



Year-ended 2022 Analyst Meeting

3rd March 2023

WHA Corporation Public Company Limited

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In addition, this presentation contains projections and forward-looking statements that reflect the Company's current views with respect to future events and financial performance. These views are based on a number of estimates and current assumptions which are subject to business, economic and competitive uncertainties and contingencies as well as various risks and these may change over time and in many cases are outside the control of the Company and its directors. You are cautioned not to place undue reliance on these forward looking statements, which are based on the current view of the management of the Company on future events. No assurance can be given that future events will occur, that projections will be achieved, or that the Company's assumptions are correct. The Company does not assume any responsibility to amend, modify or revise any forward-looking statements, on the basis of any subsequent developments, information or events, or otherwise. These statements can be recognized by the use of words such as "expects," "plans," "will," "estimates," "projects," or words of similar meaning. Such forward-looking statements are not guarantees of future performance and actual results may differ from those forecast and projected or in the forward-looking statements as a result of various factors and assumptions.

- I. WHA Group Overview**
- II. 2022 Operating Performance**
- III. 2022 Financial Performance**
- IV. Appendix**

20-Year Achievements



Remark: Information as of February 2023

2022 Performance Highlights



**#1 Logistics
Properties Developer**

2,718,233 sqm
Owned & Managed

204,317 sqm
Net Rent for Built-to-Suit,
Warehouse Farm and RBF/RBW¹

135,012 sqm²
Short-Term Contracts

208,149 sqm
Total Assets Monetization to
WHART and WHAIR



**#1 Industrial Estate
Developer**

71,000 Rai³
Land for Industrial Development

12 Industrial Estates⁵

1,899 Rai Land Sale
(TH 1,793 Rai⁴, VN 106 Rai)

899 Rai Outstanding LOI / MOU
(TH 469 Rai, VN 430 Rai)

468 Rai Backlog
(TH 468 Rai)



**Leading Industrial
Utilities and Power
Provider**

145 mm m³
Water Utilities Sales & Management

683 Total Secured PPA
Equity MW Power

644 Installed Equity
MW Power



**WHA Digitalization
Enabler**

>32 Digital Transformation
Projects

Remark: The data is as of 31 December 2022

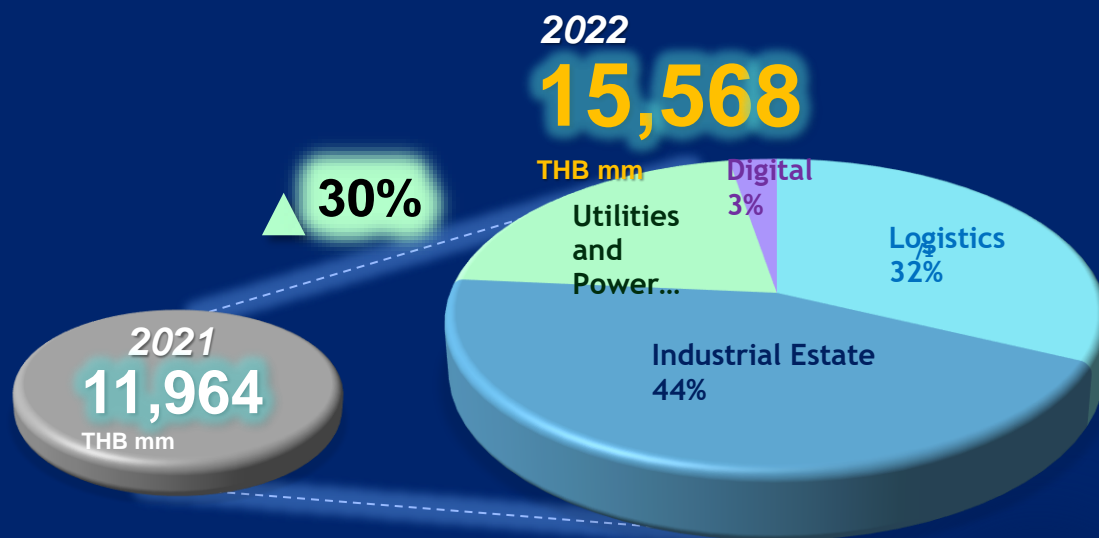
¹ Including New Rent and Net Rent Under Ready-Built Properties (Including asset of WHAIR and HPF) and Built-to-suit Properties and Gross rent which includes asset of WHART, ² Gross rent which includes asset of WHART,

³ Including 50,800 rai operating and under development in Thailand and Vietnam, ⁴ Including Non-I.E Land Sales 121 Rai, ⁵ 11 industrial Estates in Thailand and 1 Industrial estate in Vietnam.

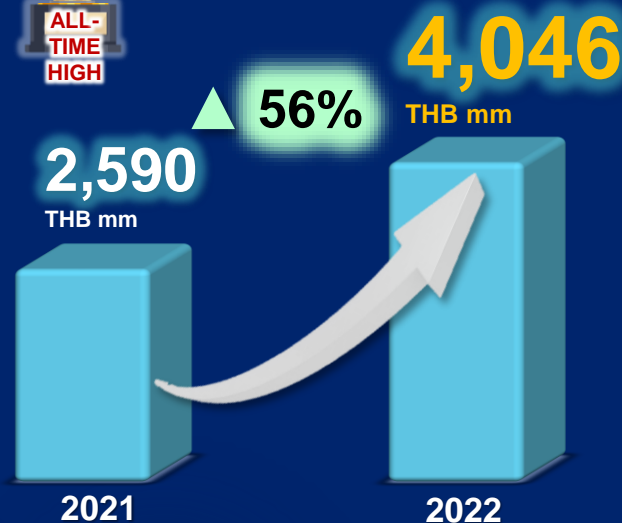
Financial Highlights

Delivered exceptional performance in 2022 despite uncertain economic environment

REVENUE AND SHARE OF PROFIT



NET PROFIT^{/2}



2022 Total Asset
(THB mm)

86,302

IBD/Equity
(Times)

1.13

Credit Rating

Maintained

A-

Remarks: /1 Included Revenue from Sales Assets to WHART 11% and WHAIR 7%

/2 Net Profit = Net Profit Attribute to Parent

WHA 50+ STRATEGIC LOCATIONS IN THAILAND AND VIETNAM

WHA is a Key Player in the Development of
Eastern Economic Corridor (EEC)

1 Warehouse Farm

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

2 Built-to-Suit Factories and Warehouses

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

3 Industrial Estates/Lands

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

4 WHA Utilities & Power

WHAUP's water treatment plants and wastewater treatment plants are located in all WHA's Industrial Estates and also projects in Ha Noi and Nghe An, Vietnam

a. Ha Noi
b. Nghe An

WHAUP's power projects are located in the following provinces:

1. Ayudhya
2. Bangkok
3. Chachoengsao
4. Chonburi
5. Nakhon Nayok
6. Pathum Thani
7. Petchaburi
8. Prachinburi
9. Samut Prakan
10. Saraburi
11. Songkhla
12. Surathani
13. Rayong
14. Udonthani
15. Attapeu, Laos

5 WHA Logistics Parks

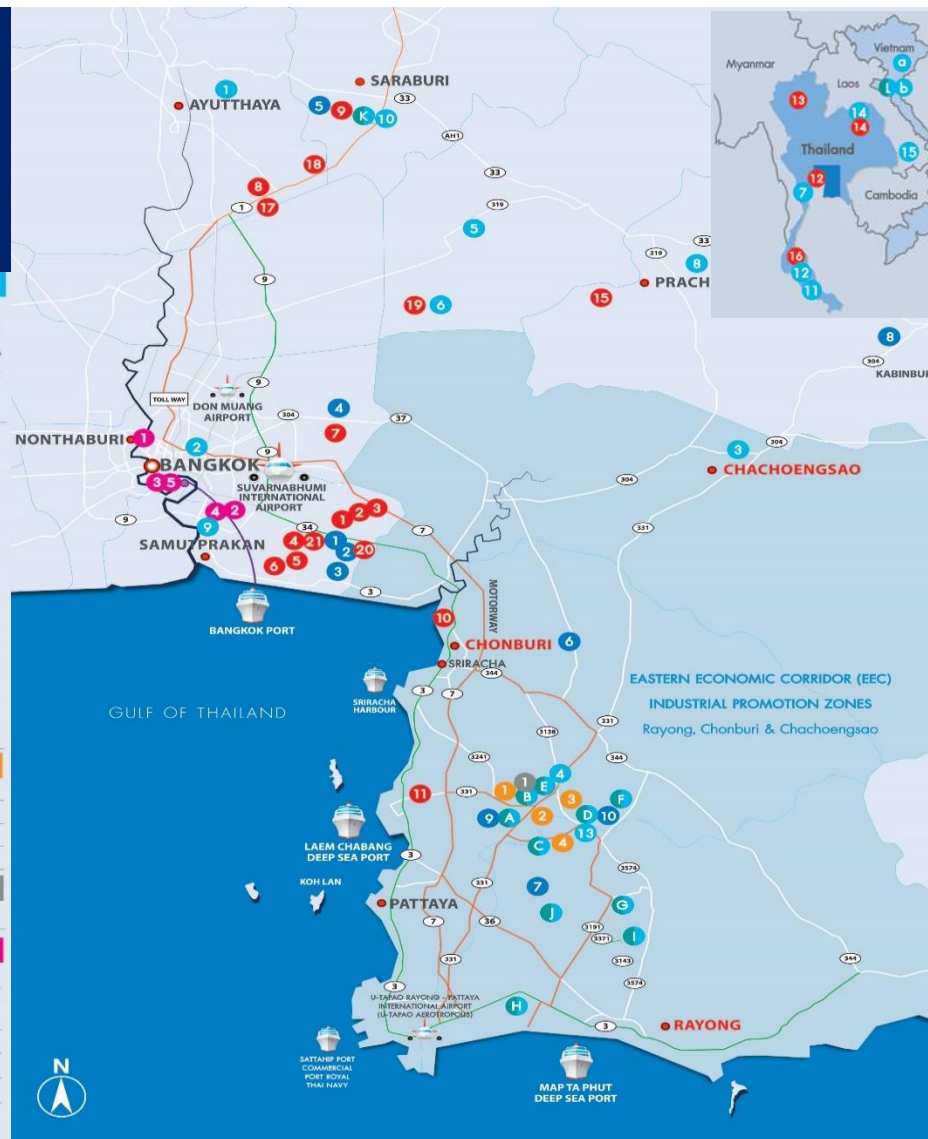
1. WHA Logistics Park 1 (WHA LP 1)
2. WHA Logistics Park 2 (WHA LP 2)
3. WHA Logistics Park 3 (WHA LP 3)
4. WHA Logistics Park 4 (WHA LP 4)

6 Digital Platform

1. SUPERNAP (Thailand)

7 Business Complex

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



Awards and Recognitions in 2022

WHA Group “Commended Sustainability Award”



Sustainability Excellence category in SET Awards 2022 for market capitalization of >30,000-100,000 million baht

ASEAN CORPORATE GOVERNANCE SCORECARD AWARD



ASEAN ASSET CLASS PLCs (Thailand) presented to

“WHA Corporation Public Company Limited”

IEEE PES Women in Power (WiP) Award



Thailand’s Best Managed Companies 2022 Award



WHAUP “Best Innovative Company Award”



For WHAUP’s project “Peer to peer energy trading: the future of energy market”, a power trading platform in industrial estates

“Eco Industrial Town” awards at the Eco Innovation Forum 2022

To industrial estates that support the concept and operation of eco-industrial estates



Thailand Top CEO of the Year 2022 Award



AMCHAM CSR Excellence Recognition Award “Platinum Level” (12 consecutive years)



WHAIR “Outstanding REIT Performance Award”



Outstanding business performance and sustainable growth, overcoming the economic and industrial situation during the Covid-19 crisis, along with good corporate governance

Delivering Our Growth Strategy



WHA
 Logistics
The Largest Mega Logistics Center in Theparak

Secured ~ 130,000 sqm or 68% OR at Theparak Phase I in one year after fully commercialized to market



WHA
 Industrial Development
BYD

Sealed 600-Rai Landmark Deal with BYD for 1st BYD New EVs Plant in ASEAN

Signed MOU to develop NEW 2,500-Rai industrial zone in Quang Nam Province, Vietnam



Invested into Mercular, E-commerce start-up with investment value of THB 33 million

Invested into Mungmee, Thai B2B E-Commerce Startup with investment value of THB 34 million



Launched WHAbit for digital healthcare platform in partnership with Samitivej Hospital



Sealed a solar car park installation deal, totaled capacity of 7.7 Megawatt, the largest solar car park in Thailand




WHA
 GROUP
MERCULAR



WHAbit Fit



WHAbit insights

WHAbit⁺
 Health Care

Sustainability Awards & Recognitions

2022 SET Awards

Sustainability Excellence category in SET Awards 2022
 for market capitalization of >30,000-100,000 million baht



S&P Global Sustainability Yearbook 2023



2022 Thailand Sustainability Investment (THSI)



WHA Group & WHAUP "Sustainable Stocks Company"
 listed in the 2022 Thailand Sustainability Investment (THSI)

- WHA Corporation Public Company Limited or WHA Group has been recognized a **Sustainability Yearbook Member** and **Industry Mover for the Real Estate Industry**, emphasizing its outstanding performance in sustainable development
- With its **"Mission to the Sun"**, the company is ready to develop and build positive changes for the environment, society, and economy, through core projects including Green Logistics, Circular, Digital Health Tech and Digital Assets (Metaverse), etc. All of these projects will reinforce its intention to become **"The Ultimate Solution for Sustainable Growth"**

WHA Sustainability

ENVIRONMENTAL

CHANGING FOR A MORE SUSTAINABLE WORLD

- Solar Power Projects
- Battery Energy Storage System
- Green Logistics
- P2P Energy Trading
- Energy Reduction Program
- Unified Operation Center (UOC)
- Vehicle Management System (VMS)
- Smart Utilities & Power
- Water Reclamation
- Demineralized Reclaimed Water Project
- Smart Metering
- SCADA
- Biodiversity Policy and Commitment
- Wastewater Treatment
- Waste to Energy
- Plastic Reduction Program
- WeCycle
- Smart Traffic Management And Real Time CCTV
- Sludge to Soil Nutrient
- **WHA Circular**
- Turquoise Project



SOCIAL

WELL-BEING & BETTER LIFE

- WHAbit
- Human Rights Awareness
- Enhance Employees Engagement And Satisfaction
- Whappy Program
- Art Camp For Students
- Scholarships
- Teacher Fellowship Program
- University Contribution Program
- Clean Water For Planet
- Wetland Water Systems
- Clean Water For Planet Wet Land & Learning Center
- Pan Gan Project
- Mobile Medical
- Wha E-job Market
- Water Hyacinth Project
- Tree Planting Project
- Low Rental Fee For Community
- Zero Incident Goal
- MTTs Culture Development
- Hybrid Working Model Development
- Space Explorer Skills Uplift



GOVERNANCE

INTEGRITY & ETHICAL RESPONSIBILITIES

- E-logistics Startup
- TusPark WHA
- Corporate Document Management System (Cdms)
- Paperless Transformation
- Digital Transformation Program
- WHA Innovation Bootcamp
- 5-star CGR Rating
- Outstanding AGM Scoring
- Gender Diversity
- Woman Empowerment
- Stakeholder Engagement
- Code of Conducts
- Supply Chain Management
- Risk And Crisis Management
- Data Security Management
- Customer Journey-value-experience
- Customer Insight With AI And Data Analytic



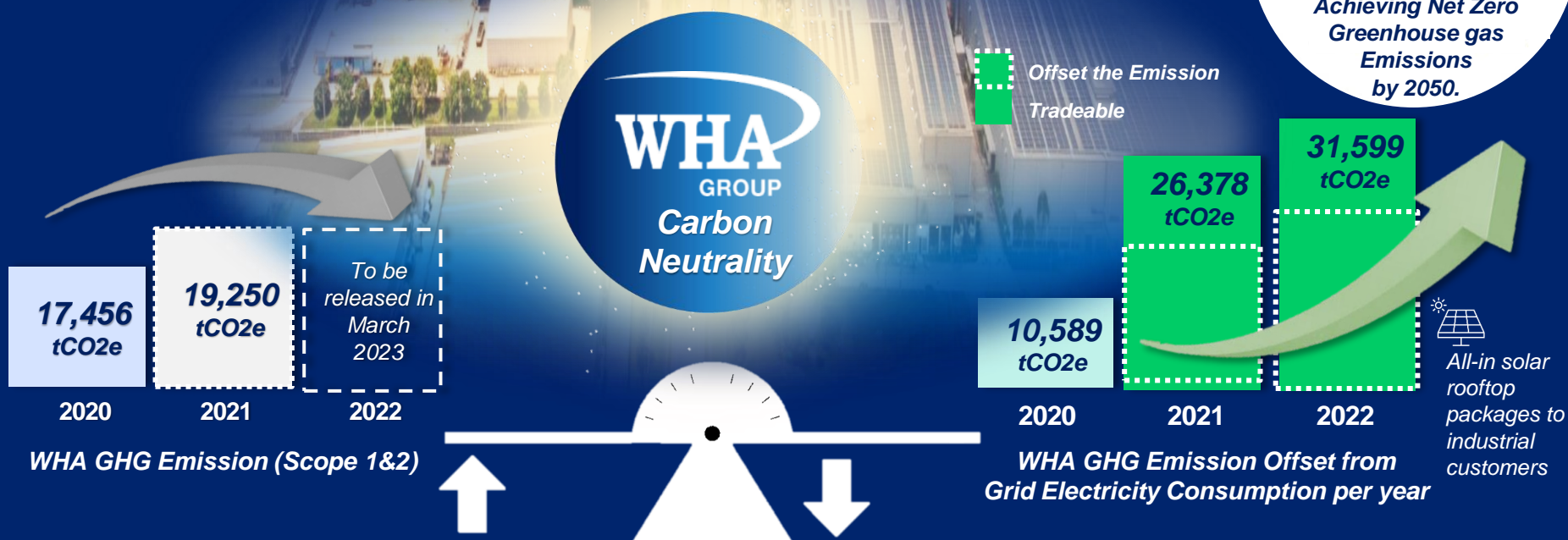
WHA Sustainability Mapped with 17 SDG Goals



Our Net Zero Mission

WHA has been offsetting CO2 emissions from our operations, which results in an extensive number of credits for carbon trading in the future

WHA achieved Carbon neutrality in 2021..



I. WHA Group Overview

II. 2022 Operating Performance

III. 2022 Financial Performance

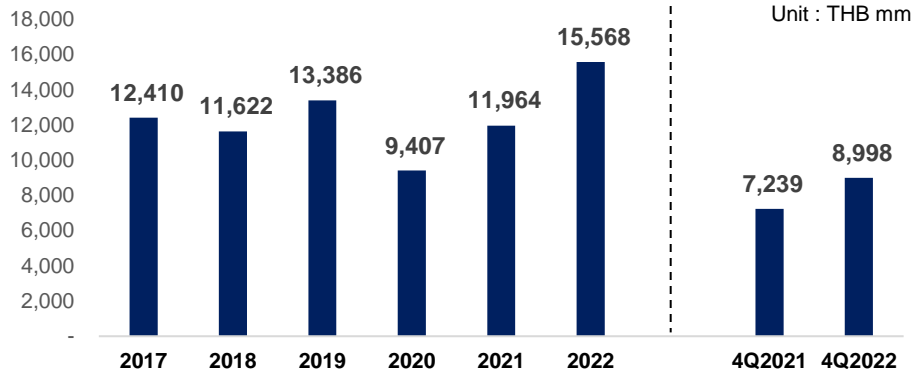
IV. Appendix

2022 Operating Performance

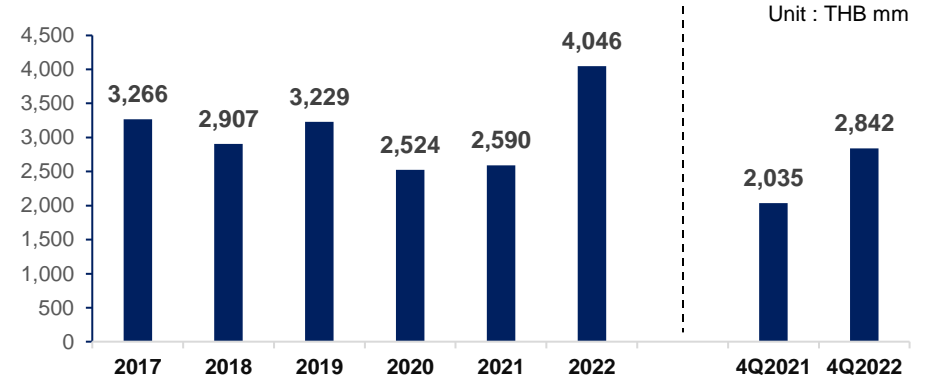
2022 Financial Highlights

All Time High Financial Result and Solid Financial Status

Revenues and Share of Profit



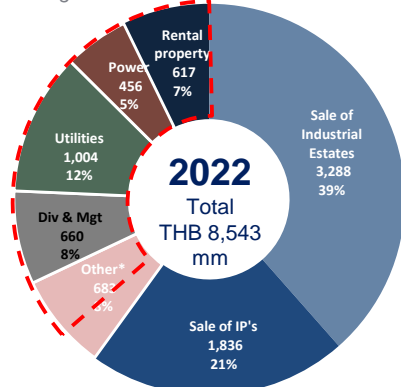
Net Profit



Gross Profit Breakdown^{/1}

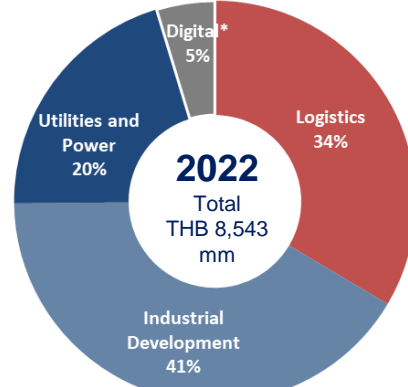
Breakdown by Type of Business

Recurring Revenue



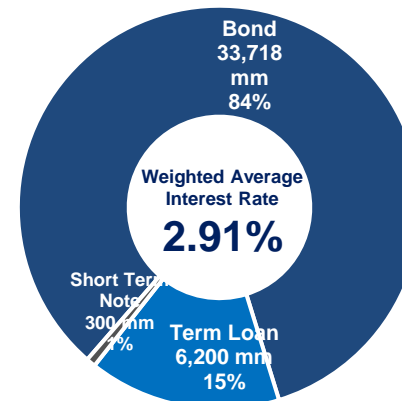
Recurring vs Non-Recurring = 36:64

Breakdown by Business Hub



Debt to Equity Ratio

Unit : THB mm



Credit Rating^{/2}

A- "Stable"

IBD/E Ratio : 1.13 time
Net IBD/E Ratio: 0.93 time

Remarks: /1 Share of profit from JV's and Associates included Gross profits are based on consolidated financial statements and thus affected by PPA adjustment

Statutory Basis *Include Gain from Data Centers Monetization which is Non-Recurring Income

/2 TRIS Rating affirms the rating at A- "Stable" on 17th October 2022



Logistics Business

#1 Built-to Suit (BTS) Warehouse and Factories

*World Class standard
warehouse and factories built to
specific client's requirements*

200+
Well-known
Tenants Profile

48
Strategic
Locations

2022

204,317 sq.m.

