHA Eastern Seaboard Industrial Estate 3 (WHA ESIE 3), and WHA logistics started to record fuel consumption starting in 2020. GHG Scope 2 emission from electricity usage, on the other hand, accounts as the majority of the Group’s environmental footprint. Starting in 2020 onwards, WHA Group will implement various energy conservation initiatives to achieve its target to reduce grid electricity consumption by 3% within 2022 against 2019 baseline, which will reduce 588 tCO₂e of indirect emission reduction. Details of energy management approach and the initiatives can be found in the Energy Management chapter.

ENERGY MANAGEMENT

While scarcity of resources remain a concern, it became the driving factor for governments and industries to develop and optimize energy efficient SMART solutions. Governments around the world including Thailand, have rolled out supporting policies regarding the production and consumption of renewable energies. In parallel, private sectors are also applying technological advancements to create platforms for green energy usage as well as ensuring energy security.

Indefinitely, clean energy is better for the planet and humanity in comparison to energy derived from fossil fuels. Clean energy provides benefits in avoiding greenhouse gas emissions, delivering cleaner air and reducing dependency on scarce natural resources. Therefore, WHA Group places importance to effectively and responsibly manage energy usage within its operations to reduce potential adverse impacts on the environment and all stakeholders involved. As 'Your Ultimate Solution Partner', WHA Group also offers utility service for customers to offset their carbon footprint through renewable energy portfolio. Utilizing renewable energy allows customers to efficiently use energy, reduce dependency on the grid and also mitigate impacts on the wider environment.

MANAGEMENT APPROACH

WHA Group realizes the importance of energy management, therefore, established an Energy Conservation Policy to outline the needs for energy conservation programs within its operations. The Policy is applied to employees and buildings or infrastructures complying with the Building Control Act, B.E. 2540

(1997) and Promotion and Conservation of National Environmental Quality Act, No. 2, B.E. 2550 (2007) across all four business hubs. Energy management is overseen by the Energy Committee, which is comprised of representatives from four business hubs to accurately encapsulate the diverse but supporting nature of WHA Group's business operations.

ENERGY CONSERVATION IN OWN OPERATION

As an industrial estate developer, WHA Group does not have the authority to control industrial operators in the industrial complex to reduce their energy consumption. Hence, WHA Group targets to reduce grid electricity consumption within its own operation by 3% within 2022 against 2019 baseline. To support the Group's energy reduction goal, the following energy conservation projects were carried out in 2020.

SOLAR ROOFTOP

WHA Group prioritizes the installation of solar panels within the Group's own operations to increase the use of renewable energy consumption. In 2020, renewable energy generated from the installed solar rooftop panels at the water treatment facility at WHA Eastern Industrial Estate (WHA EIE) were able to reduce conventional electricity by 843,400 kWh per year, thus offset 422 tCO₂e of GHG Scope 2 emission. Additionally, the solar carparks at WHA ESIE at Plaza 1 and Plaza 2 and at WHA ESIE 4 carpark also generated and substituted grid electricity usage by 474,370 kWh, thus prevented 238 tCO₂e of indirect emissions with its produced solar energy.

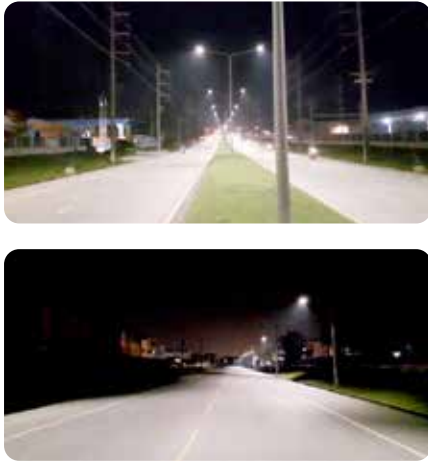


To further increase the Group's renewable energy generation capability, WHA Utilities and Power (WHAUP) is currently conducting feasibility studies to install solar rooftop panels coupled with battery energy storage system (BESS) at the wastewater treatment plant at Eastern Seaboard Industrial Estate (ESIE). The installed solar rooftop panels will generate approximately 820 MWh of solar power with 550 MWh of BESS capacity.

This project will help WHAUP substitute 1,176 MWh of electricity off-take from the grid, which is equivalent to saving on electricity expenses of 4.12 million Baht per year. In parallel, WHA Group will be able to reduce greenhouse gas (GHG) scope 2 emissions by 588 tCO₂e due to grid electricity substitution. The solar rooftop panels are expected to construct in early 2021 and commence during the later months of that same year.



REPLACE STREET CONVENTIONAL LAMP BULBS WITH LED LIGHTING



USE SMART SOLAR POWER FOR FLASHING LIGHT SYSTEM



ENERGY SAVING IN INDUSTRIAL COMPLEX

To increase equipment efficiency and support the achievement of the energy reduction target, WHA Group has replaced a total of 37 additional conventional light bulbs to LED lighting sets at WHA Industrial Estate in 2020. This accumulates to a total of 5,487 LED installed throughout the Group’s logistics properties and industrial estates till now. Additionally, air conditioning appliances were changed from central cooling air conditioner type to a stand-alone air conditioner type at WHA EIE which reduced electricity consumption by 110,985.30 kWh, and saved 407,316 Baht of conventional electricity purchase. Furthermore, improvements to equipment appliances such as resizing of UF Feed Pump fan size, adjustment of equipment operating time, regular monitoring and maintenance of appliances and SMART solar powered street lighting systems were continued to be conducted in 2020 to enhance and contribute to the energy reduction efforts. Collectively, WHA Group was able to reduce a total 467,881 kWh of grid electricity, thus reduced GHG emission by 233.9 tCO₂e.

ENERGY SAVING IN OFFICE BUILDINGS

Apart from energy saving schemes conducted at the industrial estates, all business hubs also acknowledge and actively support the directional movement to reduce energy consumption. “Let’s Save the World Together” program was initiated to encourage all employees to make slight modifications to current practices to save energy, such as turning off electrical appliances, use stairs instead of elevators, etc. This propagates the positive behavior changes towards energy consumption reduction.



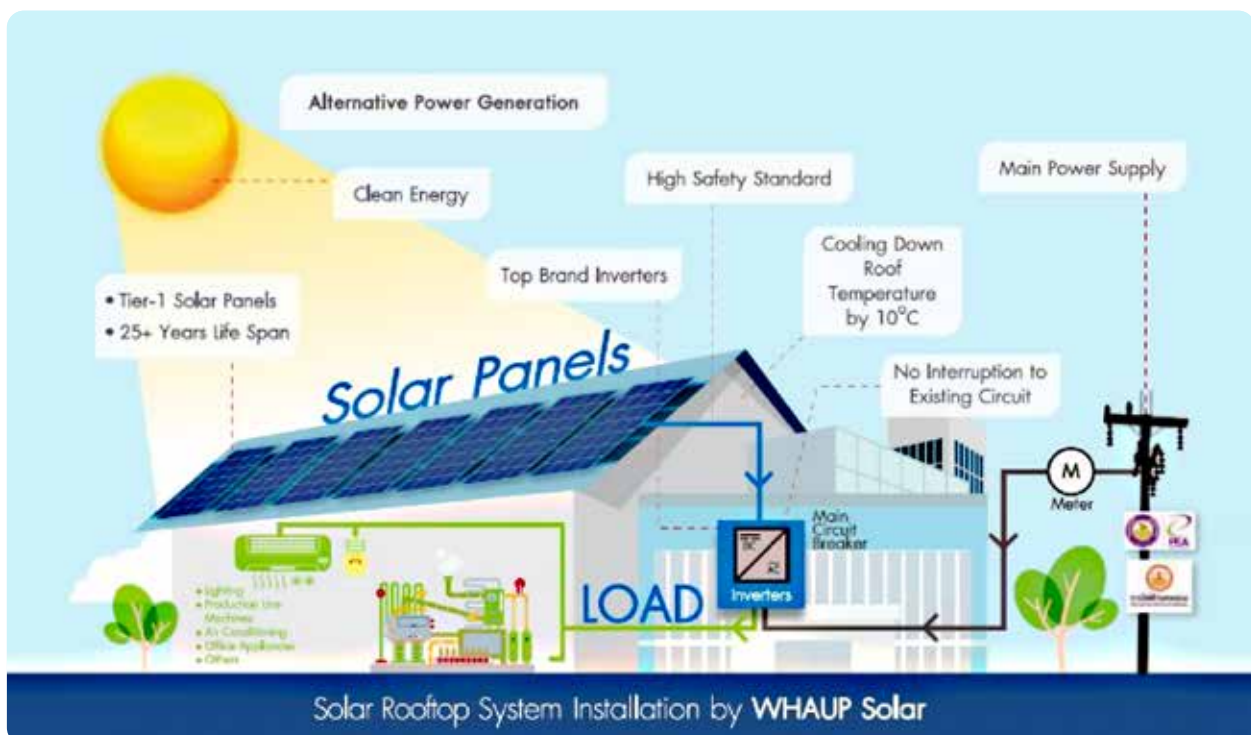
ENERGY SAVING AT DATA CENTER

WHA Group's Data Center through the operation of WHA Infonite Company Limited, adopted containment options (i.e. hot-air and cold-air containment) to deliver promising energy-efficient measures for data centers. These containment strategies allow the supplied temperature to be set high, thereby saving energy and increasing cooling capacity, while still operating safely. The system is energy efficient as it can save up to 21% of annual cooling system energy cost, corresponding to a 15% reduction in annualized power usage effectiveness (PUE). Additionally, apart from the facility design upgrades, progress from the solar panels installed on the Data Center rooftop illustrated that 799,4000 kWh of solar energy was used corresponding to a 16% replacement of the grid electricity in 2020.



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 Group is aware of the environmental impacts that may be imposed by stakeholders within the value chain, therefore, is committed to a long-term target to a signed power purchase agreement and provide altogether 300 MWh of solar power to potential customers by 2022. By the end of 2020, WHAUP installed solar rooftop panels

for customers, generating a total of 51 MWh of solar energy which meets the annual target set. Collectively, achievement of this target will substitute grid electrical consumption with solar energy, thus reduce 150 tCO₂e of GHG scope 2 emission to the environment.

