



SMART UTILITIES

ANNUAL REPORT 2020

WHA UTILITIES AND POWER PUBLIC COMPANY LIMITED



YOUR ULTIMATE
SOLUTION PARTNER IN

UTILITIES & POWER

WITH ENVIRONMENT CARE



VISION

To be Asia's leader in utilities and power businesses providing total solutions to partners with good corporate governance as well as environmentally and socially friendly operations.



MISSION

- To develop world class utilities and power solutions fitting customers' needs.
- To vertically integrate solutions in utilities and power businesses and expand other market segment to increase products and services in Thailand and other Southeast Asia Countries (CLMV Countries)
- To continuously develop human resources competencies.
- To nurture an innovative culture in the organization.
- To add value to communities and the environment with good corporate governance and sustainable development strategies.



GOALS

The Company aims to be a leader in integrated utility and power businesses and to operate in compliance with the principles of good corporate governance with responsibility for the community, society and the environment. It also plans to expand its customer base in the segments of utilities and power services, both domestically and in the South East Asia countries particularly Cambodia, Laos, Myanmar and Vietnam (the CLMV countries) and expand to related businesses in order to widen its range of products and services.



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WE INVEST IN **POWER BUSINESS**

WE ARE THE **LEADER**
IN UTILITIES SERVICES FOR THE
INDUSTRIAL ESTATES IN THAILAND







FINANCIAL HIGHLIGHT

(million Baht)

PROFIT AND LOSS	2018	2019	2020
Revenue from sales and services	1,708.3	1,857.2	1,698.0
Cost of sales and services	(1,120.0)	(1,164.4)	(1,198.1)
Gross profit	588.3	692.8	499.8
Share of profit from investments in associates and joint ventures	2,047.4	1,881.1	866.3
Net profit attributable to owners of the parent	2,251.9	2,137.2	812.7
Earnings per share (Baht/share)	0.59	0.56	0.21

(million Baht)

BALANCE SHEET	2018	2019	2020
Total Assets	23,773.3	26,418.7	26,171.6
Total Liabilities	9,724.0	12,859.5	14,014.5
Total Equity	14,049.3	13,559.3	12,157.1

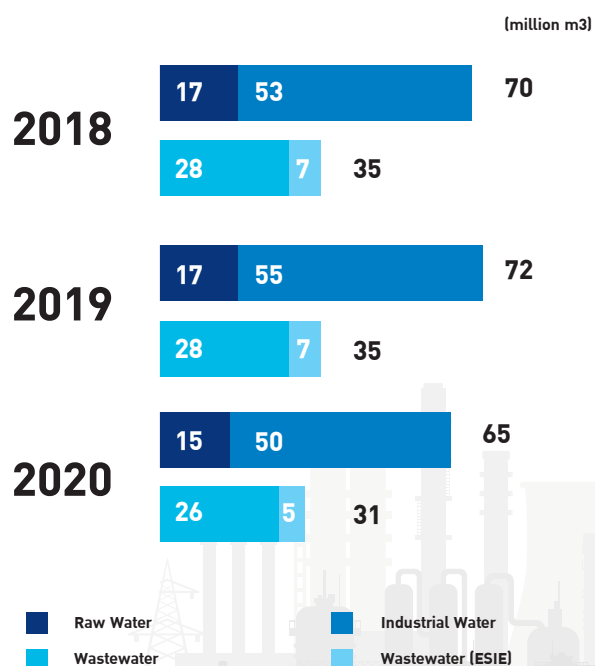
(million Baht)

FINANCIAL RATIO	2018	2019	2020
Gross Profit Margin	34.4%	37.3%	29.4%
Net Profit Margin ¹	57.5%	55.0%	30.7%
Return on Equity ²	16.9%	15.5%	6.3%
Debt/Equity Ratio	0.69x	0.95x	1.15x
Net Interest-bearing Debt/Equity Ratio	0.58x	0.81x	0.91x

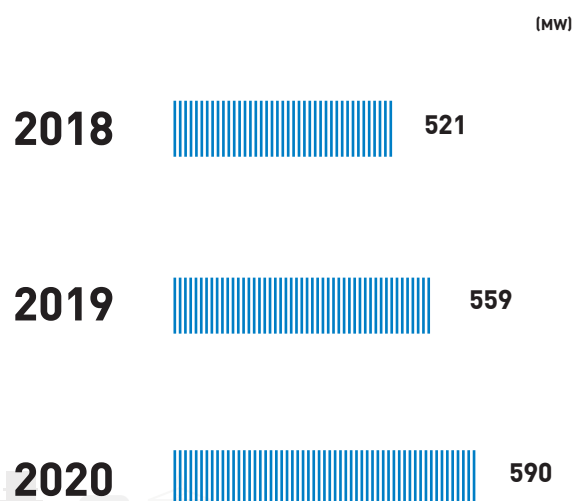
¹ Net profit margin is calculated by dividing the Net Profit attributable to Owners of the Parent by Revenue from Sales and Services and Share of Profit from Investments in Associates and Joint Ventures and other income

² Return on Equity is calculated by dividing the Net Profit attributable to Owners of the Parent by average equity

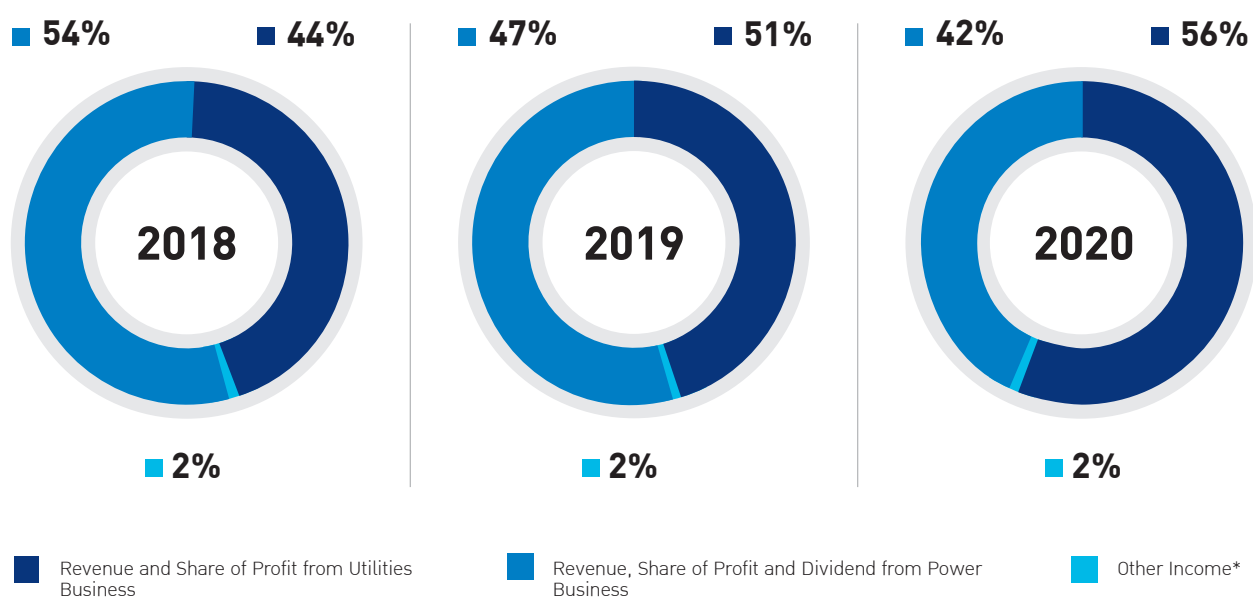
Total Sale & Management Volume



Total Equity MW



Revenue Structure



Note

* Other Income is interest income from loan to Gheco-One in proportion to the shareholding



MESSAGE FROM THE CHAIRMAN OF THE BOARD



The overview of the world economy and Thai economy during the past 2020 were sore due to the impact of the COVID-19 pandemic. However, looking ahead, we believe in witnessing the recovery and great opportunities in the coming 2021. For WHAUP, despite the adverse impact from the COVID-19 pandemic, the Company maintained to run business and generate continual growth. Our power business marked the increase of production capacity to 590 MW based on equity portion, thanks to the growth of solar rooftop business. Meanwhile, the utility business also expanded, contributed by the rise of water sales volume at 114 million cubic meters.

The Company achieved the successful expansion of the power business in the previous year, especially the clean energy business. The Solar business has achieved more power purchase agreements as planned. At the year-end of 2020, the accumulated value of the Solar Power Purchase Agreement reached 51 MW. Furthermore, the Company targets to add up to 300 MW by the year 2023. The Company places the importance of implementing innovation and technologies in business operation, for instance, collaboration with the PEA and technology allies for studying the developing P2P energy trading based on Blockchain technology. At present, the project is included as a part of the ERC Sandbox run by the Energy Regulatory Commission. The Chonburi Clean Energy project (CCE), the waste-to-energy power plant which has begun COD in the end of 2019, not only provides healthy return from investment but also offers a good physical environment to the general public. This project is able to eliminate over 90,000 tons of waste per year or equivalent to reducing 25,000 tons of carbon dioxide.

The utility business in the previous year recorded addition of the wastewater reclamation capacity by 11 million cubic meters per year. Such addition demonstrated effective

water management as well as business growth. The water from the treatment process is converted into demineralized water and premium clarified water for requiring customers. The utilities business in Vietnam has adverse effects from the COVID-19 pandemic. However, the Company considers such a temporary setback. In the long-term overview, Vietnam is a highly potential market.

In addition to the solid determination to run a business, the Company has place importance on the sustainable business operation, taking into consideration all stakeholders, including environmental, social, and corporate governance aspects. In the past year, the Company has been listed in Thailand Sustainability Investment Index (SET THSI) by the Stock Exchange of Thailand.

Finally, on behalf of the Board of Directors of WHA Utilities and Power PCL, I would like to thank you to all shareholders, customers, business allies, the government sector as well as the local communities for your generous support to the Company and the Management Team and employees for your commitment throughout the past 2020.

Ms. Jareeporn Jarukornsakul
Chairman of the Board of Directors







MESSAGE FROM THE CEO



The year 2020 was a significant challenging time where the Company encountered negative impacts, for instance, the draught disaster. The government asked a coordination from private sectors in reducing water utilisation which did affect the water sales volume to our customers in the industrial estate during the first half of the year. After that, the COVID-19 outbreak caused an adverse effect to water and power demand, especially, during the second quarter of the year. However, the Company noted gradual recovery during the third and fourth quarter thanks to our own business continuity plan prepared to carry on business operation amid the great pandemic.

The utility business overview in 2020 - total water sales and management volume grew to 114 million cubic meters despite the adverse impacts from the drought and the COVID-19 outbreak. The growth contributed by revenue recognition of the waterworks business in Vietnam, which the Company has invested from the end of 2019. To resolve the water shortage issue, the Company expanded the production capacity of Wastewater Reclamation Project, in WHA Eastern Industrial Estate and Eastern Seaboard Industrial Estate (Rayong), by 7.4 million cubic meters and resulted in total capacity of 11 million cubic meters per year. The expansion of production capacity not only sustainably minimized the dependence on raw water resources but also added value to the product by converting wastewater into Demineralized water and Premium Clarified water and supplying to customers in the industrial estate.

The energy business in 2020 - the revenue recognition of energy business dropped as a result of less share of profit from GHECO-One coal power plant project due to the reduction of Availability Payment Rate as outlined in the power purchase agreement. However, the solar rooftop project continued to grow. At the year-end of 2020, the Company recorded the increased value of the

power purchase agreement to 51 MW, in which 40 MW has already achieves commercial operation date. Furthermore, the Company has collaborated with allies and agencies such as Provincial Electricity Authority (PEA) to launch a study on energy technology and innovation developments, which included Peer to Peer Energy Trading and Smart Microgrid.

For operation result of the previous year, the Company recorded revenue and normalized share of profit 2,599 million baht, a net profit 813 million baht and normalized net income 764 million baht. The assets as of 31 December 2020 valued 26,172 million baht and Net Interest-Bearing Debt-to-Equity Ratio was 0.91 times.

Finally, on behalf of the WHA Utilities and Power PCL's Management, I would like to express my grateful cognition to the Board of Directors for your support and supervision of the Management Team. My sincere appreciation also goes to all shareholders for your trust in our management throughout these times and to all employees for your effort and dedication in working along the year.

Dr. Nipphon Bundechanan
Chief Executive Officer







BOARD OF DIRECTORS



1. MS. JAREEPORN JARUKORNSAKUL

- Chairman of the Board of Directors
- Chairman of the Executive Committee
- Chairman of the Risk Management Committee
- Nomination and Remuneration Committee member

2. MR. DAVID RICHARD NARDONE

- Director
- Executive Committee member
- Risk Management Committee member

3. MR. VIVAT JIRATIKARNSAKUL

- Director
- Executive Committee member
- Corporate Governance Committee member

4. DR. NIPHON BUNDECHANAN

- Director
- Executive Committee member



**5. MR. WEIDT
NUCHJALEARN**

- Independent Director
- Chairman of the Audit Committee
- Chairman of the Nomination and Remuneration Committee

**6. MR. EKAJAI
TIVUTANOND**

- Independent Director
- Audit Committee member
- Corporate Governance Committee member
- Nomination and Remuneration Committee member

**7. MRS. PUNNEE
WORAWUTHICHONGSATHIT**

- Independent Director
- Audit Committee member
- Chairman of the Corporate Governance Committee

**8. MR. SURATHIAN
CHAKTHRANONT**

- Independent Director
- Risk Management Committee member



BOARD OF DIRECTORS

1

Ms. Jareeporn Jarukornsakul

Chairman of the Board of Directors
Chairman of the Executive Committee
Chairman of the Risk Management Committee
Nomination and Remuneration Committee member

Age : 53 years

Date of Appointment as a Director

- 25 March 2015 and appointed as the Chairman of the Board of Directors on 9 February 2018.

Educational Qualification

- Master of Business Administration, Bangkok University
- Honorary Doctorate (Logistics and Supply Chain Management), Christian University of Thailand
- Bachelor of Science (Public Health), Mahidol University

Training

- Role of Chairman Program (RCP) 46/2020, Thai Institute of Directors (IOD)
- Executive Program in Energy Literacy for a Sustainable Future (Class 9/2018), Thailand Energy Academy (TEA)
- National Defense Course (Class 60/2018), National Defense College
- Corporate Governance for Capital Market Intermediaries (CGI 17/2016), Thai Institute of Directors (IOD)
- Senior Executives on Justice Administration Program (Class 20/2015), National Justice Academy, Office of Judiciary
- Director Accreditation Program (DAP 210/2015), Thai Institute of Directors (IOD)
- Top Executive Program (Class 18/2014), Capital Market Academy (CMA)
- Director Certification Program (DCP 94/2012), Thai Institute of Directors (IOD)

CURRENT POSITION

Other Listed Company

- Chairman of the Board of Directors
WHA Corporation PLC.
- Chairman of the Executive Committee
WHA Corporation PLC.
- Group Chief Executive Officer
WHA Corporation PLC.
- Director
Siam Commercial Bank PCL.
- Member of the Technology Committee
Siam Commercial Bank PCL.
- Member of the Corporate Social Responsibility Committee
Siam Commercial Bank PCL.

Non Listed Company

- Director in 46 Organizations

SHAREHOLDING AS OF 31 DECEMBER 2020

- Own : 73,836,600 shares (1.93%)
- Spouse: None
- Minor children : None

Family relationship among Directors and Management : None

2

Mr. David Richard Nardone

Director
Executive Committee member
Risk Management Committee member

Age : 65 years

Date of Appointment as a Director

- 30 June 2008

Educational Qualification

- Master of Business Administration,
Northeastern University, Boston, U.S.A.

Training

- Director Certification Program (DCP 57/2005),
Thai Institute of Director (IOD)

CURRENT POSITION

Other Listed Company

- Vice Chairman of the Board of Directors
WHA Corporation PLC.
- Executive Committee member
WHA Corporation PLC.

Non Listed Company

- Director in 35 Organizations

SHAREHOLDING AS OF 31 DECEMBER 2020

- Own : None
- Spouse: None
- Minor children : None

Family relationship among Directors and Management : None

3

Mr. Vivat Jiratikarnsakul**Director****Executive Committee member****Corporate Governance Committee member****Age :** 64 years**Date of Appointment as a Director**

- 25 March 2015

Educational Qualification

- Bachelor of Engineering (Sanitary Engineering), Chulalongkorn University

Training

- Anti-Corruption for Executive Program (ACEP 2/2014), Thai Institute of Directors (IOD)
- IOD Luncheon briefing 1/2013: Thailand Economic Outlook 2013
- Director Accreditation Program (DAP 2/2003), Thai Institute of Directors (IOD)
- Director Certification Program (DCP 38/2003), Thai Institute of Directors (IOD)

CURRENT POSITION**Other Listed Company**

- Director
WHA Corporation PLC.
- Executive Committee member
WHA Corporation PLC.

Non Listed Company

- Director in 35 Organizations

SHAREHOLDING AS OF 31 DECEMBER 2020

- Own : None
- Spouse: None
- Minor children : None

Family relationship among Directors and Management : None

4

Dr. Nipon Bundechanan**Director****Executive Committee member****Age :** 49 years**Date of Appointment as a Director**

- 1 March 2020

Educational Qualification

- Doctor of Philosophy Industrial Business Administration, King Mongkut's Institute of Technology Ladkrabang
- Master of Mechanical Engineering, Drexel University, Philadelphia, PA, U.S.A.
- Master of Engineering Management, Drexel University, Philadelphia, PA, U.S.A.
- Bachelor of Mechanical Engineering (Honor), King Mongkut's Institute of Technology Ladkrabang

Training

- Thai Intelligent Investors Program (TIIP 2/2013), Stock Exchange of Thailand
- Successful Formulation & Execution of Strategy (SFE 13/2011), Thai Institute of Directors Association
- Role of the Compensation Committee (RCC 11/2010), Thai Institute of Directors Association
- Financial Statements for Directors (FSD 09/2010), Thai Institute of Directors Association
- Director Certification Program (DCP 120/2009), Thai Institute of Directors Association
- Doctoral Research for Manufacturing Industry Workshop, University of Cambridge (Institute for Manufacturing – IfM)
- Leadership Development Program, University of California Berkeley (Berkley Executive Coaching Institute)
- Strategy and Innovation for Businesses in Asia, Massachusetts Institutes of Technology (Sloan School of Management) / Mahidol University
- Integrated Water Management for High Level Managers, Thai Waterwork Association

CURRENT POSITION**Other Listed Company**

- None

Non Listed Company

- Director in 40 Organizations

SHAREHOLDING AS OF 31 DECEMBER 2020

- Own : None
- Spouse: None
- Minor children : None

Family relationship among Directors and Management : None

Independent Director
Chairman of the Audit Committee
Chairman of the Nomination and Remuneration Committee

Age : 67 years

Date of Appointment as a Director

- 2 December 2015

Educational Qualification

- Master of Business Administration, Thammasat University
- Bachelor of Science (Agricultural Economics), Kasetsart University

Training

- Financial Executive Development Program (Class 14/2016), Thai Institute of Banking and Finance Association
- Director Accreditation Program (DAP SEC/2015), Thai Institute of Directors (IOD)
- Role of the Chairman Program (RCP 31/2013), Thai Institute of Directors (IOD)
- Top Executive Program (Class 18), Capital Market Academy (CMA)
- Top Executive Program in Commerce and Trade: TEPCoT (Class 3/2010), Commerce Academy
- Commercial Credit Skills Assessment, Chulalongkorn University
- Advanced Security Management Program (ASMP Class 9), Thailand National Defence College

CURRENT POSITION

Other Listed Company

- Independent Director/Audit Committee member Micro Leasing PCL.
- Chairman of the Board of Directors/ Independent Director Siamrajathane PCL.
- Independent Director/Chairman of the Audit Committee Thaifoods Group PLC.
- Advisor Dhipaya Insurance PLC.

Non Listed Company

- Director in 6 Organizations

SHAREHOLDING AS OF 31 DECEMBER 2020

- Own : None
- Spouse: None
- Minor children : None

Family relationship among Directors and Management : None

Independent Director
Audit Committee member
Corporate Governance Committee member
Nomination and Remuneration Committee member

Age : 68 years

Date of Appointment as a Director

- 2 December 2015

Educational Qualification

- Master of Laws, Columbia University, New York, U.S.A.
- Bachelor of Laws (First Class Honor), Thammasat University
- Thai Bar Association

Training

- Board Nomination and Compensation Program (BNCP 9/2020), Thai Institute of Directors (IOD)
- Advance Audit Program (AACP 32/2019), Thai Institute of Directors (IOD)
- Director Accreditation Program (DAP 127/2016), Thai Institute of Directors (IOD)

CURRENT POSITION

Other Listed Company

- Independent Director Scan Inter PCL.

Non Listed Company

- Director in 1 Organization

SHAREHOLDING AS OF 31 DECEMBER 2020

- Own : None
- Spouse: None
- Minor children : None

Family relationship among Directors and Management : None

Independent Director
Audit Committee member
Chairman of the Corporate Governance Committee

Age : 68 years

Date of Appointment as a Director

- 2 December 2015

Educational Qualification

- Master of Accountancy, Chulalongkorn University
- Bachelor of Accountancy, Chulalongkorn University

Training

- Certified Public Accountant (CPA), Federation of Accounting Professions
- Certified Professional Internal Auditors (CPIA), The Institute of Internal Auditors of Thailand
- Qualified Internal Auditors (QIA), The Institute of Internal Auditors of Thailand
- Certified Internal Auditor (CIA), The Institute of Internal Auditors (IIA)
- Driving Company Success with IT Governance (ITG 4/2017), Thai Institute of Directors (IOD)
- Ethical Leadership Program (ELP 2/2015), Thai Institute of Directors (IOD)
- Anti-Corruption the Practical Guide (ACPG 10/2014), Thai Institute of Directors (IOD)
- Anti-Corruption for Executive Program (ACEP 10/2014), Thai Institute of Directors (IOD)
- Role of the Nomination & Governance Committee (RNG 1/2011), Thai Institute of Directors (IOD)
- Role of the Chairman Program (RCP 25/2011), Thai Institute of Directors (IOD)
- DCP Refresher Course (RE DCP 2/2009), Thai Institute of Directors (IOD)
- Monitoring Fraud Risk Management (MFM 1/2009), Thai Institute of Directors (IOD)
- Role of the Compensation Committee (RCC 7/2008), Thai Institute of Directors (IOD)
- Chartered Director Class (CDC 7/2008), Thai Institute of Directors (IOD)
- Monitoring the System of Internal Control and Risk Management (MIR 2/2008), Thai Institute of Directors (IOD)
- Monitoring the Internal Audit Function (MIA 1/2007), Thai Institute of Directors (IOD)
- Improve the Quality of Financial Reporting (MFR 5/2007), Thai Institute of Directors (IOD)
- Audit Committee Program (ACP 2/2004), Thai Institute of Directors (IOD)
- Director Accreditation Program (DAP 2/2003), Thai Institute of Directors (IOD)
- Director Certification Program (DCP 38/2003), Thai Institute of Directors (IOD)

CURRENT POSITION

Other Listed Company

- Independent Director/Audit Committee member Saha Pathana Inter-Holding PLC.
- Independent Director/Audit Committee member Thai Wacoal PLC.
- Chairman of the Directors/ Independent Director Mono Next PLC.
- Independent Director / Audit Committee member The Brooker Group PLC.

Non Listed Company

- Director in 5 Organizations

SHAREHOLDING AS OF 31 DECEMBER 2020

- Own : None
- Spouse: None
- Minor children : None

Family relationship among Directors and Management : None

Independent Director
Risk Management Committee member

Age : 68 years

Date of Appointment as a Director

- 25 April 2016 and appointed as an Independent Director on 10 July 2020.

Educational Qualification

- Bachelor of Engineering (Environment), Chulalongkorn University
- Honorary Doctorate (Technology), Shinawatra University

Training

- Director, Accreditation Program (DAP 27/2004), Thai Institute of Director (IOD)

CURRENT POSITION

Other Listed Company

- None

Non Listed Company

- None

SHAREHOLDING AS OF 31 DECEMBER 2020

- Own : None
- Spouse: None
- Minor children : None

Family relationship among Directors and Management : None



DETAIL OF MANAGEMENT AND CORPORATE SECRETARY



1

Dr. Nipphon Bundechanan**Chief Executive Officer****Age :** 49 years**Educational Qualification**

- Doctor of Philosophy Industrial Business Administration, King Mongkut's Institute of Technology Ladkrabang
- Master of Mechanical Engineering, Drexel University, Philadelphia, PA, U.S.A.
- Master of Engineering Management, Drexel University, Philadelphia, PA, U.S.A.
- Bachelor of Mechanical Engineering (Honor), King Mongkut's Institute of Technology Ladkrabang

Training

- Thai Intelligent Investors Program (TIIP 2/2013), Stock Exchange of Thailand
- Successful Formulation & Execution of Strategy (SFE 13/ 2011), Thai Institute of Directors Association
- Role of the Compensation Committee (RCC 11/2010), Thai Institute of Directors Association
- Financial Statements for Directors (FSD 09/2010), Thai Institute of Directors Association
- Director Certification Program (DCP 120/2009), Thai Institute of Directors Association
- Doctoral Research for Manufacturing Industry Workshop, University of Cambridge (Institute for Manufacturing – IfM)
- Leadership Development Program, University of California Berkeley (Berkley Executive Coaching Institute)
- Strategy and Innovation for Businesses in Asia, Massachusetts Institutes of Technology (Sloan School of Management) / Mahidol University
- Integrated Water Management for High Level Managers, Thai Waterwork Association

Shareholding as of 31 December 2020

- Own : None
- Spouse : None
- Minor children : None

Family relationship among Directors and Management : None

2

Mr. Prapon Chinudomsub**Chief Executive Finance Officer****Age :** 42 years**Educational Qualification**

- Master of Business Administration, Thammasat University
- Master of Engineering (Civil Engineering), Chulalongkorn University
- Bachelor of Engineering (Civil Engineering) (2nd class honors), Chulalongkorn University

Training

- Certificate in Accounting and Financial Preparation (CFO's Orientation Course), class 2020, Thailand Securities Institute (TSI)
- Certified Investment and Security Analyst (CISA), Thailand Securities Institute (TSI)
- Certificate in Executive Development Program (EDP), class 2018, Thai Listed Company Association (TLCA)

Shareholding as of 31 December 2020

- Own : None
- Spouse : None
- Minor children : None

Family relationship among Directors and Management : None

3

Mr. Khamhoung Ratsamany**Vice President of Business Operation****Age :** 54 years**Educational Qualification**

- Master of Business Administration, Bangkok University
- Bachelor of Science (Mechanical Engineering), University of Waterloo, Canada

Training

- Safety Officer Certificate, Ministry of Labour
- Certificate, ISO 9001/14001 Lead Auditor, BVQI

Shareholding as of 31 December 2020

- Own : None
- Spouse : None
- Minor children : None

Family relationship among Directors and Management : None

Note : Management refers to the manager or the first four top-ranking executives after the manager level as well as all other 4th ranking equivalent, and accounting or finance executives of department head level and up" in accordance with the Definition from notification of Capital Market Supervisory Board No.GorJor17/2551.