Net Rent for Built-to-Suit,
Warehouse Farm and
RBF/RBW^{/1}

135,012 sq.m.^{/2}

Short-Term Contracts

Assets under Owned and Managed

2,718,233
Sq.m.^{/3}

2,550,092
Sq.m.



2021



2022

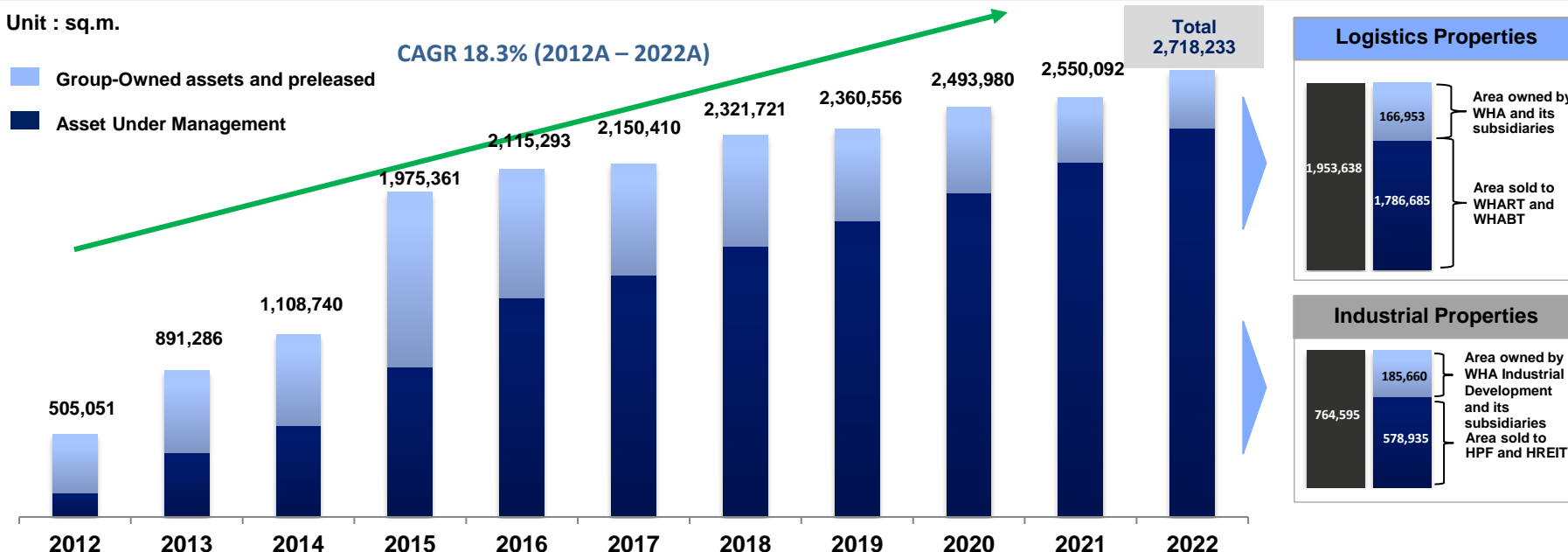
Remarks: The data is as of 31 December 2022

^{/1} Including New Rent and Net Rent Under Ready-Built Properties (Include asset of WHAIR and HPF) and Built-to-suit Properties and Gross rent which include asset of WHART, ^{/2} Gross rent which include asset of WHART, ^{/3} include newly-built RBF&RBW

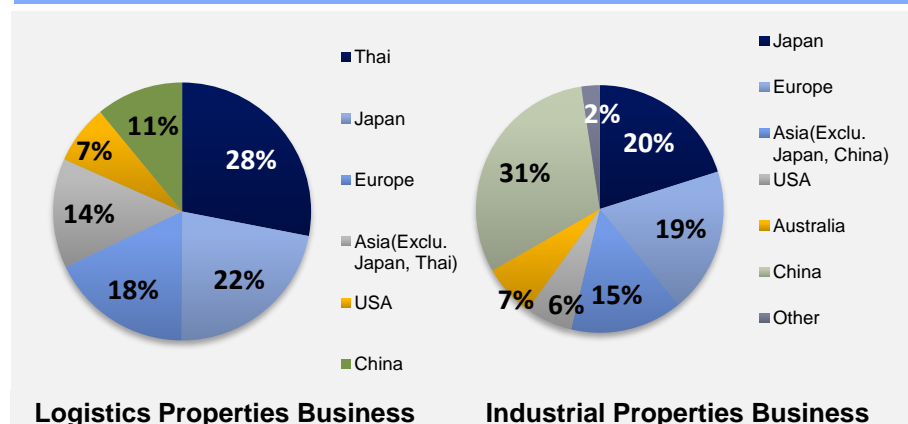
2022 Operating Performance

Logistics Business

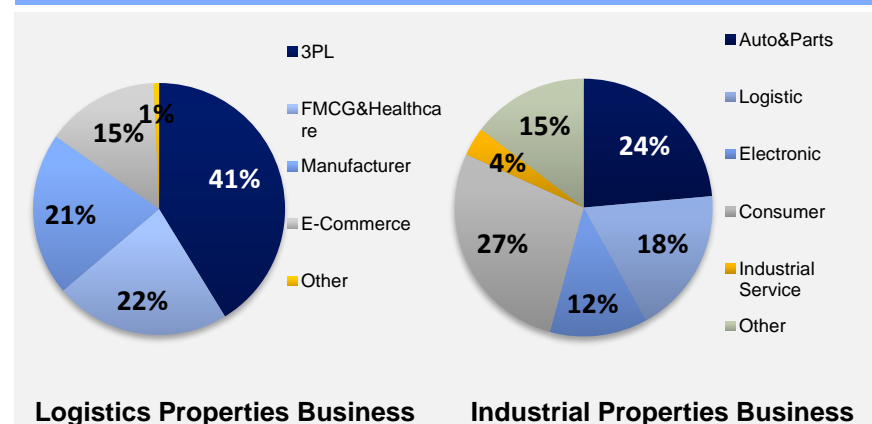
Unit : sq.m.



Customer by Nationality



Customer by Industry

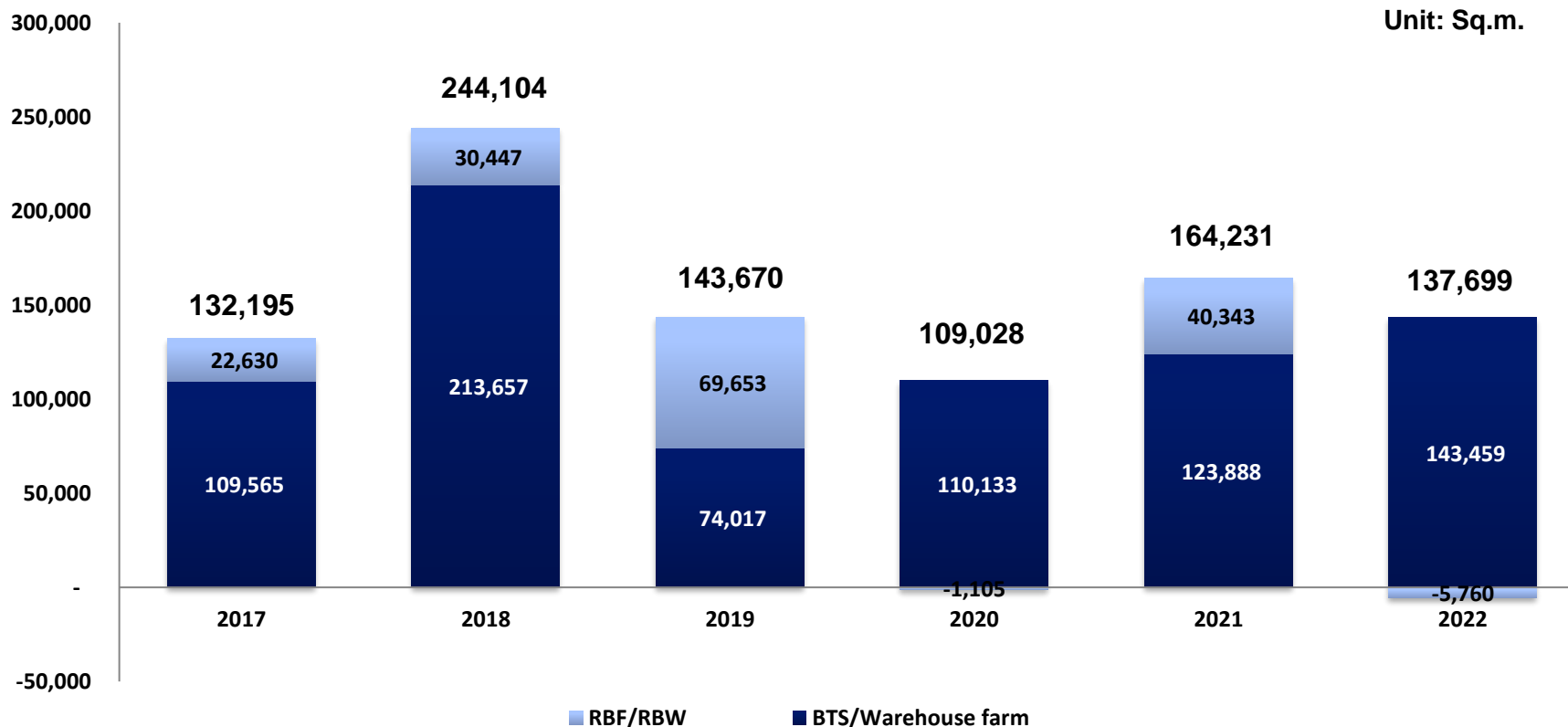


Remark: Figures as of 31 December 2022

New Projects & Rent Owned

Logistics Business Continued to Outperform from the Growing Demand of Domestic Consumption especially from Consumer Goods, Retail, and E-Commerce Sectors

Unit: Sq.m.



Remark: /1 one project of 8,132 sq.m. is restated to be in 1Q21 instead of 4Q20 in prior version.

2022 Major Deals

68% Occupied at New Mega Project in Theparak Phase I
Building Area: **~130,000 sq.m.**



● **Express Industry**
27,000 sq.m.



● **Consumer Goods**
21,000 sq.m.



● **3PL**
20,000 sq.m.



● **3PL**
20,000 sq.m.



● **3PL**
10,000 sq.m.



● **Retails**
1,000 sq.m.

WHA Logistics

Expand Domestically and Internationally

In strategic logistics locations



Focus on High-Growth Industry

e.g., EV sector, E-Commerce, Healthcare etc. as well as the Government Promoting Sectors i.e., the S-Curve industries

WHA
Logistics



Establish Long-Term Partnership

with "Global and Regional Players" and "Strategic Construction Contractors"



Embrace Innovative and Sustainable Practices

e.g., Green Logistics, Green Certified Building, Quantum, and Automation



Organization Development

e.g., Digital Transformation and High-Performance Organization



Expand Domestically and Internationally

DOMESTIC EXPANSION

INTERNATIONAL EXPANSION

Extend Our Credentials to Capture Demands in Strategic Locations and Beyond

- Product diversifications to include smaller scale facilities
- Expand locations to cover other major provinces and along major infrastructure development projects

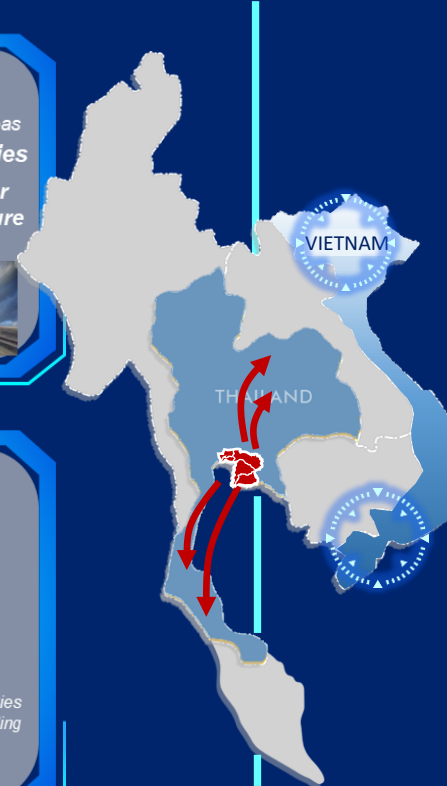
Expand WHA Office Solutions

- Various prime locations to offer: across central Bangkok and Samut Prakarn with superior design and comprehensive ecosystem
- Target all businesses: established corporations to early-stage startups
- Latest project, WHA KW S25 4, targets to be completed in July 2023
- 4 potential projects in pipeline



Expand to Vietnam

- Explore greenfield project and M&A opportunities in logistic properties
- Leverage customer networks of WHA Group to secure potential demands
- Leverage WHAID's local resources for local knowledge, customer development,, relationship building



WHA Office Solutions

Offering 6 office locations with another 4 potential projects in the pipeline

Readily Available for Rent

Under Development

Total Space > 100K Sq.m.

Available for Rent in 2021
> 52,000 sqm

Available for Rent in 2020
> 3,800 sqm

Available for Rent in 2020
> 42,000 sqm

Expected Completion
July 2023
> 9,900 sqm

Future Projects
6,900 sqm

Available for Rent in 2021
> 1,000 sqm

Available for Rent in 2020
> 9,800 sqm

Future Project
9,900 sqm

Hospital

Data Center in Town

WHA Tower

TusPark WHA

@ Premium

WHA Bangna
Business Complex

SJ Infonite W

WHA KW

Future Projects

Focus On High Growth Industries & Establish Long-Term Partnership

Focus on High-Growth Industries

- Industries driven by strong prospects including

EV



E-Commerce



Healthcare



Construction Material



- Industries driven by government promoting projects like EEC and major infrastructure development projects, as well as global connectivity / trade schemes

Major Infrastructure Development



Belt Road Initiatives (BRI)



CPTPP

RCEP

Establish & Extend Strategic Partnerships

- Establish long-term partnership with global/regional players including E-Commerce, major conglomerates, as well as startups

E-Commerce



Startups



Other Conglomerates



Embracing Smart Technologies and Innovations

Actively Exploring Smart Technologies & Collaborating with Startups to Deliver Value-Added Services

Innovation

- Digitalization of internal processes including construction management, operation management, business models and financial

Sustainability

- Key focus activities including Green logistics ecosystem (i.e. EV fleet, EV Transportation Service) and green-certified buildings

Green Logistics



Green Buildings

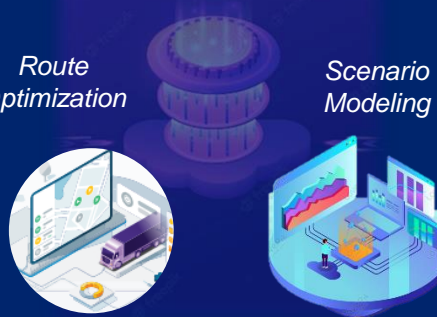


Embracing Technologies

- Explore technologies that will enhance products and services in order to provide better solutions to clients
- Technologies under studies include IoT, Smart Warehouse, Data Analytics
- Exploring quantum computing and its potential applications for Route Optimization

Quantum Computing

incredibly fast and effective on solving complex calculations



Data Analytics



Metaverse



Internet of Things (IoT)



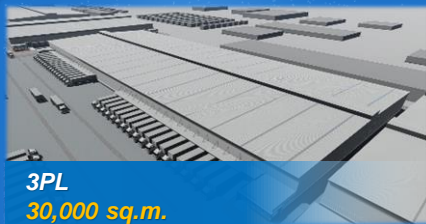
Smart Warehouse



Focusing on Higher Value Properties

Target Deliverables

UPCOMING High Value Projects in 2023



Target New Projects /New Contracts

Note: *Include BTS, RBF and RBW and assets in WHART, WHAIR, and HPF

2023 Target
200,000
Sq.m.*

Domestic:
165,000 sqm

International:
35,000 sqm

Assets under Owned and Managed

2022

2,718,233
Sq.m.

2023 Target

2,900,000
Sq.m.



Assets Monetization to REITs

2022

208,149 sqm

THB **5,397** mm

WHART

Built-to-Suit Warehouse/
General Warehouse

159,963 sqm

THB **4,051** mm

- Own Asset: 40%
- JV Asset: 60%

Ready-built
Factory/Warehouse

48,186 sqm

THB **1,346** mm

- Own Asset: 85%
- JV Asset: 15%

WHAIR

2023 Target

142,000 sqm

THB **3,250** mm

WHART

Built-to-Suit Warehouse/
General Warehouse

142,000 sqm

THB **3,250** mm



Own Asset
83%

JV Asset **17%**

Venture Deeper into Digital World

WHA's investments in startups

i-Store
SELF STORAGE



AUG 2021

- Premium storage service that offers a wide range of high-quality and reliable private storage solutions. Its customers are both individuals and businesses who are looking for a secure space for their valuable belongings.

Opportunities:

- To enter the Self-Storage industry (especially interested in the premium self-storage businesses)

GIZTIX
EXPRESS



NOV 2021

An on-demand Truck-Sourcing Platform for parcel and e-commerce delivery for B2B clients

Opportunities:

- To explore Software Services Solution for transportation and warehouse operation (TMS, WMS)
- To integrate Quantum Computing for route optimization

MERCULAR
.COM



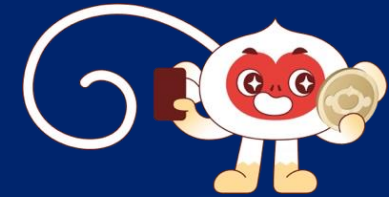
JUN 2022

The best “hobby buddy” by providing a wide variety of tech gadgets. Kickstarts a community where products can be reviewed and shared online and potentially offline

Opportunities:

- Provides WHA an entry into the B2C market
- Integrates with WHA's warehouses and health tech platform

Mungmee



SEP 2022

Revolutionizing Thailand's traditional trade by integrating advanced technology & data in the supply chain through a comprehensive partnership ecosystem of the future

Opportunities:

- Support supply chain of B2B E-Commerce
- Collaboration synergy with WHA's partners



Industrial Estate Business

WHA Industrial Development



Projects Development Update Industrial Estates in Thailand (As of 31 Dec 2022)

2022 Project Completion

WHA RY 36 (1,280 Rai)
Started Operation in Mar 2022



WHA ESIE4 Expansion (570 Rai)
Started Operation in 2022



Development Plans

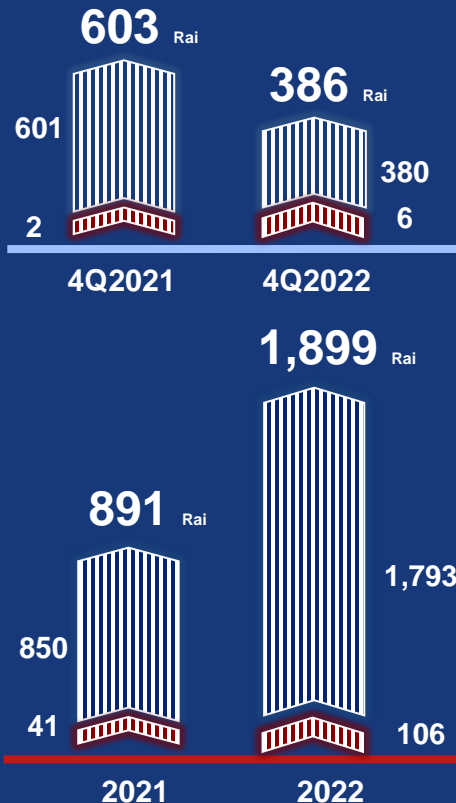
- WHA IER Phase 1 (1,100 Rai) Started construction since Q4' 2022 Infrastructures & 1st Plot Ready by Dec 2023
- WHA ESIE 3 Phase 3 (3245N) (630 Rai) To Obtain EIA Approval in 2023 To start construction in Q1' 2024
- WHA RY36 Phase 2 (400+ Rai) To obtain EIA Approval in Q1' 2024 To start construction in Q2' 2024

Construction Start	2025	2026
WHA IER Phase 2 (1,100 Rai)		
WHA SIL 2 (2,400 Rai)		

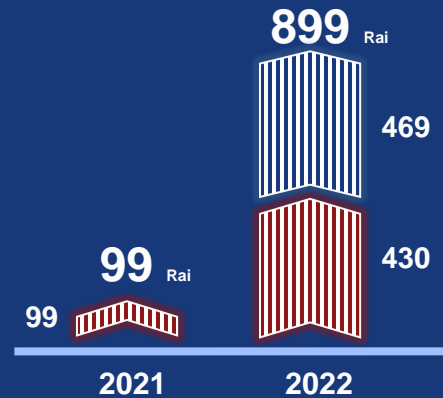
Industrial Estate Overview



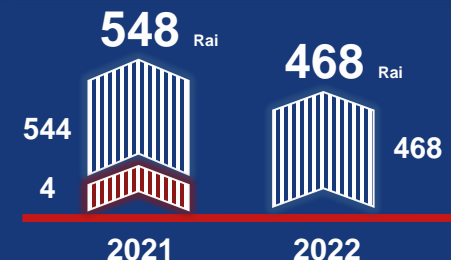
Industrial Land Sale



Outstanding LOI/MOU

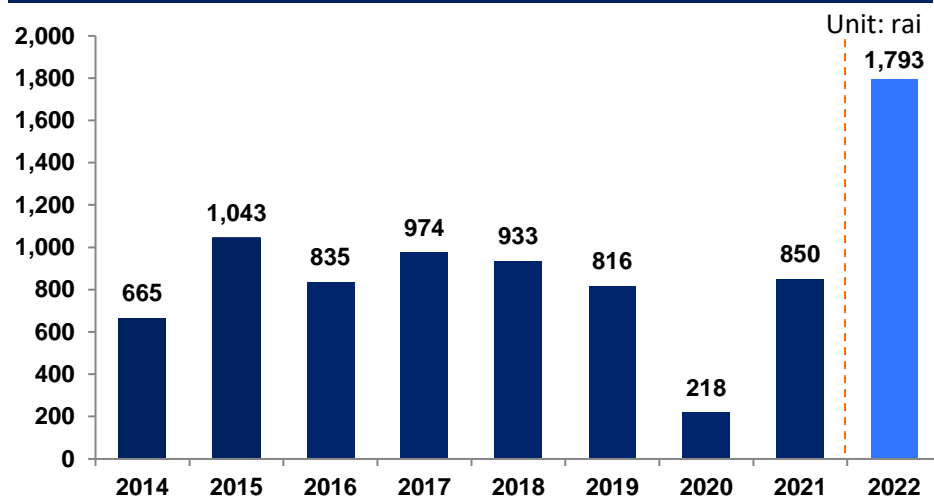


Backlog

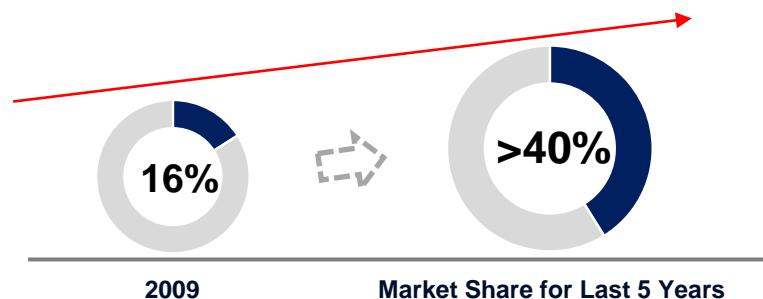


Land sale in 2022 improved significantly YoY

Land Sales in Thailand



No.1 Domestic Industrial Market Share



Source: CBRE Bangkok property report as of 2021 plus internal information.