ENERGY SAVING	PERFORMANCE	TARGET	
	2020	2021	2023 (3 years target)
Installed Capacity (End of Year) (MW)	51	90	300
GHG Emission Offset from Grid Electricity Consumption (tCO ₂ e)	26	45	150

THAILAND’S LARGEST SOLAR CARPARK

In October 2020, WHAUP officially delivered the solar carpark at SAIC Motor Company - CP Co., Ltd. (SAIC MOTOR-CP) covering 31,000 m² of solar rooftop space that will generate 4.88 MWh of clean energy, making

it the largest solar carpark project to date in Thailand. The solar roof carpark ultimately support the customer to save energy cost and fulfill their environmental commitments.



PERFORMANCE SUMMARY

ECONOMIC PERFORMANCE

GRI STANDARD	PERFORMANCE	UNIT	2017	2018	2019	2020
201-1	Direct economic value generated					
	Revenue	Million Baht	12,410	10,054	13,386	9,407
	Economic value distributed					
	Annual dividend payment	Million Baht	2,899	1,299	2,398	1,348
	Operating cost		840	493	466	237
	Employee expenses		545	884	940	922
	Tax		266	371	301	349
	Social investment		25	30	26	41
Economic value retained	7,835		6,977	9,256	6,509	
205-2	Communication and training on anti-corruption policy to governance body members					
	WHA Industrial Development	%	90	100	100	100
	WHA Utilities and Power		90	100	100	100
	WHA Logistics		100	100	100	100
	WHA Digital Platform		90	100	100	100
	Communication and training on anti-corruption policy to employees					
	WHA Industrial Development	%	90	100	100	100
	WHA Utilities and Power		90	100	100	100
WHA Logistics	100		100	100	100	
WHA Digital Platform	90		100	100	100	
205-3	Confirmed incidents of corruption					
	Total number of confirmed incidents of corruption	Case	0	0	1	0
	Number of employees who dismissed due to corruption	Person	0	0	1	0
	Total number of confirmed incidents when contracts with business partners were terminated or not renewed due to violations related to corruption	Case	0	0	0	0
	Public legal cases regarding corruption	Case	0	0	1	0
418-1	Customer privacy					
	Total number of substantiated complaints received concerning breaches of customer privacy from outside parties and substantiated by the organization	Case	0	0	0	0
	Total number of substantiated complaints received concerning breaches of customer privacy from regulatory bodies		0	0	0	0
Total number of identified leaks, thefts, or losses of customer data	0		0	0	0	

SOCIAL PERFORMANCE
EMPLOYMENT

GRI STANDARD	PERFORMANCE	UNIT	2017		2018		2019		2020	
			MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
102-8	Total number of employees	Persons	512		552		571		613	
	Number of employees by business units									
	WHA Industrial Development	Persons	197	99	193	103	199	108	207	114
	WHA Utilities and Power		68	14	83	18	92	18	106	23
	WHA Logistics		56	63	53	66	58	68	59	76
	WHA Digital Platform		12	3	29	6	23	5	23	5
	Employee by gender									
	Total number of employees by gender	Persons	333	179	359	193	372	199	395	218
	Permanent employees by business units									
	WHA Industrial Development	Persons	197	99	193	103	199	108	207	114
	WHA Utilities and Power		68	68	83	18	92	18	106	23
	WHA Logistics		56	56	54	66	58	68	59	76
	WHA Digital Platform		12	12	29	6	23	5	14	2
	Total temporary employees		333	179	359	193	372	199	386	215
				511		537		557		601
	Temporary employees by business units									
	WHA Industrial Development	Persons	0	0	0	0	0	0	0	0
	WHA Utilities and Power		0	0	0	0	0	0	0	0
	WHA Logistics		0	1	1	0	1	0	0	0
	WHA Digital Platform		0	0	11	3	10	3	9	3
	Total temporary employees		0	1	12	3	11	3	9	3
			1		15		14		12	
Employee with disabilities										
Total	Persons	1	0	1	0	1	0	1	0	

GRI STANDARD	PERFORMANCE	UNIT	2017		2018		2019		2020	
			MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
401-1	New Employee									
	Total new employee	Persons	44	34	37	27	46	24	59	33
			78		64		70		93	
New hire rate	%	15.26		11.92		12.57		15.17		
New employee by business units										
WHA Industrial Development	Persons	22	15	5	14	16	14	23	12	
	%	4.31	2.94	0.93	2.61	2.87	2.51	3.75	1.96	
WHA Utilities and Power	Persons	5	8	17	4	19	1	25	9	
	%	2.54	4.06	8.81	3.88	9.55	0.93	4.08	1.47	
WHA Logistics	Persons	10	10	6	8	10	9	7	12	
	%	17.86	17.86	11.32	12.12	17.54	13.24	1.14	1.96	
WHA Digital Platform	Persons	7	1	9	1	1	0	4	1	
	%	58.33	33.33	50.00	33.33	7.69	0.00	0.65	0.16	
New employee by age										
Below 30 years old	Persons	17	10	14	9	23	15	29	14	
	%	3.33	1.96	2.61	1.68	4.13	2.69	4.73	2.28	
30-50 years old	Persons	27	23	22	18	23	19	30	20	
	%	5.28	4.50	4.10	3.35	4.13	3.41	4.89	3.26	
Over 50 years old	Persons	0	1	1	0	0	0	0	0	
	%	0.00	0.20	0.19	0.00	0.00	0.00	0	0	
Turnover rate										
Dismissal of employees	Persons	0	0	0	0	0	0	0	0	
Voluntary leave	Persons	15	17	22	17	28	16	24	10	
Total employee turnover	Persons	15	17	22	17	28	16	25	10	
		32		39		44		35		
Turnover rate	%	6.25		7.07		7.71		5.71		
Employee turnover by business unit										
WHA Industrial Development	Persons	7	6	7	9	8	10	8	4	
	%	1.37	1.17	1.30	1.68	1.44	1.80	1.31	0.65	
WHA Utilities and Power	Persons	2	3	3	1	11	1	8	3	
	%	0.39	0.59	0.56	0.19	1.97	0.18	1.31	0.49	
WHA Logistics	Persons	3	8	7	6	6	4	4	2	
	%	0.59	1.57	1.30	1.12	1.08	0.72	0.65	0.33	
WHA Digital Platform	Persons	3	0	5	1	3	1	2	1	
	%	0.59	0.00	0.93	0.19	0.54	0.18	0.33	0.16	
Employee turnover by age										
Below 30 years old	Persons	4	7	4	0	8	6	4	2	
	%	0.78	1.37	0.74	0.00	1.44	1.08	0.65	0.33	
30-50 years old	Persons	9	9	16	17	20	10	16	8	
	%	1.76	1.76	2.98	3.17	3.59	1.80	2.61	1.31	
Over 50 years old	Persons	2	1	2	0	0	0	2	0	
	%	0.39	0.20	0.37	0.00	0.00	0.00	0.33	0.00	

GRI STANDARD	PERFORMANCE	UNIT	2017		2018		2019		2020	
			MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
404-1	Employee training									
	Total number of training hours provided to employees	Hours	4,496.00	1,813.74	8,348.85	2,030.40	9,724.50	5,929.00	3,987.00	1,872.500
	Total number of training hours provided to employees by business units									
	WHA Industrial Development	Hours	2,190.75	774.00	5,576.75	959.50	5,230.00	2,686.00	935.000	864.00
	WHA Utilities and Power		1,419.50	253.50	1,474.10	121.90	1,346.50	408.00	2,187.00	276.00
	WHA Logistics		734.75	755.50	1,013.00	874.00	2,632.00	2,755.00	832.00	729.50
	WHA Digital Platform		151.00	30.75	285.00	75.00	516.00	80.00	33.00	3.00
	Average training hours by gender		13.50	10.19	24.06	10.69	26.94	30.25	10.3	8.75
	Average training hours by business units									
	WHA Industrial Development	Hours	11.12	7.82	28.90	9.32	26.28	24.87	4.35	7.00
	WHA Utilities and Power		20.88	18.11	17.76	6.77	14.64	22.67	20.63	12.00
	WHA Logistics		13.12	12.19	19.11	13.24	46.18	40.51	16.00	11.22
	WHA Digital Platform		12.58	10.25	15.83	25.00	39.69	40.00	2.36	1.50
	404-3	Performance review								
Percentage of employee received performance review		%	100.00		100.00		100.00		100.00	
405-1	Diversity of Director to executives level by age									
	Below 30 years old	Persons	0		0		0		0	
	30-50 years old		21		20		17		25	
	Over 50 years old		12		14		13		13	

COMMUNITY ENGAGEMENT

GRI STANDARD	PERFORMANCE	UNIT	2017	2018	2019	2020
413-1	Industrial estates with community engagement					
	Total number of industrial estate	Operation unit	9	10	10	10
	- Industrial estates involved with local community engagement	Operation unit	9	10	10	10
		%	100	100	100	100
	- Industrial estates involved with social impact assessment	Operation unit	9	10	10	10
		%	100	100	100	100
	- Industrial estates with environmental impact assessments and ongoing monitoring	Operation unit	9	10	10	10
		%	100	100	100	100
	- Industrial estates involved with public disclosure of results of environmental and social impact assessments	Operation unit	9	10	10	10
		%	100	100	100	100
	- Industrial estates involved with local community development programs based on local communities' needs	Operation unit	9	10	10	10
		%	100	100	100	100
	- Industrial estates involved with broad based local community consultation committees and processes that include vulnerable groups	Operation unit	8	9	9	10
		%	88.89	90	90	100
- Industrial estates involved with works councils, occupational health and safety committees	Operation unit	9	10	10	10	
	%	100	100	100	100	
- Industrial estates involved with formal local community grievance processes	Operation unit	9	10	10	10	
	%	100	100	100	100	

OCCUPATIONAL HEALTH AND SAFETY

GRI STANDARD	PERFORMANCE	UNIT	2017	2018	2019	2020
403-9	Lost time injury frequency rate (LTIFR) - Employee					
	WHA Industrial Development	Case per 1,000,000 hours worked	0.00	0.00	0.00	0.00
	WHA Utilities and Power		0.00	0.00	4.68	0.00
	WHA Logistics		0.00	0.00	0.00	0.00
	WHA Digital Platform		0.00	0.00	0.00	0.00
	Lost time injury frequency rate (LTIFR) - Contractor					
	WHA Industrial Development	Case per 1,000,000 hours worked	0.00	0.00	0.00	0.00
	WHA Utilities and Power		0.00	0.00	0.00	0.93
	WHA Logistics		0.00	0.00	0.00	0.00
	WHA Digital Platform		0.00	0.00	0.00	0.00
	Fatalities					
	Employee	Persons	0.00	0.00	0.00	0.00
	Contractor		0.00	0.00	0.00	0.00