4

Mr. Maka Kornkum**Director of Construction and Engineering****Age :** 39 years**Educational Qualification**

- Master of Engineering Science (Renewable Energy Electrical Power Systems), Curtin University of Technology, Perth, Australia
- Bachelor of Engineering (Metallurgical Engineering), Chulalongkorn University

Training

- Smart Grid, Class 2020, IEEE Thailand section & IEEE Power & Energy Society Series
- Safety Officer Management Level, Class 2020, Safety and Health at work promotion association (Thailand)
- Finance for Non-Financial Executive, Class 2020, CONC THAMMASAT BUSINESS SCHOOL

Shareholding as of 31 December 2020

- Own : None
- Spouse : None
- Minor children : None

Family relationship among Directors and Management : None

5

Mr. Varanon Laosuwan**Director of Utilities Business Development****Age :** 40 years**Educational Qualification**

- Master of Science (Management of Technology) Murray State University, KY, U.S.A.
- Bachelor of Engineering (Environmental Engineering), Chulalongkorn University

Training

- Finance for non-financial Executive certificate (Class 11/2013), CONC Thammasat Business School

Shareholding as of 31 December 2020

- Own : None
- Spouse : None
- Minor children : None

Family relationship among Directors and Management : None

6

Mr. Punrapee Noparumpa**Director of Power Business Development****Age :** 39 years**Educational Qualification**

- Master of Science (Global Market Economics), London School of Economics, University of London, UK
- Bachelor of Economics, London School of Economics, University of London, UK

Training

- Solar Rooftop Power Generation System : Regulation, Design, Installation, Operation and Maintenance 2018, IEEE Thailand
- The Young Executive program 2017, Thailand Energy Academy
- Biomass and Biogas power generation for grid supply, Provincial Authority of Thailand
- Solar Power Generation System: Regulation, Design, Installation, Operation and Maintenance 2017, IEEE Thailand
- Power Generation from Municipal Waste : Regulation, Design, Installation, Operation and Maintenance 2017, IEEE Thailand
- Understanding the Petrochemical Industry & the lurking issues 2010, Petroleum Institute of Thailand
- Gas Engine Based CHP in Thailand 2009, Wartsila Finland Qy
- Natural Gas & Business in its Value Chain 2008, Petroleum Institute of Thailand
- Understanding the Oil Business 2008, Petroleum Institute of Thailand

Shareholding as of 31 December 2020

- Own : None
- Spouse : None
- Minor children : None

Family relationship among Directors and Management : None

7

Mrs. Rattana Shinawatra**Director of Accounting****Age :** 58 years**Educational Qualification**

- Bachelor of Accountancy, Ramkhamhaeng University

Training

- Taxation Law Certificate, Judicial Training Institute
- Business Development Program on MBA Approach, Chulalongkorn University
- Leadership Development Program: Passion for Success 2017, CONC Thammasat Business School

Shareholding as of 31 December 2020

- Own : None
- Spouse : None
- Minor children : None

Family relationship among Directors and Management : None

8

Ms. Nutch Rattanajitbanjong**Corporate Secretary****Age :** 36 years**Educational Qualification**

- Master of Computer Science, Computer and Information Technology (English Program), Chulalongkorn University
- Bachelor of Computer Science, University of the Thai Chamber of Commerce
- IEEE Certificate: Computer Science and Information Technology (The International Conference), Beijing Technology and Business University, Beijing, China

Training

- Step-in Leader 2020, South East Asia Center (SEAC)
- The e3 Leader (Engage – Empower – Execute) 2020, South East Asia Center (SEAC)
- The power of Stories to fuel Innovation 2020, Stanford Center for Professional Development
- Empathize and Prototype 2020, Stanford Center for Professional Development
- Innovation at work: Ideation 2020, Stanford Center for Professional Development
- Corruption Risk & Control Program (CRC 1/2019), Thai Institute of Directors (IOD)
- Company Reporting Program (CRP 22/2018), Thai Institute of Directors (IOD)
- Director Accreditation Program (DAP 107/2014), Thai Institute of Directors (IOD)
- Anti-Corruption: The Practical Guide (ACPG 7/2013), Thai Institute of Directors (IOD)
- Effective Minute Taking (EMT 26/2013), Thai Institute of Directors (IOD)
- Board Reporting Program (BRP 11/2013), Thai Institute of Directors (IOD)
- Company Secretary Program (CSP 54/2013), Thai Institute of Directors (IOD)
- Management Psychology (Class 9/2013), Management and Psychology Institute (MPI)
- The Boss (Class 80/2013), Management and Psychology Institute (MPI)
- Fundamental Practice for Corporate Secretary (FPCS 19/2008), Corporate Secretary Club of Thai Listed Companies Association
- Corporate Secretary Development Program (CSP 17/2008), Thai Listed Companies Association and The Securities Exchange of Thailand

Shareholding as of 31 December 2020

- Own : None
- Spouse : None
- Minor children : None

Family relationship among Directors and Management : None



OVERVIEW OF BUSINESS

OVERVIEW OF BUSINESS

WHA Utilities and Power Public Company Limited (the Company or WHAUP) was established on June 30, 2008. As of 31 December 2020, WHA Industrial Development Public Company Limited (“WHAID”) holds a majority stake of 70.45 percent. The Company’s core business relates to the: (i) utility business, i.e. procurement and distribution of raw water, production and distribution of industrial water, including other specific industrial water such as Demineralized water, and providing wastewater treatment services to operators in industrial estates and

industrial lands; and (ii) power business by operated by itself and through investment in power generation business, both domestically and abroad.

In addition to the exclusivity rights granted by the WHAID Group’s to operate water business, i.e. business relating to procurement, logistic, production and distribution of raw water, process water and wastewater treatment business in its industrial estates in Thailand – containing 10 industrial areas located in Thailand and 1 industrial area in Vietnam,



the Company has also obtained the right of first refusal to invest in the natural gas distribution business and waste to energy business in those industrial estates and industrial lands in Thailand for 50 years, starting from 30 March 2016 (as stated in the Strategic Partnership Agreement). WHAID Group and WHA Corporation Public Company Limited Group (“WHA”) have agreed not to compete with the Company in conducting water business and power business in Thailand, Cambodia, Laos, Myanmar and Vietnam (the CLMV countries) for an indefinite term (as stated in the WHA Industrial Development Non-competition Agreement and the WHA Non-competition Agreement).

In relation to the utility business, the Company and WHA Water Company Limited (a subsidiary in which the Company has a stake of 99.99%) are one of the major utilities service providers to companies in Thailand industrial estates. The Company’s aggregate maximum industrial water production capacity in all industrial estates and industrial lands is 354,776 cubic meters per day, with an aggregate maximum wastewater treatment capacity in all industrial estates of 121,256 cubic meters per day. In 2020, the Company’s and its subsidiaries’ aggregate average distribution quantity of raw water and industrial water in all industrial estates and industrial lands was 64.9 million cubic meters per year representing 177,076 cubic meters per day that the said quantity included the distribution quantity of demineralized water and premium clarified water, which has been distributed since October 2019 and June 2020 respectively. An aggregate average wastewater treatment in all industrial estates and industrial lands was 31.1 million cubic meters per year representing 85,184 cubic meters per day. The Company and its subsidiaries also plan to provide

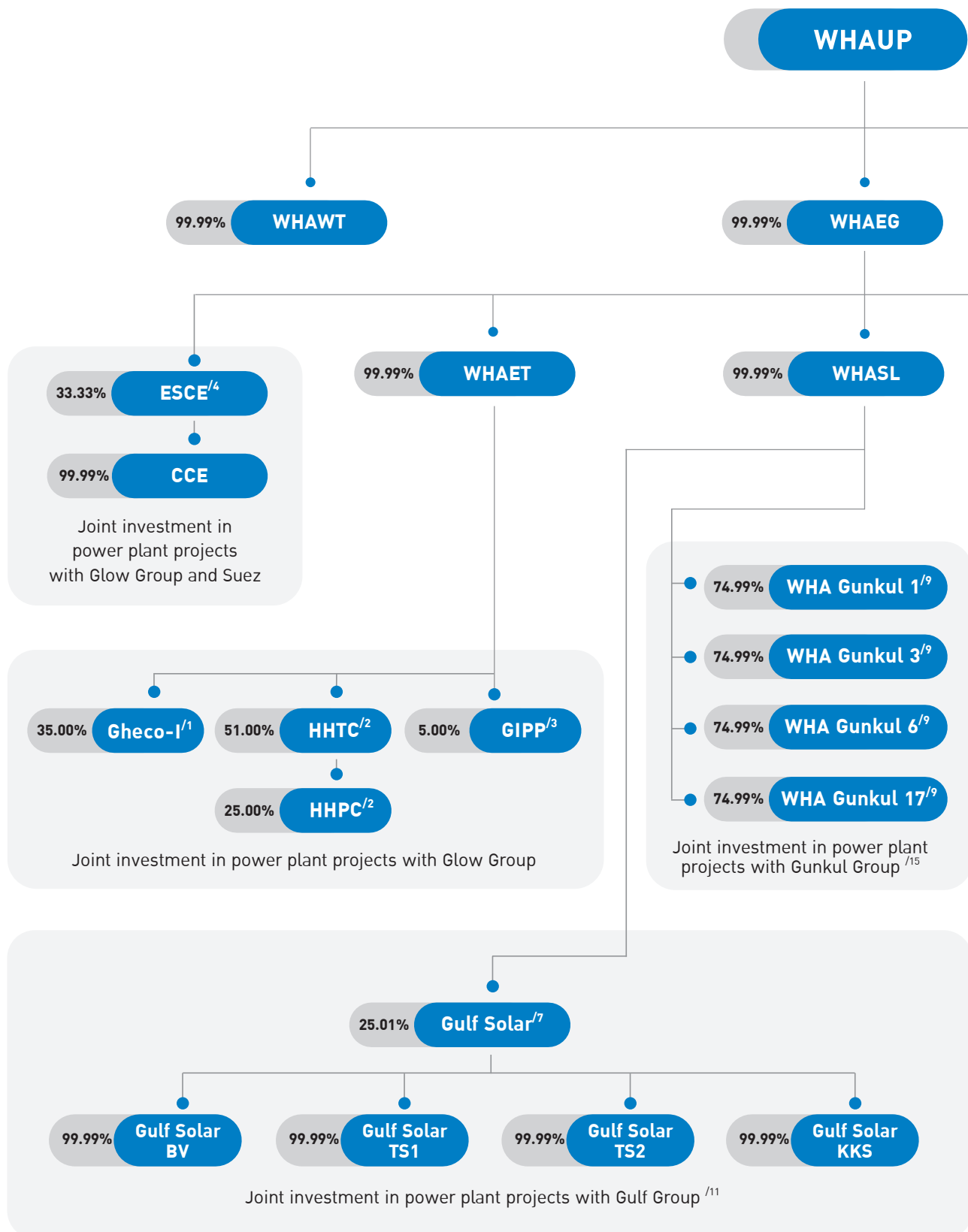
other public utilities to industrial operators both inside and outside industrial estates in the future. In addition, the Company already invest utilities business in international which was Vietnam. The Company holds 47% and 34% stake in two tap water companies, namely Cua Lo Water Supply Co- the producer and distributor of tap water in Nghe An and Duong River Surface Water Plant Co (SDWTP) - a leading tap water producer in Hanoi. Both projects have total capacity according to the shareholding equity of 13,000 and 300,000 cubic meters per day respectively. In 2020, WHAUP had total sales from Vietnam projects according to shareholding equity of 50,739 cubic meters per day or 18.5 million cubic meters per year. The Company has been awarded with ISO 9001:2015 for quality standards and ISO 14001:2015 for environmental standards.

In relation to the power business, WHA Energy Company Limited, a subsidiary in which the Company has a stake of 99.99 percent has jointly invested with leading power operators in Conventional Fuel and Renewable Energy generation businesses, both domestically and abroad. WHAUP also has its own operation and investment in Solar power project. As at 31 December 2020, the Company’s aggregate power generating capacity in proportion to its equity in the commercially operating power plants was 590 MW - including commercially operating solar power plants by itself with 36.9 MW and Solar power plants by itself under construction with 11.4 MW. In addition, the company conducts a natural gas distribution business, through WHA Energy Company Limited’s 35 per cent ownership in a joint venture which owns the WHA Eastern Seaboard NGD 2 Project at WHA ESIE 2 and the WHA Eastern Seaboard NGD 4 Project at WHA ESIE 4 which achieved commercial operation start in 2018 and 2019 respectively.



BUSINESS STRUCTURE

THE COMPANY'S INVESTMENT STRUCTURE AS AT 31 DECEMBER 2020 IS SET OUT IN THE FOLLOWING DIAGRAM:





Note :

- 1/ About 65 percent of total issued and paid-up shares in Gheco-I are held by the Glow Group.
 - 2/ HHTC is a holding company, in which 49 percent of total issued and paid-up shares are held by the Glow Group, which also Holds 55 percent of total issued and paid-up shares in HHPC.
 - 3/ About 95 percent of total issued and paid-up shares in GIPP are held by the Glow Group.
 - 4/ About 66.67 percent of total issued and paid-up shares in ESCE are held by the Glow Group and Suez (South East Asia) Limited.
 - 5/ About 35 and 30 percent of total issued and paid-up shares in Gulf WHA MT are held by the Glow Group and MITG Group respectively.
 - 6/ About 74.99 percent of total issued and paid-up shares in Gulf JP NLL are held by the Gulf JP Group.
 - 7/ About 74.99 percent of total issued and paid-up shares in Gulf Solar are held by the Gulf Group.
 - 8/ About 74.99 percent of total issued and paid-up shares in each of Gulf TS1, Gulf TS2, Gulf TS3, Gulf TS4, Gulf VTP and Gulf NLL2 are held by Gulf MP Group.
 - 9/ About 74.99 percent of total issued and paid-up shares in each of WHA Gunkul 1, 3, 6 and 17 are held by Gunkul Group.
 - 10/ About 74.99 percent of total issued and paid-up shares in BPWHA1 are held by the B.Grimm Power Group.
 - 11/ Gulf Group means Gulf Energy Development Company Limited Public, its subsidiaries and related companies.
 - 12/ Gulf JP Group means Gulf JP Company Limited. which is a joint venture company between Gulf Energy Development Public Company Limited and J Power Company Limited.
 - 13/ Gulf MP Group means Gulf MP Company Limited which is a joint venture company between Gulf Energy Development Public Company Limited and Mitsui Group.
 - 14/ MITG Group means MITG (Thailand) Company Limited which is a joint venture company between Mitsui Company Limited and Tokyo Gas Company Limited.
 - 15/ Gunkul Group means Gunkul Engineering Public Company Limited, its subsidiaries and related companies.
 - 16/ B.Grimm Group means B.Grimm power Public Company Limited, its subsidiaries and related companies.
- Rayong Clean Energy Company Limited (RCE) registered the dissolution of the company on 19 November 2019 and registered the completeness of liquidation on 14 July 2020.
 - Glow Hemaraj Wind Company Limited (GHW) registered the dissolution of the company on 19 November 2019 and registered the completeness of liquidation on 1 June 2020.

KEY CHANGES AND DEVELOPMENTS

JUNE 2008

- The Company was established on 30 June 2008 under the name of Hemaraj Clean Water Company Limited with a registered capital of THB 645 million to produce and distribute industrial water for use in industrial estates owned by WHA Industrial Development Public Company Limited ("WHAID").

MARCH 2011

- WHA Energy Company Limited ("WHAEG"), a subsidiary of the Company, was incorporated on 2 March 2011 under the name of Hemaraj Energy Company Limited with a registered capital of THB100 million and was formed to invest in other companies engaging in power business. The Company holds 99.99 percent of shares in WHA Energy Company Limited.

NOVEMBER 2012

- The Company increased its industrial water production capacity in WHA ESIE from 12,000 cubic meters per day to 30,000 cubic meters per day.

MAY 2013

- The Gas-fired Small Power Producer by Gulf JP NLL Power Plant, a joint venture between WHAEG and Gulf MP Company Limited ("Gulf MP") at shareholding 25.01 percent and 74.99 percent respectively. Gulf JP NLL Power Plant has an installed power capacity of 123 MW, located in WHA RLI which achieved the Commercial Operation Date (COD) on May 2013.

JANUARY 2015

- The Company increased its industrial water production capacity in WHA ESIE 1 from 30,000 cubic meters per day to 54,000 cubic meters per day.

MAY 2016

- The Company increased its registered capital from THB 1,645 million to THB 3,200 million in order to receive all shares transferred of WHAEG.
- The Gas-fired Small Power Producer by Gulf VTP Power Plant, a joint venture between WHAEG and Gulf MP at shareholding 25.01 percent and 74.99 percent respectively. Gulf VTP Power Plant has an installed power capacity of 137 MW, located in ESIE which achieved the Commercial Operation Date (COD) on May 2016.

JULY 2008

- The Company entered into the Right Lease Agreement with WHAID and its subsidiaries to produce and distribute industrial water for use in four industrial estates owned by WHAID, namely WHA CIE 1, WHA EIE, ESIE and WHA ESIE 1 with an aggregate industrial water production capacity of 121,200 cubic meters per day.
- The Company acquired 99.99 percent of shares in WHA Water Company Limited ("WHAWT"). WHAWT has a registered capital of THB100 million and produces and distributes clarified water in WHA EIE having an aggregate clarified water production capacity of 43,200 cubic meters per day and wastewater treatment capacity of 30,000 cubic meters per day.

MARCH 2012

- WHAWT, a subsidiary of the Company, increased its clarified water production capacity in WHA EIE from 43,200 cubic meters per day to 86,400 cubic meters per day.

APRIL 2013

- The Company increased its industrial water production capacity in ESIE from 36,000 cubic meters per day to 48,000 cubic meters per day.

AUGUST 2014

- The Company was assigned from WHAID for the production and distribution of industrial water in WHA CIE 2. Its production capacity is 6,000 cubic meters per day.

MARCH 2016

- On 30 March 2016, the Company and the WHAID Group's signed the Strategic Partnership Agreement and the Right Lease Agreements for the production and distribution of industrial water and the operation of wastewater treatment services in seven current projects namely WHA EIE, WHA CIE 1, WHA CIE 2, WHA ESIE 1, WHA ESIE 2, WHA SIL and WHA RIL. The lease term is 50 years from the signing date.
- The Company increased its registered capital from THB 645 million to THB 1,645 million for payment for the right lease for the production and distribution of industrial water and the operation of wastewater treatment services in seven current industrial estate projects of the WHAID Group's.

JUNE 2016

- WHAEG accepted a transfer of 74.99 percent of each of the total shares of 11 solar rooftop power companies, which are WHA Gunkul 1-6, 8-10, 16 and 17, from WHA Corporation Public Company Limited Group's ("WHA")

JULY 2016

- On 21 July 2016, the Company's shareholders, during extraordinary general meeting No. 3/2016, resolved to approve the following matters: (i) the Company's conversion into a public limited company named WHA Utilities and Power Public Company Limited, (ii) the change in par value of THB 5 per share, and (iii) the capital increase from THB 3,200 million to THB 3,825 million by issuing 125 million ordinary shares with a par value of THB 5 each for an initial public offering. The Company's conversion into a public limited company was registered with the Ministry of Commerce on 10 August 2016.

NOVEMBER 2016

- The Gas-fired Small Power Producer by B.Grimm Power (WHA) 1 Power Plant, a joint venture between WHAEG and B.Grimm Power Public Company Limited ("BPWHA-1") at shareholding 25.01 percent and 74.99 percent respectively. B.Grimm Power (WHA) 1 Power Plant has an installed power capacity of 130 MW, located in WHA CIE 1 which achieved the Commercial Operation Date (COD) on November 2016

DECEMBER 2016

- WHAEG, the Company's subsidiary, has a joint investment with Gulf MP in one SPP, by holding equity of 25.01 in Gulf NLL2 Company Limited having a contracted power generating capacity of 120 MW.

APRIL 2017

- The Company listed shares on the Stock Exchange of Thailand with registered capital of THB 3,825,000,000

MAY 2017

- The Gas-fired Small Power Producer by Gulf VTP Power Plant, a joint venture between WHAEG and Gulf MP at shareholding 25.01 percent and 74.99 percent respectively. Gulf VTP Power Plant has an installed power capacity of 137 MW, located in ESIE which achieved the Commercial Operation Date (COD) on May 2017.

JULY 2017

- The Extraordinary General Meeting on 30 June 2017 approved the changing of par value from 5 Baht to 1 Baht and the company's shares had been traded with the new par value starting from 13 July 2017.
- The Gas-fired Small Power Producer by Gulf TS1 Power Plant, a joint venture between WHAEG and Gulf MP at shareholding 25.01 percent and 74.99 percent respectively. Gulf TS1 Power Plant has an installed power capacity of 134 MW, located in ESIE which achieved the Commercial Operation Date (COD) on July 2017.

AUGUST 2017

- The Company issued THB 4,000 million of bond issuance to refinance existing bank loan to reduce finance cost.

SEPTEMBER 2017

- The Gas-fired Small Power Producer by Gulf TS2 Power Plant, a joint venture between WHAEG and Gulf MP at shareholding 25.01 percent and 74.99 percent respectively. Gulf TS1 Power Plant has an installed power capacity of 134 MW, located in ESIE which achieved the Commercial Operation Date (COD) on September 2017.

OCTOBER 2017

- The Company obtained right to develop the distribution and retail trade of natural gas projects from WHAID.

NOVEMBER 2017

- The Gas-fired Small Power Producer by Gulf TS3 Power Plant, a joint venture between WHAEG and Gulf MP at shareholding 25.01 percent and 74.99 percent respectively. Gulf TS3 Power Plant has an installed power capacity of 130 MW, located in WHA ESIE 1 which achieved the Commercial Operation Date (COD) on November 2017.

MAY 2018

- WHAUP Nghe An Joint Stock Company ("WUPNA"), the subsidiary of WHAUP was established since 2 May 2018 with the registered capital of 29,950,800,000 VND to invest in utilities business.
- WUPNA entered into the Right lease and Land sublease agreement with WHA Industrial Nghe An Joint Stock Company on 28 May 2018, WUPNA shall invest and operate in the water utilities in WHA Industrial Zone1, Nghe An in Vietnam.

AUGUST 2018

- The Company was established WHA Solar Company Limited ("WHASL") under WHAEG which is a subsidiary of the Company to carry out solar power business with a registered capital of THB 200 million

DECEMBER 2018

- WHA Eastern Seaboard NGD 2, a joint venture company between Gulf Energy Development Public Company Limited and MITG (Thailand) Limited. In order to conduct the distribution and retail trade of natural gas to Industrial customers in WHA EISE 2 achieved the Commercial Operation Date (COD) on December 2018

APRIL 2019

- WUPNA acquired 47.3 percent of total shares in Cua Lo Water Supply Joint Stock Company ("Cua Lo") the water operation in Nghe An with the total capacity 4,745,000 cubic meters per year.

JANUARY 2018

- The Gas-fired Small Power Producer by Gulf TS4 Power Plant, a joint venture between WHAEG and Gulf MP at shareholding 25.01 percent and 74.99 percent respectively. Gulf TS4 Power Plant has an installed power capacity of 130 MW, located in WHA ESIE 1 which achieved the Commercial Operation Date (COD) on January 2018
- The Company was assigned from WHAID for the production and distribution of industrial water in WHA ESIE 4. Its production capacity is 3,600 cubic meters per day.

JUNE 2018

- The Company issued 5,000 million of bond issuance. 4,000 million of bond issuance to refinance existing bank loan to reduce finance cost and 1,000 million of bond issuance for working capital for operation and support the development of projects in the future.

NOVEMBER 2018

- WHAUP entered into the 50 years Right lease agreement with WHA Industrial Estate Rayong Company Limited. (the joint venture company between WHAID. and IRPC) on 28 November 2018 to invest and operate in the water utilities in WHA Industrial Estate Rayong.

JANUARY 2019

- Gulf NLL 2 Power Plant Project is a Small Power Producer (SPP) project, which is a joint venture between WHAEG and Gulf MP in the proportion of 25.01% and 74.99% respectively, with the installed capacity of 127 MW. It is located at WHA RIL Industrial Estate, which its commercial operation date was in January 2019.

JUNE 2019

- WHA Project Eastern Seaboard NGD 4 Project is a joint venture between Gulf Energy Development (Public) Company Limited and MITG (Thailand) Company Limited for operating the business of natural gas distribution through pipelines to industrial customers in the WHA ESIE 4. Its commercial operation date was in June 2019.

AUGUST 2019

- WHAUP (SG) 2DR PTE. LTD. ("WUPSD"), the subsidiary of WHAUP entered into the Share Purchase Agreement to buy share of Duong River Surface Waterplant Joint Stock Company ("SDWTP"), WUPSD acquired 34 percent of total shares of SDWTP.

OCTOBER 2019

- WHAUT, a subsidiary of WHAUP has successfully commercial operation date (COD) of the Demineralized Water plant to sell Demin water to Global Power Synergy Public Company Limited. ("GPSC") under the water purchase agreement of 1.5 million cubic meters per year for 15 years.

NOVEMBER 2019

- CCE, a joint venture company established by Glow Group, SUEZ and the Company, an 8.63 MW industrial-waste-to-energy power plant, located in the WHA Chonburi Industrial Estate, Chonburi Province with a contracted capacity of 6.90 MW under a Power Purchase Agreement (PPA) with the Provincial Electricity Authority (PEA), has achieved commercial operation start in November 2019

DECEMBER 2019

- WHAUP enter into the 30 years land lease agreement with PTTPLC to invest and operate the wastewater treatment plant in EECi (Wangchan Valley) with initial capacity 400,000 cubic meters per years.