Customer Breakdown^{/1}

Breakdown by Country

	Overall Portfolio	From 2019-4Q2022
Japan	31%	13%
Thailand	18%	13%
Europe	11%	8%
USA	8%	6%
China	13%	43%
Taiwan	3%	5%
Korea	2%	2%
Others	15%	11%
Total	100%	100%

Breakdown by Industry

	Overall Portfolio	From 2019-4Q2022
Auto	33%	22%
Consumer	17%	27%
Petrochemical	7%	1%
Steel/Metal	8%	8%
Electronics	9%	16%
Logistics	5%	8%
Others	21%	18%
Total	100%	100%

Expanding toward Higher-Value Products/Services

Provide Energy and IT Infrastructure to Bolster Customers' Business

UNDERGROUND FIBER OPTIC (FTTx)



100%
 Available & Utilized

WHA SIL
WHA RIL
WHA ESIE 2
WHA RY 36

WHA ESIE 3
WHA ESIE 4
WHA CIE 2

Under Migration Process

ESIE

WHA ESIE 1

WHA EIE

WHA CIE 1

Complete Construction In 2023

WHA ESIE 4 Expanded Areas

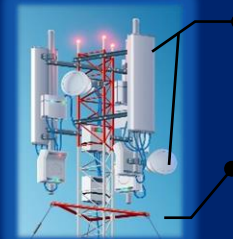
TELECOM TOWER



Started Telecom Tower Business in:

WHA CIE 1
WHA EIE
WHA ESIE 1

Providing infrastructure for wireless telecom network inside WHA's industrial estates



Telecom operators rent space on telecom towers built by WHA to place antennas and other telecom devices are

WHA constructs the tower and base station

KEY CUSTOMERS



BIG WHA INDUSTRIAL GAS



100%
 Construction Completed

Nitrogen Gas Business

Nitrogen gas-generation plant + pipelines to industrial customers in **ESIE**

Future Developments

- Expansion to other industrial estates under consideration include **ESIE 4**
- Branch out to other industrial gas types

LNG Business

- First customer target to onstream in Jan 2023 in **ESIE1** with plans to expand to other locations (**ESIE3** and **ESIE4**)

Gas Generation Plant COD in April 2022

WHA Rayong 36 Industrial Estate

Full facilities to support Thailand to become Southeast Asia's hub for S-Curve Industry

Located in Nikhom Phatthana District, Rayong Province with Total Area of **1,281** Rai



Roads, Drainage and Power



40 Meters Width
Concrete Road
Stable Power Supply

Flood Protection & Water Supply



5,000 m³/day of
Industrial Water

Online Monitoring System



Centralizing System for
Environmental and
Security Monitoring

Waste-Water Treatment



4,000 m³/day of Waste
Water Treatment Capacity

WHA Industrial Development

**Extend Leadership as
Thailand's No.1 Industrial
Estate Development**



**Broaden Vietnam
on National Basis**

*Additional Projects in 1 or 2
Provinces*



**Organization
Development**

*e.g., Digital Transformation and
Maximize Group Synergy*

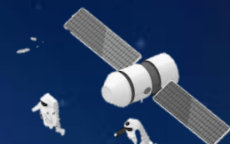
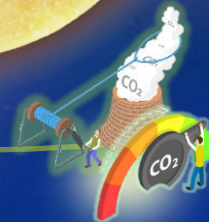
**High-value Industrial
Projects:
Increase Technology and
Environment Care**

e.g. Specialized Estate, Science Park, etc.



**Enlarge our Product
Offering:
Advance and Showcase
Smart Eco Industrial Estates**

*e.g. Data/ Dashboard Monetization, Carbon
Neutrality, Net Zero, Waste Management, FTTx, 5G,
etc.*



Showcase Smart Eco Industrial Estates

Continue Rolling Out the 6 Pillars of Smart-Eco Industrial Estates



Smart Traffic
Management and Real
Time CCTV

SMART
MOBILITY

SMART
SERVICES

SMART
COMMUNI-
CATION



Logistics & Building
Maintenance Services
Application



Fiber
Optics to
Factory

WHA
GROUP
**UNIFIED
OPERATION
CENTER**

Data/
Dashboard
Monetization

Carbon
Neutrality

SMART
POWER

SMART
SECURITY

SMART
WATER



P2P Energy Trading



Drone for
Aerial Views



Rainfall
Monitoring
Station

Our Industrial Zones in Vietnam

Vietnam, one of the most dynamic economies in the region, is benefiting from supply chain shifts including production relocation from China and Europe. With shortage of industrial land in Vietnam, Nghe An, Thanh Hoa and Quang Nam provinces are well positioned to attract the flows of investments.

20,950 Rai¹

(3,350 Hectares)
of Industrial Zones
in Vietnam

890 Rai

(142 Hectares)
Ready for Sale



Thanh Hoa Province

5,320 Rai (500 Hectares with 350 Hectares for future expansion)



WHA Smart Technology Industrial Zone – Thanh Hoa



Signed MoU to develop industrial zone in Thanh Hoa Province, Vietnam. Licenses approval (IRC, EIA) is scheduled in 2024.

Quang Nam Province

2,500 Rai (400 Hectares)



WHA Smart Eco Industrial Zone – Quang Nam



On 25 Aug 22, signed MoU to develop industrial zone in Quang Nam Province. Licenses approval (IRC, EIA) is scheduled in 2026/2027.

Projects Development Update

Progress Update



Started construction since Q4' 2022
Infrastructures & 1st Plot Ready by Dec 2023



Started construction since Q1' 2022
Under progress of Land grading work, Road work, Drainage

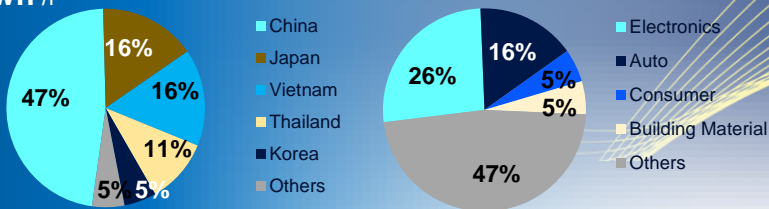
WHA Industrial Zone 1 - Nghe An Project

An International standard Industrial Zone equipped with the highest quality infrastructure, utilities and environmental care, in line with WHA Smart Eco IE Concept.



Customer Breakdown ^{/1}

Overall Portfolio by Country and by Industry



WHA is accelerating its expansion in Nghe An Province in response to increasing customer demand.



Total Area of Each Phase

Phase 1 (900 Rai) : In Operation

Phase 2 (2,215 Rai) : Infrastructure and 1st Plot Ready by December 2023

Phase 3 (1,575 – 3,150 Rai) : License approvals in 2024/ 2025

Phase 4 and Subsequent expansions (8,440 Rai)

Total upon completion: 13,130 Rai

Broaden Vietnam on National Basis

With more Industrial Zone Locations and WHA Products



WHA Smart Technology Industrial Zone – Thanh Hoa 5,320 Rai (500 Hectares with 350 Hectares for future expansion)



3rd most populated province of Vietnam



Well positioned to attract **high value FDI** with significant expansion of **Northern Technology Corridor**



Location Suitable for technology-based industries

- ✓ Close (10km) to Thanh Hoa main city
- ✓ Superior logistics connectivity near highway and upcoming motorway
- ✓ Proximity to Hanoi, Haiphong, Deep Sea Lach Huyen port



WHA Smart Eco Industrial Zone– Quang Nam 2,500 Rai (400 Hectares)



At the heart of the Central region
- Between Danang and Quang Ngai provinces



Superior infrastructure and connectivity from

- Danang international airport, and Chu Lai airports;
- Danang deep seaport;
- Modern motorway connecting the project to Danang below 1 hour



Ample labor availability and population of 1.5 mn, with an **existing industrial base** in automotive and electronics



Unique living environment - Danang and Hoi An



Well-suited to welcome clean and high-tech manufacturing industries

Explore Opportunities in Other Vietnam Provinces

Secure greenfield Industrial zone projects in targeted provinces

Explore opportunities with new industrial land to be made available

Target Deliverables

Land Sales Target

Actual
1,899^{/1}
Rai Industrial Land
Sales

2X
▲
Double from
Land Sales in
2021

106

1,793

2022

Sustain
High Level
of Land
Sales

1,750
Rai Industrial Land
Sales

550

1,200

2023
Target

VIETNAM

THAILAND

NGHE AN

SARABURI

CHONBURI

RAYONG



Utilities and Power Business

Sole Provider of Utilities to Manufacturers/Factories in Leading Industrial Estates with a Concrete Plan to Capture Increasing Demand from Heavy Users and Expand Outside i.e. Other IEs, Non-IE Area and International

Water Product/Services & Capacity



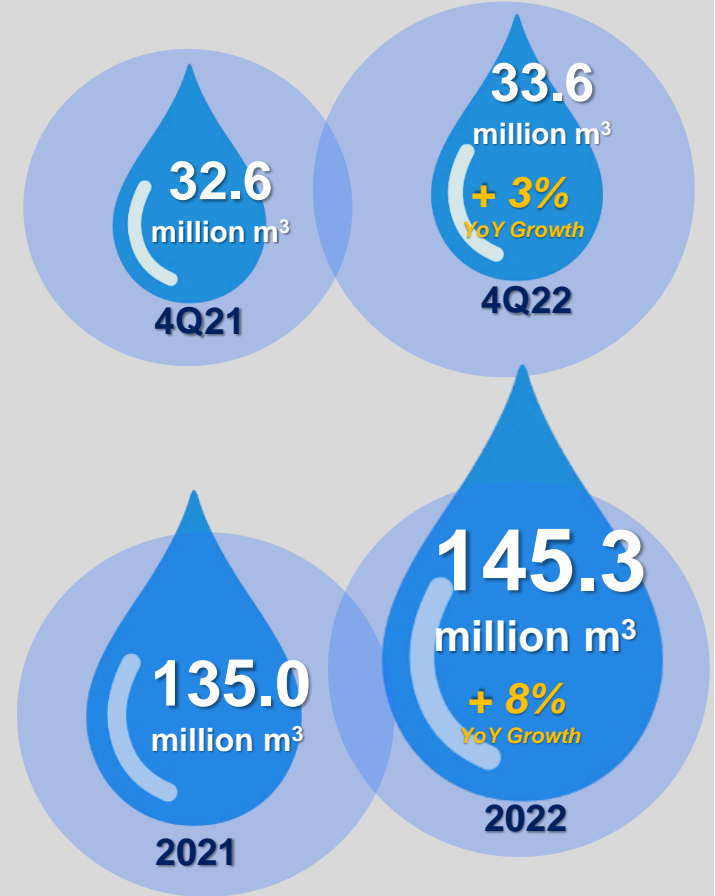
Industrial Water

Wastewater Treatment

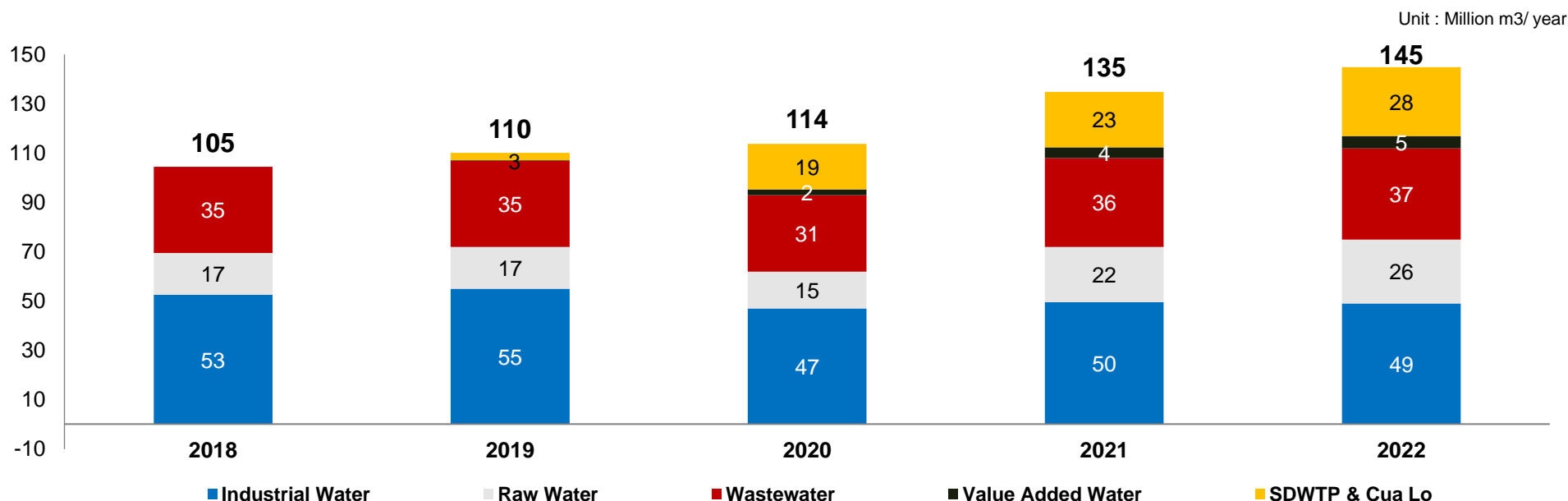
Municipal Water

Reclaimed & Demineralized Water

Water Sales & Managed Volume in Thailand and Vietnam



Utilities Portfolio Growth – Sale & Management Volume



Million m ³	4Q21	4Q22	YoY (%)	2021	2022	YoY (%)
Raw Water	5.4	5.5	1%	22.4	25.7	15%
Industrial Water	11.3	10.7	-5%	49.6	49.1	-1%
Wastewater Treatment	8.7	8.3	-5%	36.1	36.8	2%
Value Added Water	1.1	1.4	24%	4.4	5.3	21%
Total Thailand	26.5	25.9	-2%	112.5	116.8	4%
SDWTP & Cua Lo	6.1	7.7	26%	22.5	28.4	26%
Total	32.6	33.6	3%	135.0	145.3	8%

Utilities Business – Thailand



Continue to Grow along with WHA Industrial Estates

9 million m³/yr
 Total Water Distribution and Wastewater Treatment Capacity Volume



New Water Treatment Plant and Wastewater Treatment Facility

- WHA RY36 (COD in 2022)
- WHA IER (To start construction in Feb 2023)

Provide Extensive Value-added Utility Products to Customers Inside & Outside WHA IEs

4 million m³/yr
 Total Value-added Water Capacity Volume

Premium Clarified Water for Gulf SPP



Demineralization Plant in Asia Industrial Estate



Secure Demand from WHA Industrial Users (Big Users from healthcare, solar panel and EV automotive sector)

15 million m³/yr
 Water Distribution and Wastewater Treatment Volume Capacity



Expand Alternative Raw water Sources to Increase our Reliability

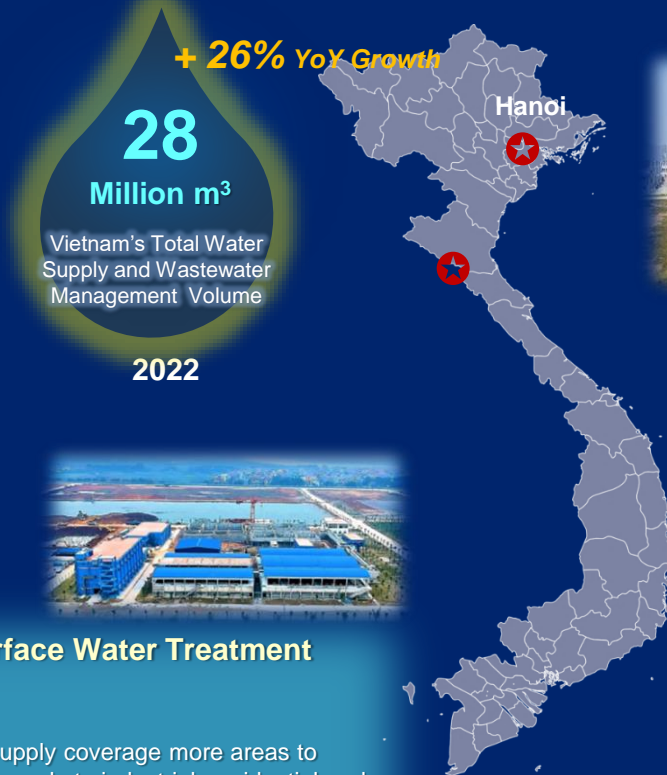
10 million m³/yr
 Raw Water Capacity Volume



- WHA RY36 & WHA RIL (COD in 2022)
- RID Water project at WHA ESIE4 (To start construction in 1Q'23)

Utilities Business – Vietnam

- Partnership with WHAID for future projects in new WHA Industrial Zones in Vietnam
- Focus on operation optimization of SDWTP and Cua Lo Water Plant
- Actively explore greenfield value-added utilities projects & M&A opportunities in Vietnam



Duong River Surface Water Treatment Plant

34% Shareholding

- To expand water supply coverage more areas to nearby provinces, supply to industrial, residential and wholesales customers, the daily highest sale volume achieved 88% of designed capacity.
- **26% YoY Increase** in Water Sales Volume in 2022



Tenant occupancy
>77%
of leasable area



WHA Nghe An Industrial Zone 1

100% Shareholding

- To increase water distribution volume (Max 4.38 million m³/yr) and **increase wastewater treatment capacity to 3.7 million m³/yr**
- **160% YoY Increase** in Water Sales Volume in 2022 or Nearly 200,000 m³



Cua Lo Water Plant

47% Shareholding

- Successfully expansion of new pipeline system to WHA Industrial Zone Nghe An and increase distribution capability to **14.6 million m³/yr** in September 2022
- To expand water supply to potential areas such as residential and tourist areas in Cua Lo district.