ENVIRONMENT PERFORMANCE

MATERIALS

GRI STANDARD	PERFORMANCE	UNIT	2017	2018	2019	2020
301-1	Total renewable materials used					
	Water	m ³	33,542,602.00	15,989,684.00	21,180,880.00	46,879,806.00
301-2	Recycled input materials used					
	Percentage of recycled water used to manufacture the organization's primary products and services	%	2.78	4.99	3.89	10.56

WASTE

GRI STANDARD	PERFORMANCE	UNIT	2017	2018	2019	2020	
306-3	Waste composition						
	Total waste	Tons	4,015.02	4,605.16	5,492.90	9,234.94	
	- Hazardous waste		6.18	7.17	6.93	8.31	
	- Non-hazardous waste		4,008.84	4,597.99	5,485.97	9,226.63	
306-4	Hazardous waste diverted from disposal by recovery option						
	Total	Tons	4.89	5.53	5.93	7.48	
	- Preparation for reuse		-	-	-	-	
	- Recycling		-	-	-	-	
	- On-site storage		4.89	5.53	5.93	7.48	
	Non-hazardous waste diverted from disposal by recovery option						
	Total	Tons	985.06	1,674.06	487.12	3,732.12	
	- Preparation for reuse		0.00	0.00	0.00	2,000.00	
	- Recycling		0.00	0.00	0.00	23.94	
	- On-site storage		985.06	1,674.06	487.12	1,708.18	
	Waste prevented						
	Waste prevented	Tons	989.95	1,679.59	493.05	3,739.60	
	306-5	Hazardous waste directed to disposal by disposal operation					
		Total	Tons	1.29	1.64	1.00	0.83
- Incineration (with energy recovery)		-		-	-	-	
- Incineration (without energy recovery)		0.00		0.00	0.00	0.83	
- Landfilling		1.29		1.64	1.00	0.00	
- Other disposal operations		-		-	-	-	
Non-hazardous waste directed to disposal by disposal operation							
Total		Tons	3,023.78	2,923.93	4,998.85	5,494.51	
- Incineration (with energy recovery)			-	-	-	-	
- Incineration (without energy recovery)			-	-	-	-	
- Landfilling			3,023.78	2,923.93	4,998.85	5,494.51	
- Other disposal operations			-	-	-	-	

ENERGY

GRI STANDARD	PERFORMANCE	UNIT	2017	2018	2019	2020
302-1	Energy consumption from non-renewable sources					
	Diesel generator	Liters	243,507.00	253,148.00	235,425.00	571,453.00
	Grid electricity consumption	KWh	25,247,033.00	33,360,027.00	32,074,405.00	30,937,402.00
	Energy consumption from renewable source					
	Solar power	KWh	0.00	0.00	623,105.00	555,990.00

GHG EMISSION

GRI STANDARD	PERFORMANCE	UNIT	2017	2018	2019	2020
305-1	Scope 1 emissions by business unit					
	WHA Industrial Development	ton CO ₂ e	581.49	573.58	555.66	748.00
	WHA Utilities and Power		85.68	119.60	89.27	559.58
	WHA Logistics		NA	NA	NA	255.33
	WHA Digital Platform		NA	NA	NA	NA
305-2	Scope 2 emissions by business unit					
	WHA Industrial Development	ton CO ₂ e	2,368.64	2,376.38	2,295.75	1,911.96
	WHA Utilities and Power		11,882.83	14,758.82	15,730.07	13,553.65
	WHA Logistics		188.32	262.67	260.34	240.28
	WHA Digital Platform		256.51	2,021.00	384.35	682.88

WATER AND EFFLUENTS

GRI STANDARD	PERFORMANCE	UNIT	2017	2018	2019	2020
303-3	Water withdrawal by source					
	Total water withdrawal	m ³	66,262,741.00	64,943,944.00	67,343,639.00	64,830,392.00
	- Surface water		7,397,593.00	7,369,516.00	3,811,909.00	15,555,500.00
	- Third party water		58,865,148.00	57,574,428.00	63,531,730.00	49,274,890.00
303-4	Water discharge by destination					
	Total water discharge	m ³	32,720,139.00	48,954,260.00	46,162,759.00	17,950,586.00
	- Surface water		30,872,899.00	47,185,818.00	44,292,549.00	16,117,382.00
	- Seawater		1,847,240.00	1,768,442.00	1,870,210.00	1,833,204.00
	Water discharge by category					
	Freshwater (≤ 1,000 mg/L Total Dissolved Solids)	m ³	30,872,899.00	47,185,818.00	44,292,549.00	16,117,382.00
	Other water (≤ 1,000 mg/L Total Dissolved Solids)		1,847,240.00	1,768,442.00	1,870,210.00	1,833,204.00

EFFLUENTS QUALITY

GRI STANDARD	PERFORMANCE	UNIT	STANDARD	2017	2018	2019	2020
Water discharge by quality and location*							
WHA CIE1							
	pH	-	5.5 - 9.0	7.40	7.30	7.20	7.40
	Temperature	°C	≤ 40.00	30.80	30.50	32.40	30.40
	Biochemical Oxygen Demand (BOD)	mg/L	≤ 20.00	12.00	13.00	11.00	8.75
	Chemical Oxygen Demand (COD)	mg/L	≤ 120.00	42.00	44.00	44.00	37.00
	Grease and Oil	mg/L	≤ 5.00	<3.00	<3.00	<3.00	<3.00
	Suspended Solid (SS)	mg/L	≤ 50.00	17.00	16.00	12.00	9.00
	Total Dissolved Solid (TDS)	mg/L	≤ 3,000.00	832.00	864.00	965.00	1,011.00
	Total Kjeldahl Nitrogen (TKN)	mg/L	≤ 100.00	7.70	4.60	5.20	6.52
	Mercury (Hg)	mg/L	≤ 0.005	0.0001	0.0002	0.0002	<0.0001
	Selenium (Se)	mg/L	≤ 0.02	Na	Na	Na	Na
	Cadmium (Cd)	mg/L	≤ 0.03	0.00	0.007	< 0.0001	<0.0001
	Lead (Pb)	mg/L	≤ 0.20	0.003	0.003	0.001	0.005
	Arsenic (As)	mg/L	≤ 0.25	0.003	0.003	0.003	0.004
	Chromium (Cr)	mg/L	≤ 0.25	<0.01	<0.01	<0.01	<0.01
	Barium (Ba)	mg/L	≤ 1.00	Na	Na	Na	Na
	Nickel (Ni)	mg/L	≤ 1.00	0.07	0.05	0.10	0.08
	Copper (Cu)	mg/L	≤ 2.00	0.17	0.21	0.31	0.33
	Zinc (Zn)	mg/L	≤ 5.00	0.26	0.22	0.21	0.40
	Sulfide as H ₂ S	mg/L	≤ 1.00	Na	Na	Na	Na
	Cyanide as HCN	mg/L	≤ 0.20	Na	Na	Na	Na
	Chloride as Cl ₂	mg/L	≤ 1.00	Na	Na	Na	Na
WHA CIE 2							
	pH	-	5.5 - 9.0	8.50	8.40	8.30	8.50
	Temperature	°C	≤ 40.00	29.60	30.60	29.70	30.35
	Biochemical Oxygen Demand (BOD)	mg/L	≤ 20.00	6.00	3.00	5.00	3.30
	Chemical Oxygen Demand (COD)	mg/L	≤ 120.00	26.00	27.00	51.00	26.00
	Grease and Oil	mg/L	≤ 5.00	<3.00	<3.00	<3.00	<3.00
	Suspended Solid (SS)	mg/L	≤ 50.00	13.00	11.0	12.00	14.30
	Total Dissolved Solid (TDS)	mg/L	≤ 3,000.00	1,787.00	1,764.00	2,160.00	1,634.00
	Total Kjeldahl Nitrogen (TKN)	mg/L	≤ 100.00	2.00	2.30	2.30	1.86
	Mercury (Hg)	mg/L	≤ 0.005	<0.0001	<0.0001	0.0003	<0.0001
	Selenium (Se)	mg/L	≤ 0.02	Na	Na	Na	Na
	Cadmium (Cd)	mg/L	≤ 0.03	0.0004	<0.0001	<0.0001	<0.0001
	Lead (Pb)	mg/L	≤ 0.20	0.001	<0.0002	<0.0002	<0.0002
	Arsenic (As)	mg/L	≤ 0.25	0.010	0.009	0.010	0.007
	Chromium (Cr)	mg/L	≤ 0.25	<0.01	<0.01	<0.01	<0.01
	Barium (Ba)	mg/L	≤ 1.00	Na	Na	Na	Na
	Nickel (Ni)	mg/L	≤ 1.00	0.01	0.02	0.02	0.006
	Copper (Cu)	mg/L	≤ 2.00	0.002	0.003	0.00	0.004
	Zinc (Zn)	mg/L	≤ 5.00	0.03	0.13	0.16	0.05
	Sulfide as H ₂ S	mg/L	≤ 1.00	Na	Na	Na	Na
	Cyanide as HCN	mg/L	≤ 0.20	Na	Na	Na	Na
	Chloride as Cl ₂	mg/L	≤ 1.00	Na	Na	Na	Na