JANUARY 2020

- The Company has executed an MOU with the Provincial Electricity Authority (PEA) for joint participation of the ERC sandbox programme and co-development of smart energy system in WHA industrial estates

FEBRUARY 2020

- The Company issued THB 3,000 million senior unsecured debentures to repay liabilities and to finance working capital expenditures

MAY 2020

- WHAUP has signed the water purchase agreement for Premium Clarified Water with Gulf VTP Company Limited, Gulf TS1 Company Limited and Gulf Ts2 Company Limited for the capacity of 1.9 million cubic meters per year for 15 years.

JULY 2020

- Premium Clarified Water for GULF began COD at full capacity of 5,200 cubic meters at ESIE.

NOVEMBER 2020

- WHAUT, a subsidiary of WHAUP has signed the water purchase agreement for Demineralized Water with Global Power Synergy Public Company Limited. ("GPSC") (phase 2) for the capacity of 1.6 million cubic meters per year for 15 years.

DECEMBER 2020

- The Company has executed an MOU with PTT PLC and Sertis Co., Ltd for the joint development of renewable energy trading platform (Smart Energy Platform) in WHA industrial estates.
- The Wastewater Reclamation Project, the project in which the Company has expanded the investment, at WHA EIE with total production capacity of 25,000 cubic meters per day completed the construction.

Utility business

Nature of products and services

The Company and its subsidiaries engage in the utility business by providing utility services mainly to operators in industrial estates and industrial lands. Utilities services provided are fundamental services for industrial estates and industrial lands. The nature of the Company's products and services is detailed as follows:

Procurement and distribution of raw water

The WHAUP Group procures and distributes raw water to industrial operators in WHA Industrial Development Public Company Limited Group ("WHAID") industrial areas. The Company offers raw water as an alternative of water consumption for industrial operators. The WHAUP Group's core customers are operators in petrochemical industry steel industry, IPPs and SPPs.

Production and distribution of industrial water

The WHAUP Group produces and distributes industrial water to industrial operations. This product can be divided into 4 categories:

- (1) **Process Water:** Process water is industrial water that has undergone the processes of sedimentation, filtration and chlorination for disinfection. The final product is used in the production process in industrial plants in general. The WHAUP Group's core customers include the automotive industry (e.g. automotive assembly plants and auto part manufacturing plants), food industry and electronics industry.
- (2) **Clarified Water:** Clarified water is produced through the processes of sedimentation, filtration and chlorination. Lower quantity and concentration of chlorine is used in chlorination process for clarified

water, compared to process water, so that a very small amount of chlorine is left in the clarified water product when it is distributed to customers. This product is in great demand for customers in heavy industries such as petrochemical, given that chlorine may cause corrosion in machinery and equipment used in those industries.

- (3) **Premium Clarified Water:** Premium Clarified water is the clarified water produced using the membrane technology (Reverse Osmosis) and has higher quality compare to the clarified water. WHAUP has started and became the first one to sell the Premium Clarified water in 2020 at ESIE.
- (4) **Demineralized Water:** Demineralized water is the highly pure water used in some industries such as Power plant, Petrochemical, Electronics etc.

Wastewater treatment

The WHAUP Group provides central wastewater treatment ponds management services of industrial estates. Industrial plant releases wastewater together to ensure that the wastewater is treated in accordance with applicable standards imposed by the Ministry of Industry before being discharged into natural sources of water or being recycled into the production process.

Products and services

Industrial water production plants and wastewater treatment facilities

Currently, the Company and its subsidiaries have 17 industrial water production plants and 12 wastewater treatment facilities located in 11 industrial estates and industrial lands operated by the WHAID Group including 10 industrial zones in Thailand and 1 industrial zone in Vietnam and outside WHAID Group industrial estates and industrial land 1 industrial zone. The aggregate maximum industrial water production capacity is 366,776 cubic meters per day and the aggregate maximum wastewater treatment capacity is 132,456 cubic meters per day.



The summary of Industrial water production capacity and Wastewater treatment capacity.

Industrial estates and industrial lands	Location	Industrial water production capacity ^{1/} (cubic meters/day)	Wastewater treatment capacity ^{1/} (cubic meters/day)
WHA Eastern Industrial Estate (Map Ta Phut) ["WHA EIE"]	Map Ta Phut, Rayong	159,400 ^{2/}	60,000
Eastern Seaboard Industrial Estate (Rayong) ["ESIE"]	Pluakdaeng, Rayong	53,200 ^{3/}	- ^{4/}
WHA Eastern Seaboard Industrial Estate 1 ["WHA ESIE 1"]	Pluakdaeng, Rayong	54,000	18,200
WHA Chonburi Industrial Estate 1 ["WHA CIE 1"]	Sriracha, Chonburi	18,000	8,400
WHA Chonburi Industrial Estate 2 ["WHA CIE 2"]	Sriracha, Chonburi	6,000	1,600
WHA Saraburi Industrial Land ["WHA SIL"]	Nongkae, Saraburi	30,576	14,976
WHA Rayong Industrial Land ["WHA RIL"]	Bankhai, Rayong	14,400	12,480
WHA Eastern Seaboard Industrial Estate 2 ["WHA ESIE 2"]	Pluakdaeng, Rayong	12,000	10,000
WHA Eastern Seaboard Industrial Estate 4 ["WHA ESIE 4"]	Pluakdaeng, Rayong	3,600	1,500
WHA Eastern Seaboard Industrial Estate 3 ["WHA ESIE 3"]	Banbung / NongYai, Rayong	3,600	1,500
WHA Industrial Zone 1 Nghe An	Nghe An, Vietnam	12,000	3,200
Eastern Economic Corridor of Innovation : EECi	Wangchan, Rayong	-	600
Total		366,776	132,456

Notes

^{1/} Most of the industrial water production plants and wastewater treatment plants in the above table are owned by the WHAID Group. On 30 March 2016, the Company and the WHAID Group entered into the Right Lease Agreement, which allows the Company to use those facilities to conduct its business for 50 years from the signing date.

^{2/} Demineralized Water production plant and Wastewater Reclamation plant with total capacity of 12,000 and 25,000 cubic meters per day.

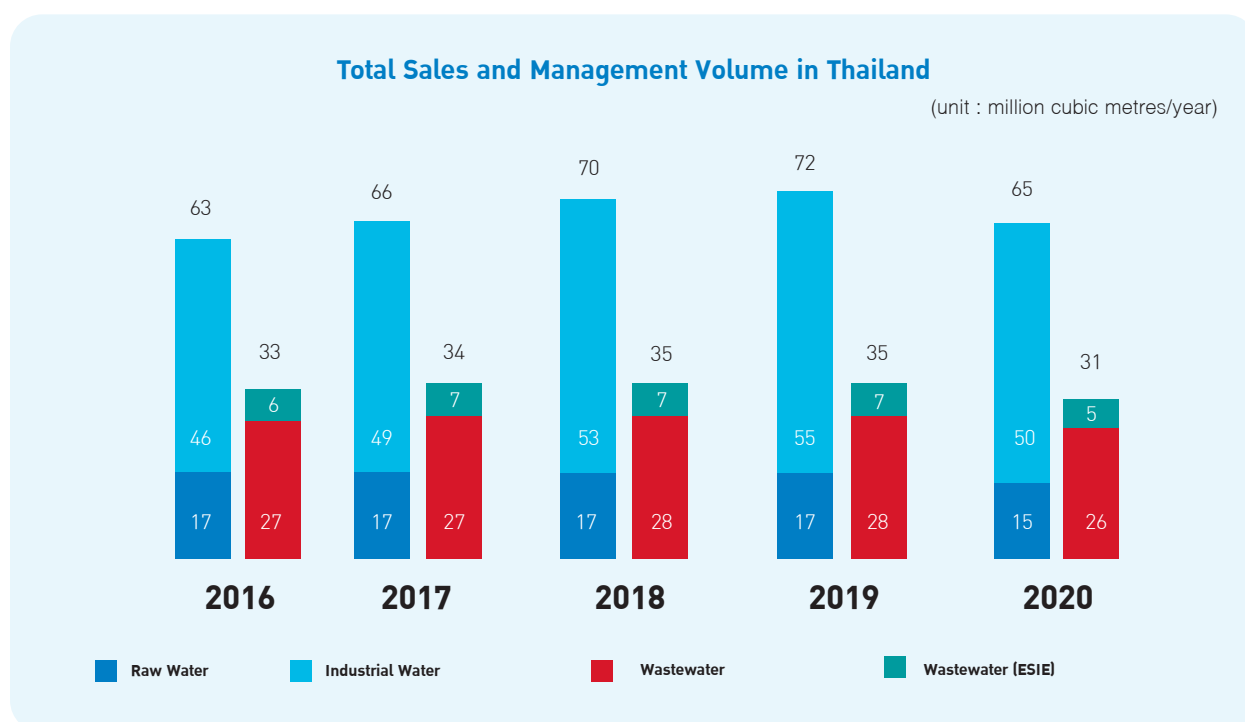
^{3/} On 1 July 2008, the Company and Eastern Seaboard Industrial Estate (Rayong) Company Limited entered into the Right Lease Agreement for the operation and distribution of industrial water in ESIE, which has a term of 25 years ending on 30 June 2033.

^{4/} The Company has not leased the right to conduct wastewater treatment in ESIE (Rayong). However, the Company provides wastewater management services in ESIE (Rayong) having wastewater treatment capacity of 32,000 cubic meters per day.

The operation and distribution of industrial water in ESIE (Rayong) is a joint investment and business arrangement agreed between WHAID and Siam Food Public Company Limited since 1994; there is no amendment in any agreement between the parties.

In addition to the procurement of raw water, operation and distribution of industrial water and provision of wastewater treatment services, the Company also provides utility

management service. The Company conducts wastewater management service in ESIE with wastewater treatment capacity of 32,000 cubic meters per day and utility management service in WHA LP 1, which are operation and distribution of industrial water having capacity of 120 cubic meters per day and wastewater treatment services. The Company earns service fee on a cost-plus basis for the services provided to the two aforementioned areas.



Regarding domestic utilities sales and management, in 2020 the industrial water production quantity in which the Company takes a lease right from WHAID Group was 50 million cubic meters, a 9% decrease from 2019.

The wastewater treatment quantity in all industrial estates in which the Company takes the right to operate from WHAID Group was 31 million cubic meters, a 11% decrease from 2019.

The raw water procurement and distribution quantity in areas of WHAID Group was 15 million cubic meters, a 12% decrease from 2019.

In addition to domestic utilities operation, the Company expanded operation in 2019 both by providing raw water services to WHA's industrial areas and investing in two tap water companies.

WHAUP provided water sales and wastewater treatment services to customers in WHA Industrial Zone 1 — Nghe An in 2019, WHAUP has production capacity of 12,000 cubic meters per day and total wastewater management capacity of 3,200 cubic meters per day.

Besides, the Company holds 47% and 34% stake in two tap water companies, namely Cua Lo Water Supply Co- the producer and distributor of tap water in Nghe An and Duong River Surface Water Plant Co (SDWTP) - a leading tap water producer in Hanoi. Both projects have total capacity according to the shareholding equity of 13,000 and 300,000 cubic meters per day. In 2020, WHAUP had total sales from Vietnam projects according to shareholding equity of 50,739 cubic meters per day or 19 million cubic meters per year.

Total Sales Volume in Vietnam according to Shareholding Equity

(unit : million cubic metres/year)



The Company has a policy to adequately provide utility services to meet an increasing demand of customers and the expansion of industrial areas where the Company operates in. If the customer demand or the expansion of industrial areas reaches of 70 percent of its production capacity or of its storage capacity of the system, which is also in line with the IEAT's criteria, the Company will consider increasing its service capacities by either expanding the current production capacity at its existing plants or establishing new facilities to ensure its adequate services.

Marketing strategies

In conducting utility business, the Company and its subsidiaries pursue the following key marketing strategies:

1. Continuous expansion of utilities services in tandem with the new WHAID's Industrial Estates

WHAUP will continue to expand its utilities facilities in the new WHAID's industrial estates both in Thailand and in regional countries in order to provide industrial water distribution and wastewater treatment ponds management services to industrial customers as well as introduce other water solutions to satisfy the needs of customers in term of operation management and financial.

2. Proactive in expanding utilities business outside WHAID's industrial estates

WHAUP aims to capture business opportunities from the increasing demand of raw water, industrial water and

wastewater management in both industrial and non-industrial markets particularly in the EEC area. The company is developing business alliances with other industrial estate developers to expand utilities business in non-WHA industrial estates by leveraging on its expertise and experience in utilities business, the ability to control cost as well as its well understanding of industrial customers' need. Focus area for non-WHAID is the Value-added products such as Demineralized Water and Premium Clarified Water.

For non-industrial market, the company plans to build up strong relationship with local authorities as well as communities to develop potential collaborations on utilities distribution and management services to serve growing water consumptions.

3. Introduction of new solutions, innovation of utilities business to the market

In order to satisfy various and sophisticated needs of industrial customers, WHAUP targets to offer a more variety of products to customers with a focus on membrane technology and reclamation concept adoption in creating new types of industrial water such as Recycled Water/Reclamation Water, Demineralized Water, Desalination System, Wastewater Pre-treatment, etc. These new solutions or innovations will help reduce raw water cost and offer alternative raw water sources which will not only to serve existing customers but will also help create new customer base.

4. Expansion to CLMV, particularly in Vietnam as the highest potential market

The company expanded its utilities business to regional countries, especially to the countries with high utilities consumption, so it targets on CLMV countries especially Vietnam which is high potential country since the number of populations is growing, the economic growth is strong leading to the increasing manufacturing activities. Currently, WHAUP has started operate Utilities business in Vietnam by establishing a subsidiary to operate since May 2018. The Company also invested in 2 water supply companies in Vietnam in 2019. In addition, the Company also had business partners which have potential to seek for investment opportunities in the water business.

Industry condition and competition Overview of industrial condition for the use of water in Thailand

Thailand is regarded as one of the consumer countries that consume the largest amount of water in Southeast Asia. The purposes of water consumption can be divided into 2 main groups, which are (1) household consumption, such as water utilization for consumption and tourism, and (2) industrial consumption, such as industrial factories. However, according to the master plan on water resources management prepared by the Water Resources Policy and Management Committee, Department of Water Resources, it was reported that, regarding water utilization for consumption and tourism in 2015, there was the demand of water for consumption of 4,783 million cubic meters. In 2037, the water demand is expected to be 5,991 million cubic meters. Regarding the water utilization for industry in 2015, the demand of the industrial sector was 1,913 million cubic meters. It is estimated that the water demand in 2037 will be 3,488 million cubic meters in the main area where factories and industrial groups are located, namely Bangkok and nearby provinces, including areas in the eastern region which are the main industrial areas of the country. In other regions, the majority of industries are ongoing industries from the agriculture and production sectors for the local consumption.

Source

20-Year Master Plan on Water Resources Management (2018-2037)

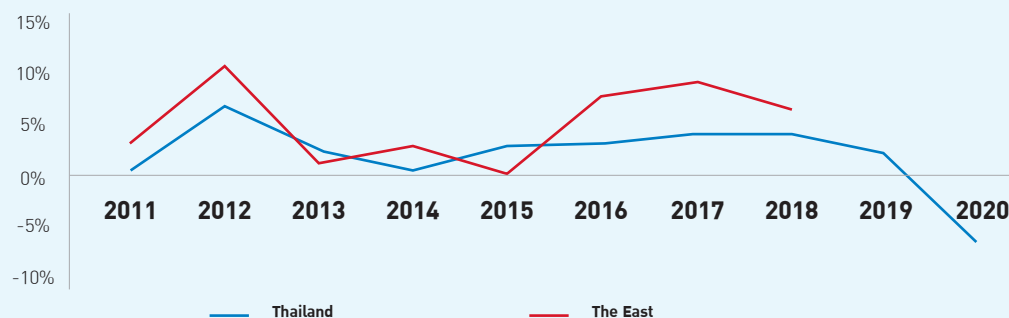
Industry condition for water consumption in the industrial sector

The industrial sector in Thailand faced a slowdown trend because of global economic slowdown and the COVID-19 pandemic, all of which adversely affect business operation and production levels across all industries. However, after the situation of COVID-19 has eased as well as the vaccines against COVID-19 has developed, the industrial sectors has gradually recovered in the second half of 2019, especially the economy of the United States and China, key trading partners of Thailand, resulting in the improvements in Thailand's exports sector. In addition, the Government announced a policy to develop the Eastern Economic Corridor (EEC) to promote investment in the eastern seaboard area, income from which accounted for 20% of GDP, and to improve logistics system in the same area, particularly in Laem Chabang Port and Maptaphut Industrial port and so on. The aim is to develop Laem Chabang Port, Maptaphud port and Utapao international Airport into a hub of transportation to connect with other ASEAN countries. Despite the slowdown of economic and business sectors especially industrial sector in 2020 as a consequence of the drought and the pandemic, the Company still see an opportunity in production of value added water and wastewater reclamation in order to be an alternative use for and answer the demand from industrial customers.

According to the Ministry of Finance forecast, Thailand's GDP is forecasted to grow by approximately 2.5%-3.5% in 2021 (Based on data as of March 2021)

During the past five years, the economic growth in the eastern part of Thailand (in which the Company is conducting the business) has surpassed the country's overall economic growth because it is an industrial region which benefited from the growth in domestic consumption and exports. In the past five years (2013-2017), this region had an average economic growth rate of 5.7% per annum, compared to the country's average growth rate of 3.2% per annum during the same period. In 2018, the government has expedite to be the investment and operation in the EEC area to be concrete as proven from a number of the projects that have been approved and the private has participated in the investment in the past. The investors to have confidence in Thailand and especially the EEC area.

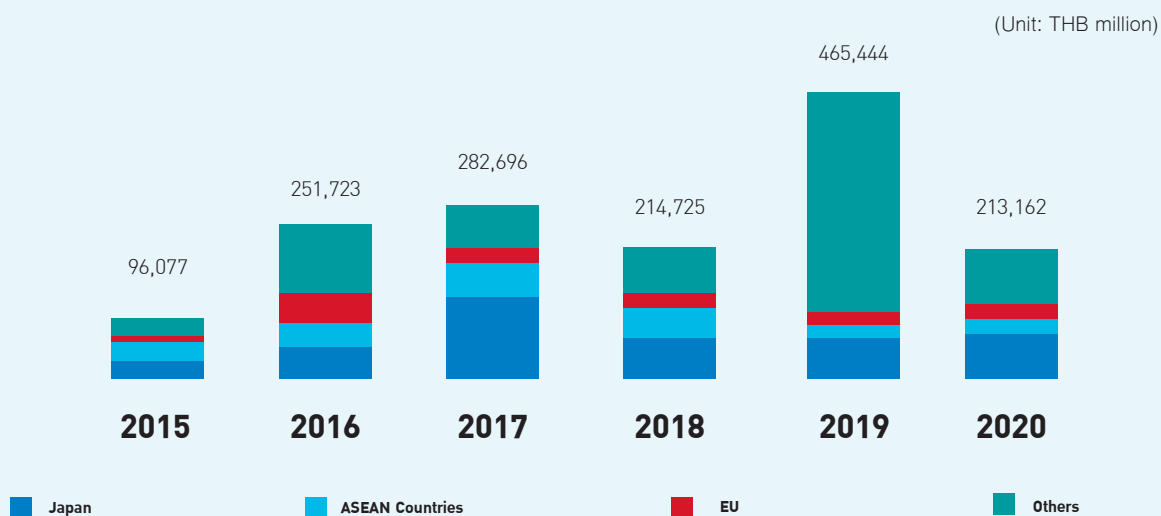
GDP growth overall and in the eastern part of Thailand



Source: Office of the National Economic and Social Development Council.

Regarding the for investment promotion of foreign countries statistics in 2020, 907 projects were applied to request applying for investment promotion. The value of investment was 506,230 million Baht. By comparing with the 2018 Statistic, the number of projects increased by 2% and the value decreased by 7%.

Foreign direct investment (FDI)



Source: The Bank of Thailand

Note: The 2019 figure is the projected number during January to November

In 2020, the aggregate value of investment projects based on the applications submitted to the BOI was THB 481.1 billion, decreasing by 36.4% from 2019.

Applications for BOI investment promotional privileges mainly came from industrial operators in Rayong and

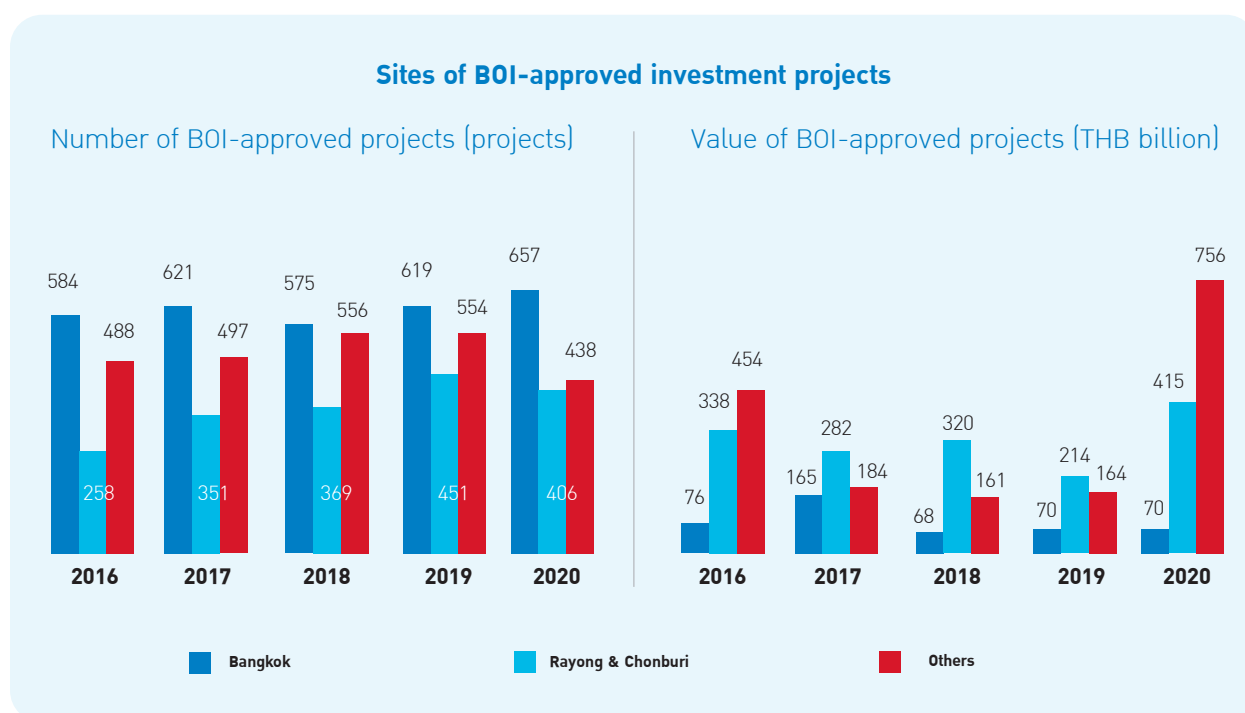
Chonburi provinces, which accounted for 27.8 percent of total submitted applications and 54.9 percent. of the aggregate value of investment projects in 2020. That was due to Rayong and Chonburi are the strongholds of petrochemical and automotive businesses, which are the major industries in Thailand.

However, the approved projects which granted the BOI privileges in 2020 was 1,501 projects. The aggregate value of investment was THB 361.4 million, which accounted for 75.1 of total submitted application.

BOI-approved investment projects

BOI-approved applications	2016	2017	2018	2019	2020
Number of projects	1,732	1,330	1,469	1,500	1,501
Project value of submitted applications (THB billion)	867.5	631.1	549.5	447.4	361.4

Source: Office of the Board of Investment



Source: The Office of the Board of Investment

Power Business

Nature of products or services

The WHAUP Group conducts power business itself or by holding equity in other power generating and distribution companies, both domestically and abroad. The 51 commercially operating power plants in which the WHAUP Group invested have an aggregate installed power generating capacity of around 2,619 MW, or equal to a capacity in proportion to equity of around 590 MW – including Solar

project with capacity of 36.9 MW and Solar project under construction with capacity of 11.4 MW. Natural Gas Distribution Business, the 2 commercially operating power plants in which the WHAUP Group invested have the distribution capacity of 3,000,000 million BTU per year or equal to a capacity in proportion to equity of 1,050,000 million BTU per year.

This table summarizes the power plant projects.