WHA Utilities

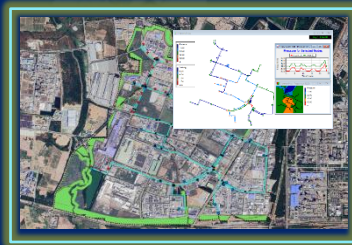


Digitalize Utilities Operation through Smart Water Platform

Smart Water Platform (Phase2) : Data Harvest (AI & ML)
 & Commercialize the Platform



NB-IoT Device
“Optical Character Recognition (OCR)”
 The solution to automate meter reading remotely
 To enhance the Traceability of Utilities Provided



GIS & Hydraulic Model
 Optimize water distribution system,
 Investigate water loss & Prepare for emergencies



SCADA & UOC Improvement (Phase 1)

- Monitor and control all WHAUP's utility plants
- Report real-time key operational performance



**WATER
TREATMENT
PLANT**



SCADA & UOC



SMART WATER METER



**WHA
SERVER**

Smart Metering

- Installed smart meter covering 80% of the water consumption in WHA EIE
- Integrated water consumption data with PTT's Online Meter
- Develop Web Application for customer to monitor water flow and pressure

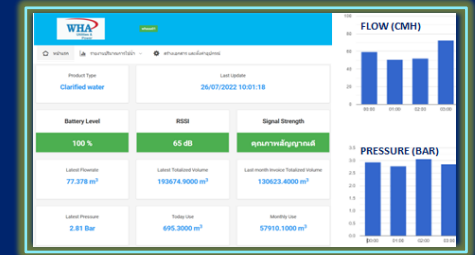


CUSTOMER

**AUTOMATIC
INVOICE
E-Billing
ORACLE
Billing and Revenue
Management**



Unified Control Center



WHAUP's smart meter web application



*Example of the screen at
Unified Operation Center (UOC)*

Diverse Portfolio of Conventional and Renewable Energy



Conventional Power Plant

547

Equity MW of Existing
Conventional Power



Renewable Energy

Solar Rooftops

94

Equity MW COD
39 MW Under Development

Industrial Waste to Energy

3

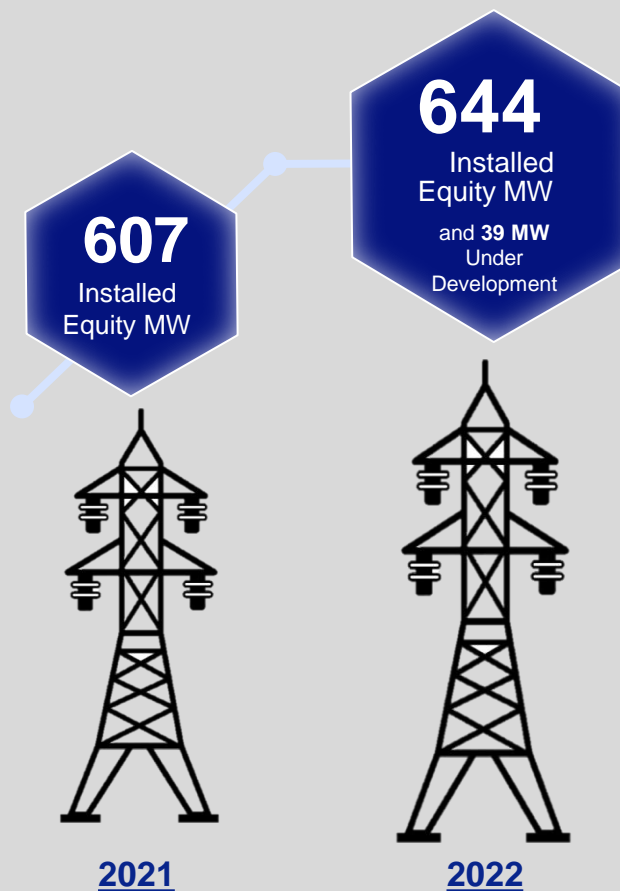
Equity MW COD



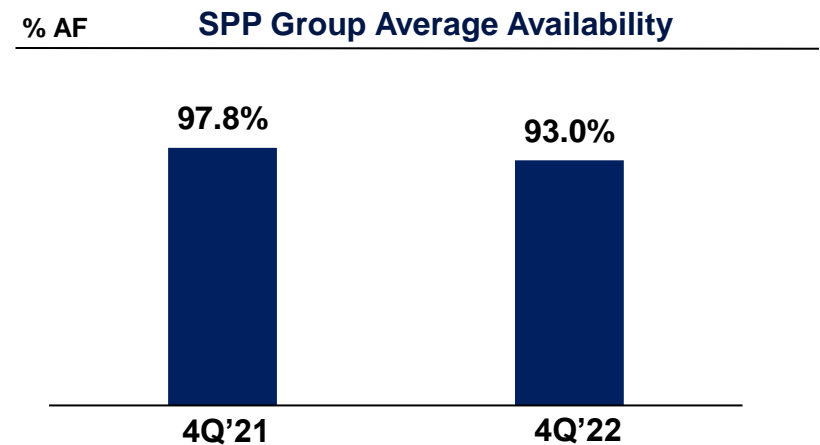
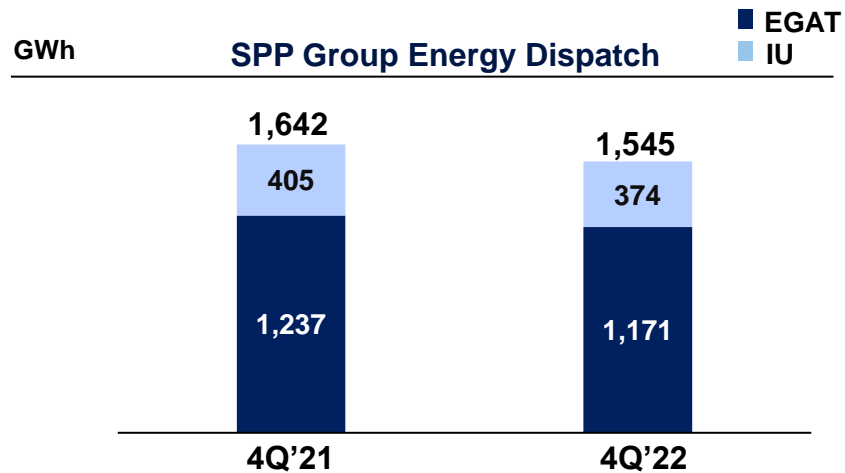
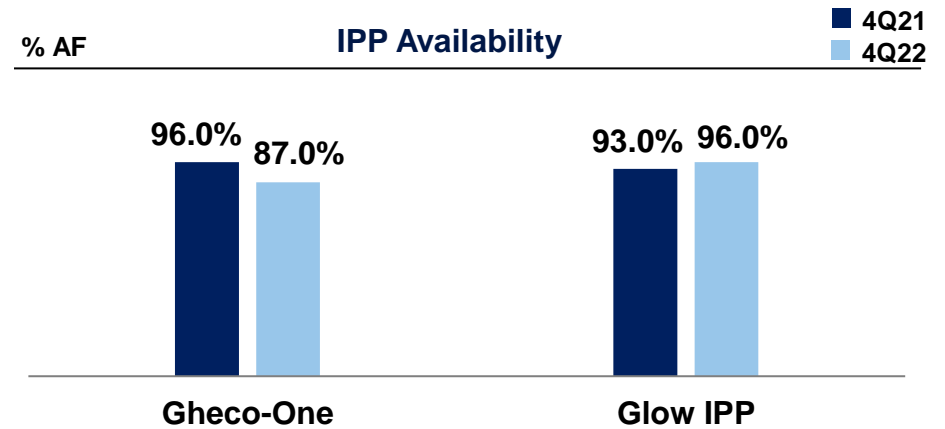
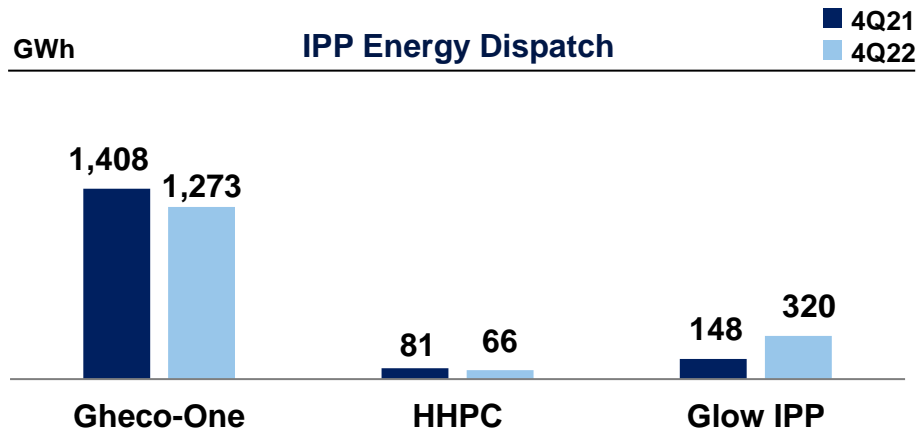
Natural Gas

Operating Projects – WHANGD 2 and WHANGD 4
Under Development – EIA Approved for WHANGD 3

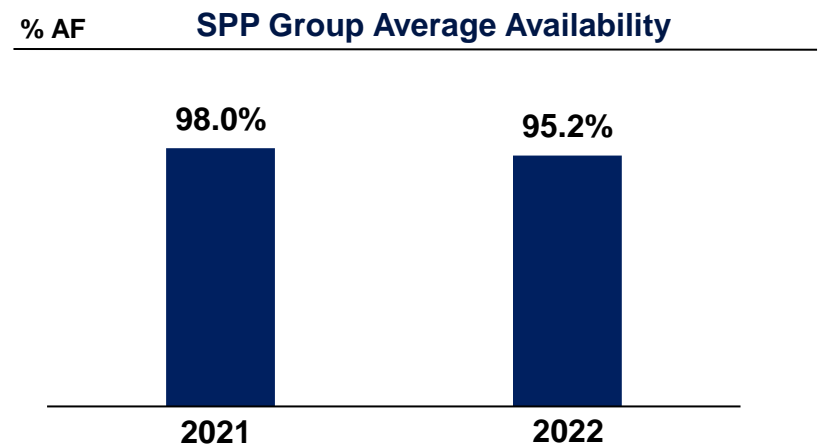
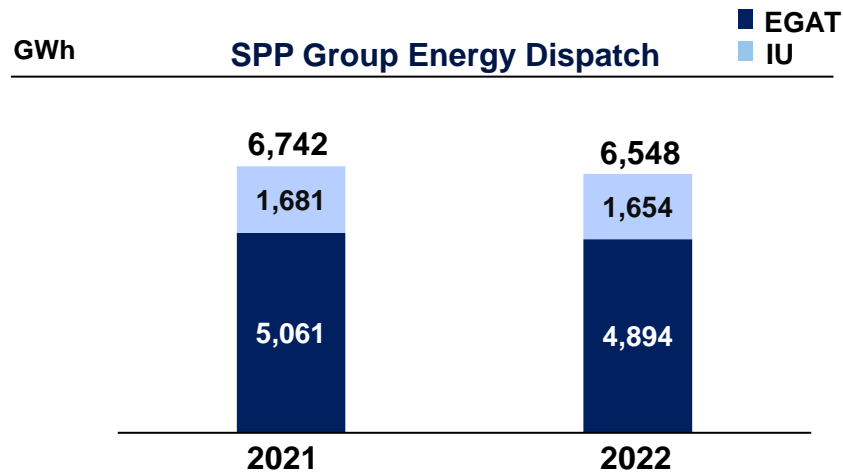
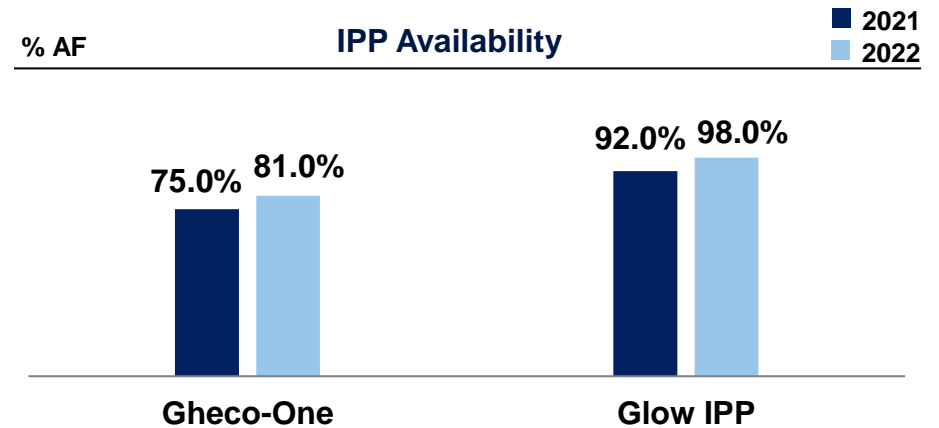
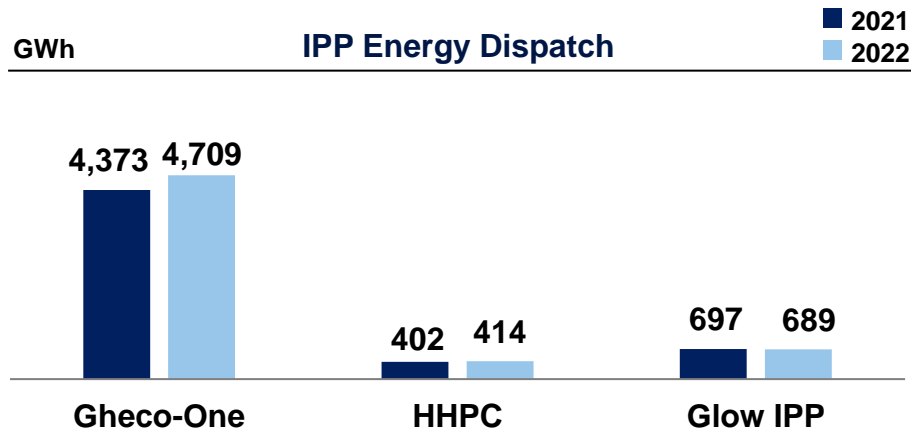
Total Equity MW COD



3M Y-o-Y



12M Y-o-Y



WHA Power

Enlarge Domestic Portfolio

Clean Energy Development
e.g., Solar & Wind Farm,
Waste-to-Energy Power



Embrace Innovative and Sustainable Practices

e.g., Solar Monitoring Platform, Peer-to-Peer Energy Trading, Renewable Energy Certificate, Carbon Trading, and Battery Energy Storage System



Expand to International Markets Particularly Vietnam & New 3rd Home Country

e.g., Solar Rooftop both Inside and Outside Industrial Zone, Solar & Wind Farm, Studying Potential New 3rd Home Country

WHA
Utilities & Power

Pursue New S-Curve Business

e.g., Battery Energy Storage System, Hydrogen, Carbon Capture Utilization and Storage (CCUS)



Organization Development

e.g., Digital Transformation and High-Performance Organization



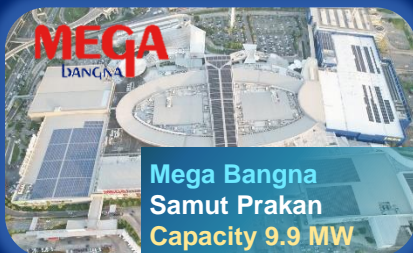
Power – Business Expansion and Future Opportunity

Additional Expansion of Our Renewable Portfolio



Upcoming Renewable Energy Projects in 2023,
with Target of **300 MW** Cumulative Secured PPA

Selected Solar Projects Sign in 2022



Mega Bangna
Samut Prakan
Capacity 9.9 MW



Prime Steel Mill
Rayong
Capacity 3.7 MW



Ford Motor
WHA ESIE 1,
Rayong
Capacity 7.7 MW

After COD, this project will become **the largest solar carpark in Thailand**, featuring a total solar PV rooftop installation area of 32,200 sqm

Expansion to Vietnam



Leverage WHA Group Existing Resources and Footprints in Vietnam

• Leverage Existing Customers Network for Expansion



• Solar Rooftop both inside and outside Industrial Estate



• Explore M&A Opportunities



• Develop Green Field Project aligned with PDP8



Seek for Opportunity in 3rd Country & New S-Curve Business



• Country with Demand for Renewable Energy Adoption

• Country with Advance S-curve Technology



New S-Curve Business



BESS



Hydrogen



CCUS



P2P Energy / Carbon Credit Trading

Embracing Smart Energy Solutions



P2P Energy & Carbon Credit Trading Platform

Co-development by :



Project Credential : “Best Innovative Company Awards at SET Awards 2022”

Progress :



**ERC Sandbox 1 (Market 1)
 P2P Energy Trading**



Successful Trading
 Simulation
 (Aug 2021 – May 2022)



In Progress for
 Commercial Trading Start



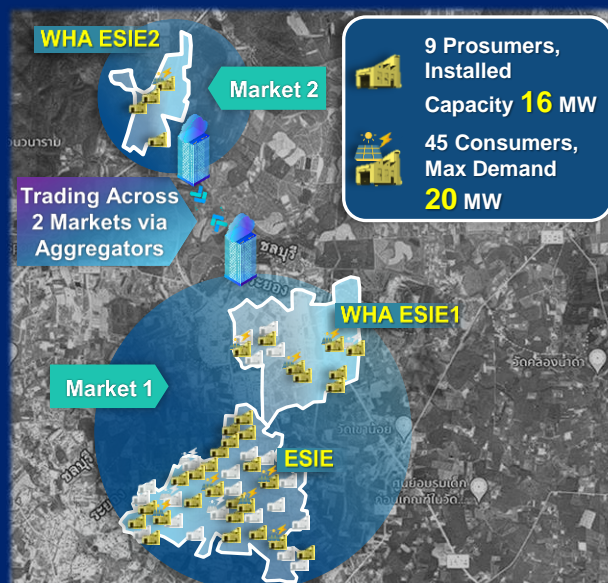
**ERC Sandbox 2 (Market 1 + 2)
 P2P Energy Trading & Carbon
 Credit Trading**



Received Project Award
 from ERC



Preparing for Trading
 Simulation



Carbon Credit for WHA Solar Projects



Thailand Voluntary Emission Reduction Program (T-VER)



Issued by



In 2022
 31 Projects,
 Installed Capacity 68.17 MW
 Registered ✓

With in 2H2023
 + 19 Projects,
 Installed Capacity + 22.45 MW
 Prepare Document for Verification ⌚



Produce

101,837 MWh/Year

+29,000 MWh/Year



Reduction

48,576 tCO2/year

+14,000 tCO2/year



Value Added

1,408,704 THB/year

+406,000 THB/year



THE INTERNATIONAL
 REC STANDARD

**International Renewable
 Energy Certificate (I-REC)**



Issued by



In Progress for Project Registration

With in 1H2023 + 28 Projects

Installed Capacity + 62.07 MW



Produce

+70,000 REC/year



Value Added

+3,900,000 THB/year

Target Deliverables

Target Water Sales & Managed Volume

**Total Water Supply
and Wastewater
Management Volume**

145
Million m³

168
Million m³

- Vietnam's Total Water Supply and Wastewater Management Volume

28
Million m³

33
Million m³

- Value-added Water Supply Volume (Demineralized Water, Premium Clarified Water)

5
Million m³

7
Million m³

2022

**2023
Target**

Target Total Secured PPA

**Total Secured PPA
Equity MW**

683
MW

847
MW

- Secured PPA Equity MW from Renewable Energy

136
MW

300
MW

- Secured PPA Equity MW from Solar Rooftop

133
MW

192
MW

2022

**2023
Target**



Digital Business

Digital Business

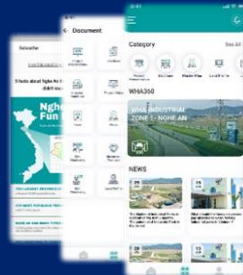
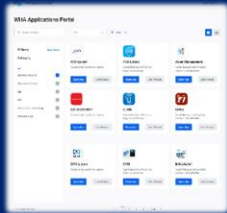
Laying Digital Foundations

Empower WHA Business to Enhance Operations

Support digital transformation initiatives to adopt new technologies to:

- Increase productivity and efficiency
- Enhance operation reliability and efficiency

WHA Web Portal



Easy Invest app
for WHA Vietnam



LBDMS
Building
management
system for
Logistics



outsystems

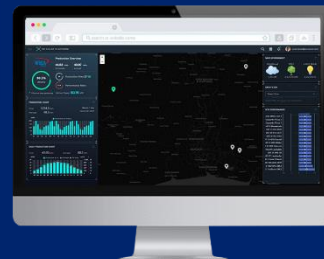
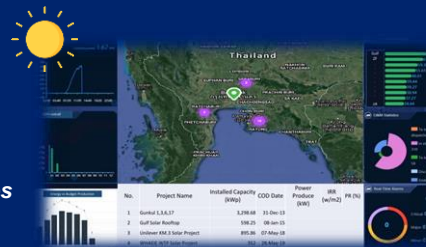
Low-Code software to
develop applications

Collaborate with WHA Group to Create New Value-Added Products for Customers

Create new products that meet the Group's customer needs. Key technologies include:

- Low code development application (intercompany charging)
- IoT Platform: loX

Solar Rooftop
Monitoring
Dashboard and
Performance
Detection Devices
for WHAUP



To monitor the
performance of client's
solar panels

Explore New Business Streams for WHA Digital

Generate innovative products and services for users inside and outside of WHA Group's ecosystem

Meta W

Building new businesses in Meta W



WHAbit

Empowering the industrial sector through digital healthcare



To launch WHAbitPlus

- Health function Q2 2023
- Fitness function Q3 2023

WHA Digital

**Empower WHA Group
with Digital Technologies**
to driving operational reliability and efficiency



**Collaborate with
WHA Group for
Product Innovation**

*to serve customers and stakeholders
in WHA ecosystem*



**Explore New Businesses
Focusing on Innovation
and Sustainability**

*e.g., Green Logistic, WHAbit Application,
Meta W (virtual business world), WHA
Circular, WHA Carbon Credit Trading*



**Organization
Development**

*Enhance team capabilities and
support organizational
development*



**Develop win-win
Partnerships**

*Partnership with startups and
industry experts*



Venture Deeper into Digital World

WHA Digital pushes for digital transformation by implementing digital innovation and technologies



Corporate Wellness

To implement health technologies in the community and enhance long-term wellbeing of the employees

1. OCCUPATIONAL MEDICINE

- Annual Health Checkup
- Health Analytic + Dashboard
- Knowledge Sharing

2. SMART CLINIC

- Onsite Tech Nurse
- Platform Facilitator
- Preliminary Health Check
- IoMT Connection

3. PHARMACY

- Door-to-Door Pharmacy
- Self Pickup

4. WHA WELLNESS PLATFORM

- Teleconsultant with online doctor
- Omni Channel Support
- Corporate Wellness Dashboard
- Electric Health Record

New Version & New Features to Launch in 2023



WHAbit+
 Health Care

- 2nd version of the mobile application to be released in Q2 2023
- Visualize health data
- Personalized suggestions



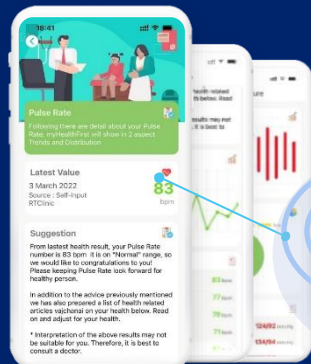
WHAbit
 insights

- Data Visualization
- Health management analytics
- Corporate Wellness program



WHAbit
 Fit

- Enhance employee's physical health and well-being
- Measure walking/running distance (data from Google Fit and Apple Health)
- Virtual competitions & challenges among WHA employees



Digital Transformation

Continuing our Journey to become a Tech Company in 2024



>32

projects in 2021
and 2022

2021



Smart Energy Solution
for WHAUP



Realtime CCTV on
Map for WHAID



Digitize Employee
Experience



Smart
Water
Solution for
WHAUP



Performance
Dashboard



Digital Healthcare



Cybersecurity and
Digital Foundations



Corporate Intranet



E-Tax Invoice/
Receipt



Enterprise Data Warehouse



SCADA Improvement
for WHAUP (Ph.2)



Solar Monitoring and
Predictive O&M



Property
Database
(Maptist/GIS)



Corporate
Procurement
Management



Corporate Project
Management



Enterprise Asset
Management (EAM)