GRI STANDARD	PERFORMANCE	UNIT	STANDARD	2017	2018	2019	2020
ESIE Phase 1							
	pH	-	5.5 - 9.0	8.27	8.04	7.69	7.60
	Temperature	°C	≤ 40.00	29.9	29.6	29.8	29.60
	Biochemical Oxygen Demand (BOD)	mg/L	≤ 20.00	5.00	6.00	3.00	4.00
	Chemical Oxygen Demand (COD)	mg/L	≤ 120.00	38.00	49.00	44.00	31.00
	Grease and Oil	mg/L	≤ 5.00	<3.00	<3.00	<3.00	<3.00
	Suspended Solid (SS)	mg/L	≤ 50.00	20.00	12.00	10.00	<5.00
	Total Dissolved Solid (TDS)	mg/L	≤ 3,000.00	886.00	685.00	890.00	1,105.00
	Total Kjeldahl Nitrogen (TKN)	mg/L	≤ 100.00	2.30	2.20	2.70	2.50
	Mercury (Hg)	mg/L	≤ 0.005	0.0002	0.0004	0.0003	<0.0001
	Selenium (Se)	mg/L	≤ 0.02	0.0004	0.0004	0.0004	0.0002
	Cadmium (Cd)	mg/L	≤ 0.03	0.0001	0.0001	0.0001	<0.0001
	Lead (Pb)	mg/L	≤ 0.20	0.0004	0.0004	0.0003	<0.0002
	Arsenic (As)	mg/L	≤ 0.25	0.004	0.004	0.005	0.005
	Trivalent Chromium (Cr+3)	mg/L	≤ 0.75	<0.01	<0.01	<0.01	<0.01
	Hexavalent Chromium (Cr+6)	mg/L	≤ 0.25	<0.01	<0.01	<0.01	<0.01
	Barium (Ba)	mg/L	≤ 1.00	0.19	0.27	0.17	0.11
	Nickel (Ni)	mg/L	≤ 1.00	0.03	0.02	0.04	0.07
	Copper (Cu)	mg/L	≤ 2.00	0.004	0.006	0.008	0.003
	Zinc (Zn)	mg/L	≤ 5.00	0.18	0.17	0.11	0.12
	Sulfide as H ₂ S	mg/L	≤ 1.00	<0.50	<0.50	<0.50	<0.50
	Cyanide as HCN	mg/L	≤ 0.20	<0.005	<0.005	<0.005	0.009
	Chloride as Cl ₂	mg/L	≤ 1.00	Na	Na	Na	Na
ESIE Phase 2B							
	pH	-	5.5 - 9.0	7.70	7.80	7.60	7.60
	Temperature	°C	≤ 40.00	29.80	29.90	30.10	29.80
	Biochemical Oxygen Demand (BOD)	mg/L	≤ 20.00	7.00	7.00	5.00	4.00
	Chemical Oxygen Demand (COD)	mg/L	≤ 120.00	32.00	35.00	45.00	24.00
	Grease and Oil	mg/L	≤ 5.00	<3.00	<3.00	<3.00	<3.00
	Suspended Solid (SS)	mg/L	≤ 50.00	16.00	12.00	9.00	11.00
	Total Dissolved Solid (TDS)	mg/L	≤ 3,000.00	889.00	841.00	905.00	744.00
	Total Kjeldahl Nitrogen (TKN)	mg/L	≤ 100.00	2.40	2.30	2.50	1.50
	Mercury (Hg)	mg/L	≤ 0.005	0.0001	0.0001	0.0001	<0.0001
	Selenium (Se)	mg/L	≤ 0.02	ND	0.0001	0.0001	0.0003
	Cadmium (Cd)	mg/L	≤ 0.03	0.0001	0.0001	0.0001	ND
	Lead (Pb)	mg/L	≤ 0.20	0.0003	0.0002	0.0002	0.0003
	Arsenic (As)	mg/L	≤ 0.25	0.002	0.002	0.002	0.002
	Trivalent Chromium (Cr+3)	mg/L	≤ 0.75	<0.01	<0.01	<0.01	<0.01
	Hexavalent Chromium (Cr+6)	mg/L	≤ 0.25	<0.01	<0.01	<0.01	<0.01
	Barium (Ba)	mg/L	≤ 1.00	0.03	0.03	0.03	0.02
	Nickel (Ni)	mg/L	≤ 1.00	0.012	0.009	0.009	0.016
	Copper (Cu)	mg/L	≤ 2.00	0.001	0.001	0.001	0.0013
	Zinc (Zn)	mg/L	≤ 5.00	0.03	0.08	0.05	0.073
	Sulfide as H ₂ S	mg/L	≤ 1.00	<0.05	<0.05	<0.05	<0.50
	Cyanide as HCN	mg/L	≤ 0.20	<0.005	<0.005	<0.005	<0.005
	Chloride as Cl ₂	mg/L	≤ 1.00	Na	Na	Na	Na

GRI STANDARD	PERFORMANCE	UNIT	STANDARD	2017	2018	2019	2020
WHA ESIE 1 Phase 1							
	pH	-	5.5 - 9.0	7.82	7.60	7.70	7.80
	Temperature	°C	≤ 40.00	30.04	29.85	30.00	30.00
	Biochemical Oxygen Demand (BOD)	mg/L	≤ 20.00	10.00	11.00	10.16	6.80
	Chemical Oxygen Demand (COD)	mg/L	≤ 120.00	30.33	40.75	50.26	30.00
	Grease and Oil	mg/L	≤ 5.00	4.00	3.00	3.00	3.00
	Suspended Solid (SS)	mg/L	≤ 50.00	16.58	10.90	17.16	12.16
	Total Dissolved Solid (TDS)	mg/L	≤ 3,000.00	619.00	572.00	626.00	647.00
	Total Kjeldahl Nitrogen (TKN)	mg/L	≤ 100.00	9.10	6.80	7.80	8.90
	Mercury (Hg)	mg/L	≤ 0.005	0.0001	0.00065	0.0001	0.0001
	Selenium (Se)	mg/L	≤ 0.02	0.0005	0.00075	0.0003	0.0003
	Cadmium (Cd)	mg/L	≤ 0.03	0.0001	0.0001	0.0001	0.0002
	Lead (Pb)	mg/L	≤ 0.20	0.00047	0.0046	0.0003	0.0007
	Arsenic (As)	mg/L	≤ 0.25	0.0083	0.0083	0.0055	0.0023
	Chromium (Cr)	mg/L	≤ 0.25	0.01	0.01	0.01	0.01
	Barium (Ba)	mg/L	≤ 1.00	0.024	0.0065	0.035	0.033
	Nickel (Ni)	mg/L	≤ 1.00	0.05	0.074	0.07	0.10
	Copper (Cu)	mg/L	≤ 2.00	0.0012	0.0011	0.0007	0.0009
	Zinc (Zn)	mg/L	≤ 5.00	0.03	0.04	0.04	0.04
	Sulfide as H ₂ S	mg/L	≤ 1.00	0.50	0.50	0.50	0.60
	Cyanide as HCN	mg/L	≤ 0.20	0.005	0.005	0.005	0.005
	Chloride as Cl ₂	mg/L	≤ 1.00	Na	Na	Na	Na
WHA ESIE 1 Phase 3							
	pH	-	5.5 - 9.0	7.80	7.70	7.50	7.50
	Temperature	°C	≤ 40.00	29.55	29.40	29.36	29.60
	Biochemical Oxygen Demand (BOD)	mg/L	≤ 20.00	7.40	8.40	8.10	5.80
	Chemical Oxygen Demand (COD)	mg/L	≤ 120.00	36.08	39.25	49.17	33.00
	Grease and Oil	mg/L	≤ 5.00	5.00	3.00	3.00	4.00
	Suspended Solid (SS)	mg/L	≤ 50.00	14.27	10.83	8.70	7.60
	Total Dissolved Solid (TDS)	mg/L	≤ 3,000.00	303.00	282.00	319.00	294.00
	Total Kjeldahl Nitrogen (TKN)	mg/L	≤ 100.00	4.25	5.12	9.70	17.10
	Mercury (Hg)	mg/L	≤ 0.005	0.0001	0.0004	0.0001	0.0005
	Selenium (Se)	mg/L	≤ 0.02	0.0002	0.0001	0.0003	0.0002
	Cadmium (Cd)	mg/L	≤ 0.03	0.0001	0.0001	0.0001	0.0001
	Lead (Pb)	mg/L	≤ 0.20	0.0005	0.0002	0.0002	0.0004
	Arsenic (As)	mg/L	≤ 0.25	0.009	0.0053	0.0059	0.0035
	Chromium (Cr)	mg/L	≤ 0.25	0.01	0.01	0.01	0.01
	Barium (Ba)	mg/L	≤ 1.00	0.045	0.046	0.06	0.07
	Nickel (Ni)	mg/L	≤ 1.00	0.0025	0.001	0.002	0.002
	Copper (Cu)	mg/L	≤ 2.00	0.00006	0.0005	0.0007	0.0008
	Zinc (Zn)	mg/L	≤ 5.00	0.011	0.019	0.02	0.03
	Sulfide as H ₂ S	mg/L	≤ 1.00	0.50	0.50	0.70	0.50
	Cyanide as HCN	mg/L	≤ 0.20	0.005	0.005	0.005	0.005
	Chloride as Cl ₂	mg/L	≤ 1.00	Na	Na	Na	Na