Power plant	Location	Type of power	Category of Plant	Equity holding (percent.)	Installed power generating capacity			Capacity in proportion to equity		Commercial Operation Date
1) Information about the commercially operating power plants in which the WHAUP Group has investment										
Joint venture with the Glow Group										
Gheco-I	Map Ta Phut Industrial Estate	Coal	IPP	35.00%	Power	660	MW	231	MW	August 2012
Glow IPP	WHA CIE 1	Gas-fired cogeneration	IPP	5.00%	Power	713	MW	36	MW	January 2003
Houay Ho Power	Lao People's Democratic Republic	Hydro power	IPP	12.75%	Power	152	MW	19	MW	September 1999
Joint venture with the Gulf Group										
Gulf JP NLL	WHA RIL	Gas-fired cogeneration	SPP	25.01%	Power	123	MW	31	MW	May 2013
					Steam	8	TPH	2	TPH	
					Chilled water	4,600	RT	1,150	RT	
Gulf Solar KKS	WHA LP1	Solar power	VSPP	25.01%	Power	0.25	MW	0.06	MW	December 2014
Gulf Solar BV	WHA CIE	Solar power	VSPP	25.01%	Power	0.13	MW	0.03	MW	June 2014
Gulf Solar TS1	WHA ESIE 1	Solar power	VSPP	25.01%	Power	0.13	MW	0.03	MW	August 2014
Gulf Solar TS2	ESIE	Solar power	VSPP	25.01%	Power	0.09	MW	0.02	MW	January 2015
Joint venture with the Gunkul Group										
WHA Gunkul Green Solar Roof 17	WHA Mega Logistics Centre, Wangnoi 61, Ayutthaya	Solar power	VSPP	74.99%	Power	1.00	MW	0.73	MW	July 2014

Power plant	Location	Type of power	Category of Plant	Equity holding (percent.)	Installed power generating capacity			Capacity in proportion to equity		Commercial Operation Date
WHA Gunkul Green Solar Roof 3	WHA Mega Logistics Centre, Bangna-Trad KM.18	Solar power	VSPP	74.99%	Power	0.83	MW	0.62	MW	April 2014
WHA Gunkul Green Solar Roof 6	WHA Mega Logistics Centre, Bangna-Trad KM.18	Solar power	VSPP	74.99%	Power	0.83	MW	0.62	MW	April 2014
WHA Gunkul Green Solar Roof 1	WHA Mega Logistics Centre, Bangna-Trad KM.18	Solar power	VSPP	74.99%	Power	0.64	MW	0.48	MW	April 2014
Joint venture in power plant projects with B.Grimm Power Group										
BPWHA-1	WHA CIE 1	Gas-fired cogeneration	SPP	25.01%	Power	130	MW	33	MW	November 2016
					Steam	30	TPH	8	TPH	
Joint venture with Gulf MP Company Limited										
Gulf VTP	ESIE	Gas-fired cogeneration	SPP	25.01%	Power	137	MW	34	MW	May 2017
					Steam	20	TPH	5	TPH	
Gulf TS1	ESIE	Gas-fired cogeneration	SPP	25.01%	Power	134	MW	34	MW	June 2017
					Steam	30	TPH	8	TPH	
Gulf TS2	ESIE	Gas-fired cogeneration	SPP	25.01%	Power	134	MW	34	MW	September 2017
					Steam	30	TPH	8	TPH	
Gulf TS3	WHA ESIE 1	Gas-fired cogeneration	SPP	25.01%	Power	130	MW	32	MW	November 2017
					Steam	25	TPH	6	TPH	
Gulf TS4	WHA ESIE 1	Gas-fired cogeneration	SPP	25.01%	Power	130	MW	32	MW	January 2018
					Steam	25	TPH	6	TPH	
Gulf NLL 2	WHA RIL	Gas-fired cogeneration	SPP	25.01%	Power	127	MW	32	MW	January 2019
					Steam	10	TPH	3	TPH	

Power plant	Location	Type of power	Category of Plant	Equity holding (percent.)	Installed power generating capacity			Capacity in proportion to equity		Commercial Operation Date
Joint venture with GLOW and SUEZ										
CCE	WHA CIE	Waste-to-Energy	VSPP	33.33%	Power	8.6	MW	2.9	MW	November 2019
2) Information about the commercially operating power plants by WHAUP Group (Sole Proprietorship)										
Solar power plants	-	Solar Power	Private PPA	100%	Power	36.9	MW	36.9	MW	May 2018-December 2019
Total [Combined 1) and 2)] [Consisted of : Commercially operating power plants in terms of JV and WHAUP sole proprietorship]					Power	2,619	MW	590	MW	
					Steam	148	TPH	38	TPH	
					Chilled water	4,600	RT	1,150	RT	
3) Information about the power plants under construction ran by WHAUP Group (Sole Proprietorship)										
Solar power plants	-	Solar Power	Private PPA	100%	Power	11.4	MW	11.4	MW	Quarter 1/ 2021 – Quarter 3 2021
Total					Power	11.4	MW	11.4	MW	

Commercially operating power plants in which the WHAUP Group has investment

Gheco-I Company Limited (Gheco-I)

Gheco-I Power Plant is a coal-fired power plant in Map Ta Phut Industrial Estate, Rayong province. This power plant has a installed power generating capacity of 660MW under an IPP power purchase agreement with EGAT. Total electricity generated from this power plant is sold to EGAT for 25 years starting from the COD in August 2012.

The Company holds equity in Gheco-I Power Plant through WHA Energy 2 Company Limited, a subsidiary in which the Company has a stake of 99.99 percent. WHA Energy 2 Company Limited holds 35 percent of total issued and paid-up shares in Gheco-I Power Plant. The remaining 65 percent of its total capital is held by the Glow Group.

Glow IPP Company Limited (Glow IPP)

Glow IPP Power Plant is a gas-fired power plant in WHA CIE 1, Chonburi province. This power plant has a installed power generating capacity of 713MW under an IPP power

purchase agreement with EGAT. Total electricity generated from this power plant is sold to EGAT for 25 years starting from the COD in January 2003.

WHA Energy 2 Company Limited, a subsidiary in which the Company has a stake of 99.99 percent, holds 5 percent of total issued and paid-up shares in Glow IPP. The remaining 95 percent of total capital in Glow IPP is held by the Glow Group.

Houay Ho Power Company Limited (HHPC)

HHPC, a company registered in Lao People's Democratic Republic, was established with the objectives to own and operate a hydro power plant, Houay Ho, in Attapeu province in the southern part of Laos. Houay Ho Power Plant has a installed power generating capacity of 152 MW. HHPC has obtained a 30-year concession on a build-operate-transfer basis from the Government of Laos. This

power plant became commercially operating in September 1999 with a installed power generating capacity to sell 126MW of electricity to EGAT and 2 MW to Electricite du Laos (EDL) for 30 years from the commercial operation date. However, the amount of electricity to be sold to EGAT in each year will be based on the quantity of water storage of the power plant. A monthly report on the estimated power generating quantity will be provided to EGAT.

The Company directly holds 51 percent of the total issued and paid-up shares in Houay Ho Thai Company Limited (HHTC), with the remaining shares of HHTC being directly held by the Glow Group. HHTC directly holds 25 percent of the total issued and paid-up shares in HHPC. Effectively, the Company owns 12.75 percent shareholding in HHPC, while the Glow Group effectively owns (both directly and indirectly) 67.25 percent shareholding in HHPC, and EDL-Generation Public Company Limited directly owns 20 percent shareholding in HHPC.

Gulf JP NLL Company Limited (Gulf JP NLL)

Gulf JP NLL owns and operates SPP power plant in WHA RIL, Rayong province. The SPP power plant is a gas-fired power plant having a installed power generating capacity of 123MW. It sells 90MW of electricity to EGAT under an SPP power purchase agreement on a firm commitment basis, which has a term of 25 years from the COD in May 2013. This power plant also has an agreement to sell steam and chilled water to industrial customers in WHA RIL.

The Company holds equity in Gulf JP NLL power plant project through WHA Energy Company Limited, a subsidiary in which the Company has a stake of 99.99 percent. WHA Energy 2 Company Limited holds 25.01 percent of the total issued and paid-up shares in Gulf JP NLL. The remaining 74.99 percent of its total capital is held by the Gulf Group.

Gulf Solar power plants

Gulf Solar Company Limited (Gulf Solar) owns and operates four solar rooftop VSPP power plants having a installed power generating capacity of 0.6MW, which is totally distributed to PEA and the Metropolitan Electricity Authority (MEA). The four power plants consist of the following companies:

1. Gulf Solar KKS Company Limited in WHA LP 1, which has a installed power generating capacity of 0.25MW and became commercially operational in December 2014;
2. Gulf Solar BV Company Limited in WHA CIE 1, which has a installed power generating capacity of 0.13MW and became commercially operational in June 2014;
3. Gulf Solar TS1 Company Limited in WHA ESIE 1, which has a installed power generating capacity of 0.13MW and became commercially operational in August 2014; and
4. Gulf Solar TS2 Company Limited in ESIE, which has a installed power generating capacity of 0.09MW and became commercially operational in January 2015.

WHA Solar Company Limited, a subsidiary in which the Company has a stake of 99.99 percent, holds 25.01 percent of the total issued and paid-up shares in Gulf Solar. The remaining 74.99 percent of its total capital is held by the Gulf Group.

WHA Gunkul solar power plants

The WHA Gunkul Group owns and operates four solar rooftop VSPP power plants having a installed power generating capacity of 3.3MW, divided into 2.3MW sold to PEA and 1.0 MW to MEA. The four power plants consist of the following companies:

1. WHA Gunkul Green Solar Roof 1 Company Limited in WHA Mega Logistics Centre, Bangna-Trad Road KM.18, Samutprakan province, which has a installed power generating capacity of 0.64MW and became commercially operational in April 2014;
2. WHA Gunkul Green Solar Roof 3 Company Limited in WHA Mega Logistics Centre, Bangna-Trad Road KM.18, Samutprakan province, which has a installed power generating capacity of 0.83MW and became commercially operational in April 2014;
3. WHA Gunkul Green Solar Roof 6 Company Limited in WHA Mega Logistics Centre, Bangna-Trad Road KM.18, Samutprakan province, which has a installed power generating capacity of 0.83MW and became commercially operational in April 2014;

4. WHA Gunkul Green Solar Roof 17 Company Limited in WHA Mega Logistics Centre, Wangnoi 61, Phra Nakhon Sri Ayutthaya province, which has a installed power generating capacity of 1.0MW and became commercially operational in July 2014.

WHA Solar Company Limited, a subsidiary in which the Company has a stake of 99.99 percent, holds 74.99 percent of total issued and paid-up shares in each of the above companies. The remaining 25.01 percent of total capital in those companies is held by the Gunkul Group.

B.Grimm Power (WHA) 1 Company Limited (BPWHA-1)

BPWHA-1 owns and operates BPWHA-1 Power Plant in WHA CIE 1, Chonburi province. BPWHA-1 Power Plant is a gas-fired SPP power plant having a installed power generating capacity of 130MW. This power plant sells 90MW of electricity to EGAT under a power purchase agreement on a firm commitment basis, which has a term of 25 years from the COD in November 2016. It also has an agreement to sell electricity to industrial customers in WHA CIE 1.

WHA Energy Company Limited, a subsidiary in which the Company has a stake of 99.99 per cent., holds 25.01 percent of total issued and paid-up shares in BPWHA-1. The remaining 74.99 percent of its total capital is held by the B.Grimm Power Group.

Gas-fired power plants project a joint venture with Gulf MP Company Limited

The WHAUP Group and Gulf MP Company Limited jointly own 4 SPP gas-fired power plants with a firm basis power purchase agreement, consisting of the following companies:

- 1 **Gulf VTP Company Limited (Gulf VTP)**, which operates Gulf VTP Power Plant in ESIE, Pluakdaeng sub-district, Rayong province having an installed power generating capacity of 137MW and an installed steam generating capacity of 20 Ton/hour. This power plant became commercially operational in May 2017.

2. **Gulf TS1 Company Limited (Gulf TS1)**, which operates Gulf TS1 Power Plant in ESIE, Pluakdaeng sub-district, Rayong province having an installed power generating capacity of 134MW and an installed steam generating capacity of 30 Ton/hour. This power plant became commercially operational in July 2017.

3. **Gulf TS2 Company Limited (Gulf TS2)**, which operates Gulf TS2 Power Plant in ESIE, Pluakdaeng sub-district, Rayong province having an installed power generating capacity of 134MW and an installed steam generating capacity of 30 Ton/hour. This power plant became commercially operational in September 2017.

4. **Gulf TS3 Company Limited (Gulf TS3)**, which operates Gulf TS3 Power Plant in WHA ESIE 1,Pluakdaeng sub-district, Rayong province having an installed power generating capacity of 130MW and an installed steam generating capacity of 25 Ton/hour. This power plant became commercially operational in November 2017.

5. **Gulf TS4 Company Limited (Gulf TS4)**, which operates Gulf TS4 Power Plant in WHA ESIE 1, Pluakdaeng sub-district, Rayong province having an installed power generating capacity of 130MW and an installed steam generating capacity of 25 Ton/hour. This power plant became commercially operational in January 2018.

- 6 **Gulf NLL 2 Company Limited (Gulf NLL2)**, which operates Gulf NLL Power Plant in WHA RIL, Ban Khai District, Rayong Province having an installed power generating capacity of 127MW and an installed steam generating capacity of 10 Ton/hour. This power plant became commercially operational in January 2019.

WHA Energy Company Limited, a subsidiary in which the Company has a stake of 99.99 percent, holds 25.01 percent of the total issued and paid-up shares in each of the above power plant companies. The remaining 74.99 percent of their total capital is held by Gulf MP Company Limited.

Industrial waste energy projects a joint venture with Glow Energy Public Company Limited and Suez (Asia) Limited

Chonburi Clean Energy Plant is a industrial waste to energy power plant in WHA CIE 1, Chonburi province. This power plant has an installed power generating capacity of 8.6 MW under. This power plant is scheduled to start the commercial operations in November 2019.

Chonburi Clean Energy Company Limited is a subsidiary of Eastern Seaboard Clean Energy Company Limited, a joint venture between Glow IPP 3 Company Limited (a subsidiary of Global Power Synergy PCL.) with WHA Energy Company Limited (a subsidiary of WHA Utilities and Power Plc.) and SUEZ Co.,Ltd for development of industrial waste energy projects. Each party owns an equal proportion of shares.

Natural Gas Distribution, a joint venture with Gulf Energy Development Plc and MITG (Thailand) Co., Ltd.

WHA Eastern Seaboard NGD 2 (WHANGD2) which operates and distributes natural gas to industrial customers in WHA Eastern Seaboard Industrial Estate 2 and WHA Eastern Seaboard NGD 4 (WHANGD4) which operates and distributes natural gas to industrial customers in WHA Eastern Seaboard Industrial Estate 4 ,which has started the commercial operation on June 2019.

Commercially operating power plants by WHAUP Group

1. Solar Power Plant Project

The Company has operated Solar Rooftop plant project to distribute power to factories and warehouses located both in industrial areas and logistic parks of the WHA Group and external areas, which has started commercial power generation in a total volume of 36.9 MW.

Power plants under construction in which the Company has investment

1. Solar Power Plants Project

The Company develops solar power plants to sells electricity to industrial customers both inside the WHAID's

industrial area and outside which are under construction having total installed power generating capacity of 11.4 MW.

Business strategies

1. Deliver clean energy at competitive price

With technology competent in energy business, efficient operation management and choosing an appropriate fuel will enable the company to generate and distribute energy to industrial customers at a cheaper and reasonable price than competitors which helps reduce production costs for customers.

2. Introduce Innovation And Smart Solutions for better energy management in industrial areas

The company is currently studying the smart energy innovations namely Peer-to-Peer energy trading, Net Metering, Energy Storage and Smart Microgrid within WHA industrial areas with an aim to support the recent disruptive trends in Distributed Energy Resources (DER) and Renewable Energy which not only save overall cost and provide better energy stability for industrial users but also expand our investment portfolio.

3. Become a leading key developer of Captive Energy and Microgrid System for industrial areas

The Company is in the process of studying and developing various energy innovations for use in specific locations as well as developing Microgrid system to provide Electricity and stream to industrial customers based on industrial areas of the WHA Group. Its goal is to support the changing trends of the energy industry to the decentralized power generation and power generation from clean energy. This will help reduce costs and enhance energy stability for entrepreneurs in industrial estates and also increase investment opportunities for the Company.

4. Focus on domestic and CLMV particularly Vietnam as highest potential market

The Company plans to expand its power business as mentioned above to foreign market, particularly in countries with high growth in population, economic and demand for power. The CLMV countries (i.e. Cambodia, Laos, Myanmar and Vietnam), particularly Vietnam, are viewed as potential countries and attractive for investment. The Company currently is in process of studying the investment on Solar Farm which has the power purchase agreement for the long-term Vietnam Electricity (EVN)

Industry Overview

The power business in Thailand is an infrastructure service under the supervision and regulation of the Ministry of Energy, the ERC and the National Energy Policy Board (NEPB), which are in charge of the stability and sustainability of the national power utility. Originally, EGAT was solely responsible for generating power to support nationwide consumption. After demand for electricity sharply rose as a result of economic expansion and population increase, the governments has therefore the participation of private sector in the power generation business with a view to mitigating EGAT's investment burden in order to respond growing demand for electricity. Starting from 1992, the government launched a policy encouraging the private sector's participation in power generation and invited it to bid for the construction of power plants. Such policy inaugurated a new role of IPPs and SPPs in the country's power generation business since 1994. As there is also great support for alternative energy power generation, VSPPs are now taking an active role in the country's power industry. In the past, the cost of solar energy has been rapidly decreased, causing many entrepreneurs to invest in installing solar power systems for their own use or selling to users in industrial areas or other large enterprises. Due to the fact that, it can produce

energy at a lower average cost per unit than buying power from Provincial Electricity Authority (PEA) or Metropolitan Electricity Authority (MEA).

Referring to Thailand's Power Development Plan 2018-2022 (PDP 2018 : revision 1), the policy maintains target energy production capacity of 77,211, similar to previous PDP2018 plan, in order to maintain stability of power system in Thailand. The production capacity of renewable energy remains unchanged at 18,696 MW but there is modification in target plan and renewable energy electricity coverage to correspond with "Energy for All" scheme.

Domestic demand for energy changes in the same direction of economic condition. It grows at 0.9X-1.1X of the rate of GDP growth. For energy industry outlook in 2021-2022, the private power providers may experience a growth due to predictable demand and favorable environment especially investment incentives policy by the government. However, in 2021 and 2022, demand is expected to rebound and private-sector power plant operators should see better business conditions as the economy returns to near-normal. Meanwhile, generation capacity will continue to be driven by the government's investment support measures under the Power Development Plan and Alternative Energy Development Plan. After 2021, we anticipate greater investment from players in the rooftop solar, biomass, biogas, and waste-to-energy segments. These players will benefit from government support that will take the form of a steady increase in electricity purchases, and they would also be more competitive with better cost-control and access to raw materials. *

**Source*

Industry Outlook 2020-2022: Power Generation



RISK FACTORS

The Company aims to become Thailand's leading provider of public utilities and power services. The Company recognizes that the various risk factors arising from changes of internal and external factors, including the environment, may affect its operations. Therefore, the Company has conducted an assessment on material risks, and also the impacts of risks on its operations. The Company's assessment was divided into four kinds of major risks, namely strategy risk, operational risk, financial risk and compliance risk, which was analyzed in connection with its two core businesses, i.e. water business and power business.

Strategy risk

Water business

(1) Revenue of the water business mainly derives from customers in the WHA Industrial Development Public Company Limited Group's industrial estates and industrial lands

Currently, the Company's operating revenue is derived from its water business in industrial estates and industrial lands developed and managed by WHA Industrial Development Public Company Limited ("WHAID") which is the Company's major shareholder and its subsidiaries (collectively called the WHAID Group). This source of revenue accounts for 44.7 percent and 61.4 percent of the Company's total revenue for 2019 and 2020, respectively.

The Company and the WHAID Group have entered into the Strategic Partnership Agreement and Right Lease Agreement which entitles the Company to operate its water business in the WHAID Group's industrial estates and industrial lands for the Current Projects and Future Projects. However, if the WHAID Group decides in the future to suspend the expansion of its business relating to development of industrial estates and industrial lands for any reason and the Company does not have any other customers outside the WHAID Group's industrial estates and industrial lands, the Company's income may significantly decrease. On the other hand, if the right lease agreement expires at the end of the 50-year term without

renewal and the Company does not have customers apart from those in the WHAID Group's industrial estates and industrial lands to replace this revenue, the Company's results of operations and financial condition may materially be affected. The Company realizes the risk and consequences from that Factor. In order to pull down the risk, the company select the project with the reasonable of Equity Internal Rate of Return and study on the pros and cons of feasibility of the project and sensitivity analysis. If it is a joint venture, the company has a carefully selected investor by knowledge, ability, experience, expertise, financial, and history of past performance of the investor.

(2) Risk relating to customer concentration

The Company's core customers in the water business mainly consist of operators in petrochemical business, power generation business and automobile business in industrial estates and industrial lands, accounting for 40.1 percent, 23.1 percent and 11.7 percent, respectively, of the Company's total revenue from the water business for 2020. In addition, the 10 largest customers of the Company mainly consist of operators in the petrochemical business and power generation business, accounting for 58.2 percent and 43.4 percent of the Company's total revenue for 2019 and 2020, respectively. A decline or slowdown in the business expansion or investment conditions of these industrial sectors and large customers may reduce their demand for water services and other public utilities which may materially affect the results of operations of the Company.

The Company realizes the risk and consequences from that Factor. In order to pull down the risk 1) the Company monitors customer's water usage closely 2) Queries and revise water usage plan for those customers consistently and 3) to sustainably reduce the possible consequences, the Company set policies and operating plans to offer more variety of products to better serve customer demand such as specific industrial water or reverse osmosis (RO) to focus on more groups of customers as well as plan for customers outside the industrial estates such as sub-district administrative organization, etc. in the important economic area.

(3) Risk relating to reliance on the major suppliers for raw water procurement

The Company operates its utility service business by producing and distributing industrial water to operators in industrial estates and industrial lands in which the raw water is the key raw material for its operation. The cost of raw water represented approximately 69.3 percent of the total cost of the Company. Currently, the Company mainly procures raw water from three (3) major suppliers, i.e. (1) Eastern Water Resources Development and Management Public Company Limited (East Water) which is a large concessionaire granted by the Royal Irrigation Department (RID) having service area in Chonburi, Rayong and Chachoengsao provinces, (2) RID and (3) the WHAID Group (from WHAID Group's internal reservoir of natural water) and their supply volume accounts for 78.8 percent, 11.6 percent and 9.6 percent, respectively. Further, the WHAID Group acted as an intermediary for East Water and RID in the Company's water procurement process. However, the Company is able to directly procure raw water from East Water and RID.

If East Water, RID or the WHAID Group is unable to supply raw water to the Company in the quantity required and at the agreed time, due to raw water supply shortage or significantly increases in the selling price of raw water, this may have a material adverse effect on the Company's financial condition, results of operations and prospects.

In the past decade, the Company has planned to reduce risks of having few major suppliers of raw water and/or distributors of raw water by 1) the Company keeps updates on natural raw water resources and plan to build water reservoirs in some industrial estates as appropriate 2) plans to explore natural raw water resources in addition to the resources currently use 3) plans for Wastewater Reclamation (as of December 2020, company has access to around 30,200 cu.m. per day of recycled water through the wastewater reclamation projects in WHA IEs). 4) the Company also follows up and coordinates with customers constantly to promptly plan for sufficient water usage and distribution as well as coordinates with raw water distributors and find protection and modification solutions constantly. With those mention preventive measures that have been performed, the Company is confidence that there is sufficient and quality raw water resources for water supply business

Utilities business and Power business

(1) Investment risk relating to the Company's investments in businesses over which the Company has no control

Currently, the Company has made investments in the water business and power business by holding equity in various utilities or energy companies. Revenue from the utilities business and power business of the Company are derived from investments in companies engaging in water business and power business, which are considered as associates of the Company, and accordingly the Company have power to control those entities, and the management of their businesses through boards of directors. Moreover, although the major shareholders of these companies have expertise in those businesses, the Company is subject to the risk of investment in such business. The Company received revenue from the investments of such water business or power business in forms of share of profit from investments in associates and joint ventures, and dividends. The Company manages such risk by selecting joint venture partners who have high expertise and are experienced when investing in any associated companies.

(2) Investment risk relating to the Company's investments in businesses located in foreign countries

Based on the Company's investment in water and power projects in foreign countries, it is susceptible to the change within factors, namely economic, political, social conditions, legal framework and exchange rate fluctuations, belong to the countries that the investment has been made. Additionally, human resource are among the risks which may negatively influence the company's revenue.

To alleviate the mentioned risks, the company examines the credential of the country where the investee located as well as regularly studies and reviews the risks associated with projects in foreign countries. It also continually follows up their operating performance in order to manage the risks that may arise. In term of human resource, the Company provides human resource training for the projects development in those countries and place additional employee recruitment whose position will reduce the risk arose from the fact that the Company cannot directly monitor operation of the invested companies.

Operational risk

Water business

(1) Risk relating to an ability of the Company to increase public utilities price in the industrial estates

Section 14 of the Industrial Estate Authority of Thailand Act, B.E.2522 (as amended) states that “the IEAT has the power to determine the selling price, rental fee and hire purchase fee of real property and movable property, the maintenance fee of public facilities and other fees in relation to public services provided in industrial estates, taking into account reasonableness in terms of business.” Therefore, the power to announce and increase the price of public utilities such as industrial water price and management services price of central wastewater treatment ponds in industrial estates lies solely with the IEAT. The Company cannot charge for public utilities at a higher rate than the rates specified by IEAT. Therefore, there is a risk that the IEAT may not grant approval if the Company seeks to increase the price of public utilities to meet the changing costs or to reflect the market condition. It is also notable that no requirements have been imposed on the Company to seek prior approval of the change of public utility prices collected in the industrial lands.

(2) Risk relating to the deterioration and damage of the water production and distribution System

The Company's industrial water production and distribution system and wastewater treatment system may deteriorate in a usage life or be damaged during the course of operations, and if the repair is not completed in a timely manner, this may directly obstruct the production and distribution process of industrial water or interrupt the wastewater treatment system. In addition to impacting the Company's profitability and cash flow, this may cause the Company fails to fulfill its obligations under the Right Lease Agreement with the WHAID Group and agreements with Company's customers and may therefore also materially affect the Company's results of operations.

To reduce the mentioned risk, the Company keeps checking on all systems constantly and arranges maintenance plans of water providing and distribution system for industrial purposes appropriately. The purpose of maintenance plan is to focus on maintenance of dilapidated or damaged parts and increase performances for effective usage of water providing and distribution system for industrial purposes. In case when it is needed to temporary halt water providing and distribution system for repair and maintenance, the Company will inform customers in industrial estates

beforehand and arrange spare water resources until the main water providing & distribution system will be completely fixed. Apart from this, the Company also prepares property insurance with insurance companies to responsible any damage of any circumstance.

(3) Risk relating to severe accident, drought, natural catastrophe and epidemic

Natural catastrophes (such as drought, flood, storm, fire and earthquake, epidemic and severe accident) are beyond the Company's control. An occurrence of a drought, natural catastrophe or severe accident may affect the Company's results of operations and severely damage the Company's operating assets. The impact of those circumstances may affect the industrial and commercial operators in industrial estates and industrial lands where the Company is operating, which could also have an effect on the Company's revenue and results of operations.

The Company is aware of the possibility of such risk, which is why it puts attention on the selection of location and the proper security system. The road in every project is higher than the public road in front of the projects or the highest water level during the floods in the past 30 years in the locality. The Company has applied for all-risk insurance covering all kinds of damage caused by natural disaster and accidents for every project. However, the Company is confident that it has proper plans and preventive measures to deal with floods. Therefore, there is little chance that damage from floods in any projects would exceed the compensation limit.