Oracle E-Business Suite
for REIT Management



Oracle E-Business
Suite e-JV

2024
Turning into Tech
Company



WHA Group's Strategic Directions

DOMESTIC CHAMPION

Consolidate our leadership position in our core markets

INTERNATIONAL EXPANSION

Accelerate our regional growth with focus on Vietnam

DIGITAL INNOVATION AND TECHNOLOGY

Embrace innovation and new technologies to enhance customer experience

SUSTAINABILITY

Develop new products and services with focus on sustainability

HIGH-PERFORMANCE ORGANIZATION AND TECH COMPANY

Digital transformation and build high-performance organization

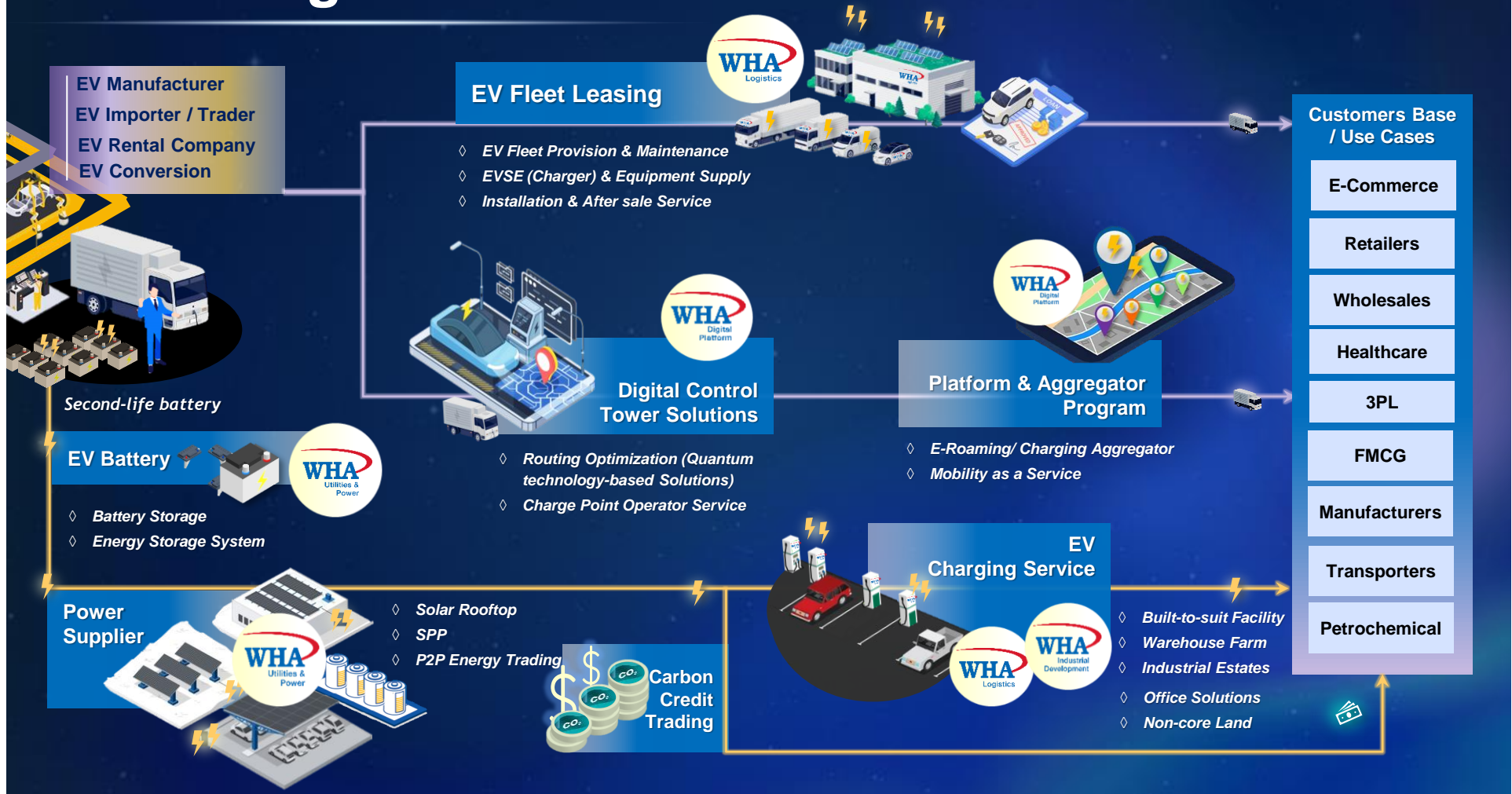


Mission to The Sun Programs

Turn to Tech Company in 2024



Green Logistics



Meta W “The 1st Industrial Verse”

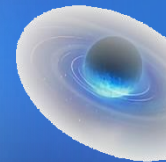


Strengthen WHA Group's existing businesses



Virtual access to the realm of WHA Group

Enhance customers' experience

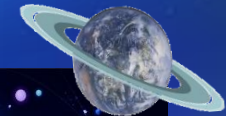


Digital Twin and New Monitoring Experience

Create new opportunities



New Business Model in Metaverse

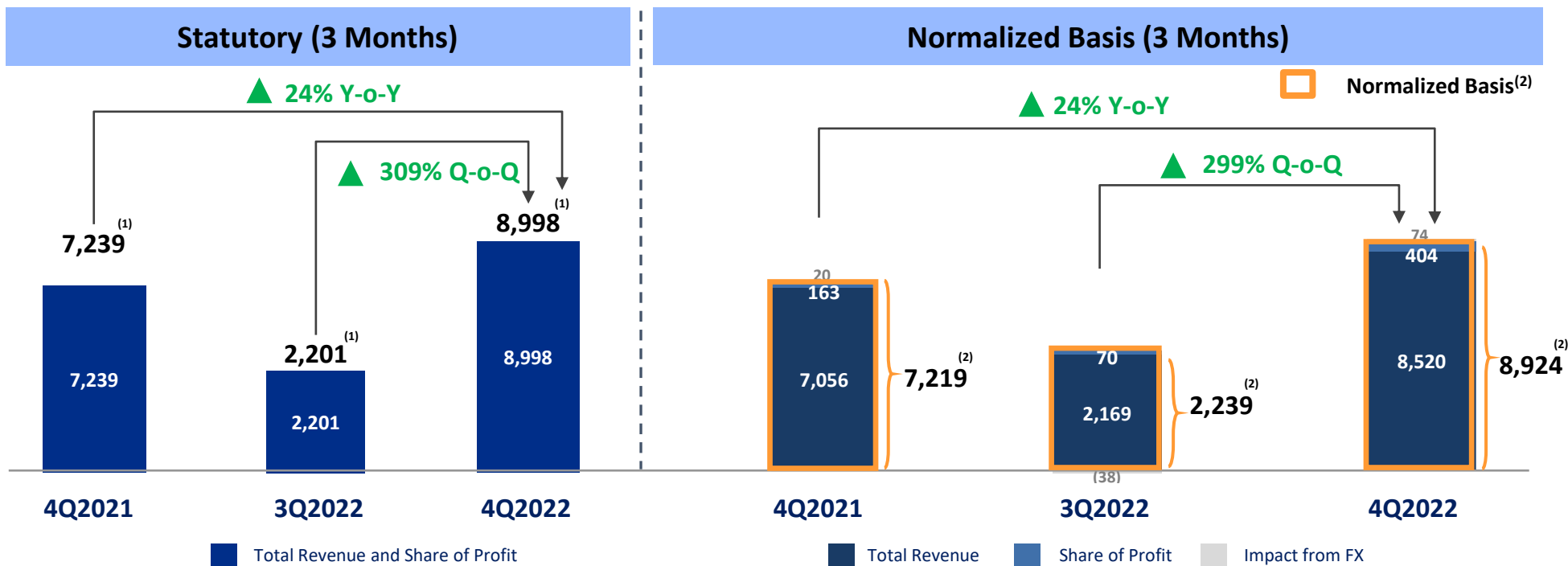


- I. WHA Group Overview**
- II. 2022 Operating Performance**
- III. 2022 Financial Performance**
- IV. Appendix**

Total Revenue and Share of Profit (3 Months)

Total Revenue and Share of Profit

Unit: THB mm

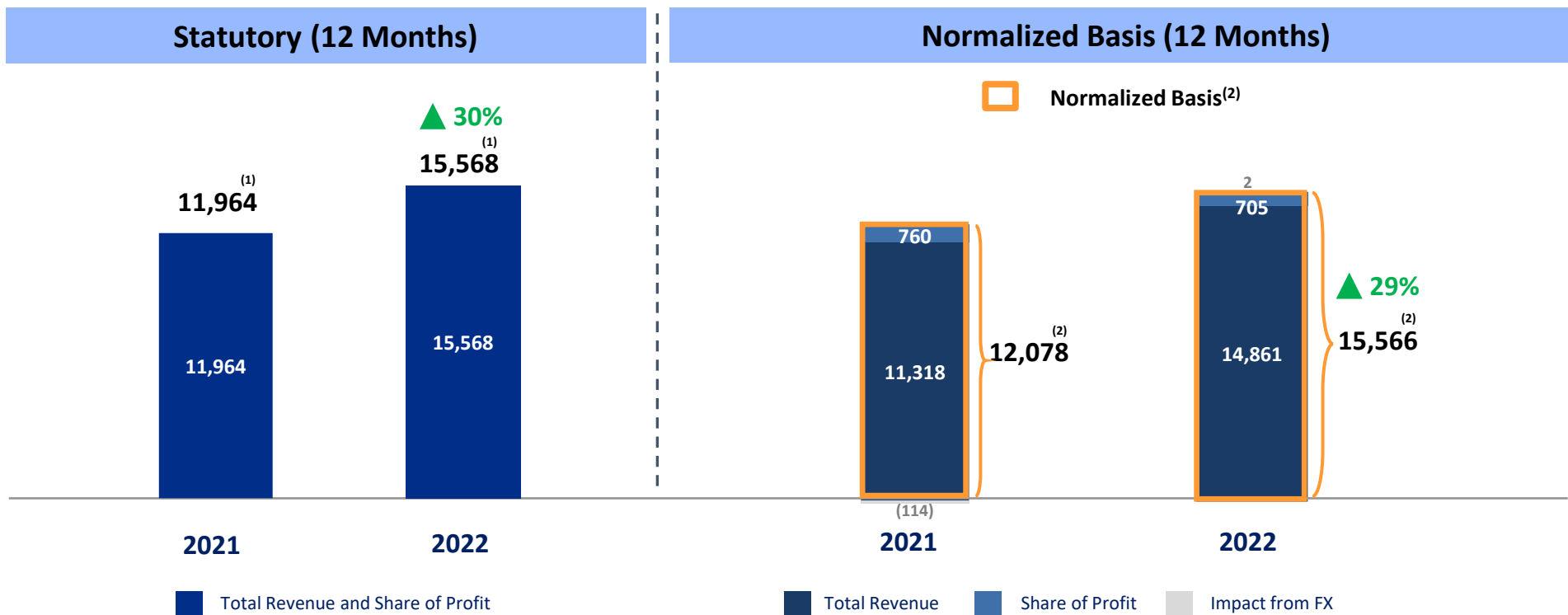


- The Statutory Revenue and Share of Profit in 4Q2022 was THB 8,998 mm which increased by 309% Q-o-Q and 24% Y-o-Y mainly due to higher revenue from Land Business as well as higher revenue contribution from asset monetization to WHART and WHAIR (Q-o-Q).
- The Normalized Revenue and Share of Profit stood at THB 8,924 mm which increased by 299% Q-o-Q and 24% Y-o-Y.

Total Revenue and Share of Profit (12 Months)

Total Revenue and Share of Profit

Unit: THB mm



- The Total Statutory Revenue and Share of Profit of 2022 stood at THB 15,568 mm which increased by 30% Y-o-Y, due mainly to strong contribution from Land Business as well as higher contribution from Utilities Business.
- While the Normalized Revenue and Share of Profit was THB 15,566 mm which increased by 29% Y-o-Y.

Remarks: (1) Representing Total Revenue Inclusive Share of Profit (Financial Statement)

(2) Representing Total Revenue Inclusive Share of Profit (Normalized) excluding FX impact, Impact from TFRS and deferred revenue items

4Q2022 Financial Performance

Net Profit (3 Months)

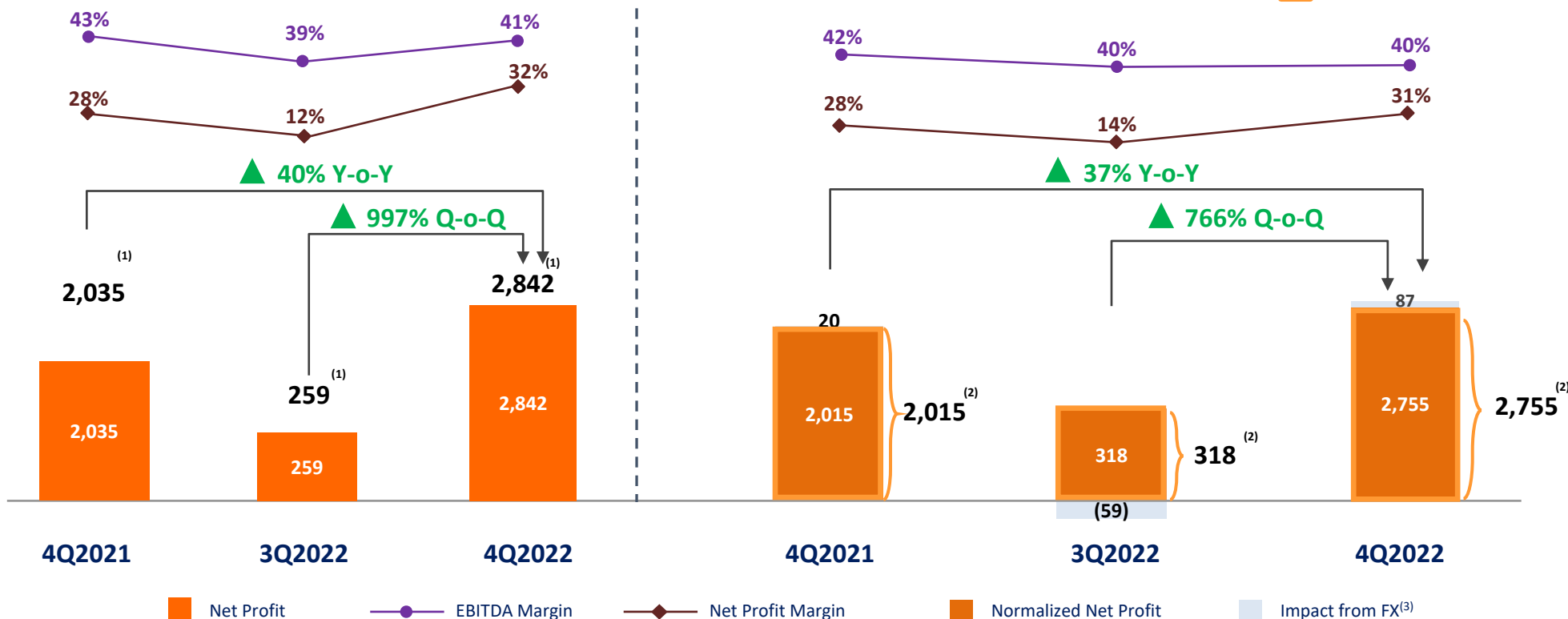
Net Profit

Unit: THB mm

Statutory (3 Months)

Normalized Basis (3 Months)

Normalized Basis⁽²⁾



- The Reported Net Profit in 4Q2022 was THB 2,842 mm, increasing by 997% Q-o-Q and 40% Y-o-Y due to increase in revenue from Land Business and Sale of Investment Properties from asset monetization to WHART and WHAIR (Q-o-Q).
- The Normalized Net Profit in 4Q2022 was THB 2,755 mm, increasing by 766% Q-o-Q and 37% Y-o-Y.

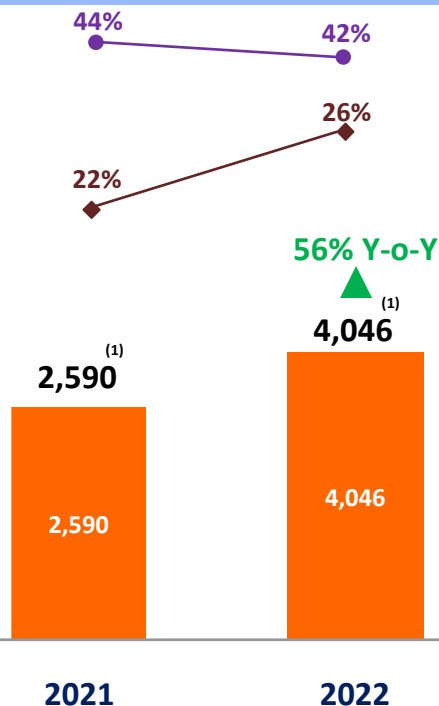
4Q2022 Financial Performance

Net Profit (12 Months)

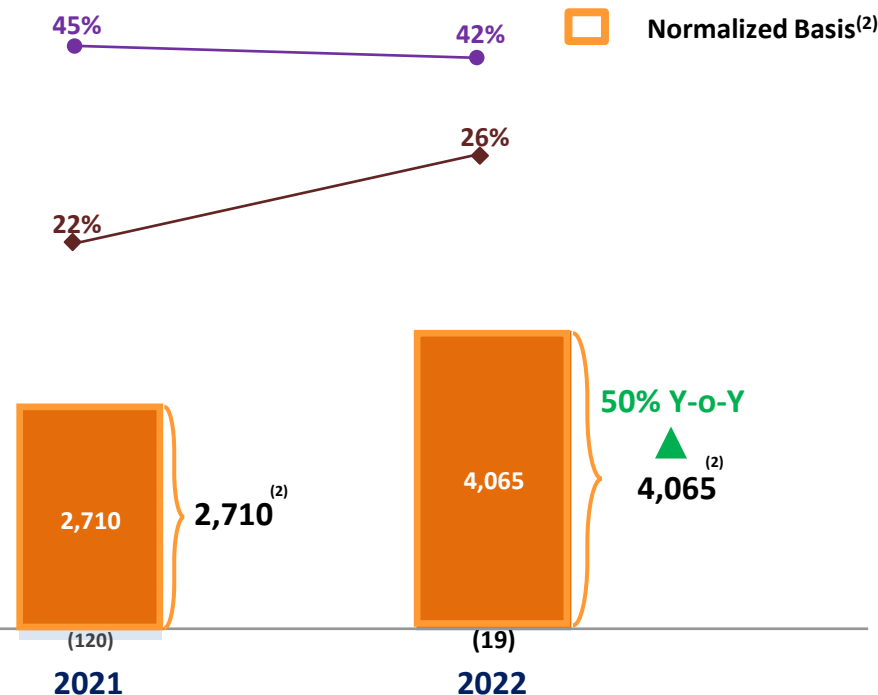
Net Profit

Unit: THB mm

Statutory (12 Months)



Normalized Basis (12 Months)



Net Profit EBITDA Margin Net Profit Margin Normalized Net Profit Impact from FX⁽³⁾

- In 2022, the Reported Net Profit and Normalized Net Profit increased by 56% Y-o-Y and 50% Y-o-Y, respectively, due to higher contribution from Land Business, Utilities Business and gain from data centers monetization.

Remarks: (1) Representing Net Profit (Financial Statement)
(2) Representing Net Profit (Normalized) excluding FX impact
(3) Impact from FX attributed to parent

4Q2022 Financial Performance

Financial Highlights (3M Y-o-Y)

3M (4Q2022 vs 4Q2021)

			Y-o-Y		Y-o-Y
Reported Revenue and Share of Profit	: THB 8,998 mm	▲	24%	Reported Net Profit	: THB 2,842 mm ▲ 40%
Normalized Revenue and Share of Profit	: THB 8,924 mm	▲	24%	Normalized Net Profit	: THB 2,755 mm ▲ 37%
Rental Properties Business <i>Normalized Revenue</i>	THB 266 mm	▼	11%	• Due to asset monetization in 4Q2021	
Land Business and Sale of Properties <i>Normalized Revenue and Share of Profit</i>	THB 7,691mm	▲	32%	Sale of Land: THB 4,428 mm (including Non-I.E. Land) <ul style="list-style-type: none"> Mainly increase from revenue recognition from sale of Industrial land increased by 390% Y-o-Y from higher number of land transfer both Thailand and Vietnam compared to the same period of previous year Sale of Investment Properties: THB 3,263 mm <ul style="list-style-type: none"> Mainly to large asset monetization to WHART and WHAIR 	
Utilities Business <i>Normalized Revenue and Share of Profit</i>	THB 519 mm	▲	7%	• Mainly due to increase in sale volume in Vietnam as well as higher excessive charge	
Power Business <i>Normalized Share of Profit and Revenue from Solar Business</i>	THB 231 mm	▼	21%	• Mainly due to lower performance from Gheco project and SPP business, even if there were higher performance from solar business <ul style="list-style-type: none"> SPP business: Negative effects on IU sale, from lower gas spread (gas price increase much more than electricity price adjustment) Gheco project: Lower share of profit due to maintenance shutdown and higher coal cost Solar business: Higher volume from power sale Y-o-Y as well as higher revenue from EPC project 	
Finance Cost	THB 275 mm	▼	1%	• Due to lower weighted average outstanding loan amount compared to the same period of last year	
Normalized Net Profit	THB 2,755 mm	▲	37%	• Strong contribution from Land Business and Utilities Business and higher performance from Utilities Business	

Note: % of growth represents Y-o-Y growth basis

4Q2022 Financial Performance

Financial Highlights (3M Q-o-Q)

3M (4Q2022 vs 3Q2022)

Q-o-Q					Q-o-Q			
Reported Revenue and Share of Profit	: THB 8,998 mm	▲	309%		Reported Net Profit	: THB 2,842 mm	▲	997%
Normalized Revenue and Share of Profit	: THB 8,924 mm	▲	299%		Normalized Net Profit	: THB 2,755 mm	▲	766%
Rental Properties Business Normalized Revenue	THB 266 mm	▲	1%	• Remain high level of occupied area compared to last quarter				
Land Business and Sale of Properties Normalized Revenue and Share of Profit	THB 7,691mm	▲	700%	Sale of Land: THB 4,428 mm (including Non-I.E. Land) • Mainly increase from revenue recognition from sale of Industrial land increased by 361% Q-o-Q from higher number of land transfer in Thailand Sale of Investment Properties: THB 3,263 mm • Mainly to large asset monetization to WHART and WHAIR				
Utilities Business Normalized Revenue and Share of Profit	THB 519 mm	▼	13%	• Mainly due to lower sale volume both in Thai and Vietnam comparing to 3Q2022 and higher loss of profit from investment in Utilities project in Vietnam and lower excessive charge				
Power Business Normalized Share of Profit and Revenue from Solar Business	THB 231 mm	▲	22%	• Mainly due to higher contribution from solar business and higher performance from SPP business, even if there were lower performance from Gheco project - SPP business: Less effects on IU sale, decrease in gas price with gradual electricity price (Ft) adjustment - Gheco project: Lower share of profit due to maintenance shutdown and higher coal cost - Solar business: Higher volume from power sale as well as higher revenue from EPC project				
Finance Cost	THB 275 mm	▼	5%	• Due to decrease in outstanding loan amount compared between 3Q2022 and 4Q2022				
Normalized Net Profit	THB 2,755 mm	▲	766%	• Strong contribution from Land Business and Sale of Properties with higher performance from Rental Properties Business and Power Business comparing to last quarter				