GRI STANDARD	PERFORMANCE	UNIT	STANDARD	2017	2018	2019	2020
WHA ESIE 2							
	pH	-	5.5 - 9.0	8.69	7.70	8.75	8.37
	Temperature	°C	≤ 40.00	27.40	29.00	31.00	29.95
	Biochemical Oxygen Demand (BOD)	mg/L	≤ 20.00	11.00	8.00	5.00	5.59
	Chemical Oxygen Demand (COD)	mg/L	≤ 120.00	64.00	31.00	52.00	35.50
	Grease and Oil	mg/L	≤ 5.00	<3.00	<3.00	<3.00	<3.00
	Suspended Solid (SS)	mg/L	≤ 50.00	56.00	15.00	17.00	15.32
	Total Dissolved Solid (TDS)	mg/L	≤ 3,000.00	261.00	470.00	668.00	629.45
	Total Kjeldahl Nitrogen (TKN)	mg/L	≤ 100.00	3.10	1.90	3.00	2.26
	Mercury (Hg)	mg/L	≤ 0.005	<0.0001	<0.0001	0.002	<0.0001
	Selenium (Se)	mg/L	≤ 0.02	Na	Na	Na	Na
	Cadmium (Cd)	mg/L	≤ 0.03	ND	ND	ND	ND
	Lead (Pb)	mg/L	≤ 0.20	0.0006	0.0004	0.0002	<0.0002
	Arsenic (As)	mg/L	≤ 0.25	0.004	0.003	0.004	0.004
	Chromium (Cr)	mg/L	≤ 0.25	<0.01	<0.01	<0.01	<0.01
	Barium (Ba)	mg/L	≤ 1.00	NA	NA	NA	NA
	Nickel (Ni)	mg/L	≤ 1.00	0.002	0.008	0.02	0.02
	Copper (Cu)	mg/L	≤ 2.00	0.002	0.001	0.001	0.001
	Zinc (Zn)	mg/L	≤ 5.00	0.04	0.02	0.02	0.02
	Sulfide as H ₂ S	mg/L	≤ 1.00	Na	Na	Na	Na
	Cyanide as HCN	mg/L	≤ 0.20	Na	Na	Na	Na
	Chloride as Cl ₂	mg/L	≤ 1.00	Na	Na	Na	Na
WHA ESIE 4							
	pH	-	5.5 - 9.0	NA	NA	7.40 - 8.90	8.00
	Temperature	°C	≤ 40.00	NA	NA	26.80 - 32.30	30.50
	Biochemical Oxygen Demand (BOD)	mg/L	≤ 20.00	NA	NA	4.00 - 13.00	5.00
	Chemical Oxygen Demand (COD)	mg/L	≤ 120.00	NA	NA	19.00 - 64.00	37.00
	Grease and Oil	mg/L	≤ 5.00	NA	NA	<3.00	<3.00
	Suspended Solid (SS)	mg/L	≤ 50.00	NA	NA	6 - 50	21.00
	Total Dissolved Solid (TDS)	mg/L	≤ 3,000.00	NA	NA	152.00 - 260.00	256.00
	Total Kjeldahl Nitrogen (TKN)	mg/L	≤ 100.00	NA	NA	1.40 - 5.70	2.00
	Mercury (Hg)	mg/L	≤ 0.005	NA	NA	ND, <0.0001	<0.0001
	Selenium (Se)	mg/L	≤ 0.02	NA	NA	ND, <0.0001	0.0002
	Cadmium (Cd)	mg/L	≤ 0.03	NA	NA	ND, <0.0001	ND
	Lead (Pb)	mg/L	≤ 0.20	NA	NA	<0.0002	0.0004
	Arsenic (As)	mg/L	≤ 0.25	NA	NA	0.0008 - 0.0002	0.0011
	Trivalent Chromium (Cr+3)	mg/L	≤ 0.75	NA	NA	<0.01	<0.01
	Hexavalent Chromium (Cr+6)	mg/L	≤ 0.25	NA	NA	ND, <0.01	<0.01
	Barium (Ba)	mg/L	≤ 1.00	NA	NA	0.02 - 0.04	0.04

GRI STANDARD	PERFORMANCE	UNIT	STANDARD	2017	2018	2019	2020
	Nickel (Ni)	mg/L	≤ 1.00	NA	NA	0.0006 - 0.001	0.001
	Copper (Cu)	mg/L	≤ 2.00	NA	NA	0.001 - 0.006	0.007
	Zinc (Zn)	mg/L	≤ 5.00	NA	NA	0.01 - 0.13	0.10
	Sulfide as H ₂ S	mg/L	≤ 1.00	NA	NA	<0.50	<0.50
	Cyanide as HCN	mg/L	≤ 0.20	NA	NA	<0.005	<0.005
	Chloride as Cl ₂	mg/L	≤ 1.00	NA	NA	Na	Na
WHA EIE							
	pH	-	5.5 - 9.0	8.00	8.00	8.00	8.50
	Temperature	°C	≤ 40.00	34.00	33.00	34.00	34.30
	Biochemical Oxygen Demand (BOD)	mg/L	≤ 20.00	3.00	6.00	2.00	4.00
	Chemical Oxygen Demand (COD)	mg/L	≤ 120.00	33.00	45.00	49.00	20.00
	Grease and Oil	mg/L	≤ 5.00	3.00	3.00	3.00	3.00
	Suspended Solid (SS)	mg/L	≤ 50.00	17.00	26.00	22.00	17.00
	Total Dissolved Solid (TDS)	mg/L	≤ 3,000.00	1,833.00	2,065.00	2,405.00	2,430.00
	Total Kjeldahl Nitrogen (TKN)	mg/L	≤ 100.00	3.00	3.00	3.00	2.50
	Mercury (Hg)	mg/L	≤ 0.005	0.00	0.00	0.00	0.0001
	Selenium (Se)	mg/L	≤ 0.02	0.00	0.00	0.00	0.0007
	Cadmium (Cd)	mg/L	≤ 0.03	0.00	0.00	0.00	0.0012
	Lead (Pb)	mg/L	≤ 0.20	0.00	0.00	0.00	0.0011
	Arsenic (As)	mg/L	≤ 0.25	0.00	0.00	0.00	0.007
	Chromium (Cr)	mg/L	≤ 0.25	Na	Na	Na	Na
	Barium (Ba)	mg/L	≤ 1.00	0.00	0.00	0.00	0.17
	Nickel (Ni)	mg/L	≤ 1.00	0.00	0.00	0.00	0.034
	Copper (Cu)	mg/L	≤ 2.00	0.00	0.00	0.00	0.011
	Zinc (Zn)	mg/L	≤ 5.00	0.00	0.00	0.00	0.49
	Sulfide as H ₂ S	mg/L	≤ 1.00	1.00	1.00	1.00	<0.5
	Cyanide as HCN	mg/L	≤ 0.20	0.00	0.00	0.00	0.015
	Chloride as Cl ₂	mg/L	≤ 1.00	Na	Na	Na	Na
WHA RIL							
	pH	-	5.5 - 9.0	8.00	7.00	7.00	6.80
	Temperature	°C	≤ 40.00	32.00	30.00	31.00	32.25
	Biochemical Oxygen Demand (BOD)	mg/L	≤ 20.00	9.00	12.00	8.00	8.00
	Chemical Oxygen Demand (COD)	mg/L	≤ 120.00	33.00	36.00	49.00	37.00
	Grease and Oil	mg/L	≤ 5.00	3.00	3.00	3.00	4.00
	Suspended Solid (SS)	mg/L	≤ 50.00	9.00	11.00	10.00	11.00
	Total Dissolved Solid (TDS)	mg/L	≤ 3,000.00	1,466.00	1,193.00	1,083.00	1,211.00
	Total Kjeldahl Nitrogen (TKN)	mg/L	≤ 100.00	11.00	10.00	11.00	5.00
	Mercury (Hg)	mg/L	≤ 0.005	0.00	0.00	ND	<0.0001
	Selenium (Se)	mg/L	≤ 0.02	Na	Na	Na	Na
	Cadmium (Cd)	mg/L	≤ 0.03	Na	Na	Na	Na
	Lead (Pb)	mg/L	≤ 0.20	Na	Na	Na	Na
	Arsenic (As)	mg/L	≤ 0.25	Na	Na	Na	Na
	Chromium (Cr)	mg/L	≤ 0.25	Na	Na	Na	Na
	Barium (Ba)	mg/L	≤ 1.00	Na	Na	Na	Na

GRI STANDARD	PERFORMANCE	UNIT	STANDARD	2017	2018	2019	2020
	Nickel (Ni)	mg/L	≤ 1.00	0.00	0.00	0.00	0.013
	Copper (Cu)	mg/L	≤ 2.00	Na	Na	Na	0.004
	Zinc (Zn)	mg/L	≤ 5.00	0.00	0.00	0.00	0.24
	Sulfide as H ₂ S	mg/L	≤ 1.00	1.00	1.00	1.00	<0.50
	Cyanide as HCN	mg/L	≤ 0.20	Na	Na	Na	Na
	Chloride as Cl ₂	mg/L	≤ 1.00	Na	Na	Na	Na
WHA SIL							
	pH	-	5.5 - 9.0	8.00	8.00	8.00	7.40
	Temperature	°C	≤ 40.00	31.00	30.00	31.00	31.00
	Biochemical Oxygen Demand (BOD)	mg/L	≤ 20.00	6.00	4.00	3.00	3.00
	Chemical Oxygen Demand (COD)	mg/L	≤ 120.00	54.00	45.00	41.00	40.00
	Grease and Oil	mg/L	≤ 5.00	4.00	4.00	3.00	3.00
	Suspended Solid (SS)	mg/L	≤ 50.00	19.00	13.00	11.00	12.00
	Total Dissolved Solid (TDS)	mg/L	≤ 3,000.00	1,128.00	1,084.00	1,073.00	1,207.00
	Total Kjeldahl Nitrogen (TKN)	mg/L	≤ 100.00	2.00	3.00	3.00	1.50
	Mercury (Hg)	mg/L	≤ 0.005	ND	ND	ND	ND
	Selenium (Se)	mg/L	≤ 0.02	Na	Na	Na	Na
	Cadmium (Cd)	mg/L	≤ 0.03	<0.0001	ND	<0.0001	<0.0001
	Lead (Pb)	mg/L	≤ 0.20	0.00	0.00	0.00	0.0014
	Arsenic (As)	mg/L	≤ 0.25	Na	Na	Na	Na
	Chromium (Cr)	mg/L	≤ 0.25	Na	Na	Na	Na
	Barium (Ba)	mg/L	≤ 1.00	Na	Na	Na	Na
	Nickel (Ni)	mg/L	≤ 1.00	0.00	0.00	0.00	0.001
	Copper (Cu)	mg/L	≤ 2.00	0.00	0.00	0.00	0.006
	Zinc (Zn)	mg/L	≤ 5.00	0.00	0.00	0.00	0.013
	Sulfide as H ₂ S	mg/L	≤ 1.00	<0.50	<0.50	<0.50	<0.60
	Cyanide as HCN	mg/L	≤ 0.20	Na	Na	Na	Na
	Chloride as Cl ₂	mg/L	≤ 1.00	Na	Na	Na	Na

Remark:

NA = Not applicable; Na = Not analyzed; ND = Not detected

AIR EMISSION

GRI STANDARD	PERFORMANCE	UNIT	STANDARD	2017	2018	2019	2020
305-7	Ambient air quality monitoring by industrial estate operation*						
	WHA ESIE						
	Location 1 : Chompon Chao Phraya Temple						
	NOx	ppm	≤ 0.17	0.004-0.009	0.002-0.008	0.007-0.016	0.014-0.052
	SOx	mg/m ³	≤ 0.30	0.0035-0.0044	0.0123-0.0138	0.0100-0.0120	0.0039-0.0100
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.026-0.061	0.024-0.069	0.028-0.053	0.031-0.061
	Particulate matter10 (PM10)	mg/m ³	< 0.12	-	-	-	-
	Location 2 : Klong Gram Temple						
	NOx	ppm	≤ 0.17	0.007-0.016	0.009-0.025	0.007-0.019	0.004-0.027
	SOx	mg/m ³	≤ 0.30	0.0029-0.0039	0.0258-0.0269	0.0097-0.0106	0.0031-0.0072
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.029-0.113	0.025-0.102	0.026-0.074	0.027-0.106
	Particulate matter10 (PM10)	mg/m ³	< 0.12	-	-	-	-
	Location 3 : Ras Asadaram Temple						
	NOx	ppm	≤ 0.17	0.006-0.010	0.002-0.003	0.007-0.019	0.007-0.050
	SOx	mg/m ³	≤ 0.30	0.0035-0.0043	0.0094-0.0357	0.0035-0.0040	0.0012-0.0232
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.039-0.083	0.039-0.074	0.026-0.123	0.047-0.216
	Particulate matter10 (PM10)	mg/m ³	< 0.12	-	-	-	-
	Location 4 : Ban Wang Ta Pin						
	NOx	ppm	≤ 0.17	0.006-0.011	0.004-0.048	0.007-0.019	0.012-0.050
	SOx	mg/m ³	≤ 0.30	0.0043-0.0059	0.0093-0.0097	0.0047-0.0053	0.0036-0.0138
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.049-0.119	0.038-0.118	0.040-0.129	0.035-0.307
	Particulate matter10 (PM10)	mg/m ³	< 0.12	-	-	-	-
	Location 5 : Ban Map Lang School						
	NOx	ppm	≤ 0.17	0.010-0.023	0.006-0.011	0.007-0.019	0.009-0.054
	SOx	mg/m ³	≤ 0.30	0.0033-0.0043	0.0039-0.0042	0.0092-0.0103	0.0015-0.0145
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.026-0.072	0.030-0.095	0.015-0.051	0.040-0.118
	Particulate matter10 (PM10)	mg/m ³	< 0.12	-	-	-	-
	Location 6 : Sri Sattanaram Monk Center						
	NOx	ppm	≤ 0.17	0.008-0.016	0.003-0.015	0.003-0.016	0.020-0.055
	SOx	mg/m ³	≤ 0.30	0.0029-0.0040	0.0039-0.0042	0.0050-0.0354	0.0029-0.0111
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.017-0.035	0.015-0.031	0.018-0.030	0.022-0.105
	Particulate matter10 (PM10)	mg/m ³	< 0.12	-	-	-	-

GRI STANDARD	PERFORMANCE	UNIT	STANDARD	2017	2018	2019	2020
WHA ESIE1							
Location 1 : Eastern Sugar Company Community School							
	NOx	ppm	≤ 0.17	0.007-0.018	0.015-0.028	0.004-0.016	0.001-0.022
	SOx	mg/m ³	≤ 0.30	0.0067-0.0087	0.012-0.016	0.0035-0.004	0.0020-0.0231
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.053-0.097	0.059-0.107	0.023-0.049	0.028-0.178
	Particulate matter10 (PM10)	mg/m ³	< 0.12	0.019-0.040	0.054-0.086	0.014-0.021	0.015-0.076
Location 2 : Surasak School							
	NOx	ppm	≤ 0.17	0.011-0.021	0.067-0.086	0.008-0.014	<0.001-0.0250
	SOx	mg/m ³	≤ 0.30	0.0061-0.0065	0.024-0.026	0.0003-0.004	0.0009-0.0119
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.066-0.1640	0.090-0.149	0.038-0.068	0.023-0.223
	Particulate matter10 (PM10)	mg/m ³	< 0.12	0.013-0.066	0.042-0.097	0.018-0.028	0.009-0.071
Location 3 : Weather Station							
	NOx	ppm	≤ 0.17	0.004-0.009	0.015-0.028	0.031-0.038	0.004-0.084
	SOx	mg/m ³	≤ 0.30	0.004-0.010	0.012-0.016	0.002-0.012	0.001-0.0080
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.031-0.058	0.059-0.107	0.021-0.030	0.023-0.087
	Total Suspended Particulate matter10 (PM10)	mg/m ³	< 0.12	0.031-0.054	0.054-0.086	0.013-0.018	0.008-0.071
Location 4 : Klong Gram Temple							
	NOx	ppm	≤ 0.17	0.004-0.009	0.015-0.028	0.031-0.038	0.004-0.084
	SOx	mg/m ³	≤ 0.30	0.004-0.010	0.012-0.016	0.002-0.012	0.001-0.0080
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.031-0.058	0.059-0.107	0.021-0.030	0.023-0.087
	Total Suspended Particulate matter10 (PM10)	mg/m ³	< 0.12	0.031-0.054	0.054-0.086	0.013-0.018	0.008-0.071
Location 5 : Ban Tai Sun							
	NOx	ppm	≤ 0.17	0.009-0.023	0.008-0.035	0.008-0.012	<0.001-0.017
	SOx	mg/m ³	≤ 0.30	0.006-0.010	0.010-0.012	0.002-0.003	0.0023-0.0057
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.035-0.071	0.034-0.041	0.019-0.039	0.017-0.071
	Total Suspended Particulate matter10 (PM10)	mg/m ³	< 0.12	0.013-0.030	0.027-0.036	0.014-0.020	0.008-0.042
Location 6 : Khao Kan Song Temple							
	NOx	ppm	≤ 0.17	0.007-0.013	0.019-0.043	0.005-0.013	0.001-0.022
	SOx	mg/m ³	≤ 0.30	0.006-0.0077	0.037-0.052	0.004-0.0097	0.0084-0.0225
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.048-0.092	0.074-0.088	0.034-0.082	0.023-0.097
	Total Suspended Particulate matter10 (PM10)	mg/m ³	< 0.12	0.036-0.059	0.029-0.050	0.019-0.050	0.014-0.055

GRI STANDARD	PERFORMANCE	UNIT	STANDARD	2017	2018	2019	2020
Location 7 : Ta Kien Ku Temple							
	NOx	ppm	≤ 0.17	0.006-0.015	0.007-0.024	0.004-0.010	<0.001-0.019
	SOx	mg/m ³	≤ 0.30	0.004-0.012	0.017-0.023	0.001-0.003	0.0012-0.0036
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.047-0.063	0.044-0.069	0.019-0.037	0.019-0.105
	Total Suspended Particulate matter10 (PM10)	mg/m ³	< 0.12	0.028-0.049	0.029-0.053	0.016-0.029	0.01-0.068
Location 8 : Ban Som							
	NOx	ppm	≤ 0.17	0.005-0.010	0.006-0.016	0.003-0.010	<0.001-0.055
	SOx	mg/m ³	≤ 0.30	0.0042-0.0044	0.0053-0.007	0.0019-0.0042	0.0018-0.0055
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.064-0.090	0.041-0.120	0.023-0.035	0.022-0.074
	Total Suspended Particulate matter10 (PM10)	mg/m ³	< 0.12	0.028-0.044	0.020-0.048	0.015-0.025	0.01-0.038
WHA ESIE 2							
Location 1 : Ban Map Lam Bid School							
	NOx	ppm	≤ 0.17	0.008-0.016	0.003-0.010	0.016-0.039	0.007-0.021
	SOx	mg/m ³	≤ 0.30	0.007-0.013	0.0031-0.0045	0.0084-0.0089	0.0024-0.011
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.038-0.074	0.031-0.098	0.046-0.115	0.020-0.062
	Total Suspended Particulate matter10 (PM10)	mg/m ³	< 0.12	0.019-0.050	0.019-0.058	0.034-0.053	0.007-0.039
Location 2 : Industrial estate area							
	NOx	ppm	≤ 0.17	0.007-0.021	0.003-0.012	0.010-0.018	0.010-0.027
	SOx	mg/m ³	≤ 0.30	0.005-0.006	0.0055	0.0060-0.0079	0.0017-0.0159
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.046-0.081	0.025-0.128	0.049-0.071	0.020-0.052
	Total Suspended Particulate matter10 (PM10)	mg/m ³	< 0.12	0.029-0.065	0.012-0.043	0.016-0.030	0.013-0.039
Location 3 : Ban Map Lam Bid Moo. 7							
	NOx	ppm	≤ 0.17	0.006-0.012	0.003-0.012	0.004-0.012	0.002-0.013
	SOx	mg/m ³	≤ 0.30	0.003-0.012	0.0010-0.0204	0.0037-0.0047	0.0046-0.0084
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.037-0.075	0.032-0.074	0.038-0.062	0.023-0.120
	Total Suspended Particulate matter10 (PM10)	mg/m ³	< 0.12	0.020-0.044	0.018-0.047	0.024-0.031	0.007-0.079
Location 4 : Khao Kan Song Moo. 3							
	NOx	ppm	≤ 0.17	0.001-0.002	0.002-0.004	0.010-0.028	0.004-0.017
	SOx	mg/m ³	≤ 0.30	0.010-0.025	0.0309-0.0398	0.0042-0.0060	0.0035-0.0101
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.024-0.073	0.025-0.072	0.050-0.087	0.031-0.089
	Total Suspended Particulate matter10 (PM10)	mg/m ³	< 0.12	0.021-0.051	0.023-0.047	0.022-0.036	0.018-0.075