During the risk of drought, other than measures of the public and private sectors through agencies being appointed to supervise water, such as Water War Room, where the company is a part of the team, the Company establishes several internal measures for responding to drought as follows;

1. Wastewater Reclamation for recycling waste water to use as industrial water
2. Alternative Raw Water Resources: The Company has considered the water sources from potential local or private agencies to supplement the water supply for providing services to industrial customers
3. Wastewater Reuse by using treated wastewater in any activities, such as watering plants, construction etc.

According to such measures and cooperation, the Company is able to significantly minimize the risk of drought possibly affecting customers.

Beside the seasonal environmental conditions as mentioned above, there was an pandemic Covid-19 in 2020. The Company has closely monitored and assessed the situations related to the pandemic that may has significant influence of its business operation since the beginning of the pandemic, where early case was detected in China. The company has proven the effectiveness of the BCP — Business continuity plan to handing the situation without any significant impact, in which the plan has been prepared since 2018.

Firstly, the Company uses VDO conference and land-line call to replace face-to-face meetings with foreign customers. As the pandemic situation reached higher risk level and Thailand recorded its first COVID-19 case, the Company started to implement the measure as planned to protect employees against the recurring pandemic as well as to reduce adverse effect that may impede the operation. The measures include Work From Home policy where a certain number of employees are allowed to work at the office whereas the rest will work at their home. The implementation of Work From Home policy requires the Company to have adequate number of working laptop available to the employees as well as to have Work From Home manual for each department. These ensure efficiency of work and safeguard the employees. The employees, who are strictly required to work on-site, may work at additional working sites which are dispersed across locations. The policy divides employees into 2 groups, to control an extent over which an employees may have direct contact with the infected person. First group will work on-site and Second group will work at home. Apart from working manual, the Company also write a manual which guide employees to be safe against the COVID-19, which are in line the measure encouraged by WHO, CDC and other health entities. The example of safeguard measures include regular spray of disinfectant liquid across the working spaces and temperature check of both employees and visitors. In addition, the Company has adopt Financial Sensitivity Analysis to conduct a careful analysis on its financial position and assess the possible adverse effects on financial position that may rise as the pandemic become more intensified. However, the Company's performance has been impeded by recurring COVID-19.

Power business

The Company invests in power business in the form of holding equity in energy companies. Share of profit

and dividend received from the power business in 2020 accounted for 42.3 percent of the Company's total share of profit and dividend received for the year ended 31 December 2020 whereby the highest share of profit came from investment in Gheco-I Company Limited (the Company's associates over which the Company has no control). The Company received revenue from power business in form of share of profit from investments in its associates and joint ventures and dividend received.

Risks relating to investment in power business include the following:

Risk relating to a shortage of fuels

In the operation of natural gas and coal-fired power plants, natural gas and coals particularly constitute the key costs of operating activities. If there is a shortage of these natural gas or coals or a supplier is unable to provide a required quantity of natural gas or coals to the power plant of the Company's associates, which in each case is an uncontrollable event of the power plants, then the relevant power plants are likely to breach its obligations under the power purchase agreement it has entered into with EGAT or under electric power transmission or a steam supply agreements with their industrial customers. Therefore, a shortage of fuels may have a material and adverse effect on the profit sharing, financial condition and operating results of the Company.

However, GHECO-ONE Co., Ltd., the largest equity investment has already signed the contract to purchase coal in advance to prevent the risk of partial shortage of fuel.

Water business and power business

(1) Risk relating to uncertainty in economic, political and social condition and laws which may affect the Company's business expansion plan and operating results

As the Company engages in the water and power businesses, its prospects of business expansion and results of operations depend on the economic, political, social conditions and legal framework of the country where the Company's businesses are being conducted. Particularly, if there is a material adverse change in economic conditions resulting in liquidity risk, inflation, foreign exchange rate fluctuations and credit default risk which may affect the interest rate, or if there is a material

change in social conditions and laws, then those changes may have adverse effects on the Company's business operations, financial condition, results of operations and business expansion plan.

(2) Slowdown in the global economy, changes in the state policy and other Macroeconomic factors

The global economic slowdown, the change in state policy, and political uncertainty may affect investment and expansion of production capacity of industrial operators which are customers of the Company. Political uncertainty and other macroeconomic factors in Thailand may undermine the investor sentiment and private sector's confidence in Thailand investment. Some business segments may decide to move, expand or establish their production bases in neighboring countries instead in order to reduce this risk. The depressed political condition and the high level of household debt may also restrict private sector consumption. Declines in domestic consumption, production and export also curb investment activities which could reduce our customers' planned expansion of production or suspend their investment decisions, which may have adverse effects on the Company's business.

Nevertheless, Thailand remains attractive to the foreign investors who want to invest in South East Asia due to the better labor quality and the acceptable wage rate in comparison to those in European countries, the United States and other Asian countries. Moreover, the infrastructures particularly the public utilities in Thailand are better than competitors and Thailand also offers appealing investment promotion measure.

Financial risk

The operating performance, financial status, economic environment in Thailand and other countries, access to financial and capital market in Thailand and other countries, and interest rates are risk factors to the company's financial management. The company has consistently improved its financial position by having an appropriate and sufficient source of funds with a reasonable cost of capital. As at 31 December 2020, the Company's debt to equity ratio was 1.15 times and interest-bearing debt to total equity was 1.06 times. The company has a strong balance sheet and a lower debt level, moderate level of cash on hands, no foreign currency debts and broader lending sources.

These will provide the company more flexibility to grow the business expansion, yet to minimize the financial risks.

Core revenue generated from power business derives from share of profit from the investments in associates and joint ventures. The Company's associates which engage in the power business had sources of financing and loans for development of power plants and part of operating costs in a foreign currency. Fluctuations in the foreign exchange rate and interest rate, may adversely affect the Company's share of profit from investments, financial condition and results of operations.

However, Gheco-One had already signed the contract the foreign exchange rate swap and the interest swap to prevent such financial risk.

Compliance risk

(1) Risk of use and interpretation of the law and the Notifications related to the business of the Company

Announcement of the Revolutionary Party No. 58 stipulates that the waterworks business is considered to be a public utility business, which must be licensed or concessioned by the Minister prior to the operation. Also, the notification of the Ministry of Natural Resources and Environment Re: Criteria for Conducting Concession of the Waterworks for Safety or Well-being of People B.E. 2554 ("Ministry of Resources' Notification") issued in accordance with Announcement of the Revolutionary Party No. 58 stipulates that "the Waterworks" must be concessioned by the Minister of the Ministry of Natural Resources and Environment. The Ministry brought the matter into a discussion with the Department of Water Resources, a regulatory body according to the notification of Ministry of Resources, whether the water production and distribution business for industries and its subsidiaries is justified to be concessioned according to the Announcement of the Revolutionary Party No. 58 and the Ministry Notification. The conclusion is that the Company's production and distribution of industrial water is for the Company and its subsidiaries for industrial zones only. The water is not produced and sold to the public. Therefore, it is not considered to obtain a concession according to the Announcement of the Revolutionary Party No. 58 and the Ministry Announcement.

However, if the law changes in the future or the interpretation of the Announcement of the Revolutionary Party No. 58 and the Ministry Notification has changed, The Company and its subsidiaries may have to apply for a license or concession, and if the Company and its subsidiaries do not receive a license or concession for any reason, such event could adversely affect the business operation, revenue and financial position, the Company's performance and business opportunities.

(2) Changes to the IEAT's laws, rules and regulations and other applicable laws which are relevant to the business operation of the Company

The Company's industrial water business and power business are governed by the IEAT's laws, rules and regulations and other applicable laws which may be interpreted differently in the future.

The Company is unable to anticipate any guidelines on the regulator's exercise of power to supervise water business under the relevant laws. The Company to the risk that there is a material change in applicable laws, rules and regulations. In addition, the national policy on public utilities and power is subject to change based on the policy and administrative system announced by each government. A change in the national policy on public utilities and power as well as an issue of new rules and regulations, e.g. a policy on alternative energy, may adversely affect the Company's investment and business expansion, including its business operations, revenue, financial condition, results of operations and business prospects.

Other Risk Factors

The risk from the Company's ability to pay Dividends that is not in line with the Policy

The Company has a policy to pay dividends to shareholders of not less than 40.0% of the net profit in the consolidated financial statements after deduction of corporate income tax and legal reserve for each year, taking into account

the current financial status, cash flow, liquidity, investment plans and other factors as deemed appropriate by the Board of Directors. Such dividend payments must not affect the normal operation of the Company significantly and are subject to the laws, regulations or rulings relating thereto. The resolution of the Board of Directors to approve the dividend payment must be proposed for approval from the shareholders' meeting, except for the interim dividend payment which the Board of Directors is authorized to pay for interim dividends and will report to the shareholders' meeting. The ability of the Company to declare the dividend payment is based on the financial statements at the end of each fiscal year, and the dividend payment can not exceed the retained earnings as shown in the separate financial statements of the Company and in compliance with related laws.

In addition, the Company's ability to pay the dividends depends on the dividends received from the joint venture that the Company has invested in whereas the Company is not a major shareholder of such affiliates. Therefore, the Company does not have a full control in the management and the ability to determine the dividend payment. Therefore, the Company cannot guarantee that the dividends can be paid to shareholders according to the policy.

In addition, the Public Company Act stipulates that the Company dividend cannot be paid if the Company has accumulated losses although the Company has earned a net profit in that year. Even if the Company has earned a net profit for any particular year, the Public Company Act and the Articles of Association of the Company stipulates that in case the Company have net profit in any year, the Company is required to set aside a statutory reserve of not less than 5.0% of its net profit after deducting accumulated deficit brought forward (if any) until the reserve fund reaches the amount not less than 10.0% of the registered capital. If the company is not profitable enough, or if the Company otherwise deems it appropriate, the Company may not pay dividends.



PROFILE AND CONTACT

General Information

The Company

Name of the Issuing Company	: WHA Utilities and Power Public Company Limited
Symbol	: WHAUP
Head office	: 777 WHA TOWER, 22 nd Floor, Unit 2203-2205, Moo 13, Debaratna Road (Bangna-Trad) KM.7, Bang Kaeo, Bang Phli, Samut Prakarn 10540 Thailand
Telephone	: 0-2719-9559
Fax	: 0-2719-9558
Website	: www.wha-up.com
Nature of business	: (1) Utility business of distributing raw water, producing and Distributing industrial water and providing wastewater treatment services to operators in industrial estates and industrial land (2) Power business through investment in power generation business, both domestically and abroad.
Corporate registration no.	: 0107559000401
Registered capital	: THB 3,825,000,000
Issued and Fully Paid-up Capital	: THB 3,825,000,000, consisting of 3,825,000,000 common shares at THB 1 per share

Subsidiaries (Information as at 31 December 2020)

Company Name	Abbrevia- tion	Nature of Business	Registered in	Shareholder	Registered Capital (Million)	Paid-up Capital (Million)	Par Value (Per Share)	Percentage of shares held by the Company
Subsidiaries								
1. WHA Water Co., Ltd.	WHAWT	Water resources development and management	Thailand	WHAUP	THB 300.00	THB 300.00	THB 10.00	99.99
2. WHA Energy Co., Ltd.	WHAEG	Holding Company	Thailand	WHAUP	THB 9,178.00	THB 9,178.00	THB 10.00	99.99
3. WHAUP International Co., Ltd.	WUPIN	Holding Company	Thailand	WHAUP	THB 45.00	THB 45.00	THB 5.00	99.99
Subsidiaries under WHAEG								
4. WHA Energy 2 Co., Ltd.	WHAET	Holding Company	Thailand	WHAEG	THB 4,250.00	THB 4,250.00	THB 10.00	99.99
5. WHA Solar Co., Ltd.	WHASL	Investment and development of renewable energy business	Thailand	WHAEG	THB 350.00	THB 350.00	THB 10.00	99.99
Subsidiaries under WUPIN								
6. WHAUP (SG) 1 PTE. Limited	WUPS1	Holding Company	Singapore	WUPIN	USD 1.34	USD 1.34	USD 1.00	100.00
Subsidiaries under WUPS1								
7. WHAUP (SG) 2 PTE. Limited	WUPS2	Holding Company	Singapore	WUPS1	USD 1.33	USD 1.33	USD 1.00	100.00
8. WHAUP (SG) 2DR PTE. Limited	WUPSD	Holding Company	Singapore	WUPS1	USD 0.10	USD 0.10	USD 1.00	100.00
Subsidiaries under WUPS2								
9. WHAUP Nghe An Joint Stock Company	WUPNA	Providing industrial water and wastewater treatment services	Vietnam	WUPS2	VND 29,950.78	VND 29,950.78	VND 10,000.00	99.99

Joint Venture Companies (Information as at 31 December 2020)

Company Name	Abbreviation	Nature of Business	Registered in	Shareholder	Registered Capital (Million)	Paid-up Capital (Million)	Par Value (Per Share)	Par Value (Per Share)
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Joint Venture Companies of WHAUP

1. Gulf WHA MT Natural Gas Distribution Co., Ltd.	Gulf WHA MT	Transport, distributing natural gas fuels through pipelines	Thailand	WHAUP	THB 454.00	THB 454.00	THB 10.00	35.00
2. WHA Eastern Seaboard NGD 2 Co., Ltd.	WHA NGD2	Transport, distributing natural gas fuels through pipelines	Thailand	Gulf WHA MT	THB 216.00	THB 216.00	THB 10.00	99.99
3. WHA Eastern Seaboard NGD 4 Co., Ltd.	WHA NGD4	Transport, distributing natural gas fuels through pipelines	Thailand	Gulf WHA MT	THB 234.00	THB 234.00	THB 10.00	99.99

Joint Venture Companies of WHAEG

4. Eastern Seaboard Clean Energy Co., Ltd.	ESCE	Electricity and Power Generation	Thailand	WHAEG	THB 1,039.00	THB 1,017.81	THB 10.00	33.33
5. Chonburi Clean Energy Co., Ltd.	CCE	Electricity and Power Generation	Thailand	ESCE	THB 989.00	THB 989.00	THB 10.00	99.99
6. B.Grimm Power (WHA) 1 Limited	BPWHA-1	Electricity and Power Generation	Thailand	WHAEG	THB 1,533.56	THB 1,533.56	THB 100.00	25.01
7. Gulf JP NLL Co., Ltd.	Gulf JP NLL	Electricity and Power Generation	Thailand	WHAEG	THB 1,384.00	THB 1,384.00	THB 10.00	25.01
8. Gulf VTP Co., Ltd.	Gulf VTP	Electricity and Power Generation	Thailand	WHAEG	THB 1,610.00	THB 1,610.00	THB 10.00	25.01
9. Gulf TS1 Co., Ltd.	Gulf TS1	Electricity and Power Generation	Thailand	WHAEG	THB 1,685.00	THB 1,685.00	THB 10.00	25.01
10. Gulf TS2 Co., Ltd.	Gulf TS2	Electricity and Power Generation	Thailand	WHAEG	THB 1,690.00	THB 1,690.00	THB 10.00	25.01
11. Gulf TS3 Co., Ltd.	Gulf TS3	Electricity and Power Generation	Thailand	WHAEG	THB 1,520.00	THB 1,520.00	THB 10.00	25.01
12. Gulf TS4 Co., Ltd.	Gulf TS4	Electricity and Power Generation	Thailand	WHAEG	THB 1,470.00	THB 1,470.00	THB 10.00	25.01
13. Gulf NLL2 Co., Ltd.	Gulf NLL 2	Electricity and Power Generation	Thailand	WHAEG	THB 1,440.00	THB 1,440.00	THB 10.00	25.01

Company Name	Abbreviation	Nature of Business	Registered in	Shareholder	Registered Capital (Million)	Paid-up Capital (Million)	Par Value (Per Share)	Par Value (Per Share)
Joint Venture Companies of WHAET								
14. Gheco-One Co., Ltd.	Gheco-I	Electricity and Power Generation	Thailand	WHAET	THB 11,624.00	THB11,624.00	THB 10.00	35.00
15. Houay Ho Thai Co., Ltd.	HHTC	Electricity and Power Generation	Thailand	WHAET	THB 422.15	THB 422.15	THB 10.00	51.00
16. Houay Ho Power Co., Ltd. ^{/1}	HHPC	Electricity and Power Generation	Laos	HHTC	USD 40.00	USD 40.00	USD 80.00	25.00
17. Glow IPP Co., Ltd.	GIPP	Electricity and Power Generation	Thailand	WHAET	THB 2,850.00	THB 2,850.00	THB 10.00	5.00
Joint Venture Companies of WHASL								
18. WHA Gunkul Green Solar Roof 1 Co., Ltd.	WHA Gunkul 1	Producing and distributing electricity by solar photovoltaic rooftop	Thailand	WHASL	THB 11.50	THB 11.50	THB 10.00	74.99
19. WHA Gunkul Green Solar Roof 3 Co., Ltd.	WHA Gunkul 3	Producing and distributing electricity by solar photovoltaic rooftop	Thailand	WHASL	THB 14.50	THB 14.50	THB 10.00	74.99
20. WHA Gunkul Green Solar Roof 6 Co., Ltd.	WHA Gunkul 6	Producing and distributing electricity by solar photovoltaic rooftop	Thailand	WHASL	THB 14.50	THB 14.50	THB 10.00	74.99
21. WHA Gunkul Green Solar Roof 17 Co., Ltd.	WHA Gunkul 17	Producing and distributing electricity by solar photovoltaic rooftop	Thailand	WHASL	THB 16.00	THB 16.00	THB 10.00	74.99
22. Gulf Solar Co., Ltd.	Gulf Solar	Producing and distributing electricity by solar photovoltaic rooftop	Thailand	WHASL	THB 35.44	THB 35.44	THB 10.00	25.01
23. Gulf Solar TS1 Co., Ltd.	Gulf Solar TS 1	Producing and distributing electricity by solar photovoltaic rooftop	Thailand	Gulf Solar	THB 7.38	THB 7.38	THB 10.00	99.99
24. Gulf Solar TS2 Co., Ltd.	Gulf Solar TS 2	Producing and distributing electricity by solar photovoltaic rooftop	Thailand	Gulf Solar	THB 5.55	THB 5.55	THB 10.00	99.99

Company Name	Abbreviation	Nature of Business	Registered in	Shareholder	Registered Capital (Million)	Paid-up Capital (Million)	Par Value (Per Share)	Par Value (Per Share)
25. Gulf Solar BV Co., Ltd.	Gulf Solar BV	Producing and distributing electricity by solar photovoltaic rooftop	Thailand	Gulf Solar	THB 7.66	THB 7.66	THB 10.00	99.99
26. Gulf Solar KKS Co., Ltd.	Gulf Solar KKS	Producing and distributing electricity by solar photovoltaic rooftop	Thailand	Gulf Solar	THB 14.67	THB 14.67	THB 10.00	99.99

Joint Venture Companies of WUPSD

27. Duong River Surface Water Plant Joint Stock Company	SDWTP	Production and distribution of tap water	Vietnam	WUPSD	VND 999,611.00	VND 999,611.00	VND 10,000	34.00
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Joint Venture Companies of WUPNA

28. Cua Lo Water Supply Joint Stock Company	CUA LO	Production and distribution of tap water	Vietnam	WUPNA	VND 48,269.59	VND 48,269.59	VND 10,000	47.31
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Note :

- ¹¹ Houay Ho Thai Company Limited held 25% in Houay Ho Power Company Limited which registered in Lao People's Democratic Republic. US Currency is the main currency used for business operation. Also, the Company did not include the financial information of Houay Ho Thai Company Limited in the consolidated financial statement because the Company is the strategic partner. Moreover, the other investors are proficient in the operation of all power plants.
- Rayong Clean Energy Company Limited registered the dissolution of the company on 19 November 2019 and registered the completeness of liquidation on 14 July 2020.
- Glow Hemaraj Wind Company Limited registered the dissolution of the company on 19 November 2019 and registered the completeness of liquidation on 1 June 2020.

Other References

Share Registrar

Thailand Securities Depository Company Limited

Head office

: 93 The Stock Exchange of Thailand Building,
Ratchadaphisek Road, Dindaeng Bangkok 10400, Thailand

Telephone

: 02-009-9999

Fax

: 02-009-9991

Debenture Registrar

Bank of Ayudhya Public Company Limited, Rama III Office (Head Office) AA Floor

Head office

: 1222 Rama III Road, Bangpongpan, Yannawa
Bangkok 10120, Thailand

Telephone

: 02-296 5695

Fax

: 02-683-1389

Auditor

PricewaterhouseCoopers ABAS Limited

Head office

: 179/74-80, 15th Floor, Bangkok City Tower,
South Sathorn Road, Bangkok

Telephone

: 02-344-1000

Fax

: 02-286-5050

Legal Advisor

RL Counsel Company Limited

Head office

: 62/15 Thaniya, Suriyawongse Sub District, Bangrak District,
Bangkok 10500, Thailand

Telephone

: 0-2235-3339

Fax

: 0-2235-3076

Other Material Information

There is no other information which may materially affect investors' decisions.



INFORMATION ON SECURITIES AND SHAREHOLDERS

Registered capital and paid-up capital

As of 31 December 2020, the Company's registered capital was THB 3,825 million, and its paid-up capital was THB 3,825 million, divided into 3,825 million ordinary shares with a par value of THB 1 per share. The Company's Extraordinary General Meeting of Shareholders No. 1/2017 held on 30 June 2017, the meeting approved the amendment to the par value of the shares from Baht 5 per share to be Baht 1 per share.

Shareholders

Major shareholders

As 31 December 2020, the shareholding structure can be summarised as follows:

No.	Shareholders	Number of shares	Percent
1	WHA Group		
	WHA Industrial Development Public Company Limited ^{1/}	2,694,852,570	70.45
	WHA Industrial Development International (SG) PTE. LTD. ^{2/}	43,500,010	1.14
	Total	2,738,352,580	71.59
2	Bangkok Life Assurance Public Company Limited	91,020,800	2.38
3	Miss Jareeporn Jarukornsakul	73,836,600	1.93
4	Thai NVDR Company Limited	68,433,393	1.79
5	STATE STREET EUROPE LIMITED	39,647,078	1.04
6	Miss Chatchamol Anantaprayoon	33,363,478	0.87
7	Mr. Chaiwat Phupisut	26,684,956	0.70
8	Miss Supitchaya Phupisut	26,536,506	0.69
9	Muang Thai Life Assurance Public Company Limited	15,961,200	0.42
10	Aberdeen Standard LTF	14,393,400	0.38
	Total top 10 major shareholders	3,128,229,991	81.78
	Other shareholders	696,770,009	18.22
	Total	3,825,000,000	100.00

Notes :

^{1/} WHA Industrial Development Public Company Limited engages in industrial estates development in which its securities were delisted from the Stock Exchange of Thailand (the SET) since 2 March 2016. Currently, WHA Ventures Holding Co., Ltd. hold shares 98.54 percent.

WHA Ventures Holding Company Limited is a holding company with 99.99 percent of its shares currently held by WHA Corporation Public Company Limited.

^{2/} WHA Industrial Development International (SG) PTE. LTD. is an investment company incorporated under the law of Singapore. 99.99 percent of its shares are indirect held by WHA Industrial Development Public Company Limited.



Shareholder agreement

As of 31 December 2020, the Company has no the major shareholder agreement. However, the Company or Subsidiary (case by case) has the shareholder agreement between the shareholders in associate and joint ventures.

Other securities

As of 31 December 2020, the Company has the debentures. The details are as follows:

Debenture	Amount (Million Baht)	Coupon (Percent)	Tenor (Year /Maturity Date)	Rating by TRIS
WHAUP216A	2,390	2.65% p.a. Semi-annually payment	3 Years Maturity date : 26 June 2021	A-
WHAUP236A	1,290	3.17% p.a. Semi-annually payment	5 Years Maturity date : 26 June 2023	A-
WHAUP256A	1,320	3.66% p.a. Semi-annually payment	7 Years Maturity date : 26 June 2025	A-
WHAUP22DA	1,500	2.28% p.a. Semi-annually payment	2 Years 4 Months Maturity date : 26 June 2022	A-
WHAUP302A	1,500	3.25% p.a. Semi-annually payment	10 Years 4 Months Maturity date : 26 June 2030	A-

Dividend policy

Dividend policy of the Company

The Company will consider paying dividend according to provision of law, including the Public Limited Company Act, B.E. 2535, which requires a public limited company to pay dividend only from the net profit derived from standalone financial statement with no accumulated deficit.

The Company's dividend payment policy is to pay dividends in the amount of not less than 40 per cent of the Company's consolidated net profit after deducting corporate income tax and other reserve funds as required by law in each year. However, the dividend payment of the Company may take into account the Company's financial position, cash flow, liquidity, investment plan and other factors, as the Board of Directors deems appropriate. The dividend payment shall not materially affect the Company's normal business operations and comply with law, regulation or relevant ruling. The Board of Directors shall propose to the shareholders' meeting approval of dividend payments, except the payment of interim dividends. The Board of Directors may declare interim dividends and report to the shareholders at the next shareholders' meeting.

The payment of dividend shall not exceed retained earnings of the Company in the separate financial statements of the Company and shall be in accordance with applicable laws.

Dividend policy of the Subsidiaries

Each Subsidiary's dividend payment policy is to pay dividends in the amount of not less than 50 per cent of the net profit after deducting corporate income tax and other reserve funds as required by law in each year. However, the dividend payment of each Subsidiary may take into account the financial position, cash flows, liquidity, investment plan and other factors, as the board of directors deems appropriate, and for the best interest of shareholders. The dividend payment shall not materially affect each Subsidiary's normal business operations. The board of directors of each Subsidiary shall propose to the shareholders' meeting approval of dividend payments, except the payment of interim dividends. The board of directors of each Subsidiary may declare interim dividends and report to the shareholders at the next shareholders' meeting.