Note: % of growth represents Y-o-Y growth basis

4Q2022 Financial Performance

Financial Highlights (12M Y-o-Y)

12M (2022 vs 2021)

		Y-o-Y				Y-o-Y	
Reported Revenue and Share of Profit	: THB 15,568 mm	▲	30%	Reported Net Profit	: THB 4,046 mm	▲	56%
Normalized Revenue and Share of Profit	: THB 15,566 mm	▲	29%	Normalized Net Profit	: THB 4,065 mm	▲	50%
Rental Properties Business <i>Normalized Revenue</i>	THB 1,044 mm	▼	10%	• Due to asset monetization in 4Q2021			
Land Business and Sale of Properties <i>Normalized Revenue and Share of Profit</i>	THB 10,129 mm	▲	52%	Sale of Industrial Land: THB 6,787 mm <ul style="list-style-type: none"> Mainly from increase in number of industrial land transfer in Thailand during 2022 Revenue recognition from Sale of Land increased 292% Y-o-Y Sale of Investment Properties: THB 3,263 mm <ul style="list-style-type: none"> Mainly to large asset monetization to WHART and WHAIR 			
Utilities Business <i>Normalized Revenue and Share of Profit</i>	THB 2,338mm	▲	9%	• Mainly due to increase in sale volume both domestic (+4%) and Vietnam (+26%) and higher excessive charge			
Power Business <i>Normalized Share of Profit and Revenue from Solar Business</i>	THB 805 mm	▼	33%	• Mainly due to lower performance from SPP business and Gheco project, even if there was higher performance from solar business <ul style="list-style-type: none"> Gheco project: lower share of profit due to maintenance shutdown and higher coal cost SPP business: negative effects on IU sale compared to 2021, from lower gas spread (gas price increase much more than electricity price adjustment) Solar business: higher volume from power sale as well as higher revenue from EPC project 			
Finance Cost	THB 1,126 mm	▼	2%	• Due to lower weighted average outstanding loan amount during 2022			
Normalized Net Profit	THB 4,065 mm	▲	50%	• Strong contribution from Land Business and Sale of Properties as well as Utilities Business, despite lower contribution from Power business (especially Gheco project and SPP business)			

Note: % of growth represents Y-o-Y growth basis

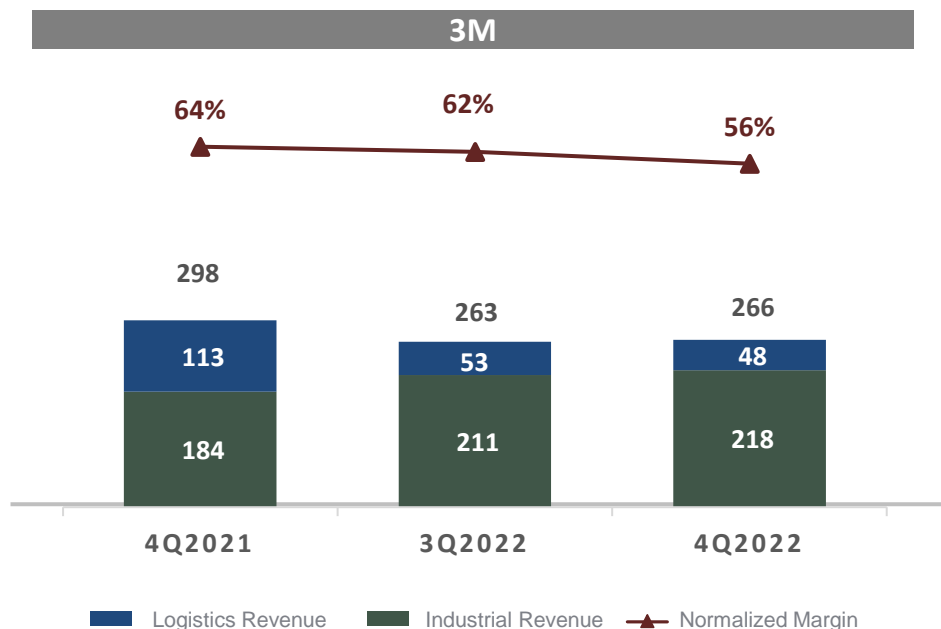
4Q2022 Financial Performance

Performance by Business (3 Months)

RENTAL PROPERTY BUSINESS (NORMALIZED)

Real GPM before PPA of 4Q2022 : 56%

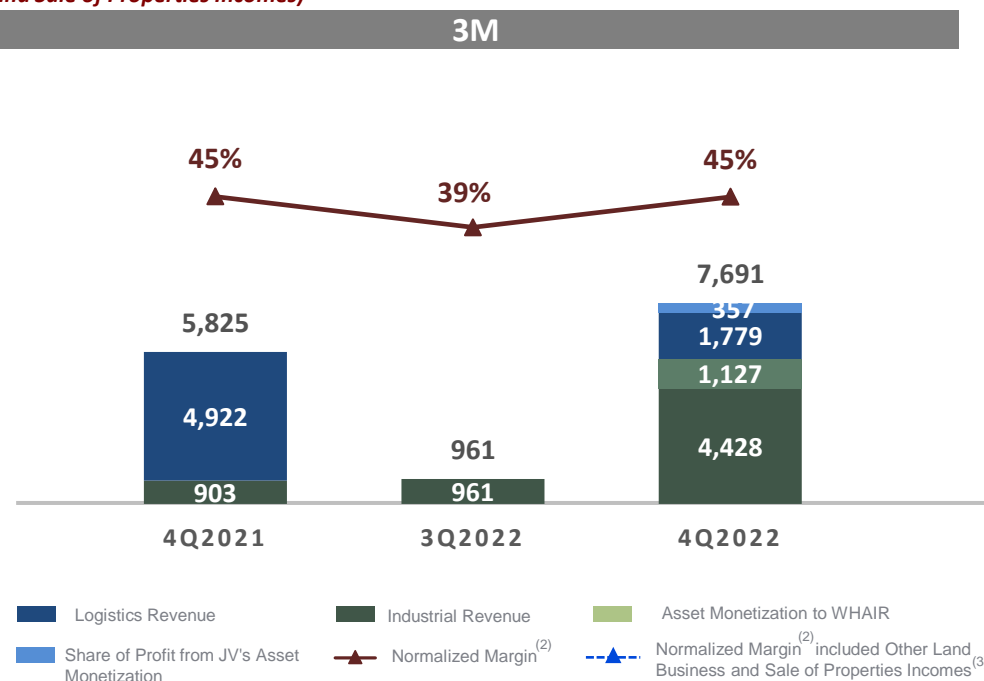
Unit: THB mm



LAND BUSINESS AND SALE OF PROPERTIES (NORMALIZED)

Real GPM before PPA of 4Q2022 : 51% (Only Land Sale excluded Other Land Business and Sale of Properties Incomes)

Unit: THB mm



- The GPM in 4Q2022 decreased to 56% comparing to the same period of last year due mainly to increase in Land and Building Tax (no longer discounted rate from the Government for 2022).

- The GPM from Revenue from Land Business and Sale of Properties (Excluded Other Land Business and Sale of Properties Incomes⁽³⁾) in Q42022 stood at 45% which increased from 3Q2022, according to high margin of asset monetization to REIT as well as increase in margin of land sale as a result of lower cost of transferred land plot.

Remark :⁽¹⁾ Including Non-I.E. Land Sale

⁽²⁾ Normalized margin excluded Share of Profit

⁽³⁾ Other Land Business and Sale of Properties Incomes included Right of Way Compensation / Services Income

Note: Gross profit margin on consolidated financial statement is different from that on operating financial statement (genuine performance) due to the effect of PPA adjustment after acquisition

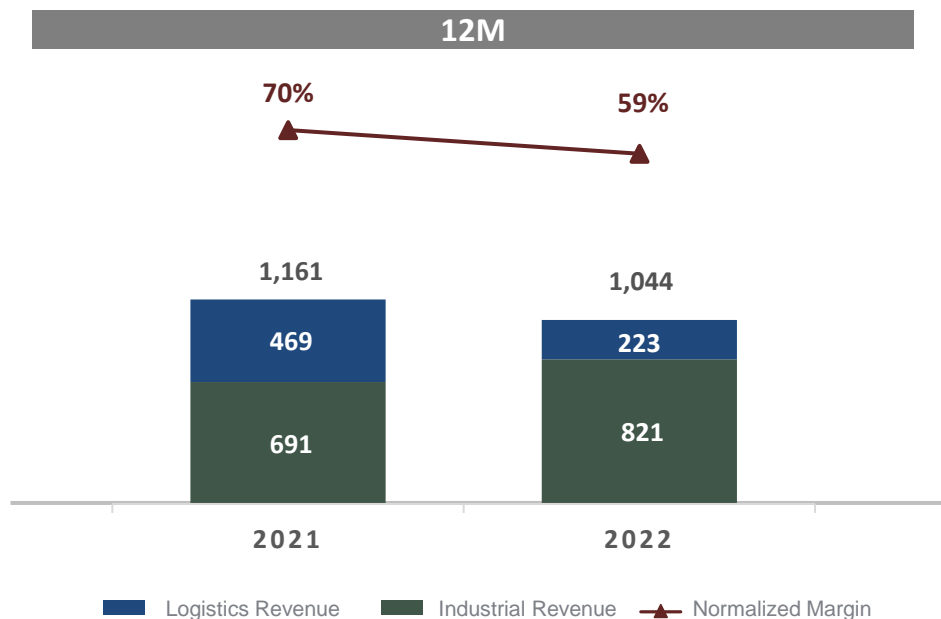
4Q2022 Financial Performance

Performance by Business (12 Months)

RENTAL PROPERTY BUSINESS (NORMALIZED)

Real GPM before PPA of 2022 : 59%

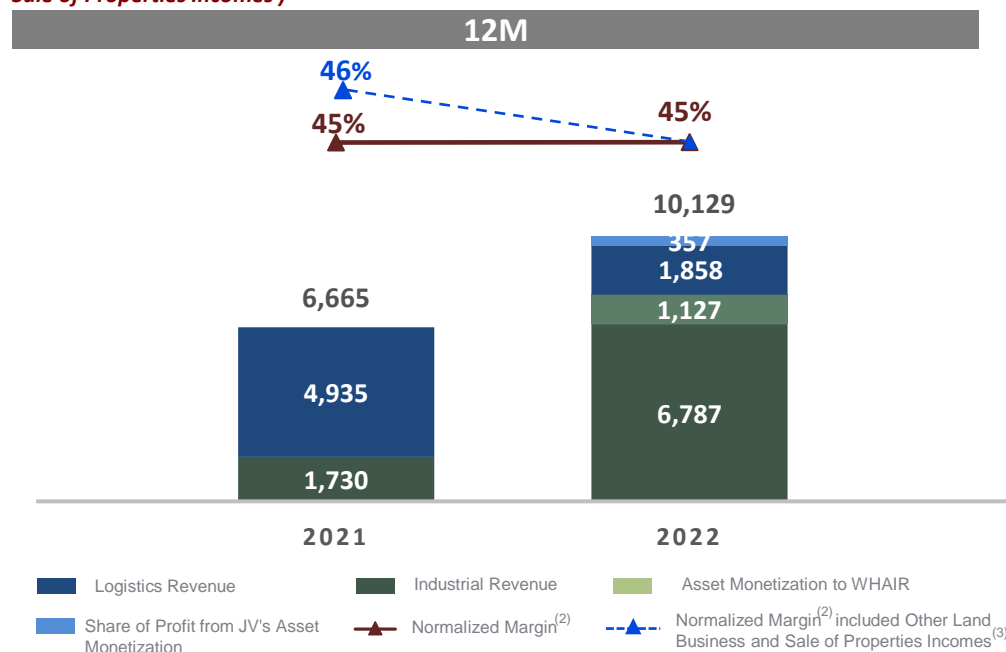
Unit: THB mm



- The GPM in 2022 stood at 59% as a result of asset monetization in 4Q2021 and 4Q2022 as well as increase in Land and Building Tax (no longer discounted rate from the Government for 2022)

LAND BUSINESS AND SALE OF PROPERTIES (NORMALIZED)

Real GPM before PPA of 2022 : 48% (Only Land Sale excluded Other Land Business and Sale of Properties Incomes) Unit: THB mm



- The GPM from Revenue from Land Business and Sale of Properties (Excluded Other Land Business and Sale of Properties Incomes⁽³⁾) in 2022 maintain at 45%.
- There was revenue recognition of right of way amounting of THB 40 mm in Q12022 which decreased from THB 125 mm in 2021.

Remark :⁽¹⁾ Including Non-I.E. Land Sale

⁽²⁾ Normalized margin excluded Share of Profit

⁽³⁾ Other Land Business and Sale of Properties Incomes included Right of Way Compensation / Services Income

Note: Gross profit margin on consolidated financial statement is different from that on operating financial statement (genuine performance) due to the effect of PPA adjustment after acquisition

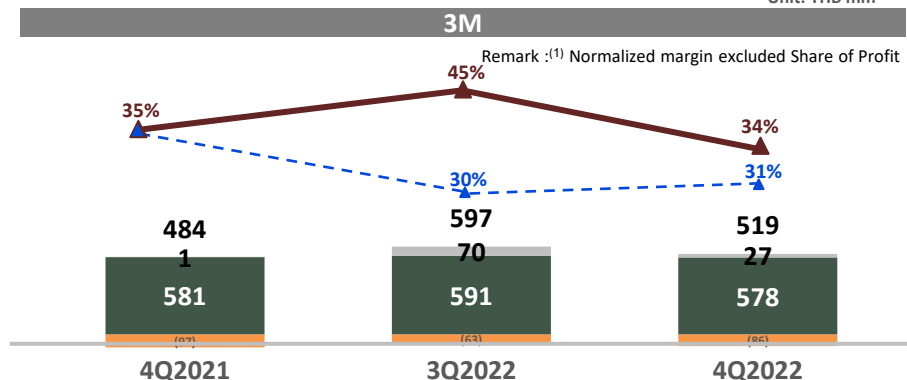
4Q2022 Financial Performance

Performance by Business (3 Months)

UTILITIES BUSINESS (NORMALIZED)

Real GPM before PPA of 4Q2022: 37%

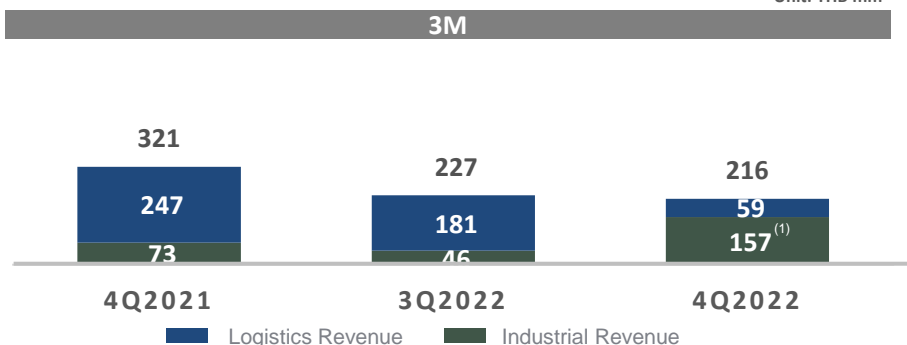
Unit: THB mm



- The GPM of Utilities sale in 4Q2022 stood at 34% which decreased from 3Q2022 due to decrease in excessive charge, while excluding excessive charge, GPM slightly increased.
- The GPM of Utilities sale in 4Q decreased from 4Q2021 due to changing in product mix.

REVENUE FROM MANAGEMENT, INVESTMENTS AND OTHERS (NORMALIZED)

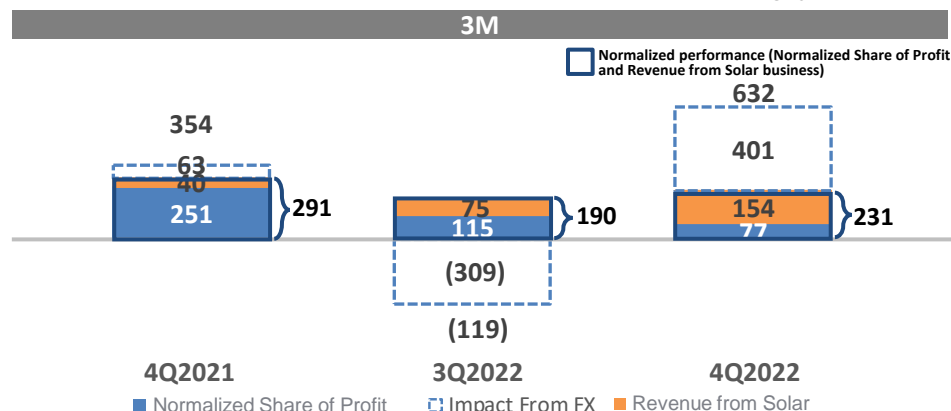
Unit: THB mm



Note: Gross profit margin on consolidated financial statement is different from that on operation financial statement (genuine performance) due to the effect of PPA adjustment after acquisition

POWER BUSINESS

Unit: THB mm



- The Normalized performance (Normalized Share of Profit and Revenue from Solar business) in 4Q2022 was THB 231 mm which decreased 21% Y-o-Y due mainly to negative effects on IU sale, from significant increase in gas price compared to the same period of last year vs lag of electricity price adjustment.
- For Q-o-Q basis, the Normalized performance increased 22% Q-o-Q, mainly from increase in Solar revenue from EPC revenue recognition despite decrease in share of profit due to lower contribution from Gheco-1 resulting from unplanned maintenance.

Remark :⁽¹⁾ Included Right of Way Compensation amounting of THB 51 mm

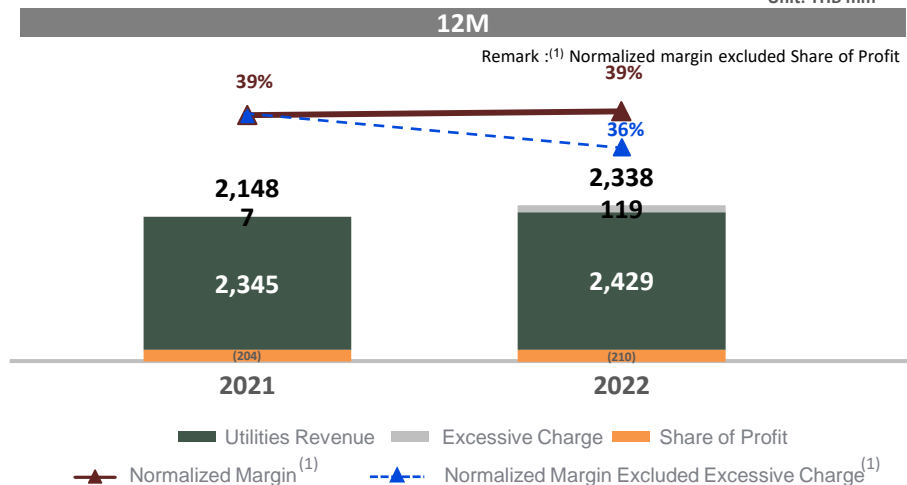
4Q2022 Financial Performance

Performance by Business (12 Months)

UTILITIES BUSINESS (NORMALIZED)

Real GPM before PPA of 2022: 42%

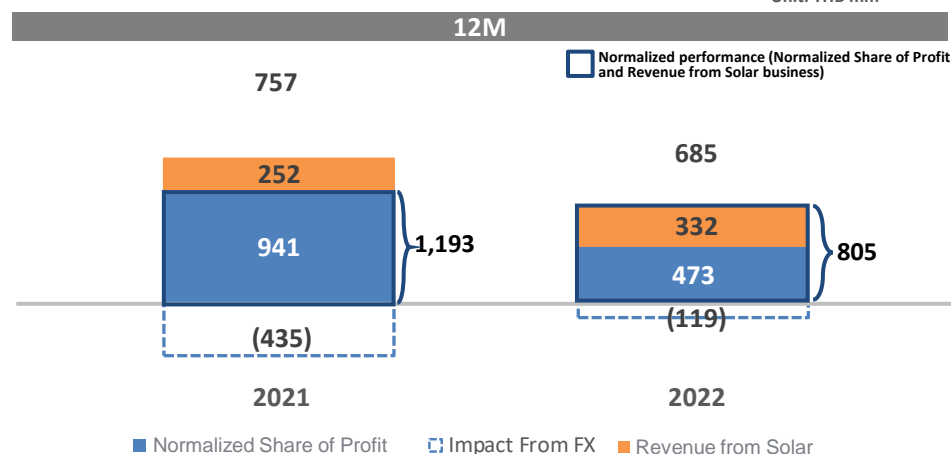
Unit: THB mm



- The GPM of Utilities sale excluded excessive charge in 2022 which decreased to 36% due to changing in product mix.

POWER BUSINESS

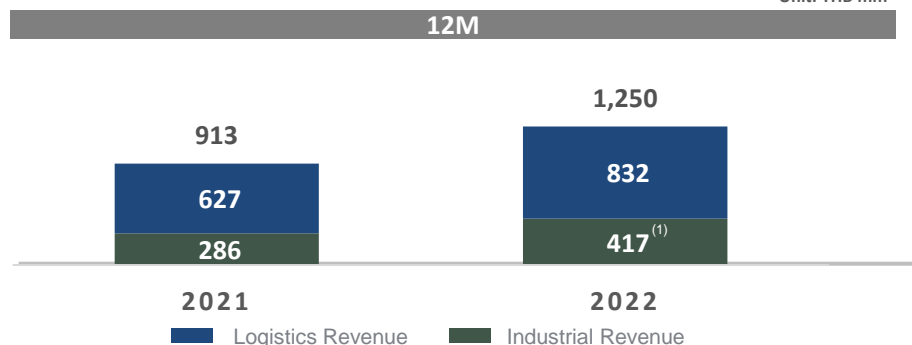
Unit: THB mm



- The Normalized performance (Normalized Share of Profit and Revenue from Solar business) in 2022 was THB 805 mm which decreased by 33% Y-o-Y due mainly to thin SPP's IU sale margin (increase in gas price vs lag adjustment of electricity price) and lower share of profit from Gheco project due to maintenance shutdown and higher coal cost despite increase in solar revenue.