GRI STANDARD	PERFORMANCE	UNIT	STANDARD	2017	2018	2019	2020
Location 5 : Chong Lom Temple							
	NOx	ppm	≤ 0.17	0.006-0.012	0.022-0.004	0.002-0.008	0.001-0.015
	SOx	mg/m ³	≤ 0.30	0.002-0.010	0.001-0.002	0.0029-0.0037	0.0024-0.0049
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.023-0.055	0.022-0.066	0.039-0.080	0.020-0.092
	Total Suspended Particulate matter ₁₀ (PM ₁₀)	mg/m ³	< 0.12	0.016-0.042	0.010-0.038	0.016-0.026	0.011-0.034
Location 6 : Ban Map Kla Moo. 4							
	NOx	ppm	≤ 0.17	0.005-0.016	0.013-0.028	0.007-0.014	0.008-0.014
	SOx	mg/m ³	≤ 0.30	0.003-0.008	0.0283-0.0526	0.0031-0.0092	0.0052-0.0118
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.064-0.108	0.041-0.173	0.079-0.175	0.010-0.069
	Total Suspended Particulate matter ₁₀ (PM ₁₀)	mg/m ³	< 0.12	0.031-0.055	0.024-0.076	0.034-0.076	0.022-0.112
WHA ESIE 3							
Location 1 : Ban Ta Jam School							
	NOx	ppm	≤ 0.17	-	-	-	-
	SOx	mg/m ³	≤ 0.30	-	-	-	-
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	-	0.031-0.163	0.080-0.218	0.040-0.295
	Total Suspended Particulate matter ₁₀ (PM ₁₀)	mg/m ³	< 0.12	-	0.025-0.070	0.034-0.053	0.020-0.086
Location 2 : Ta Jam Sub-District Hospital							
	NOx	ppm	≤ 0.17	-	-	-	-
	SOx	mg/m ³	≤ 0.30	-	-	-	-
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	-	0.035-0.063	0.065-0.087	0.037-0.019
	Total Suspended Particulate matter ₁₀ (PM ₁₀)	mg/m ³	< 0.12	-	0.031-0.046	0.028-0.051	0.078-0.036
Location 3 : Huay Mara Sub-District Hospital							
	NOx	ppm	≤ 0.17	-	-	-	-
	SOx	mg/m ³	≤ 0.30	-	-	-	-
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	-	0.031-0.061	0.031-0.055	0.017-0.010
	Total Suspended Particulate matter ₁₀ (PM ₁₀)	mg/m ³	< 0.12	-	0.029-0.046	0.023-0.037	0.061-0.029
Location 4 : Ban Meun Jit Sub-District Hospital							
	NOx	ppm	≤ 0.17	-	-	-	-
	SOx	mg/m ³	≤ 0.30	-	-	-	-
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	-	0.032-0.109	0.033-0.076	0.023-0.011
	Total Suspended Particulate matter ₁₀ (PM ₁₀)	mg/m ³	< 0.12	-	0.029-0.076	0.025-0.032	0.062-0.032

GRI STANDARD	PERFORMANCE	UNIT	STANDARD	2017	2018	2019	2020
Location 5 : Raweng School							
	NOx	ppm	≤ 0.17	-	-	-	-
	SOx	mg/m ³	≤ 0.30	-	-	-	-
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	-	0.023-0.077	0.050-0.076	0.044-0.014
	Total Suspended Particulate matter10 (PM10)	mg/m ³	< 0.12	-	0.018-0.043	0.027-0.040	0.086-0.036
Location 6 : Chaloevraj Temple							
	NOx	ppm	≤ 0.17	-	-	-	-
	SOx	mg/m ³	≤ 0.30	-	-	-	-
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	-	0.029-0.063	0.027-0.101	0.020-0.012
	Total Suspended Particulate matter10 (PM10)	mg/m ³	< 0.12	-	0.021-0.041	0.020-0.033	0.058-0.033
WHA ESIE 4							
Location 1 : Ban Nikom Sans Ton Eng-main road							
	NOx	ppm	≤ 0.17	-	0.006-0.014	0.004-0.030	0.004-0.013
	SOx	mg/m ³	≤ 0.30	-	0.0051-0.0054	0.0083-0.0089	0.0009-0.0032
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.023-0.049	0.037-0.075	0.079-0.123	0.024-0.074
	Total Suspended Particulate matter10 (PM10)	mg/m ³	< 0.12	0.021-0.036	0.020-0.038	0.038-0.066	0.012-0.030
Location 2 : Ban Nong Mapring							
	NOx	ppm	≤ 0.17	-	0.0030-0.0080	0.004-0.021	0.001-0.015
	SOx	mg/m ³	≤ 0.30	-	0.0013-0.0017	0.0056-0.0060	0.002-0.0043
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.024-0.059	0.034-0.070	0.064-0.096	0.024-0.072
	Total Suspended Particulate matter10 (PM10)	mg/m ³	< 0.12	0.014-0.036	0.021-0.044	0.025-0.039	0.016-0.035
Location 3 : Mae Nam Ku Temple							
	NOx	ppm	≤ 0.17	-	0.0020-0.0100	0.004-0.022	0.001-0.022
	SOx	mg/m ³	≤ 0.30	-	0.0014-0.0031	0.0005-0.0013	0.0022-0.0052
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.021-0.061	0.054-0.088	0.073-0.117	0.013-0.032
	Total Suspended Particulate matter10 (PM10)	mg/m ³	< 0.12	0.016-0.030	0.024-0.041	0.011-0.043	0.021-0.070
Location 4 : Ban Mae Nam Ku							
	NOx	ppm	≤ 0.17	-	0.0120-0.0230	0.013-0.024	0.008-0.044
	SOx	mg/m ³	≤ 0.30	-	0.0101-0.0104	0.0100-0.0114	0.0037-0.0145
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.032-0.082	0.042-0.072	0.074-0.115	0.021-0.077
	Total Suspended Particulate matter10 (PM10)	mg/m ³	< 0.12	0.018-0.039	0.027-0.049	0.034-0.061	0.012-0.040

GRI STANDARD	PERFORMANCE	UNIT	STANDARD	2017	2018	2019	2020
WHA CIE1							
Location 1 : Resident and commercial area within the industrial estate							
	NOx	ppm	≤ 0.17	0.002-0.071	0.009-0.062	0.010-0.034	0.006-0.018
	SOx	mg/m ³	≤ 0.30	0.0033-0.0045	0.0076-0.0079	0.0029-0.0183	0.0031-0.0047
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.107-0.123	0.086-0.102	0.110-0.146	0.099-0.152
	Total Suspended Particulate matter ₁₀ (PM ₁₀)	mg/m ³	< 0.12	-	-	-	-
Location 2 : Bo Win School							
	NOx	ppm	≤ 0.17	0.002-0.011	<0.001-0.017	<0.001-0.010	0.001-0.002
	SOx	mg/m ³	≤ 0.30	0.0046-0.0065	0.0048-0.0058	0.0017-0.0027	0.0029-0.0032
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.083-0.091	0.043-0.084	0.028-0.031	0.085-0.205
	Total Suspended Particulate matter ₁₀ (PM ₁₀)	mg/m ³	< 0.12	-	-	-	-
Location 3 : Pan Saded Nok Temple							
	NOx	ppm	≤ 0.17	0.003-0.028	<0.001-0.013	0.033-0.010	0.001
	SOx	mg/m ³	≤ 0.30	0.0034-0.0046	0.0046-0.0089	0.0079-0.0088	0.0025-0.0026
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.058-0.073	0.026-0.043	0.016-0.031	0.032-0.044
	Total Suspended Particulate matter ₁₀ (PM ₁₀)	mg/m ³	< 0.12	-	-	-	-
WHA CIE2							
Location 1 : Hoobbon Sub-District Hospital							
	NOx	ppm	≤ 0.17	<0.001-0.022	<0.001-0.003	<0.001-0.003	0.001-0.004
	SOx	mg/m ³	≤ 0.30	0.0015-0.0069	0.034-0.0404	0.0053-0.0054	0.0011-0.0029
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.032-0.092	0.021-0.046	0.032-0.069	0.022-0.057
	Total Suspended Particulate matter ₁₀ (PM ₁₀)	mg/m ³	< 0.12	0.022-0.059	0.015-0.031	0.018-0.033	0.013-0.025
Location 2 : Khao Hin Lad Temple							
	NOx	ppm	≤ 0.17	0.005-0.046	<0.001-0.001	<0.001-0.018	0.001-0.004
	SOx	mg/m ³	≤ 0.30	0.0036-0.0047	0.0078-0.0082	0.0154-0.0236	0.0014-0.0024
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.057-0.097	0.017-0.031	0.024-0.061	0.015-0.042
	Total Suspended Particulate matter ₁₀ (PM ₁₀)	mg/m ³	< 0.12	0.022-0.063	0.010-0.020	0.015-0.031	0.012-0.019
Location 3 : Khao Kan Song Moo.3 Community							
	NOx	ppm	≤ 0.17	<0.001-0.058	<0.001-0.010	0.004-0.030	0.001-0.004
	SOx	mg/m ³	≤ 0.30	0.0111-0.0159	0.0035-0.0115	0.0010-0.0017	0.0039-0.0054
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.069-0.107	0.020-0.043	0.024-0.060	0.021-0.073
	Total Suspended Particulate matter ₁₀ (PM ₁₀)	mg/m ³	< 0.12	0.025-0.072	0.015-0.034	0.019-0.035	0.008-0.028

GRI STANDARD	PERFORMANCE	UNIT	STANDARD	2017	2018	2019	2020
Location 4 : Siri Anusorn Community							
	NOx	ppm	≤ 0.17	<0.001-0.023	0.001-0.006	0.001-0.027	0.004-0.007
	SOx	mg/m ³	≤ 0.30	0.0035-0.0054	0.0123-0.0204	0.0192-0.0196	0.0120-0.0130
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.055-0.120	0.023-0.037	0.027-0.059	0.020-0.050
	Total Suspended Particulate matter10 (PM10)	mg/m ³	< 0.12	<0.001-0.023	0.001-0.006	0.001-0.027	0.004-0.007
WHA EIE							
Location 1 : WHA EIE office							
	NOx	ppm	≤ 0.17	0.001-0.038	<0.001-0.025	0.001-0.024	0.010-0.030
	SOx	mg/m ³	≤ 0.30	0.0059-0.0102	0.0032-0.0053	0.0034-0.0228	0.0006-0.0007
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.018-0.082	0.015-0.077	0.018-0.055	0.037-0.083
	Total Suspended Particulate matter10 (PM10)	mg/m ³	< 0.12	0.039-0.142	0.034-0.161	0.020-0.115	0.019-0.038
Location 2 : Nong Fab Temple							
	NOx	ppm	≤ 0.17	0.001-0.034	<0.001-0.022	<0.001-0.025	0.016-0.025
	SOx	mg/m ³	≤ 0.30	0.0081-0.0245	0.0278-0.0289	0.0037-0.0436	0.005-0.007
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.029-0.075	0.014-0.066	0.027-0.055	0.046-0.097
	Total Suspended Particulate matter10 (PM10)	mg/m ³	< 0.12	0.040-0.131	0.030-0.127	0.047-0.096	0.023-0.042
Location 3 : Map Chalud Temple							
	NOx	ppm	≤ 0.17	<0.001-0.060	<0.001-0.016	<0.001-0.016	0.009-0.028
	SOx	mg/m ³	≤ 0.30	0.0072-0.0339	0.0024-0.0190	0.0198-0.0278	0.003-0.005
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.021-0.093	0.023-0.081	0.023-0.055	0.040-0.089
	Total Suspended Particulate matter10 (PM10)	mg/m ³	< 0.12	0.038-0.180	0.055-0.145	0.045-0.118	0.024-0.055
WHA RIL							
Location 1 : WHA RIL office							
	NOx	ppm	≤ 0.17	<0.001-0.033	<0.001-0.024	0.001-0.025	0.001-0.047
	SOx	mg/m ³	≤ 0.30	<0.001-0.007	0.001-0.019	<0.001-0.041	0.001-0.005
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.015-0.049	0.008-0.044	0.015-0.032	0.024-0.061
	Total Suspended Particulate matter10 (PM10)	mg/m ³	< 0.12	0.025-0.098	0.018-0.058	0.021-0.053	0.014-0.034
Location 2 : Ban Sam Yak Community							
	NOx	ppm	≤ 0.17	<0.001-0.024	<0.001-0.024	<0.001-0.030	<0.001-0.055
	SOx	mg/m ³	≤ 0.30	0.002-0.007	0.002-0.016	<0.001-0.002	<0.001-0.004
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.011-0.072	0.008-0.035	0.007-0.029	0.019-0.070
	Total Suspended Particulate matter10 (PM10)	mg/m ³	< 0.12	0.025-0.084	0.023-0.057	0.017-0.049	0.013-0.040