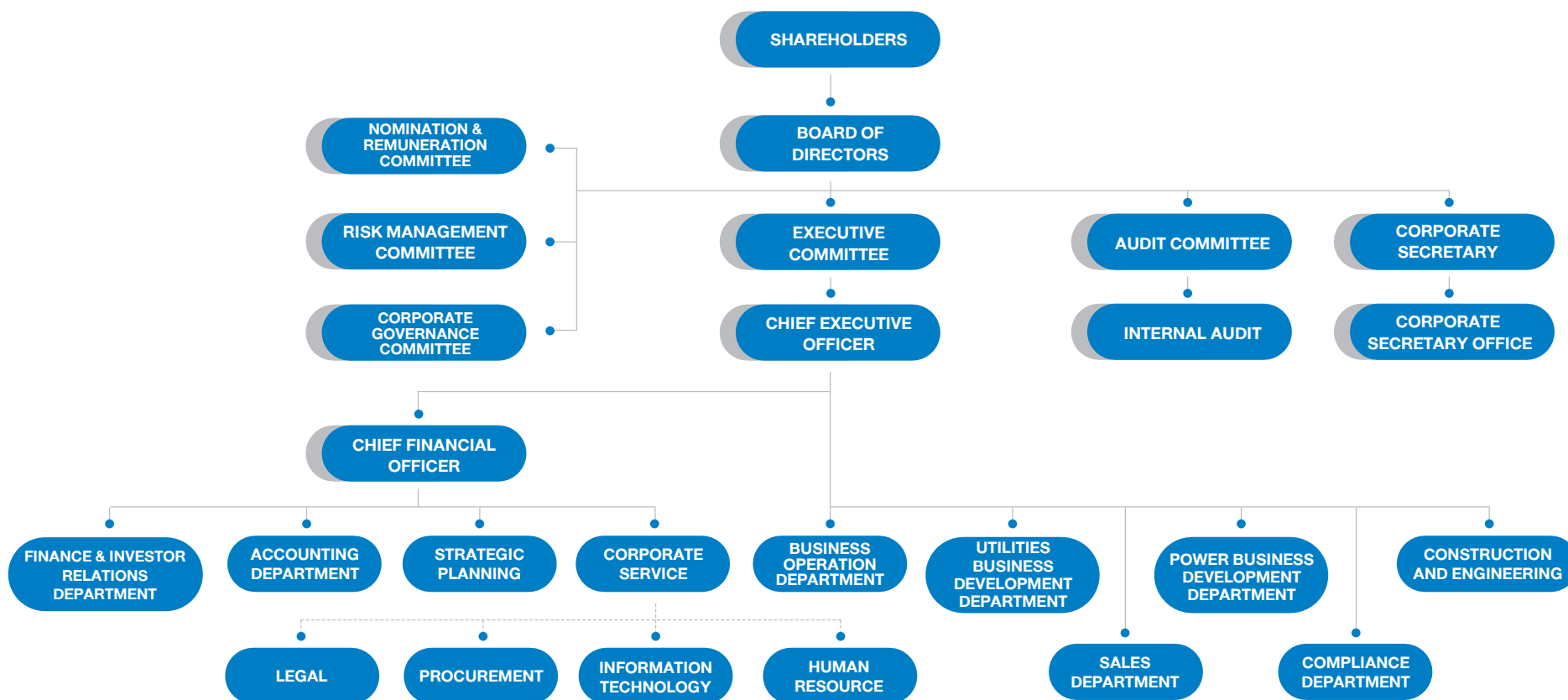
Dividend policy of associates and joint ventures

Each associate and joint venture is to pay dividends in proportion to a shareholding according to conditions set out in related shareholders agreement.



MANAGEMENT STRUCTURE

As of 31 December 2020, the management structure of the Company consists of the Board of Directors and five sub-committees, i.e. the Audit Committee, Executive Committee, Risk Management Committee, Corporate Governance Committee, and Nomination and Remuneration Committee. The management structure of the Company is as follow:



Note :

For the functions under the corporation service e.g., Legal, Procurement, IT and HR the Company uses outsource service.

Board of Directors

As of 31 December 2020, the Board of Directors is comprised of 8 Directors as follows:

Name	Position
1. Ms. Jareeporn Jarukornsakul	<ul style="list-style-type: none"> Chairman of the Board of Directors Chairman of the Executive Committee Chairman of the Risk Management Committee Nomination and Remuneration Committee member
2. Mr. David Richard Nardone	<ul style="list-style-type: none"> Director Executive Committee member Risk Management Committee member
3. Mr. Vivat Jiratikarnsakul	<ul style="list-style-type: none"> Director Executive Committee member Corporate Governance Committee member
4. Dr. Nipphon Bundechanan	<ul style="list-style-type: none"> Director Executive Committee member Chief Executive Officer
5. Mr. Weidt Nuchjalearn	<ul style="list-style-type: none"> Independent Director Chairman of Audit Committee Chairman of the Nomination and Remuneration Committee
6. Mr. Ekajai Tivutanond	<ul style="list-style-type: none"> Independent Director Audit Committee member Corporate Governance Committee member Nomination and Remuneration Committee member
7. Mrs. Punnee Worawuthichongsathit	<ul style="list-style-type: none"> Independent Director Audit Committee member Chairman of the Corporate Governance Committee
8. Mr. Surathian Chakthranont	<ul style="list-style-type: none"> Independent Director Risk Management Committee member

Ms. Nutch Rattanajitbanjong acts as the secretary of the Board of Directors.

Authorized directors

The Company's authorized directors are Ms. Jareeporn Jarukornsakul signs jointly with Mr. David Richard Nardone or Mr. Vivat Jiratikarnsakul, or Dr. Nipphon Bundechanan making a total of two (2) persons, together with the Company's seal affixed.

3. The Board of Directors shall appoint one of the directors to be the Chairman of the Board of Directors. If the Board of Directors deem it appropriate, the Board of Directors may appoint one or more directors to be a Vice-Chairman of the Board of Directors.

Composition of the Board of Directors

1. The Board of Directors has responsibilities to the shareholders on business undertaking, consisting of at least five directors and at least half of all directors shall reside in Thailand.

2. The Board of Directors comprises of executive director and non-executive director in which the members of audit committee include of non-executive director.

4. Not less than one-third of board members shall be independent directors, at least three independent directors in any case.

Term of Office

1. In an annual general meeting of the Company, one third of directors must resign from office. If the number of directors is not a multiple of three, then the number nearest to one third must resign from office. Those who have the longest term must resign first. A retiring director is eligible for re-appointment.
2. If there is a vacant seat, except for in cases of retirement by rotation, the Nomination and Remuneration committee shall elect the persons who possess the required qualifications, but do not possess any prohibited characteristics under the law governing public limited companies and the law governing securities and exchange, for nomination at the next board of directors' meeting, unless the remaining term of office of the vacating director is less than two months. If such vacancy occurs, any appointed persons shall retain office during the time only as the vacating director was entitled to retain the same. In this regard, the resolution of the board of directors shall not less than three-fourths of the number of remaining directors.
3. In case of vacancies of all members in the Board of Directors, the said Board of Directors may perform any act in the name of the Board of Directors only in matters necessary until a new Board of Directors takes over.
4. To monitor the Executive and operation of the Executive Committee, Chief Executive Officer, the Executive, or any persons who take responsibilities and such duties in accordance with the Company's policies determined by the Board of Directors;
5. To ensure that the Company and the subsidiaries implement an appropriate and efficient accounting system, financial reporting and account auditing, and provide a traceable internal control system and internal audit system;
6. To prepare policy in relation to good corporate governance principle in writing and efficiently apply such policy to ensure that the Company be fairly responsible to all relevant group of persons;
7. To constantly follow up the Company's performance to be in compliance with the operating plan and budget of the Company;

Duties and Responsibilities of the Board of Directors

1. To perform their duties and responsibilities of managing and operating the business of the Company in compliance with laws, rules, regulations or notification of the Securities and Exchange Commission of Thailand, the Capital Market Supervisory Board, and the Stock Exchange of Thailand that relate to the Company's objectives, the Articles of Association, the resolutions of the Board of Directors and the resolutions of the shareholders' meeting with their accountabilities, carefulness, and integrity;
2. To set up the vision, strategy, direction, policies, goals, plans, budgets, management structure and authorization of the Company and subsidiaries, which are presented by the administration of the Company, and will supervise the performance of management, committees or any other persons assigned by the Company to ensure compliance with the policies for the best interests of the Company and its shareholders;
3. To approve the appointment of person who has qualification and is not prohibited under the Public Limited Company Act, B.E. 2535 (as amended), the Securities Exchange Act, B.E.2535 (as amended), including other relevant notifications, regulations and/or rules to substitute a vacancy in the Board of Directors for reasons other than the termination of the term of office;
4. To appoint the sub-committee such as the Audit Committee, the Executive Committee, the Corporate Governance Committee, the Remuneration and Nomination Committee, the Risk Management Committee, or other committee, including determining their duties and authorities in order to support the Board of Directors' management;



9. To appoint the Top Executive, including determining their remuneration;
10. To approve the loan to such companies that have a business relationship with the Company as shareholders, or companies relating to commercial business or other companies in the amount that exceeds the Executive Committee's authority;
11. To approve the investment and divestment of common shares and/or other securities in amount that exceeds the Executive Committee's authority;
12. To consider an interim dividend payment for Company shareholders;
13. To establish and monitor efficient Anti-Corruption system, ensure the executive team awareness and attention to the Anti-Corruption scheme, embed organizational Anti-Corruption culture and the board of directors will comply with the Anti-Corruption measures and punish when non-compliance occurs;
14. To appoint the Company Secretary to support the directors to perform their duties in accordance with related laws and regulations.

Duties and Responsibilities of Chairman of Board of Directors

1. The Chairman is responsible as the Board's leader and as the Chairman of Board's meeting as well as in shareholders' meeting;
2. In case of equality of vote, the Chairman shall have a casting vote in the Board meeting.

Attendance at the Board of Directors' meetings.

Details of the attendance at the meetings of the Board of Directors the Audit Committee, Executive Committee, Risk Management Committee, Corporate Governance Committee and Nomination and Remuneration Committee on a period of 1 January 2020 to 31 December 2020 are as follows:

Name	Position	Board of Directors 8 members Meeting 8 Time	Audit Committee 3 members Meeting 5 Time	Executive Committee 6 members Meeting 9 Time	Corporate Governance Committee 3 members Meeting 3 Time	Risk Management Committee 3 members Meeting 6 Time	Nomination and Remuneration Committee 3 members Meeting 3 Time	shareholders' meeting 8 members Meeting 2 Time
1. Ms. Jareeporn Jarukornsakul	<ul style="list-style-type: none"> Chairman of the Board of Director Chairman of the Executive Committee Chairman of the Risk Management Committee Nomination and Remuneration Committee 	8/8 (100%)		9/9		6/6	3/3	2/2
2. Mr. David Richard Nardone	<ul style="list-style-type: none"> Director Executive Committee Risk Management Committee 	8/8 (100%)		9/9		6/6		2/2
3. Mr. Vivat Jiratikarnsakul	<ul style="list-style-type: none"> Director Executive Committee Corporate Governance Committee 	8/8 (100%)		9/9	3/3			2/2
4. Mr. Wisate Chungwatana ⁽¹⁾	<ul style="list-style-type: none"> Director Executive Committee 	1/1 (100%)		2/2				
5. Dr. Nippon Bundechanan ⁽²⁾	<ul style="list-style-type: none"> Director Executive Committee 	7/7 (100%)		7/7				2/2
6. Mr. Weidt Nuchjalearn	<ul style="list-style-type: none"> Director Chairman of the Audit Committee/Independent Director Chairman of the Nomination and Remuneration Committee 	8/8 (100%)	5/5				3/3	2/2

Name	Position	Board of Directors	Audit Committee	Executive Committee	Corporate Governance Committee	Risk Management Committee	Nomination and Remuneration Committee	shareholders' meeting
		8 members	3 members	6 members	3 members	3 members	3 members	8 members
		Meeting 8 Time	Meeting 5 Time	Meeting 9 Time	Meeting 3 Time	Meeting 6 Time	Meeting 3 Time	Meeting 2 Time
7. Mr. Ekajai Tivutanond	<ul style="list-style-type: none"> Director Audit Committee/ Independent Director Corporate Governance Committee Nomination and Remuneration Committee 	8/8 (100%)	5/5		3/3		3/3	2/2
8. Mrs. Punnee Worawuthichongsathit	<ul style="list-style-type: none"> Director Audit Committee/ Independent Director Chairman of the Corporate Governance Committee 	8/8 (100%)	5/5		3/3			2/2
9. Mr. Surathian Chakthranont	<ul style="list-style-type: none"> Director Independent Director Risk Management Committee 	8/8 (100%)				6/6		2/2
10. Mr. Natthapatt Tanboon-ek	<ul style="list-style-type: none"> Executive Committee 			9/9				
11. Mr. Prapon Chinudomsub ⁽³⁾	<ul style="list-style-type: none"> Executive Committee 			3/3				

Shareholding Report of the Board of Directors and the Company's Management in 2020

(Inclusive of Spouse or Cohabiting couple, and Minor children)

Information as of 31 December 2020:

Name - Surname Company's Directors	No. of Share (shares)		No. of Shares
	As of 31 Dec 2019	As of 31 Dec 2020	Addition (Reduction) During the Year
1. Ms. Jareeporn Jarukornsakul By Spouse or Cohabiting couple, and Minor children	34,499,800 17,081,813	73,836,600 33,363,478	39,336,800 16,281,665
By Legal entity hold shares at an amount exceeding 30%	72,581,665	-	(72,581,665)
2. Mr. David Richard Nardone By Spouse or Cohabiting couple, and Minor children	- -	- -	- -
3. Mr. Vivat Jiratikarnsakul By Spouse or Cohabiting couple, and Minor children	- -	- -	- -
4. Dr. Nippon Bundechanan By Spouse or Cohabiting couple, and Minor children	- -	- -	- -
5. Mr. Weidt Nuchjalearn By Spouse or Cohabiting couple, and Minor children	- -	- -	- -
6. Mr. Ekajai Tivutanond By Spouse or Cohabiting couple, and Minor children	- -	- -	- -
7. Mrs. Punnee Worawuthichongsathit By Spouse or Cohabiting couple, and Minor children	- -	- -	- -
8. Mr. Surathian Chakthranont By Spouse or Cohabiting couple, and Minor children	- -	- -	- -

Name - Surname Company's Executives

1. Dr. Nippon Bundechanan Chief Executive Officer By Spouse or Cohabiting couple, and Minor children	- -	- -	- -
2. Mr. Praon Chinudomsub Chief Financial Officer By Spouse or Cohabiting couple, and Minor children	- -	- -	- -
3. Mr. Khamhoung Ratsamany Vice President - Business Operation By Spouse or Cohabiting couple, and Minor children	- -	- -	- -
4. Mr. Varanon Laosuwan Director - Utilities Business Development By Spouse or Cohabiting couple, and Minor children	- -	- -	- -

Name - Surname Company's Executives		No. of Share (shares)		No. of Shares
		As of 31 Dec 2019	As of 31 Dec 2020	Addition (Reduction) During the Year
5.	Mr. Punrapee Noparumpa Director - Power Business Development By Spouse or Cohabiting couple, and Minor children	-	-	-
6.	Mr. Maka Kornkum Director - Construction and Engineering By Spouse or Cohabiting couple, and Minor children	-	-	-
7.	Mrs. Rattana Shinawatra Director - Accounting By Spouse or Cohabiting couple, and Minor children	-	-	-
8.	Ms. Nutch Rattanajitbanjong Corporate Secretary By Spouse or Cohabiting couple, and Minor children	-	-	-

Executives

As of 31 December 2020, the Company has 7 the executives:

Name	Position
1. Dr. Nippon Bundechanan	Chief Executive Officer
2. Mr. Prapon Chinudomsub	Chief Executive Officer
3. Mr. Khamhoung Ratsamany	Vice President - Business Operation
4. Mr. Varanon Laosuwan	Director - Utilities Business Development
5. Mr. Punrapee Noparumpa	Director - Power Business Development
6. Mr. Maka Kornkum	Director - Construction and Engineering
7. Mrs. Rattana Shinawatra	Director - Accounting

Duties and Responsibilities of the Chief Executive Officer

- To determine policy, strategy, structure and management authority as well as to take responsibility for setting up the strategy and annual budget plans and proposing these to the board of directors.
- To follow up, control, supervise and operate and/or manage regular tasks to comply with the policies, plans and budgets approved by the board of directors.
- To be an authorized person of the Company and to operate the business to comply with the Company's objectives, articles of association, policies, rules, regulations, orders, shareholders' resolutions and/or board of director's resolutions.
- To take actions and perform duties as the representative of the Company toward third parties in related business which would be beneficial to the Company.



5. To consider and approve the business operation plans of each department of the Company, to approve any action of each department of the Company which is subject to the assigned table on the authority to operate business and the transactions entered into by the Company.
6. To give orders, issue regulations, make announcements and records in order to perform the work to be in accordance with the policies and benefits of the Company and to maintain internal regulations of the Company.
7. To sub-authorize and/or assign a person to take action on behalf of the Chief Executive Officer. In this regard, the sub-authorizing and/or assignment shall be under the scope of authority prescribed in the power of attorney of the Company and/or regulations, rules or orders which are specified by the board of directors and/or the Company.
8. To approve related party transactions for normal operation such as the sale and purchase of goods at market price, service fees at the normal rate and giving credit terms similar to general customers, etc. pursuant to the policies approved by the board of directors.
9. To have authorities, duties and responsibilities to manage the Company's subsidiaries and other departments of the Company.
10. To establish Anti-Corruption risk assessment in risky working processes.
11. To establish encouragements and support for the Anti-Corruption Policy and communication to employees and related parties.
12. To implement the Anti-Corruption Policy and framework continuously and entirely.
13. To update relevant systems and measures with changes in business practice, regulations, articles and legal requirements.
14. To perform other work as assigned by the board of directors on a case-by-case basis.

Company Secretary

The Board of Directors' meeting No. 5/2017, held on 30 May 2017, approved the appointment of Miss Nutch Rattanajitbanjong to be the Corporate Secretary in order to act on behalf of the Company and/or the Board of Directors. The Corporate Secretary's scope of authority, duty and responsibility are as follows:

1. providing preliminary recommendation to directors according to related laws, rules and regulations;
2. providing advice for convening the shareholders' meetings in order to be in compliance with laws, regulations and guidelines, including preparing the notice of the shareholders' meetings;
3. recording the minutes of the shareholders' and the Board of Directors' meetings, including monitoring the compliance of the resolution of the shareholders' and the Board of Directors' meetings;
4. monitoring the disclosure and information memorandum to the public according to related regulations and notifications;
5. preparing and keeping the following documents:
 - (a) director register book;
 - (b) the notice and minutes of the Board of Directors' meeting and the annual report of the Company; and
 - (c) the notice and minutes of the shareholders' meeting;
6. keeping reports on the interests of directors and executives; and
7. performing any other actions as specified by the Capital Market Supervisory Board.

Remuneration of directors and executives

Remuneration of directors

(1) Monetary remuneration

The Annual General Meeting of Shareholders 2020, held on 10 July 2020, approved the remuneration of the directors and sub-committee of the Company for year 2020, by dividing the payment into three categories i.e., in forms of meeting allowance, directors' remuneration and bonus. The details are as follows:

	Yearly Remuneration	Meeting Allowance
Board of Directors	Chairman THB 200,000/year Director THB 150,000/year	Chairman THB 30,000/time Director THB 25,000/time
Executive Committee	-	Chairman THB 25,000/time Member THB 15,000/time
Audit Committee	-	Chairman THB 25,000/time Member THB 15,000/time
Corporate Governance Committee	-	Chairman THB 25,000/time Member THB 15,000/time
Nomination and Remuneration Committee	-	Chairman THB 25,000/time Member THB 15,000/time
Risk Management Committee	-	Chairman THB 25,000/time Member THB 15,000/time

Bonus at the rate of 0.2 percent of the total income of the Consolidated Financial Statements and share of profit of associates and joint ventures for that year.

Details of the remuneration of the Company's directors and committees for year 2020 are as follows:

(Unit : THB Baht)

No.	Name	Yearly Remuneration	Meeting Allowance						Bonus	Total
			Board of Directors	Audit Committee	Executive Committee	Corporate Governance Committee	Risk Management Committee	Nomination & Remuneration Committee		
1.	Ms. Jareeporn Jarukornsakul	200,000.00	240,000.00		225,000.00		150,000.00	45,000.00	1,038,979.88	1,898,979.88
2.	Mr. David Richard Nardone	150,000.00	200,000.00		135,000.00		90,000.00		961,299.14	1,536,299.14
3.	Mr. Vivat Jiratikarnsakul	150,000.00	200,000.00		135,000.00	45,000.00			961,299.14	1,491,299.14
4.	Mr. Wisate Chungwatana	25,000.00	25,000.00		30,000.00				961,299.14	1,041,299.14
5.	Dr. Nipon Bundechanan	150,000.00	175,000.00		105,000.00					405,000.00
6.	Mr. Weidt Nuchjalearn	150,000.00	200,000.00	125,000.00				75,000.00	961,299.14	1,511,299.14
7.	Mr. Ekajai Tivutanond	150,000.00	200,000.00	75,000.00		45,000.00		45,000.00	961,299.14	1,461,299.14
8.	Mrs. Punnee Worawuthichongsathit	150,000.00	200,000.00	75,000.00		75,000.00			961,299.14	1,476,299.14
9.	Mr. Surathian Chakthranont	150,000.00	200,000.00				90,000.00		961,299.14	1,401,299.14
10.	Mr. Natthapatt Tanboon-ek				135,000.00					135,000.00
11.	Mr. Prapon Chinudomsub				45,000.00					45,000.00

(2) Other remunerations

- None -



Remuneration of executives

(1) Monetary remuneration

Details of remuneration of executives of the Company (excluding remuneration as directors) for the year ended 31 December 2019 and 31 December 2020 are as follows:

	Year 2019	Year 2020
Number of persons	8	7
Total remuneration (THB million)	34.72	28.61

(2) Other remunerations

For the year 2020, the Company contributed to the provident fund to the management as employees of the Company at THB 1.50 million.

Personnel

Number of personnel

The number of personnel of the Company and its Subsidiaries (excluding executives) across the divisions of the Company as of 31 December 2019 and 31 December 2020 was as follows:

Divisions	Number of personnel	
	As of 31 December 2019	As of 31 December 2020
Operation	73	83
Utilities	3	4
Power	5	7
Construction and Engineering	0	11
Accounting	3	3
Finance and Investor Relations	5	5
Corporate Secretary Office	3	3
Compliance	2	3
Management Support	6	3
Total	100	122

Remuneration of personnel (excluding executives)

For the year 2019 and 2020, the Company paid remuneration to employees (excluding executives) in the amount of THB 60.33 million and THB 61.15 million, respectively, as follows:

	Fiscal year ended 31 December 2019	Fiscal year ended 31 December 2020
Monthly salary ^{/1}	58.04	58.37
Other remunerations ^{/2}	2.29	2.78
Total	60.33	61.15

Notes

^{/1} Including bonus

^{/2} Including provident fund.

Labour disputes for the past 3 years

As of 31 December 2020, the Company and its subsidiaries have no pending material labour disputes for the past 3 years which would have a material impact on the Company's and its subsidiaries' assets, shareholders' equity and/or the operation of Company and its subsidiaries.

2. The management division will provide documents and information useful for performing the duties of a new director, including the nature of business and business guidelines of the Company.

Personnel development policy

1) Development of directors and executives

1. The Company promotes and facilitates the training and development of knowledge of persons relating to corporate governance policy of the Company, such as directors, Audit Committee, Company Secretary, in order to continuously improve their performance. The training may be internal training and/or external training.

2) Development of employees

The Company is aware of the importance of human resource development. Therefore, the Company focuses on being a learning organisation by having policies to support and facilitate the training and development of knowledge suitable for personnel in every division.



Corporate Governance Policy

The Company regards good corporate governance principles as an important factor in promoting efficiency and sustainable growth, ultimately translating into greater value for its stakeholders, including its employees, partners, customers, investors and other stakeholders. The board of directors has put in place a corporate governance policy which covers all material principles, including structure, roles, duties and responsibilities of directors, and principles of management in order to gain transparency and verifiability in business operation. This policy acts as a guideline for the management of the Company to gain confidence that that Company operates its business with fairness and takes into account the ultimate benefits of shareholders and stakeholders.

The board of directors gives precedence to this corporate governance policy, which covers the following five categories:

Category 1: Rights of shareholders

The Company (i) emphasizes the importance of shareholders' rights, which are not limited to the rights under the law, (ii) refrains from any act which may infringe on, or deprive, the rights of shareholders, and (iii) encourages the shareholders to exercise their rights.

Basic shareholder rights include the right to buy, sell or transfer shares, the right to share the company profit, the right to obtain adequate information from the Company, the right to attend shareholder meetings to exercise their right to vote in the appointment or removal of directors, the appointment of auditors and matters affecting the Company, such as the allocation of dividends, specifications or amendments of the Company's articles of association and memoranda of association, reduction or increase of capital and approval of extraordinary transactions.

In addition, the Company also employs the following practices in order to encourage and facilitate the exercise of shareholders' rights:

- 1) Disclosing the policies to support or encourage all shareholders to attend the Company's shareholder meetings.

- 2) Before the meeting date, the Company will send shareholders the notice of the meeting with supporting documents at least 30 days in advance. The notice shall contain details of the date, time, venue, criteria for meeting attendance in compliance with the law and the company's articles of association and agenda of the meeting with an explanation and reason for each of the agenda items or each resolution sought in order to provide shareholders with the opportunity to study such information, thoroughly which will be posted on the Company's website and SET Portal system of the Stock Exchange of Thailand at least 30 days in advance and such documents are submitted to shareholders at least 21 days prior to the Meeting. In the event of emergency, the Company will notify the shareholders in advance in accordance with the time period specified by law, and will refrain from any act which will limit the opportunity of shareholders to study the Company's information.
- 3) Facilitating shareholders' participation and voting in the meeting. Any actions that could hinder shareholders from conveniently exercising their right to attend the meetings and participate in voting should be prohibited. For example, procedures to attend and vote should not be complicated or costly for shareholders, and the location of the meeting should be relatively accessible.
- 4) The chairman of the meeting will allocate proper time for the meeting and encourage shareholders to express their opinions and ask questions relating to the Company. The Company will allow shareholders to send their questions to the Company prior to the meeting date. In this regard, the criteria for advance questions will be clearly determined and the shareholders will be notified of the same in the notice of the shareholders meeting. Also, the Company will publish the criteria for submitting the questions on the Company's website.
- 5) Encouraging shareholders who cannot attend the meeting by themselves by allowing the shareholders to appoint any person or permit at least 1 independent director to attend the meeting, using proxy forms which allow shareholders to control the outcome of their votes and notify the name of such independent director in the notice of meeting.