REVENUE FROM MANAGEMENT, INVESTMENTS AND OTHERS (NORMALIZED)

Unit: THB mm



- Normalized other revenues consist of property and REIT management fee, acquisition fee, dividend income, share of profit from JV, revenue from digital business and others, excluding FX impact in other incomes.
- Revenue from data centers monetization during 2022 was THB 345 mm while there were no such revenue in 2021.

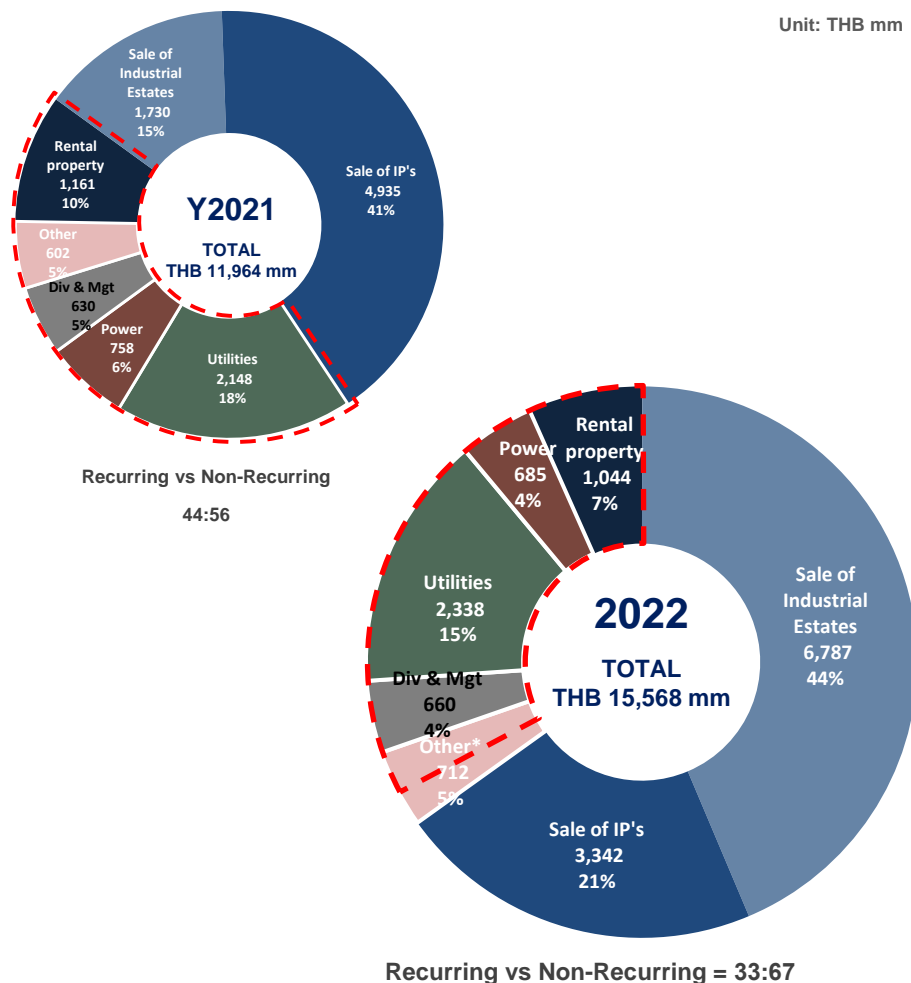
Remark :⁽¹⁾ Included Right of Way Compensation amounting of THB 51 mm

Note: Gross profit margin on consolidated financial statement is different from that on operation financial statement (genuine performance) due to the effect of PPA adjustment after acquisition

Revenue and Gross Profit Breakdown by Type of Business

REVENUE AND SHARE OF PROFIT BREAKDOWN

Unit: THB mm

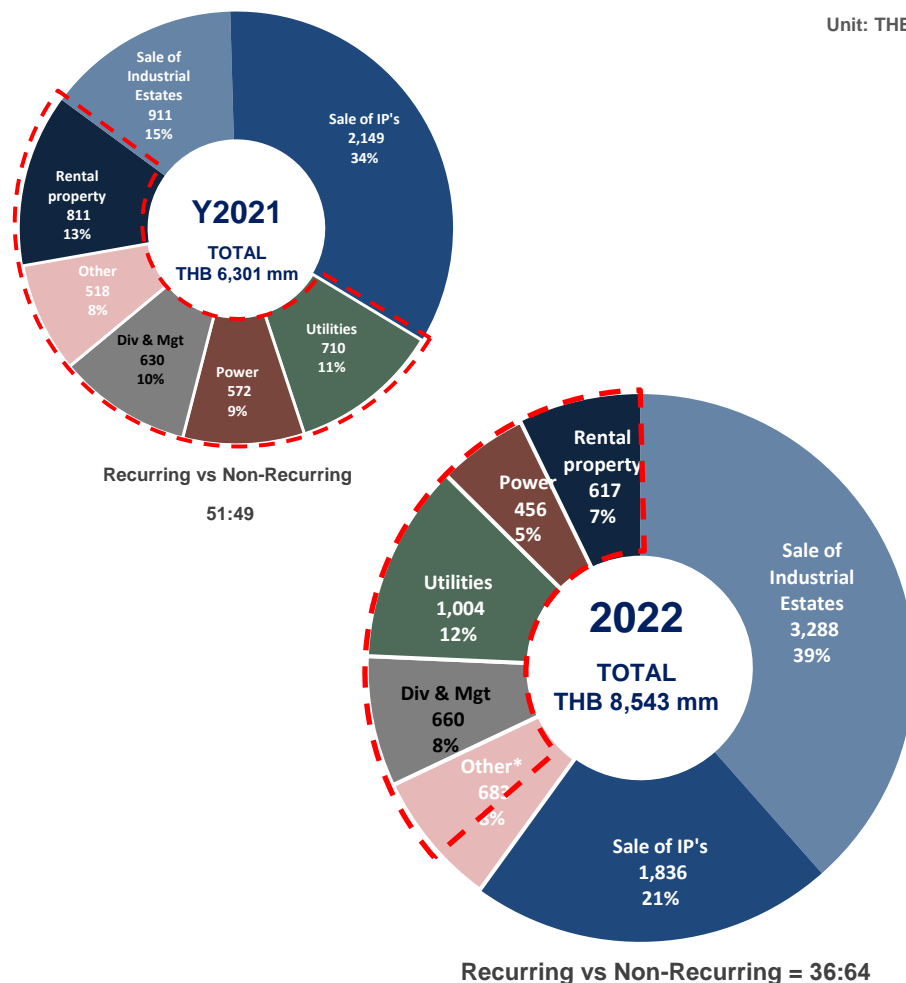


 Recurring Revenue

Remark: Share of profit from JV's and Associates included

GROSS PROFIT BREAKDOWN

Unit: THB mm



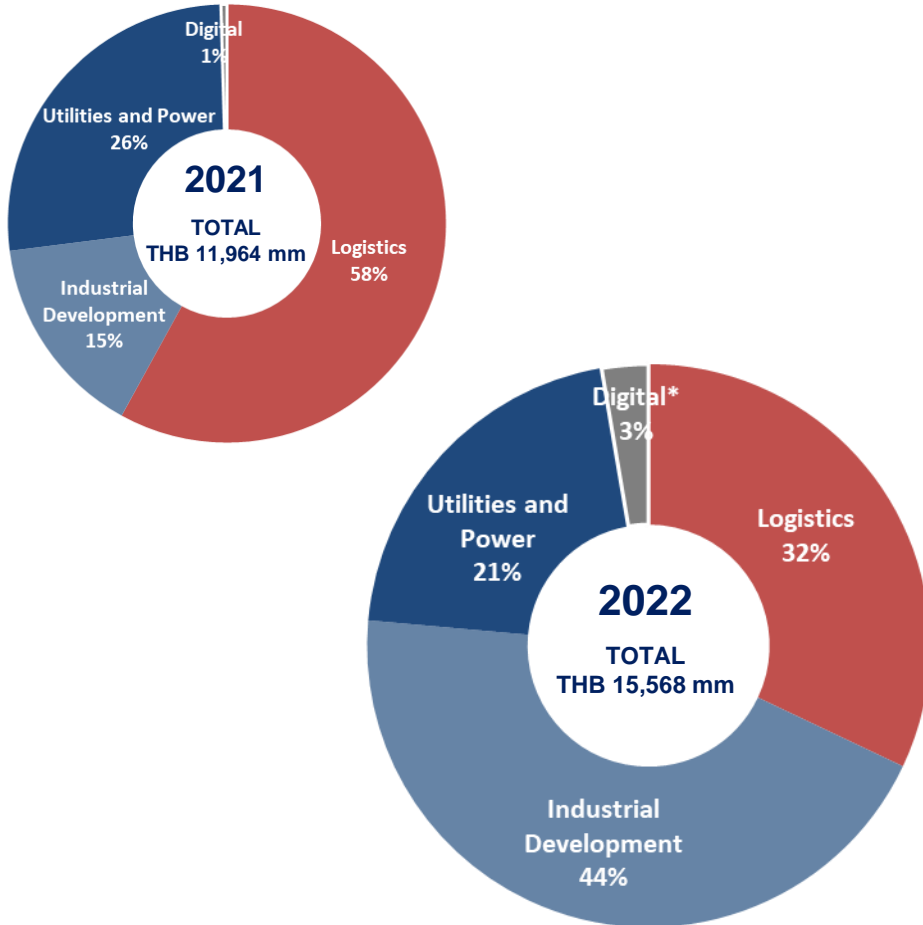
Remark: Share of profit from JV's and Associates included
Gross profits are based on consolidated financial statements and thus affected by PPA adjustment

Note: Statutory Basis

* Include Gain from Data Centers Monetization which is Non-Recurring Income

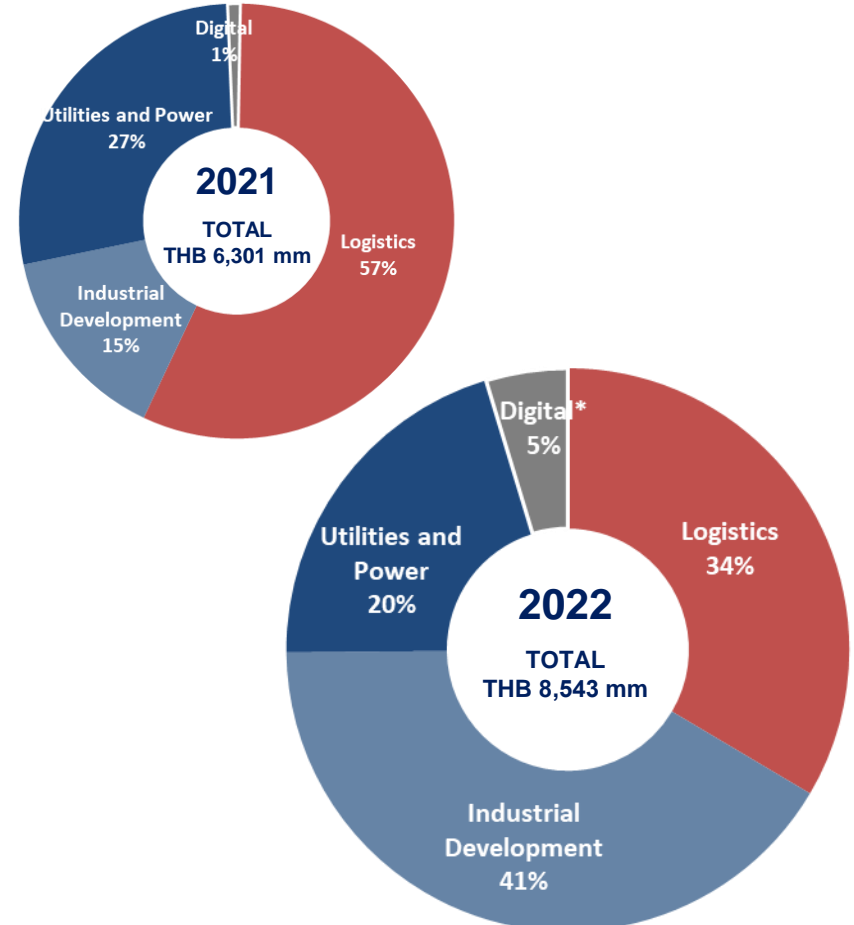
Revenue and Gross Profit Breakdown by Business Hub

REVENUE AND SHARE OF PROFIT BREAKDOWN



Remark: Share of profit from JV's and Associates included

GROSS PROFIT BREAKDOWN



Remark: Share of profit from JV's and Associates included
Gross profits are based on consolidated financial statements and thus affected by PPA adjustment


**REIT Asset
Monetization**

2022 Asset Monetization to REITs



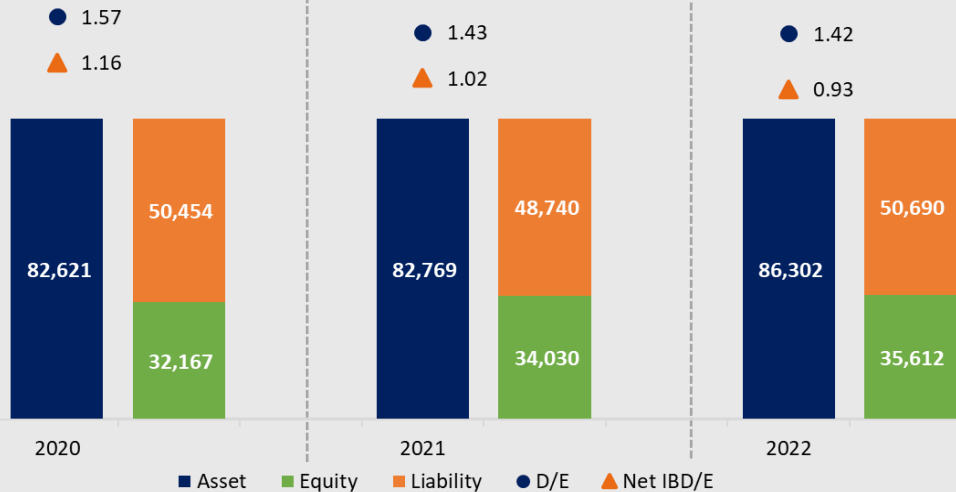
- 159,963 sq.m. of BTS warehouse/factory to WHART with asset value of THB 4,051 mm
- 48,186 sq.m. of RBF and RBW to WHAIR with asset value of THB 1,346 mm

Bond Issuance

- **Jan 2022** : WHA Bond Issuance of THB 1,000 mm at 1.48% cost of fund with 1 year tenor
WHAUP Bond Issuance of THB 1,000 mm at 1.48% cost of fund with 1 year tenor
- **Mar 2022** : WHA Bond Issuance of THB 6,500 mm at 2.58% weighted average cost of fund with 4.23 year weighted average tenor
-  **Jun 2022** : WHAUP Bond Issuance of THB 2,800 mm (THB 1,800 mm Green Debentures) at 3.29% weighted average cost of fund with 3.71 year weighted average tenor
- **Dec 2022** : WHAUP Bond Issuance of THB 1,500 mm at 3.13% weighted average cost of fund with 3.50 year weighted average tenor

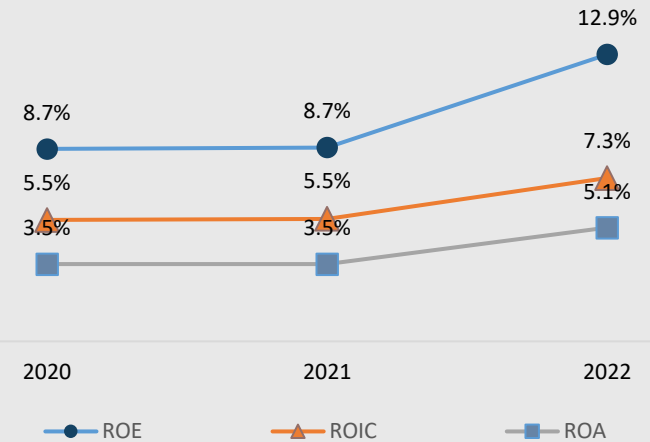
CAPITAL STRUCTURE

Unit: THB mm



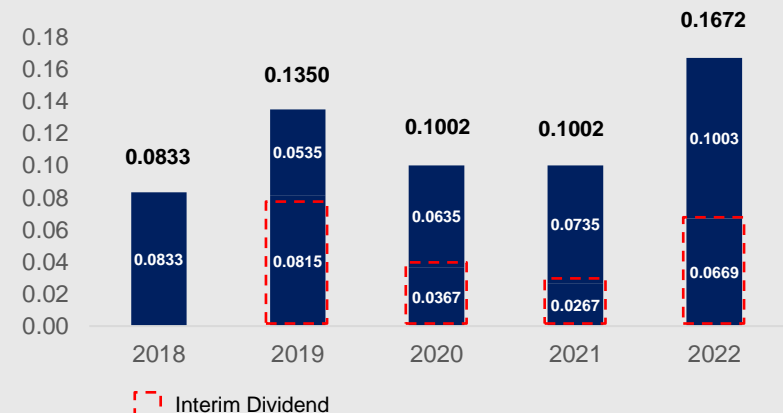
- Total asset increased by THB 3,533 mm from 2021 due mainly to increase in cash from operating income and increase in PPE.
- Total liability increased by THB 1,951 mm from 2021 due mainly to increase in IBD from debenture issuance during the year.
- The total shareholders' equity increased by THB 1,582 mm from 2021 due mainly to increase in operating income.

RETURN ON INVESTMENT



DIVIDEND PAYMENT

Unit: THB/ Share

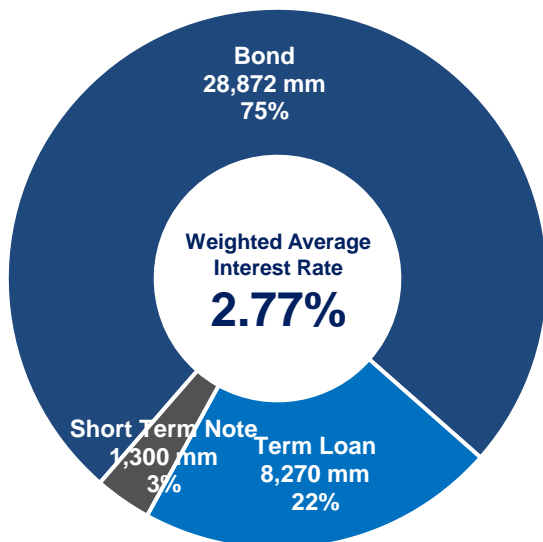


Financial Performance

Debt Profile

As of December 2021

Unit: THB mm

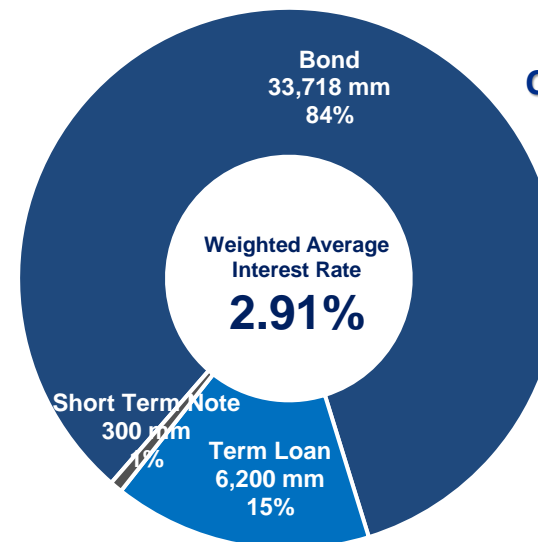


IBD/E Ratio : 1.13 time

Net IBD/E Ratio: 1.02 time

As of December 2022

Unit: THB mm



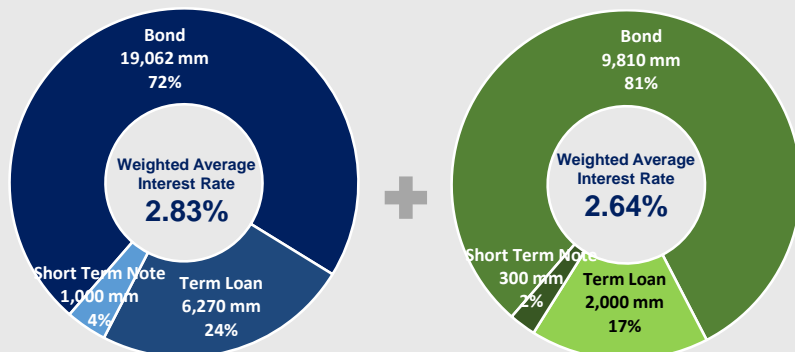
Credit Rating*
A- "Stable"

IBD/E Ratio : 1.13 time

Net IBD/E Ratio: 0.93 time

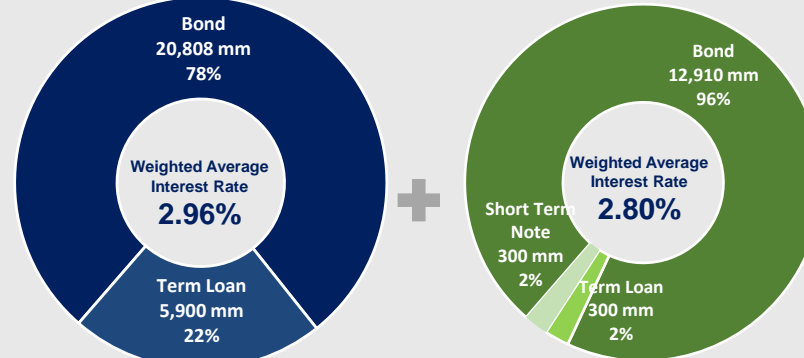
WHA+WHAID

WHAUP



WHA+WHAID

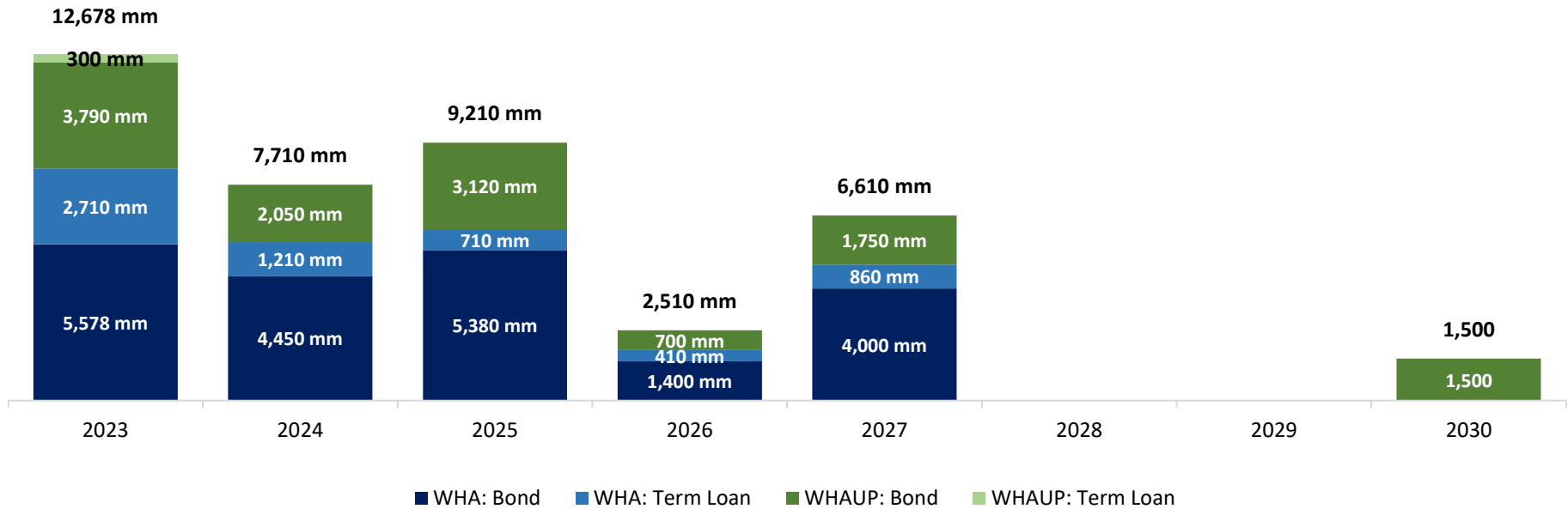
WHAUP



Remark: *TRIS Rating affirms the rating at A- "Stable" on 17th October 2022.