GRI STANDARD	PERFORMANCE	UNIT	STANDARD	2017	2018	2019	2020
Location 3 : Nong La Lok Community							
	NOx	ppm	≤ 0.17	<0.001-0.022	<0.001-0.032	0.001-0.029	0.001-0.044
	SOx	mg/m ³	≤ 0.30	<0.001-0.014	0.001-0.038	<0.001-0.006	<0.001-0.004
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.015-0.045	0.009-0.030	0.013-0.027	0.018-0.060
	Total Suspended Particulate matter ₁₀ (PM ₁₀)	mg/m ³	< 0.12	0.030-0.068	0.016-0.049	0.022-0.042	0.010-0.23
Location 4 : Ban Klong Nam Yen Community							
	NOx	ppm	≤ 0.17	<0.001-0.025	<0.001-0.023	<0.001-0.026	<0.001-0.036
	SOx	mg/m ³	≤ 0.30	<0.001-0.011	<0.001-0.006	<0.001-0.006	0.002-0.005
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.017-0.053	0.010-0.030	0.015-0.033	0.029-0.051
	Total Suspended Particulate matter ₁₀ (PM ₁₀)	mg/m ³	< 0.12	0.042-0.126	0.020-0.042	0.025-0.049	0.012-0.024
WHA SIL							
Location 1 : WHA SIL office							
	NOx	ppm	≤ 0.17	<0.001-0.008	0.002-0.019	<0.001-0.062	0.002-0.027
	SOx	mg/m ³	≤ 0.30	0.002-0.004	0.001-0.004	0.002-0.007	<0.001-0.006
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.051-0.111	0.059-0.117	0.069-0.121	0.042-0.088
	Total Suspended Particulate matter ₁₀ (PM ₁₀)	mg/m ³	< 0.12	0.015-0.038	0.019-0.066	0.031-0.087	0.026-0.057
Location 2 : Nong Pla Mo School							
	NOx	ppm	≤ 0.17	0.001-0.007	0.001-0.048	<0.001-0.051	0.002-0.024
	SOx	mg/m ³	≤ 0.30	<0.001-0.002	0.001-0.003	<0.001-0.002	<0.001-0.002
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.050-0.088	0.084-0.264	0.079-0.204	0.025-0.150
	Total Suspended Particulate matter ₁₀ (PM ₁₀)	mg/m ³	< 0.12	0.021-0.033	0.041-0.099	0.040-0.104	0.015-0.081
Location 3 : Bua Loi Klang School							
	NOx	ppm	≤ 0.17	<0.001-0.009	0.001-0.035	0.001-0.032	<0.001-0.041
	SOx	mg/m ³	≤ 0.30	<0.001-0.002	0.002-0.006	0.001-0.002	<0.001-0.005
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.048-0.066	0.045-0.077	0.073-0.132	0.020-0.103
	Total Suspended Particulate matter ₁₀ (PM ₁₀)	mg/m ³	< 0.12	0.017-0.030	0.025-0.043	0.045-0.079	0.016-0.068
Location 4 : Ban Mai Tung Din Khor School							
	NOx	ppm	≤ 0.17	<0.001-0.009	0.001-0.016	<0.001-0.048	0.001-0.029
	SOx	mg/m ³	≤ 0.30	<0.001	0.001-0.003	0.001-0.003	<0.001-0.003
	Total Suspended Particulate (TSP)	mg/m ³	≤ 0.33	0.036-0.088	0.053-0.100	0.066-0.146	0.018-0.100
	Total Suspended Particulate matter ₁₀ (PM ₁₀)	mg/m ³	< 0.12	0.016-0.048	0.042-0.059	0.036-0.080	0.012-0.066

BIODIVERSITY

GRI STANDARD	PERFORMANCE	UNIT	2017	2018	2019	2020
304-1	Number of industrial estate located near protected areas	Operation	2	2	2	2
	Number of industrial estate located near high biodiversity value area		2	2	2	2
	Number of industrial estate that conducts biodiversity value assessment		2	2	3	3
	Number of industrial estate required biodiversity management plan		2	2	3	3
	Number of industrial estate implemented biodiversity management plan		2	2	3	3

ENVIRONMENTAL COMPLIANCE

GRI STANDARD	PERFORMANCE	UNIT	2017	2018	2019	2020
307-1	Non-compliance with environmental laws and regulations					
	Total number of violations of legal obligations/regulations	Cases	0	0	0	0
	- Significant fines	Baht	0	0	0	0
	- Non-monetary sanctions	Cases	0	0	0	0
	- Case brought through dispute resolution mechanisms	Cases	0	0	0	0

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FEEDBACK FORM : 2020 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 |
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AFTER READING THIS ANNUAL REPORT, ARE YOU CONFIDENT THAT WHA POTENTIALLY ACHIEVES THE SUSTAINABLE GROWTH?

- Yes, because _____
 No, because _____
 No idea, because _____

IN YOUR OPINION, WHICH IS THE MOST SIGNIFICANT ASPECT TOWARD WHA SUSTAINABLE GROWTH?

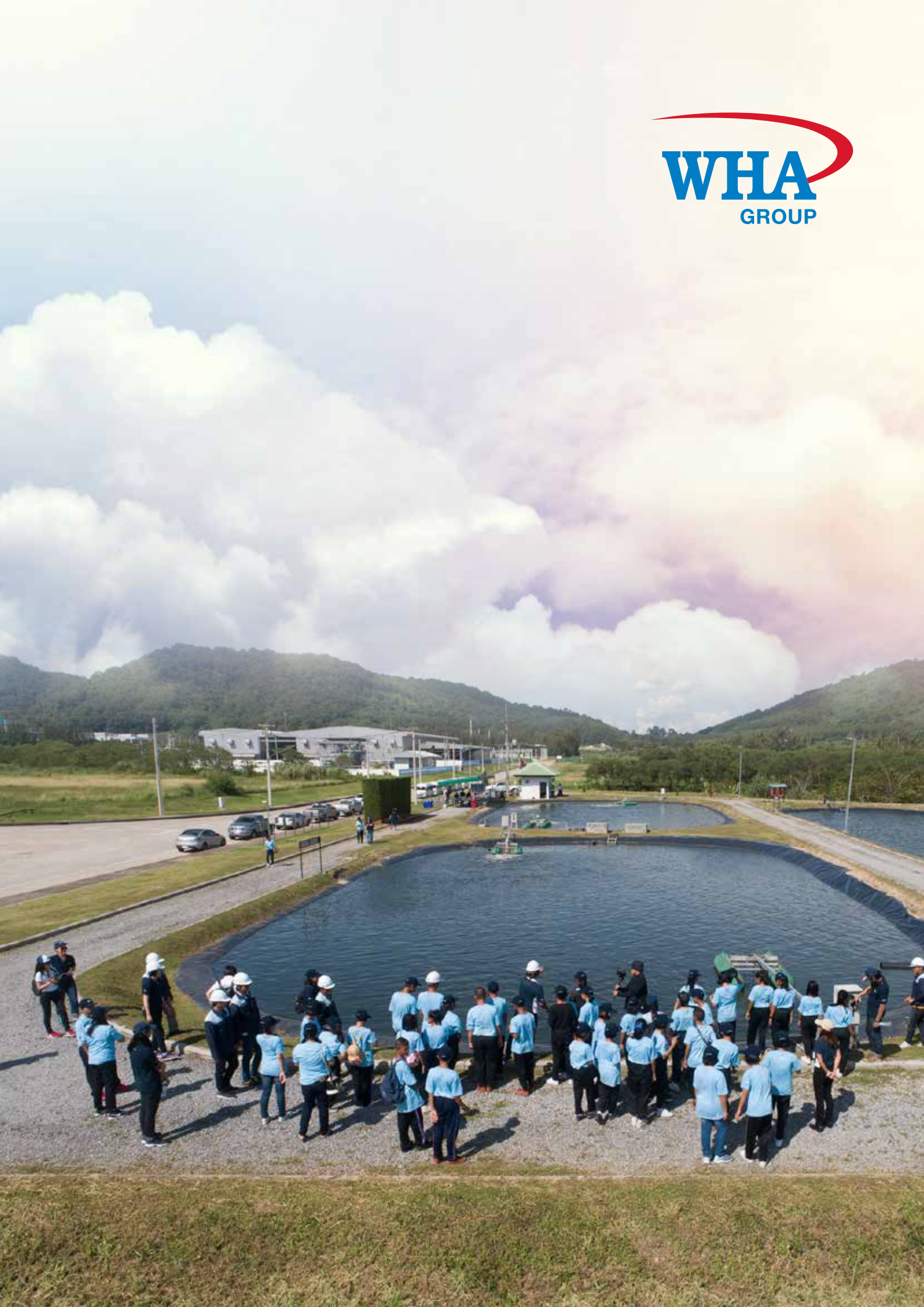
- Economy (Please specify _____)
 Environment (Please specify _____)
 Society (Please specify _____)

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:
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