- 6) Encouraging the use of technology in the shareholder meetings to register, count and validate votes, and depict the result of the vote for fast, accurate and prompt meetings.
- 7) Encouraging all directors, top managements and auditors of the Company to attend the shareholder meetings and answer the shareholders' questions.
- 8) In the meetings, the shareholders shall separately vote for each matter in case a particular agenda having several matters to be considered, for example, the agenda of appointment of directors.
- 9) Encouraging the appointment of an independent party to count and validate votes at shareholder meetings. The result will be disclosed at the meeting and recorded in the minutes.
- 10) Encouraging the use of voting cards for important agenda items such as related party transactions, acquisitions or disposal of assets, for the sake of transparency and traceability in the case of subsequent objection.
- 11) Disclosed the voting results and resolutions for each agenda item at the Annual General Meeting of Shareholders to the public via SET Portal and the Company's website after the Meeting ended.
- 12) Preparing minutes of shareholder meetings which include: details regarding voting procedures and the method used to find out the result of such vote; the opportunity to record both questions and answers; voting results of each agenda; and a list of attendance. The minutes will be published on the Company's website within 14 days from the date of the meeting.
- 2) The Company shall inform shareholders of meeting procedures and voting criteria, including the voting rights attached to each class of shares, if any.
- 3) The voting rights in the shareholder meetings shall be in accordance with a number of shares held by shareholders. One share will have one vote. In addition, the Company allows shareholders who attend the meeting after its commencement to vote for agendas which are under consideration and have not yet been voted upon, and the votes of such shareholders will be included in the quorum.
- 4) The Company will not table any agenda item for consideration other than those specified in the notice of meeting which have not been included in the notice to the general meeting, especially if it is an issue that will require careful consideration before deciding and the meeting shall be in accordance with the Company's Articles of Association.
- 5) The Company will allow a minority shareholder who holds shares representing at least 5% of the paid-up capital for not less than 12 months consecutively to propose in advance agenda items the annual shareholders' meeting and nominate a qualified person to serve as a director through a nomination and remuneration committee prior to the shareholder meeting date. Supporting information, with respect to candidates' qualifications and consent, should be provided by the minority shareholders nominating the candidates by post to the Company Secretary.
- 6) The process used in the election of directors should allow shareholders to vote on individual nominees. This means that the shareholders will have the opportunity to truly select the directors of their choice and preference. The Company will enclose the details of the nominated directors enough for shareholder consideration.

Category 2: Equitable treatment of shareholders

The Company has policies in place to treat all shareholders fairly and equally, regardless of their status, whether executive or non-executive shareholders, majority or minority shareholders, Thai or non-Thai shareholders. These policies are as follows:

- 1) The Company shall release its general meeting notice with detailed agenda and explanatory circulars which will be uploaded to the Company's website not less than 30 days in advance, both in Thai and English. In the event of emergency, the Company will notify the shareholders in advance in accordance with the time period specified by law prior to the date of the meeting.
- 7) The Company ensures that every director and executive regularly submits to the board a report on their ownership of the Company's shares and this information should be disclosed in the firm's annual report.
- 8) The Company shall provide written procedures to prevent the act of using inside information. The Company shall establish these procedures and communicate them to everyone in the Company. Any person deemed to have inside information is prohibited to buy and sell Company shares within one month prior to the disclosure of the quarterly and annual financial statements, and within 24 hours after publishing or disclosing material information.

- 9) The Company shall require the directors to inform the Company of their conflicts of interest regarding each agenda item before considering such agenda item, and such conflicts should be recorded in the minutes. The Company shall require such board members to abstain from participating in board discussions on agenda items for which such director has expressed a conflict of interest.
- 1) To treat employees with politeness and respect by taking into account each employee's individualism
- 2) To give employees fair remuneration and align with short-term and long-term corporate performance, the Company considers salary adjustment for the management and employees once a year as a factor of the Key Performance Indicator (KPIs). This includes current performance (short-term) and performance based on long-term strategies to lay the foundation for future business growth. Thanks to this evaluation, the remuneration of management and employees is in line with both short-term and long-term corporate performance. Furthermore, the Company defines variable bonus payment linked to yearly performance and employee performance to motivate them to achieve annual corporate goals. Moreover, the Company also set up provident funds for employees and recognise the importance of employee' welfare, such as health and accident insurance, financial contributions towards the funeral costs of employee's parents.
- 3) To protect the work environment by adhering to health and safety regulations

Category 3: Role of stakeholders

The Company regards the role of shareholders as highly important and values the rights of all stakeholders by adhering to the following policies:

(1) Policy and treatment of employees

The Company recognises the importance of all employees, whose roles are to support the Company in achieving its goals. Therefore, it is the policy of the Company to treat all employees fairly in respect of opportunity, remuneration, appointment and transfer, while striving to develop their potential. To this end, the Company undertakes the following practices:

Numbers of accidents at work in 2020

	Unit	Number	
		Year 2019	Year 2020
Number of accidents resulting in working day lost	Person	0	0
Number of persons injured of work	Person	0	0
Number of day lost	Day	0	0
Number of death toll	Person	0	0

- 4) To give extensive and constant opportunities to employees to empower them to reach their full potential

In 2020, trained executives and employees are as follows:

	Total Training Hour (hrs./year)		Average Training Hour (hrs./person/year)	
	Year 2019	Year 2020	Year 2019	Year 2020
Executives and Employees	1,495	2,463	13	19.09

- 5) To appoint, transfer, reward and penalise the employees fairly and in good faith
- 6) To acknowledge employees' professional views and suggestions
- 7) To strictly comply with relevant laws and regulations relating to labour and employment

(2) Policy and treatment of shareholders

- 1) To perform fiduciary duty and make any decision in accordance with professional principles, with due care and fairness to both majority and minority shareholders, for the ultimate benefit of shareholders
- 2) To continually and fully present reports on the Company's status, business performance, financial status and accounting, etc.
- 3) To inform all shareholders of any plans of the Company, whether these will have a positive or negative impact, while also providing supporting information and rationale
- 4) To prohibit the use, by themselves or any third parties, of Company' information which has not yet been disclosed to the public and to avoid doing anything which may cause a conflict of interest within the Company

(3) Policy and treatment of customers

The Company recognises the importance of its customers and sets out the following policies:

- 1) To provide customers with recognised procedures relating to the production process, to focus on the consolidation and development of production technology and to regularly check the quality of products
- 2) To provide customers with recognised procedures in order to strictly and regularly comply with Company-customer regulations with good faith
- 3) To keep customer information confidential and to avoid using it for its own benefit or for the benefit of related persons
- 4) To ensure the safety of customers at all times; to commit to solving any problems which have been raised by the customers; and to take into account any customers' recommendations. The Company will, at least once a year, measure customer satisfaction relating to both products and services in order to make improvements

Customer Satisfaction Survey

To evaluate customer satisfaction, WHAUP sends the customer satisfaction surveys directly to the customers through service provider team. The questionnaire assesses customers' satisfaction towards WHAUP on all aspects relating to water products and services such as; quality of supply water, water pressure, service excellence, etc. The evaluation ratings and comments are then consolidated and analyzed by the service provider team. In 2020, WHAUP received an average customer satisfaction score of 96 out of 100.

Year	2019	2020
Customer Satisfaction Score	94	96
Total Number of Customers Survey	264	425

(4) Policy and treatment of partners and/or creditors

The Company has a policy for its employees to fairly treat partners and/or creditors to avoid situations which may cause conflicts of interest. Negotiation for treatment will be conducted under the following practices:

- 1) Not to claim or receive or pay any benefits in bad faith to partners and/or creditors
- 2) In the case where there is any information that the claim, receipt or payment of any benefits was made in bad faith, details must be disclosed to partners and/or creditors and the problems should be solved fairly and promptly
- 3) To strictly comply with conditions as agreed upon. In case of non-compliance with any commitments, creditors shall be informed in advance in order to jointly come to a solution.

- 4) The Company shall treat creditors as important partners. The Company, therefore, aims to comply with all commitments under the contracts between the Company and its creditors, including not to disclose any information which may cause damage to the creditors. In case of non-compliance with any commitments under the agreements, the Company will inform the creditors in advance to seek a solution, which might include guarantee conditions, capital management and defaults.
- 5) The Company has a policy relating to the procurement to assort partners or contractors which will be categorised by group of distributor and contractor pursuant to the pre-determined criteria on grouping partners or contractors such as the reliable financial record, the manufacture or distribute products with required and verifiable quality and the support in promotional campaigns and provide after sales services. Such criteria shall be evaluated and considered for improvement at least once a year.
- 6) The Company has a policy to support local business by procuring things from contractors or distributors from qualified local companies.

(5) Policy and Treatment to Competitors

The Company has the policy to treat competitors without breaching the confidentiality or knowing the confidentiality of competitors with fraud and set the following policy:

- 1) To follow the rules on competition
- 2) Not to seek confidentiality of competitors by bad faith or inappropriate means.
- 3) Not to destroy competitors' reputation by malicious accusation.

(6) Policy and treatment of societies/communities

The Company has a policy on conducting business which benefits the economy, society and adheres to the principles of good citizenship. The Company fully complies with related laws and regulations and participates in activities which promote or enhance the quality of life of societies and communities in which the Company operates its business. There are also policies in place which support participation in various organisations in societies, communities and vicinities regarding education, safety and security, etc.

(7) Environment policy

The Company shall operate its water business in a sustainable and environmentally-friendly manner in compliance with environmental management standards such as ISO 14001. In addition, the Company has a policy to support various activities aimed towards quality improvements, health and safety, and the environment.

Environmental Awareness and Training

The Company recognizes the importance of environmental preservation. The majority of the problems that affect the environment are caused by Employees who do not understand how their actions can have negative effects on the environment. For Employees whose work causes environmental concern, either directly or indirectly, environmental awareness training has been provided. A summary of the training syllabus is below:

Training Course		Training Hour	Number of participants
1	Solar Cell Operations and Maintenance (SCM)	24	2

[8] Government agencies policy

The Company has defined that transactions with the Government agencies ensures strict compliance with relevant laws and regulations despite varying conditions, procedures, or practices in each locality. In addition to refusing to engage in an act that could provide an incentive for officers in government agencies to commit an inappropriate or unlawful deed.

[9] Policy on Anti-Corruption

The company determines in honest, transparent and just business practice according to good corporate principle. We are intolerant to both direct and indirect corruptions in any forms. The Company determines directors, executives and employees to seriously comply with the Anti-Corruption Policy. Therefore, the Company defines practical guidelines on anti-corruption and the communication channels for complaint which the Policy has been informed to all stakeholders of the company via communication channels including the Company's website, in-house board announcement, employee orientation, etc. The Policy will be annually reviews and can be used as guidance.

Risk assessment and Monitoring

The Risk Management Committee assessed the potential corruption risks by conducting the corruption risks meetings separate from other risks including monitoring, reviewing and improving anti-corruption measures on a continued basis, with the assessment results being reported to the Board of Directors regularly, on a timely basis.

Whistle-Blowing and Complaint-making Measures

Stakeholders, employees, or external parties that come across or are aware of clues, as well as those affected by the Company and Subsidiaries' business or by the job performance of Directors, executives, and employees can file a complaint or whistle-blowing in the areas as followed:

- 1) Illegal deeds, corrupt practices, violations of the Company's regulations or the code of conduct by the Company's Directors, Executives, and employees.
- 2) Matters detrimental to the Company's interests or reputation.
- 3) Major flaws in financial reports and the internal control system.

Whistle-Blowing Channels

The Company has the channels to inform, suggest or complain through the following channels:

- 1) E-mail to Audit committee
auditcommittee@wha-up.com
- 2) E-mail to Chief Executive Officer
ceo@wha-up.com
- 3) The Company Website (Whistle-Blowing)
www.wha-up.com
- 4) Telephone / Fax
02-719-9559 / 02-717-2128
- 5) Suggestion Box
Corporate Secretary Department

Procedures upon receipt of complaints

- 1) The Chairman of Audit committee or Chief Executive Office appoints or authorizes a working group to personally find facts related to the violation or non-compliance with the code of conduct or policies.
- 2) The authorized working group processes and screens such facts and then considers proposing appropriate steps and actions for handling such complaints for those affected by such occurrence or disciplinary punishment for the offenders to the company's regulations.
- 3) The authorized working group proposes measures to deal with the violation or non-compliance with the code of ethics or policies to the Chairman of Audit Committee or Chief Executive Officers' consideration so as to alleviate damage for those affected by such occurrence, taking the overall damage into account or disciplinary punishment for the offenders to the company's regulations.
- 4) The Chairman of Audit committee or the Chief Executive Officer reports to the Board of Directors for acknowledgment and reports on the results to the stakeholders who submitted such complaints, if the complainants can be identified.

Protective measures of the complainants or those who provide cooperation in the investigation.

The complainants or those who provide cooperation in the investigation of facts may choose to keep their identities undisclosed, in case such disclosure may jeopardize their safety or cause any damage. In case their identities are disclosed, the Company will report on developments of the fact finding. The Company may not disclose name-surname, address, photograph, or any other information which may identify the complainants or those who provide cooperation in the investigation of facts. The person who accepts complaints must keep related information confidential and may disclose the same only to the extent necessary by taking into account safety

and damage in respect of the complainants or those who provide cooperation in the investigation of facts, sources of information or related persons. If it is likely to cause damage or jeopardize safety, appropriate protection measures must be implemented. Those who sustain damage will be compensated by way of appropriate and fair procedures.

Penalty

The Company shall establish appropriate punishment system on non-compliance and direct or indirect violating personnel against the Anti-Corruption Policy. Disciplinary punishment including redundant if deems necessary and legal procedure shall be considered.

In 2020, the Company received no significant complaint raised by both insiders and outsiders.

Category 4: Disclosure and transparency

The board of directors has a policy to disclose accurate, complete and transparent material information regarding the Company, both in terms of financial reports and general information, in accordance with the rules of the SEC and the SET, as well as essential information that impacts the price of the Company's shares, which affects the decision-making process of investors and stakeholders of the Company as follows:

- 1) The Company shall disclose information to stakeholders through a mechanism which ensures that all information disclosed is accurate, will not cause any misunderstanding and is adequate for decision-making by the investors;
- 2) The board of directors shall disclose information regarding corporate governance, code of conduct, risk management policy, environmental policy and policy to societies as exclusively approved by the board, together with steps taken to implement such policies and the reason for each case of non-compliance through various channels, such as the annual report and the Company's website, etc.;
- 3) The board of directors shall present its responsibilities concerning the Company's financial reports alongside the auditor's report;
- 4) The board shall ensure that audit fee and fee for other services are disclosed;
- 5) The board shall ensure that its roles and responsibilities, together with those of its committees, the number of meetings held, the attendance record of each director, and the results of tasks assigned, including ongoing professional education or training of its directors, are disclosed in the annual report.

- 6) The board should disclose remuneration policies for directors and executives that correspond to the contributions and responsibilities of each person. Also, the board should disclose the forms and the amounts of payment to each person. If any director of the Company is also a director any of its subsidiaries, the amount paid by each subsidiary to each director should be disclosed as well.
- 7) Apart from the disclosure of information in accordance with the rules specified and through the channels of the SET, the annual registration statement (Form 56-1) and the annual report, the Company will disclose information, both in Thai and English, through other channels, such as the Company's website regularly, and present up-to-date information.
- 8) All directors and executives of the Company shall inform the Company of their interest, or the interest of a related person, with respect to the management of the business of the Company or its subsidiaries based on the rules, conditions, and procedures specified in the notification of the Capital Market Supervisory Board. Such interest must be resolved and reported to the Company within 30 days from the date on which such interest has been changed. The Company shall provide those issues in the board of director's meeting on a quarterly basis.

Category 5: Responsibilities of the board of directors

(1) Board structure

The board of directors of the Company comprises of at least five persons. One third of the board shall be independent directors and such independent directors consist of no fewer than three members in accordance with the rules of the SEC. The board should comprise of persons from various professions, including business, accounting and finance which relate to and support the Company's business. There are five other committees: the Executive committee, Audit committee, Nomination and Remuneration committee, Risk Management committee and Corporate Governance committee.

All of the Company's independent directors are independent of management and majority shareholders. Independent directors are eligible to serve as the director of a maximum of five listed companies.

The policy relating to the terms of directors shall be in accordance with the Company's articles of association, which state that in the annual ordinary meeting of shareholders of the Company, one third of the directors must annually retire from office. Those who have the longest term shall retire first. The term of a director is three years. A retiring director is eligible for re-appointment through a shareholders' meeting.

In addition, the Company shall ensure appointment of the Executive committee, Audit committee, Nomination and Remuneration committee and Risk Management committee and clearly provide the scope of authorities, duties and responsibilities of such committees in order to achieve a balance of power, as well as appoint the Company Secretary to perform the duties and coordinate compliance with the resolution of the board.

Independence of Directors

The board of directors of the Company comprises of eight directors consisting of four independent directors which is fifty percent of the total number of directors of the Company in accordance with the Notification of the Capital Market Supervisory Board No. Tor Chor. 39/2559 Re: Application for and Approval of Offer for Sale of Newly Issued Shares. However, the Chairman of the board of directors is not an independent director, according to the recommendation specified in the Principles of Good Corporate Governance of the SET, the number of independent directors should be more than half of the total directors.

The Company viewed that the board structure is transparent, sufficient and able to protect the shareholders' and the Company's benefit; since there are four independent directors, according to the office of SEC's requirement. Each of independent directors and audit committee is external persons having knowledge, capability and experience which benefit to the operation of the Company and no conflict of interest involves with the major shareholders. These independent directors attend and give opinion in the meetings regularly.

In addition, once the Company becomes a listed company on the SET, the Company shall comply with the notifications of the SEC, the Capital Market Supervisory Board, the SET's board, such as the notifications

relating to connected transaction and the acquisition or disposition of assets. Under these notifications, any material transaction must be approved by the shareholders' meeting and the Company must inform shareholders the opinion of the audit committee. The audit committee is viewed as a representative of minority shareholders. Therefore, if the shareholders received the opinion of the audit committee, the shareholders will have sufficient information for their decision making.

The directors have duties to comply with the applicable laws, e.g. fiduciary duty according to the Securities and Exchange Act, the Public Company Act and the Company's policies including corporate governance policy, code of conduct which require directors and related persons to comply with applicable laws and policies for the utmost benefit of the shareholders of the Company.

(2) Roles, duties and responsibilities of the board of directors

The Board performs crucial roles in determining and reviewing the Company's vision, missions, business strategies, operations plans, and budget. It must adapt to a quickly evolving business environment. The Board must approve important aspects of the Company and Subsidiaries' operations at least once a year. The Board reviewed and approved the Company's vision, missions, and business strategies annually in order to allow the Board along with top executives jointly reviewed vision, missions, and short-term and long-term business strategies against business directions and future trends.

Corporate Governance policy

The Company intends to maintain high standards of corporate governance by complying with the corporate governance policy, which is subject to the Principles of Good Corporate Governance for listed companies 2012 proposed by the SET, and complying with the code of conduct which is approved by the board and communicated to everyone in the Company. The Company also set up the Standard Operating Procedures in order to control the operations and procedures of the Company. In addition, the board also approves and regularly considers having internal rules and regulations to continuously improve the Company's corporate governance.

Code of Conduct

The Company strongly believes that conducting business with ethical standards is essential for sustainable growth for the benefit of all stakeholders. In order to encourage and support good business ethics, the Company has set out relevant guidelines which have been approved by the board, and require the board, executive directors and employees to strictly comply with and communicate them to everyone in the Company through various channels, including via email, the intranet system and information board to encourage everyone to comply with the Company's code of conduct.

The code of conduct has been prepared pursuant to good faith, transparency and the corporate governance policy, as well as good ethical standards.

Conflict of interest

Any transaction between the Company and any connected persons which could turn into a conflict of interest shall be thoroughly considered by the Audit committee. If such transaction is considered to be material, it shall be approved by the board of directors and/or shareholders, depending on the type and size of the transaction, pursuant to the rules of the Capital Market Supervisory Board. Directors or executives of the Company who have such interests shall not participate in the decision-making process on such issues.

Such transactions shall be conducted under general conditions with the counterparty at fair price and on an arm's length basis without influence from a party which might have conflicting interests. In circumstances where the price cannot be determined, the Company shall refer to the report by the independent appraiser appointed by the Company in order to consider the appropriate price for both the Company and the connected person.

Internal controls and internal audit systems

The Company recognises the importance of an efficient internal control and internal audit system and therefore assigned the Audit committee the task of reviewing the Company's internal control system, and internal audit system which consists of the following five elements: control environment, risk assessment, control activity, information and communication, and monitoring and

evaluation. This is in line with the guidelines set forth by the Committee of Sponsoring Organization of the Tread Way Commission. The Audit committee will report to the board of directors.

Internal audit

The Company set up an independent internal audit division, Dharmniti Auditing Co., Ltd. for the year 2020 which the internal audit manager shall control the internal audit system and directly report to the Audit committee. The internal audit manager has the key responsibility of reviewing and evaluating the efficiency of the Company's internal audit system in accordance with the annual evaluation form approved by the Audit committee. It must also regularly report to the Audit committee on a quarterly basis in order to improve the effectiveness of the Company's operations.

The appointment, removal and transfer of the internal audit manager shall be approved by the Audit committee.

Procedures on governing subsidiaries or associates

The Company shall authorise its directors or any other person with expertise relating to Company's business, to act as a director in subsidiaries or associates in order to control the management, as well as report to the board of directors on a quarterly basis.

The number of directors in subsidiaries and associates authorised by the Company shall be at least proportionate to the ownership of each company. Any essential policies and voting in essential agendas shall be approved by the chairman of the board.

(3) The board of directors' meeting and committee meeting

Board of directors

The Company shall hold the board of directors' meeting of not less than six times per year and its schedule and agenda shall be clearly set in advance. The Company may hold ad hoc meetings in order to consider any urgent matters. Therefore, the board of directors acknowledged the Meeting Schedule of the Board of Directors and Sub-Committee for the year 2020 at the Board of Directors' Meeting No. 7/2020 on 13 November 2020.

For the Board of the Directors' Meeting, the document for the said Meeting shall be distributed to the Directors for acknowledgement and consideration in advance 7 working days before the said Meeting occurs. 'Top executives of the Company may attend board meetings to present material details and directly acknowledge policies. In addition, non-executive directors should be able to meet among themselves, without the management team, in order to discuss their concerns at least once a year.

In 2020, The Company managed a total of 8 Board Meetings, 5 Audit Committee Meetings, 9 Executive Committee Meetings, 3 Corporate Governance Committee Meetings, 6 Risk Management Committee Meetings, 3 Nomination and Remuneration Committee Meetings and 1 Non-Executive Directors meeting in the absence of the executives.

The Executive committee shall consider and set the board meeting agenda. Each member of the committee should be free to propose an issue for a meeting agenda and to express their opinions. Then, the Company Secretary shall prepare the agenda papers and the notice of the board meeting. Approval in the board of directors' meetings will be made by majority votes, and one director has one vote. Interested directors shall not attend the meeting or shall refrain from voting in such issues. The quorum requires not less than two-third of the total number to pass a resolution.

The Board of Directors set a policy that each director should attend the meeting not less than 75 percent of all board meetings in any whole financial reporting year. The number of meetings and attendance of each director and subcommittee is disclosed in the Annual disclosure (Form 56-1) and the Annual report of the Company as described in the topic "Management Structure".

Executive committee

The Company will have the Executive committee meeting regularly, at least four times per year on a quarterly basis, and the meeting will be scheduled and notified in advance.

The Executive committee's duties should not only include meeting attendance, but should also cover the exchange of opinions, recommendations, experiences and connections to enhance the Company's benefits.

Audit committee

The Company will have the Audit committee meeting regularly, prior to the board of directors' meeting, at least four times per year on a quarterly basis. The meeting will be scheduled and notified in advance.

Nomination and Remuneration committee

The Company will have the Nomination and Remuneration committee meeting regularly, at least two times per year, prior to the board of directors' meeting. The meeting will be scheduled and notified in advance.

Risk Management committee

The Company will have the Risk Management committee meeting regularly, at least two times per year, and prior to the board of directors' meeting. The meeting will be scheduled and notified in advance.

Corporate Governance committee

The Company will have the Corporate Governance committee meeting regularly, at least two times per year, and prior to the board of directors' meeting. The meeting will be scheduled and notified in advance.

(4) Evaluation of performance of board of directors

The Company provides for the annual self-evaluation of directors to jointly consider and summarise their performance in relation to their review of the board of directors' performance, problems and obstacles, and the offering of solutions to improve overall performance and effectiveness of the board of directors. The assessment is divided into three types, namely the performance assessment of the Board of Directors as a whole and the self-assessment and Sub-committee. The Company based its guidelines for evaluation of the board of directors on the guidelines of the SET. The result of the evaluation will play an important role in developing the efficient performance of duties of the board of directors.

For the Board's Performance Assessment Criteria, the Company's appraisal form covers additional significant criteria as follows:

1. Satisfaction regarding:
 - (1) Result of performance of the board of directors as a whole;
 - (2) Result of business operation of the Company; and
 - (3) Proceeding with solving problems by management.

2. Understanding on:
 - (1) Roles and duties;
 - (2) Company's business; and
 - (3) Company's strategy.
3. Good relationships between the board of directors and management
4. Efficiency of subsidiaries and committees
5. Sufficient and appropriate time allocation by the board of directors to consider the following issues:
 - (1) Policy and direction of the Company;
 - (2) Business performance of the Company; and
 - (3) Solution in case of non-achievement.
6. Preparation by the board of directors to attend the meeting
7. Independence of the board of directors in expressing opinions
8. Neutral opinion of the board of directors
9. Opportunity and support given by the chairman to every director to independently express his/her opinion
10. Opinion of the board of directors on investors' confidence in the board of directors
11. Acceptability among employees on corporate governance practice of the Company.๗

For the Board's Performance Assessment Process, the Company Secretary will provide directors with the evaluation form at the end of each year and will report the summary to the board of directors for further consideration and discussion annually.

The overall evaluation results for 2020 are shown, as follows:

Performance Evaluation of the Board of Directors	Average	Evaluation
Board of Directors	98.73	Excellent
Individual Directors	98.96	Excellent
Audit Committee	100.00	Excellent
Nomination and Remuneration Committee	95.24	Excellent
Corporate Governance Committee	97.86	Excellent
Risk Management Committee	100.00	Excellent

CEO's Performance Assessment and Remuneration

The Company executed CEO's Performance Assessment each year. The Nomination and Remuneration Committee, in charge of the annual performance assessment of the CEO, must forward the assessment outcome to the Board for endorsement. The performance assessment for the CEO has several parts, e.g. Leadership, Strategy formulation, Strategy execution, Financial planning/ Performance, Relationships with the Board, External Relations, Human Resources Management/Relations, Succession, Product/Service Knowledge, Personal Qualities. In 2020, the CEO's performance average score was 91.81%.