Bond and Term Loan Maturity as of 31st December 2022

Unit: THB mm

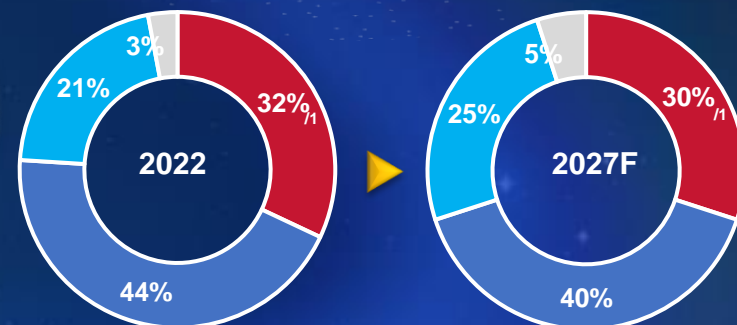


5 Years Target Financial Perspective

Normalized Total Revenue and Share of Profits
Sustain High Growth Prospects
Over the Next 5 Years



Aim for a **Balanced** Revenue
Contribution



■ Logistics ■ Industrial Estate ■ Utilities and Power ■ Digital



Investment Plan for 2023 – 2027



Total 5Y CAPEX

Mainly from Internal Cash Flow from Operation

THB 68,500 mm



17,000 mm



29,000 mm



18,500 mm



4,000 mm



Target IBD/Equity Ratio

<1.2 times

- I. WHA Group Overview**
- II. 2022 Operating Performance**
- III. 2022 Financial Performance**
- IV. Appendix**

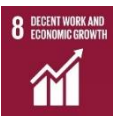
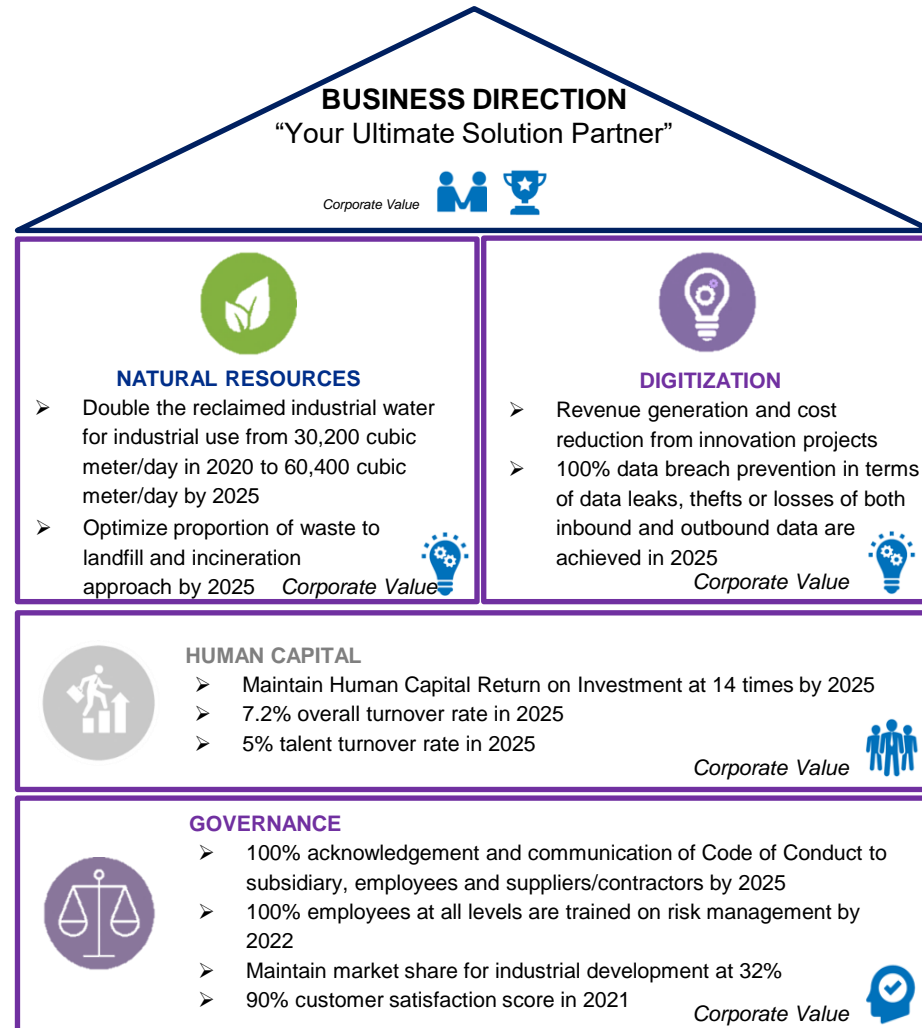
Sustainability at WHA Group

Framework and Strategy

WHA Group has rolled out its 5-Year Sustainability Framework 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.



Materiality Issues Year 2022

Governance/ Economic Dimension

Corporate Governance & Ethics

Technology & Innovation

Social Dimension

Occupational Health & Safety

Human Resource Management

Environment Dimension

Climate Strategy

Water Management

Sustainability Topics Year 2022

Governance/ Economic Dimension

- Codes of Business Conduct
- Risk Management
- Supplier Chain Management
- Customer Relationship Management
- Market Opportunity and Innovation Management
- Data Security

Social Dimension

- Human Capital Development
- Talent Attraction and Retention
- Human Rights
- Labour Practice Indicators
- Occupational Health and Safety
- Community Development and Social Integration

Environment Dimension

- Water Management
- Waste Management
- Climate Change
- Energy Management
- Air Emission
- Biodiversity

Environment Dimension

Climate Change and Energy Management

Promoting Clean Energy to Our Customers



Offers an all-in solar rooftop service package for customers in Thailand including permitting, design and engineering, construction and installation, as well as operation and maintenance throughout the contract period



Commit to a long-term target to provide solar power and has signed solar power purchase agreement of 300 MW corresponding to 210,000 tons CO₂e GHG Emission offset from Grid per year (scpoe2) by 2023

Efficient Unified Operations Center (UOC)

Reduce approximately 75.4 tCO₂e of direct GHG (Scope 1) per year from reduction of car fuel used in operation

Maintain air quality level that complies with the requirements and standards specified in (EIA)

Provide safety to communities and stakeholders

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



Thailand's Largest Solar Carpark

Cover a total roof area of 31,000 sq.m. providing for approximately 2,000 vehicles and generate a total electricity of 4.88 MW for the plant's consumption



6 Eco-Industrial Town Awards at the ECO Innovation Forum 2021



5 WHA Industrial Estates received "Eco-Champion level"

1 WHA Industrial Estate received "Excellence-Champion level"

Environment Dimension

Waste Management

Chonburi Clean Energy (CCE)



Advanced waste-to-energy power plant located at WHA Chonburi Industrial Estate 1

The most advanced technologies in terms of reliability, sustainability, stability and environmental protection

The first industrial waste to energy facility in Southeast Asia to meet European emission standards

Using safe and environmentally sustainable waste incineration technology and high standard air emission control systems

Maximum output of 8.63 MW of electricity per year

Converting waste to energy source at 100,000 tons/year



Plastic Waste Reduction



Reduce 68,940 bottles of plastic waste by stop serving plastic bottled drinking water to its guests and visitors

Sort N' Save Project

The Internal Project increase environmental awareness amongst WHA Group's employees and to explore innovative business platforms under the circular economy concept



Waste Management Collaboration

Project: Hamper and Laptop Case

WHA incorporates with PTT Global Chemical (GC) to collect used PET bottles from school under ThinkCycle Bank Project and collect water hyacinth from wastewater treatment system; polishing pond of ESIE, WHA ESIE1 and WHA ESIE2 forming to yarn and produce hampers and laptop cases. In 2021, the project collected 8,850 used PET bottles and approximately 4.0 tons of water hyacinth to produce 300 hampers and 200 laptop cases. The products are sold at 600 THB each.

WHA can reduce the cost of water hyacinth management by generating such an income with the community to sell the dried water hyacinth fibers for approximately 40,000 baht.



Social Dimension

Greener Community for Generations to Come

Adding educational value in environment conservation among the community members

Constructed Wetland Water Treatment Facility Caring for the Environment



WHA Constructed Wetland Systems, considered a natural technology that is eco-friendly, cost effective and easy to maintain delivered to Pluak Daeng Sub-District Office in Rayong Province.

- ✓ **Demonstrate** the application of Simple Wastewater Treatment to Communities in a sustainable method
- ✓ **Reduce** the organic compound by 80%
- ✓ **Treat** waste water with the capacity of 146,000 cubic meters per year
- ✓ **Benefit** to 4,000 individuals, 220 apartments, 125 houses, and 30 local markets in the Pluak Daeng community
- ✓ **Mitigate** risk from complaints related to water pollution to the Company

WHA Group plan to deliver the Wang Ta Note Constructed Wet Land to the community in September 2022



In 2022, WHA Group has built a sustainable wastewater treatment system in Nong-kla municipality, Chantaburi province, and named the project as “Wang Ta Note Constructed Wet Land Project”.

The system can treat up to **292,000 cubic meters** of wastewater per year

- ✓ It gives Nong Kla communities access to clean water, recreation area, and learning area.
- ✓ It allows WHA Group to reserve such water supply as a backup in the event of drought.

Social Dimension

Upcycling and Turning Waste into Valuable Products



Collaborated with PTTGC to have YouTurn, donation drop points of used plastic PET Bottles in area of WHA IEs.

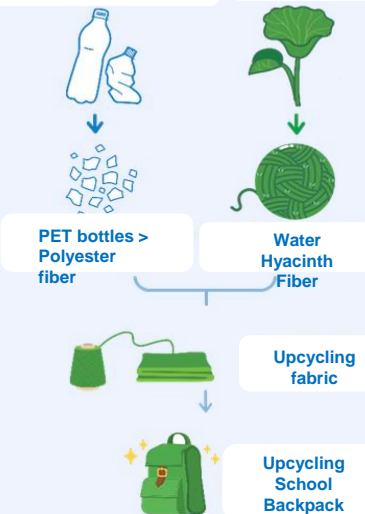


Fiber of water hyacinth made by Chak Mahat Community in Rayong from unwanted water hyacinth from WHA wastewater treatment facility.

How To make UPCYCLE School backpack?

Used plastic PET bottles

Water Hyacinth



Objectives:

- ✓ To utilize resources effectively under WHA's Circular Economy concept
- ✓ To create value of unwanted water hyacinth
- ✓ To encourage waste management in WHA's ecosystem
- ✓ To help reduce CO2 emissions

Equal to
2,337 trees



Today we've collected

533,275*

Plastic PET Bottles (600 ml.)



CO₂ Reduction

21,033.12 Kg CO₂e



Remark: Total plastic PET bottles donated to WeCycle from March to November 2022

Governance Dimension

Ensuring that Business Operations are Pursued in Accordance With the Principles of Integrity

5-Star CGR Rating

Corporate Governance Report (CGR) of Thai Listed Companies in "Excellent" criteria



AGM Scoring

WHA ranked "Outstanding" with a perfect score of 100 for AGM scoring in year 2022

Code of Business Conduct

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



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

Business Transparency

Ensure good corporate governance by taking part in Thai Private Sector Collective Action Against Corruption (CAC) since 2014



Gender Diversity & Woman empowerment

30% of directors are women – aligned with the new SEC CG Code

Board Effectiveness

60% of all board members are independent directors. 100% BOD attendance in 2021



Supply Chain Management

Supplier Code of Conduct consists of requirements on business ethics, fundamental human rights, occupational health and safety and environmental management. In 2021, 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 2022.**

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.

Customer Relationship Management

To assess the success of customer relationship management, WHA Group conducted its annual customer satisfaction 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.

Customer Satisfaction Score

2018	2019	2020	2021
90%	87%	89%	90%

Target 2022



Data Security

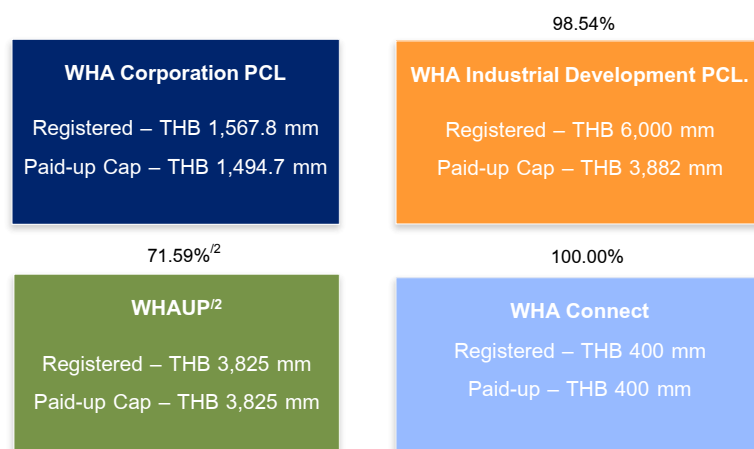
WHA Group is aware that data security lies at the core of running all of its business hubs successfully as it gives the Group's customers and employees the confidence that their data are being collected, processed and transferred securely.



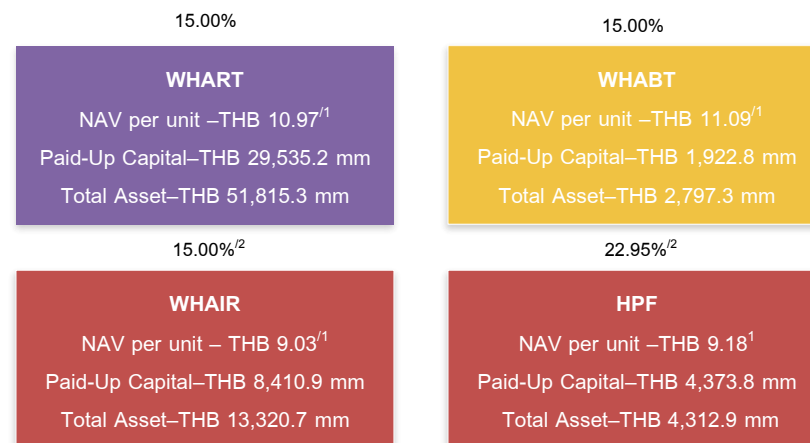
0 Number of identified leaks, thefts, or losses of customer data



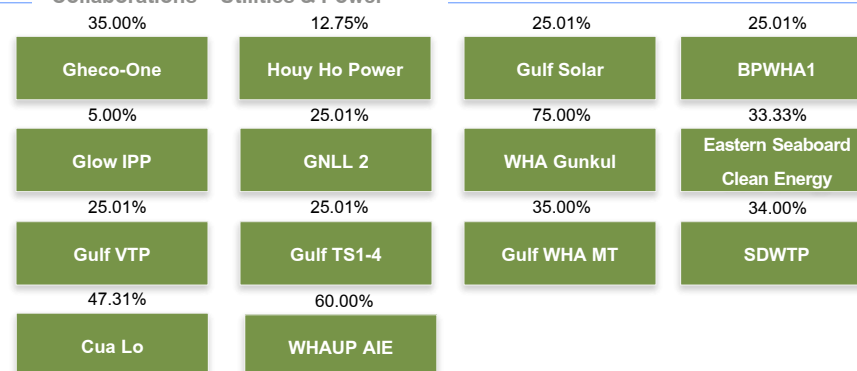
Core Business



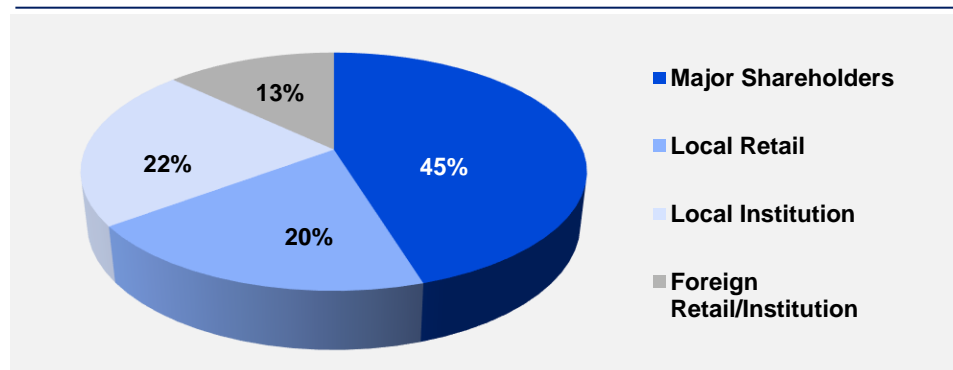
Property Funds and REITs



Collaborations

Collaborations – Utilities & Power^{/2}

Remarks: /1 NAV per unit as of December 31, 2022
/2 Held by WHA Industrial Development PCL.

Shareholding Information^{/1}Top 10 Shareholders^{/1}

Shareholders	No. of Share	%
1) Ms. Jareeporn Jarukornsakul ^{/2}	3,481,188,569	23.3%
2) Ms. Chatchamon Anantaprayoon ^{/2}	1,349,486,105	9.0%
3) Thai NVDR Co., Ltd.	742,350,826	5.0%
4) Mr. Chaiwat Phupisut ^{/2}	681,790,854	4.6%
5) Ms. Supitchaya Phupisut ^{/2}	666,000,000	4.5%
6) UBS AG SINGAPORE BRANCH ^{/2}	580,851,722	3.9%
7) SOUTH EAST ASIA UK (TYPE C) NOMINEES LIMITED	483,618,965	3.2%
8) นายนิติ โอสธานุเคราะห์	436,438,690	2.9%
9) THE BANK OF NEW YORK MELLON	388,888,983	2.6%
10) กองทุนเปิด เค 20 ซีเล็คท์หุ้นระยะยาวปันผล	187,012,600	1.3%

Board of Directors and Management

Board of Directors



Mr. Somkid Jatusripitak
Independent Director
Chairman of Board of Directors



Ms. Jareeporn Jarukornsakul
Director, Vice Chairman of Board of Directors
Chairman of the Executive Committee
Chairman of Corporate Governance and Sustainable Development Committee
Member of the Nomination and Remuneration Committee
Member of Risk Management Committee



Mr. David Richard Nardone
Director
Member of Executive Committee



Mr. Vivat Jiratikarnsakul
Director
Member of Executive Committee



Mrs. Anchalee Chavanich
Independent Director
Chairman of the Audit Committee
Member of Corporate Governance and Sustainable Development Committee



Dr. Apichai Boontharawara
Independent Director
Member of the Audit Committee
Chairman of the Nomination and Remuneration Committee



Lt. Gen. Dr. Prachaya Chalermwat
Independent Director
Chairman of Risk Management Committee



Mr. Chakkrat Parapuntakul
Independent Director
Member of the Audit Committee



Dr. Kritsana Sukboonyasatit
Director
Member of Risk Management Committee
Member of the Nomination and Remuneration Committee



Dr. Anuchit Anuchitanuku
Independent Director
Member of Risk Management Committee



Mr. Arkrapol Pichedvanichok
Independent Director
Member of Risk Management Committee



Ms. Ajarin Pattanapanchai
Independent Director
Member of the Audit Committee
Member of the Nomination and Remuneration Committee

Management



Ms. Jareeporn Jarukornsakul
Group Chief Executive Officer



Mr. Pajongwit Pongsivapai
Chief Operating Officer-Logistics and Industrial Development Business



Mr. Somsak Boonchoyreuengchai
Chief Accounting Officer



Mr. Natthapatt Tanboon-ek
Chief Financial Officer



Mr. Krailuck Asawachatroj
Chief Strategic Officer



Mr. David Richard Nardone
Senior Advisor



Mr. Vivat Jiratikarnsakul
Advisor

Remarks: /1 Shareholder information as of Nov 28, 2022

/2 Major shareholder holds 45.3% of the total outstanding shares while parts of major shareholders shares are hold via UBS AG, Singapore Branch.

WHA Group Customers



Remark: Information as of February 2023

THANK YOU

IR Contact



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