The performance appraisal outcome, influencing the salary raise for the CEO, is presented to the Board for further approval. The Compensation Policy also links the CEO's performance to overall short-term performance, operating performance, and long-term strategic objectives. This practice laid a foundation for future business growth to a motivational-level and comparable to organizations within the same industry, under clear-cut and transparent rules.

(5) Remuneration for the Board of Directors and the Top Executives

The Company provides the policy on the remuneration for the board of directors and the top executives, which will be based on the duties, responsibilities and achievements connected to the Company's performance and related factors. The remuneration of the top executive will be considered and reviewed by the Nomination and Remuneration committee which shall be further reviewed and approved by the board of directors. The remuneration of the board of directors and the board of committees will be considered and reviewed by the Nomination and Remuneration committee which shall be further reviewed and approved by the board of directors before proposing for review and approval at the shareholders meeting.

(6) Development of directors and executives

1. The Company encourages training and knowledge sharing for all parties related to corporate governance, such as directors, members of the Audit committee, executives, the Company Secretary, etc. to promote continuous performance improvement. Training and knowledge sharing may be held internally by the Company or provided by external institutions.
2. New directors should be provided with all documents and information useful to perform their duties, including an introduction to the nature of the business and the operations of the Company.

Development Activities and Training Attended by Directors and Executive in 2020

No.	Name - Surname / Position	Training Course in year 2020
1	Ms. Jareeporn Jarukornsakul Chairman of the Board of Directors	- Role of Chairman Program (RCP46/2020), Thai Institute of Directors Association (IOD)
2	Mr. David Richard Nardone Director	- GLOBAL LEADERSHIP SUMMIT at Mumbai India, NORTHEASTERN University - EEC Roundtable Discussion with Australian Ambassador, H.E. Allan McKinnon, Australian Embassy - How is the COVID-19 crisis playing out in the international trade arena by Benjamin, AMCHAM - WHA Webinar: Accelerating 5G Network for Smart Manufacturing, WHA - Overview of the ASEAN Automotive Industry 2020 and Beyond: Impact of the COVID-19 and Outlook, AMCHAM - Delta Future Industry Summit 2020: Future Proofing Thailand for the Next Normal, Delta - Indo Pacific Forum, US Embassy
3	Mr. Ekajai Tivutanond Director	- Advance Audit Committee Program (AACP 32/2019), Thai Institute of Directors Association (IOD)
4	Mr. Prapon Chinudomsab Chief Financial Officer	- Accounting and Financial Preparation (CFO's Orientation Course), Thailand Securities Institute - TSI
5	Mr. Khamhoung Ratsamany Vice President - Business Operation	- The Committee of Occupational Safety, Health and Work Environment of the Workplace, Top Professional and Development
6	Mr. Punrapee Noparumpa Director – Power Business Development	- Safety Officer at Management Level Program, Pinthong Group
7	Director – Construction and Engineering	- Safety Officer at Management Level Program, Safety and Health at Work Promotion Association - Finance for Non-Finance Executive, Thammasat University - Smart Grid, Technology Media Co., Ltd.

(7) Succession plan

The Company recognises the importance of a succession plan. The Company, therefore, prepared a succession plan to cover significant positions, and on an ongoing basis selects qualified persons to serve in such positions and arranges training for such candidates to serve such positions in the future, thus ensuring that the Company will have knowledgeable and capable executives to succeed in such positions in the future.

(8) Orientation of new directors

In performing its duties, the director must understand the nature of the business of the Company. Therefore, in case of a change of directorship, the Company will provide an orientation for a new director to understand the nature of, and guidelines on, the business operation as a whole and will share the material information and corporate governance guidelines necessary for the satisfactory performance of the director. The Company Secretary will coordinate for such orientation.

(9) Policy on restriction on number of companies and number of terms of director

The Company has a policy stipulating that its directors may serve as directors at no more than five other listed companies, without exception.

Moreover, the Company has a policy that requires that the Chief Executive Officer shall not be a director in other companies in the same or similar type of business except related companies, and/or subsidiaries, and/or associates, to ensure that the Company will have no conflict of interest.

Independent directors can serve as directors of the Company for a period of no more than 9 consecutive years except pursuant to the approval of shareholders.

(10) Risk management

The Company will assign a Risk Management committee to be in charge of setting up a working group comprising the Company executives to jointly discuss and regularly evaluate the risk in the organization for internal and external risks and set risk management measures. Working group will monitor the risks as identified with support from various divisions and report the result to Risk Management committee for acknowledgement. Risk Management committee will, subsequently, evaluate the efficiency in respect of risk management and report it to the Board of Directors at least once a year to identify the weakness and to adjust the policy with more efficiency.

Sub-Committee

The board of directors are organised into five committees, namely the Executive committee, Audit committee, Nomination and Remuneration committee, Risk Management committee and Corporate Governance committee to review and monitor the operations at the Company based on the specified scope of duties in order to enhance their efficiency. The composition, qualification, appointment, term of office, meeting and remuneration of each committee shall be in accordance with the qualifications listed in the respective Sub-Committee's Charters.

Audit Committee

As of 31 December 2020, the Company has three members of the Audit Committee:

1. Mr. Weidt Nuchjalearn
Chairman of the Audit Committee
2. Mr. Ekajai Tivutanond
Audit Committee member
3. Mrs. Punnee Worawuthichongsathit
Audit Committee member

Mr. Weidt Nuchjalearn and Mrs. Punnee Worawuthichongsathit are directors having sufficient knowledge and experience in accounting or finance to review the reliability of the financial statements, and Mrs. Rattana Shinawatra acts as secretary for the Audit Committee.

Duties and Responsibilities of the Audit Committee

- 1) To ensure that the Company's financial statements are accurate and adequately disclosed;
- 2) To ensure that the Company implements internal controls and internal audit systems that are appropriate and effective. In case of necessity, the Audit Committee shall hire specialists for suggestion assembled in consideration, the company is responsible for the costs incurred, including the overall performance evaluation and the independence of the internal audit unit, while giving consent regarding appointment, transfer, and termination of employment of the head of the internal audit or any other unit responsible for internal audit, and participate in the meeting with head of the internal audit or other unit responsible for internal audit without the Management at least 1 time per year;

- 3) To ensure that the Company complies with the law governing securities and exchange, regulations of the SET, and the laws applicable to the Company's business;
- 4) To consider selecting, nominating, and appointing an independent person to act as an auditor of the Company including to propose the remuneration and termination of such auditor, and attend meetings with the auditor without the management's presence at least once a year;
- 5) To consider related party transactions or transactions with likely conflicts of interest and ensure that they are conducted in accordance with the law and regulations of the SET and ensure that such transactions are reasonable and in the best interest of the Company;
- 6) To prepare a report relating to the performance of the Audit committee disclosed in the Company's annual report. Such report must be signed by the chairman of the Audit committee and shall contain the following information:
 - The opinion on the accuracy, completeness, and reliability of the Company's financial reports
 - The opinion on the sufficiency of the internal control of the Company
 - The opinion on compliance with the SEC's laws and regulations of the SET, or other laws relating to the Company's business
 - The opinion on the appropriateness of the auditor
 - The opinion on the transactions that may give rise to conflicts of interest
 - The amount of Audit committee' meetings and the attendance list of each Audit committee
 - The overall opinion or remark that the Audit committee obtained from performing its duties according to the charter
 - Other transactions about which shareholders and general investors should be informed under the scope of duties and responsibilities assigned by the board of directors
- 7) To perform any other acts assigned by the board of directors, with the consent of the Audit committee.
- 8) In performing the Audit committee's duties, if a transaction or action which may materially affect the Company's financial status and performance is found or suspected to occur, the Audit committee shall report to the board of directors of the Company in order to remedy such affect within a period that the Audit committee deems appropriate. Such transaction or action is as follows:
 - (a) A transaction having a conflict of interest
 - (b) A fraud or irregularity or major defect on the internal control system
 - (c) Violation of the law governing securities and exchange, regulations of the SET, and the laws applicable to the Company's business

If the board of directors or the executives do not remedy within the period set out in paragraph one, any of the Audit committee members may report that there are such transactions or actions under the first paragraph to the SEC or SET.
- 9) To get whistle blowing from employees regarding unappropriated transaction on financial statements including other corruption issues, there are an independent investigation process and an appropriate follow-up action
- 10) To consider and propose to amend the scope of duty, authority and responsibility of the Audit committee as it deems appropriate.
- 11) To consider the regulations and an annual performance review at least once a year.

The Audit Committee is responsible to the Board of Directors and the Board of Directors is still responsible the Company's operation to other persons.

The Committee's job is one of oversight. Management is responsible for the preparation of the Company's financial statements and the independent auditors are responsible for auditing these financial statements. The Committee and the Board recognize that management including the internal audit staff and the independent directors have more resources and time and more detailed knowledge and information regarding the Company's accounting, auditing, internal control and financial reporting practices than the Committee, the Committee's oversight role does not provide any expert or special assurance as to the financial statements and other financial information provided by the Company to its shareholders and others.

The Board of Directors is empowered to make amendment and change definitions and qualifications of the independent director as well as scope of duties and responsibilities of the Audit Committee according to the regulations of the Security and Exchange Commission, the Stock Exchange of Thailand, The Capital Market Supervisory Board, and other related laws.

Executive Committee

As of 31 December 2020, the Company has six members of the Executive Committee:

1. Ms. Jareeporn Jarukornsakul
Chairman of the Executive Committee
2. Mr. David Richard Nardone
Executive Committee member
3. Mr. Vivat Jiratikarnsakul
Executive Committee member
4. Dr. Nippon Bundechanan
Executive Committee member
5. Mr. Natthapatt Tanboon-ek
Executive Committee member
6. Mr. Prapon Chinudomsub
Executive Committee member

Ms. Nutchra Rattanjitbanjong acts as the secretary of the Executive Committee.

Duties and Responsibilities of the Executive Committee

- 1) To consider and prepare policies, strategies, goals and business plans, financial targets and annual budget of the Company which are appropriately considered and should be proposed to the board of directors. If situations have changed, the Executive committee shall consider the approved budget appropriately.
- 2) To consider, screen and monitor the Company's operation to comply with the policy, business strategy, goals, business plans, financial targets and budgets approved by the board of directors for efficiency and effectiveness, and to provide management with advice and recommendations about top executives.
- 3) To determine the structure of the Company and management policy, and appointment and transfer of the executives of each business, and to consider and monitor the succession plans, manpower plans, remuneration plans and evaluation of performance of the directors.
- 4) To study the possibility of investment in new projects. The Executive committee has the authority to consider and approve the investment or joint investment with natural persons, juristic persons, or any other business organizations to operate the Company's business as the Executive committee deems appropriate, as well as to consider and

approve any payment for such investments, and to enter into any agreements and/or any processes relating to such matters pursuant to financial limits in the Company's Internal Power of Authority (IPOA) and/or related laws and regulations and/or the Company's articles of association.

- 5) To monitor the performance and development of invested project in each business and to notify the board of directors of the results, including problems or obstacles and how to solve these issues.
- 6) To consider and give recommendation or opinion to the board of directors relating to the proposed project or the entering into of any transactions in the Company's course of business as well as to consider alternative fundraising methods when it is necessary and in excess of the specified financial limit in the Company's Internal Power of Authority (IPOA). Related laws and regulations and the Company's articles of association require shareholders' meetings or board of directors' meetings to approve such issues.
- 7) To consider and enter into any financial transactions with financial institutions for opening accounts, borrowing money, applying for credit, a pledge, mortgage and a guarantee, among others, including sale and purchase, and register any ownership on the site under the Company's objective for the operation of the Company, as well as to enter into any agreement, apply for, propose, contact with, or conduct any juristic act with the governmental authority in order to obtain any rights of the Company and/or proceed with any operation regarding such issues pursuant to the financial limit in the Company's Internal Power of Authority (IPOA) and/or related laws and regulations or the Company's articles of association.
- 8) To consider and approve rules, articles of association, management policy and any operation of the Company's business or any act binding the Company.
- 9) To appoint and/or assign the member of the Executive committee or one or more persons to act on behalf of and within the scope of authority of the Executive committee as the Executive committee deems appropriate. The Executive committee may cancel, revoke, or change such authority.
- 10) To have the duties and responsibilities which have been assigned, or are pursuant to the policy assigned by the board of directors.

11. To consider and approve the guidelines for appointed and/or authorised persons to acknowledge their scope of responsibility and authority and to use such guidelines as the operation handbook with referable evidence and under orderly procedures.

The Executive Committee is authorized by the Board of Directors to support the Board of Directors with respect to the policies and plans of the Company, including monitoring that management implements the Company's approved policies and strategic plans with responsibility, care and honesty, including in compliance with laws, objectives and articles of association of the Company, and the resolution of the Board of Directors and shareholders' meeting.

Corporate Governance Committee

As of 31 December 2020, the Company has three members of the Corporate Governance Committee:

1. Mrs. Punnee Worawuthichongsathit
Chairman of the Corporate Governance Committee
2. Mr. Ekajai Tivutanond
Corporate Governance Committee member
3. Mr. Vivat Jiratikarnsakul
Corporate Governance Committee member

Ms. Nutchra Rattanjitbanjong acts as the secretary of the Corporate Governance Committee.

Duties and Responsibilities of the Corporate Governance Committee

- 1) To consider, review and revise the corporate governance policy in order to propose to the board of directors for approval. The policy will be made in writing and used as best practice.
- 2) To consider, review and revise the code of conduct. The code of conduct will be made in writing and used as best practice.
- 3) To consider, review and revise the policy on Corporate Social Responsibilities.
- 4) To consider, review and revise the Anti-Corruption Policy. Provide suggestions on performance review and assessment related to the Anti-Corruption Policy. The Anti-Corruption Policy will be in writing and used as best practice.
- 5) To monitor, review and improve the performance to be in accordance with the designated plan and to prepare summary reports for the board of directors.

Risk Management Committee

As of 31 December 2020, the Company has three members of the Risk Management Committee:

1. Ms. Jareeporn Jarukornsakul
Chairman of the Risk Management Committee
2. Mr. David Richard Nardone
Risk Management Committee member
3. Mr. Surathian Chakthranont
Risk Management Committee member

Ms. Nutchra Rattanjitbanjong acts as the secretary of the Risk Management Committee.

Duties and Responsibilities of Risk Management Committee

- 1) To approve risk management policy, scope of risk management and acceptable risk level of the Company assigned by the board of directors.
- 2) To monitor and support the compliance of the risk management policy to be in line with strategy, operational targets, anti-corruption policy and altered situations.
- 3) To monitor the compliance of the risk management policy and the scope of risk management for an efficient risk management system and continuous compliance throughout the Company.
- 4) To consider the report from the risk management team to monitor the material risks at the organization level as well as to provide opinions on the risks which may have occurred and control measures, practices or risk management plans in order to ensure sufficient and appropriate risk management of the Company.
- 5) To report to the board of directors' potential risks and risk management plans. If there are important factors which may materially affect the Company, they must be reported to the board of the Company, immediately.
- 6) To coordinate with the Audit committee relating to risk information and material internal controls for the Audit committee to consider and approve the internal audit plans to gain confidence that the Company has an appropriate internal control system to cope with the risks, and appropriately adopt the risk management system throughout the Company.
- 7) To support the culture of managing risk in the Company.
- 8) To perform any other duties related to risk management assigned by the board of directors.

- 9) To review, and provide an opinion and recommendation to, the management team to comply with the risk management of the Company and have an authority to request the documents and related persons to provide the information as well as is responsible to examine and evaluate the risks of corruption, continuously.
- 10) To effectively implement the anti-corruption policies. To regularly review, monitor, reconsider and improve the anti-corruption policies and provide an evaluation report to the board of directors.
- 6) To assess the rules relating to the evaluation of the performance of the Chief Executive Officer and present the results to the Board of Directors for consideration.
- 7) To evaluate the performance of the Chief Executive Officer in order to consider the appropriateness or remuneration and present the results to the Board of Directors for consideration.
- 8) To access the rules on the remuneration for the Board of Directors, the Sub-committees, Chief Executive Officer and Top Management of the Company including attendance fees, annual bonus, welfare and other benefits and to present the results to the Board of Directors for consideration.
- 9) To consider the rule on the bonus for employees

Nomination and Remuneration Committee

As of 31 December 2020, the Company has three members of the Nomination and Remuneration Committee:

1. Mr. Weidt Nuchjalearn
Chairman of the Nomination and Remuneration Committee
2. Ms. Jareeporn Jarukornsakul
Nomination and Remuneration Committee member
3. Mr. Ekajai Tivutanond
Nomination and Remuneration Committee member

Ms. Nucha Rattanjitbanjong acts as the secretary of the Nomination and Remuneration Committee.

Duties and Responsibilities of the Nomination and Remuneration Committee

- 1) To consider the structure, composition and qualification of the board of directors and other groups of committees of the Company.
- 2) To consider the rules and procedures for the nomination of directors. To nominate appropriate persons to serve as directors and propose to the board, for consideration by the shareholders meeting, in cases when directors retire by rotation, and propose to the board of directors in other cases. To give opportunity to the minority shareholders, with a sufficient period of time, to compile a list of persons to be nominated as directors prior to the shareholder meeting.
- 3) To consider and suggest the list of Company directors to serve in the committees of the Company.
- 4) To consider screening appropriate persons to be a Chief Executive Officer if there is a vacant seat.
- 5) To approve the succession plan for the Chief Executive Officer and Top Management by constant review.
1. Neither being shareholder holding more than one per cent of shares of the Company, parent company, subsidiaries, associates, majority shareholders or controlling persons, including shares held by related persons of such independent director;
2. Neither being nor used to be an executive director, employee, staff, advisor who receives a salary, or controlling person of the Company, its parent company, subsidiaries, associates, same-level subsidiary company, major shareholder or controlling person, unless the foregoing status has ended not less than two years prior to the date of appointment. Such prohibited characteristic shall not include the case where the independent director used to be a government official or advisor of a government unit which is a major shareholder or controlling person of the Company;
3. Not being a person related by blood or legal registration as father, mother, spouse, sibling, and child, including spouse of child of other directors, executive, majority shareholder, controlling person, or person to be nominated as director executive or controlling person of the Company or its subsidiary

The Nomination of the Board of Directors Independent Director

The Company has prescribed qualification of independent director which having higher qualification compare to the qualification according to such prescribed in regulation of SET and SEC which the Company's Independent Director's Definition as follows:

4. Neither having nor used to have a business relationship with the Company, parent company, subsidiaries, associates, majority shareholder or controlling person, in a manner which may interfere with his independent judgement, and neither being nor used to be a significant shareholder or controlling person of any person having a business relationship with the Company, parent company, subsidiaries, associates, majority shareholder or controlling person, unless the foregoing relationship has ended not less than two years prior to the date of filing an application with the Office;

The term business relationship shall include any normal business transaction, rental or lease of immovable property, transaction relating to assets or services or granting or receipt of financial assistance through receiving or extending loans, guarantee, providing assets as collateral, and any other similar actions, which result in the Company or its counterparty being subject to indebtedness payable to the other party in the amount of three percent or more of the net tangible assets of the Company or twenty million baht or more, whichever is lower. The amount of such indebtedness shall be calculated according to the method of calculation of value of connected transactions under the Notification of the Capital Market Supervisory Board governing rules on connected transactions mutatis mutandis. The consideration of such indebtedness shall include indebtedness occurred during the period of one year prior to the date on which the business relationship with the person commences;

5. Neither being nor used to be an auditor of the Company, parent company, subsidiaries, associates, majority shareholder or controlling person, and not being a significant shareholder, controlling person, or partner of an audit firm which employs auditors of the applicant, its parent company, subsidiary company, associates, majority shareholder or controlling person, unless the foregoing relationship has ended not less than two years prior to the date of filing an application with the Office;
6. Neither being nor used to be a provider of any professional services including those as legal advisor or financial advisor who receives service fees exceeding two million baht per year from the Company, parent company, subsidiaries, associates, majority shareholder or controlling person, and not being a significant shareholder, controlling person

or partner of the provider of professional services, unless the foregoing relationship has ended not less than two years prior to the date of filing an application with the Office;

7. Not being a director appointed as representative of directors of the Company, majority shareholders or shareholder who is related to majority shareholders;
8. Not undertaking any business in the same nature and in competition to the business of the Company or subsidiaries or not being a significant partner in a partnership or being an executive director, employee, staff, advisor who receives a salary or holding shares exceeding one per cent of the total
9. Not having any other characteristics which cause the inability to express independent opinions with regard to the Company's business operations;
10. Not being a director assigned by the board of directors to make a decision on the business operation of the Company, subsidiaries, associates, same-level subsidiary company, majority shareholders or controlling person; and
11. Not being a director of a subsidiary company or same-level subsidiary company of the listed company.

Nomination of the Board of Directors

Nomination and Remuneration Committee is responsible for director nomination by considering of diversity on qualification, experiences, appropriateness, and skill as director. The appointment of new director shall be complied with Public Company Limited Act. The criteria of director nomination are follows:

- 1) The nominated director shall have knowledge, competency and experience of company business including professional and specific skill, education, age and gender
- 2) The nominated director shall have leadership, vision, ethic, good attitude to company as well as time to devote themselves to company
- 3) The nominated director shall not be in Blacklist from any organization including the securities and exchange commission or have been sentenced to any crime
- 4) In case of independent director, the nominated director shall be qualified with independent director qualification as determined by the Securities Exchange Commission. All of the Company's independent directors are independent of management and majority shareholders. Independent directors are eligible to serve as the director of a maximum of five listed companies.

5) The Company's directors must have any other qualifications based on Board's structure and component and company's direction through transparent nomination process to build trust with shareholders.

After nomination process, the Nomination and Remuneration Committee shall propose the nominated director to Board Meeting for appointment as required by law. In case of the appointment shall be approved by shareholder meeting. The Board shall be proposed to shareholder meeting for approval pursuant to the following rules:

- (1) One share will have one vote.
- (2) Each shareholder may vote all of his rights under clause (1) to appoint one director or more to serve as the Company's director. If the shareholders vote to appoint more than one director, such shareholders' voting rights shall be equal for all candidates.
- (3) The candidate with the most electoral votes shall be appointed as a director to fill the vacant seat. If the voting results for the following vacant seat are equal, the chairman of the meeting shall have a casting vote.

Board Skills Matrix

As of 31 December 2020, the Board of Directors consists of 8 persons with skills and expertise in various fields as follows:



Governance of operation of subsidiaries and associates

Policy relating to an investment in subsidiaries and associates

The Company has a policy to invest in the public utility business, power services business, alternative energy business and related businesses

Policy relating to the governance of operation and management of subsidiaries and associates

1. The Company will nominate a specified number of Company representatives to serve as directors of the subsidiaries and associates reflecting the shareholding proportion of the Company in the respective subsidiaries and associates. Such nomination of directors shall be considered and approved by the board of directors' meeting.
2. The scope of duties and responsibilities of the directors of subsidiaries and associates are as follows:
 - (1) To perform their duties in compliance with laws, objectives and the Company's articles of association, as well as the resolution of the board of directors and the resolution of shareholders' meeting with duty of loyalty, duty of care, accountability and ethics.
 - (2) To follow up and provide necessary opinion for the operation of subsidiaries and associates to be in accordance with the agreements and related rules and regulations.
 - (3) To continuously monitor the operations of subsidiaries and associates, as well as providing necessary recommendations to ensure that the operations of subsidiaries and associates are in accordance with the specified target. Such directors are able to promptly and appropriately deal with any obstacles which may occur.
 - (4) To consider, monitor and provide any necessary recommendations for subsidiaries and associates to have internal control systems and/or working systems for efficiency and effectiveness of business operation.
 - (5) Where necessary to review and improve the policies and business plans relating to the business operation of subsidiaries and associates in order to remain up-to-date and appropriate.
 - (6) The boards of directors of the subsidiaries and associates may assign one or more director or any other persons to act on behalf of such boards of directors. Such authorisation shall not constitute authorisation or sub-authorisation in a manner which causes the directors, or the person

with the authority to approve a transaction in which they have a conflict, interest, or a conflict of interest in any other manner, to be made with the Company and/or subsidiaries and/or associates.

3. The Company shall set up necessary plans to ensure that the subsidiaries and associates shall disclose information relating to the operation and financial status, including information which is required to be disclosed to related authorities and governmental authorities, external investors and the public, and which is accurate, full and reliable.
4. When it becomes necessary for subsidiaries or associates to enter into any related party transactions or transactions which may have a conflict of interest, the Company shall monitor and ensure that subsidiaries and associates fairly and transparently enter into such transactions. The Company shall strictly comply with the rules regarding related transactions and acquisitions or disposal of assets which are regulated by related regulators.
5. The Company shall monitor and proceed with necessary actions, to ensure that subsidiaries and associates have the sufficient and appropriate system relating to the disclosure of information and the sufficient and appropriate internal control system to operate the business.
6. The Company has prescribed the guidelines requiring that nomination of persons to be directors of the subsidiaries and associates, and the exercise of voting rights at shareholders' meetings, require the approval of the board of directors, except in the following cases:
 - (1) Agenda items to be adopted by the shareholders' meeting in accordance with the joint venture agreement to which the Company is a party.
 - (2) Following regular agendas in the annual general meetings where the executive committee may consider casting the vote:
 - To certify the minutes of the previous shareholders' meeting
 - To consider and approve the report of the board of directors and performance of the past year
 - To consider and approve the annual financial statement
 - To consider and approve the allocation of net profits for the legal reserve fund and dividend payment
 - To appoint new directors to replace the directors who are due to retire by rotation and to consider director's remuneration
 - To appoint the auditor for the year

Control of internal information

The Company has implemented policy and procedures to ensure the directors and executives do not use any non-public information for personal gain, including without limitation, insider trading. The policies are:

1. The Company shall advise its directors, executives and persons holding accounting manager or financing manager positions, or similar positions on the duty to prepare and submit the report on the holding of securities of such directors, executives, their spouses or cohabiting couple and minor children to the Office of the SEC under Section 59 and penalty under Section 275 of the Securities and Exchange Act B.E. 2535, as amended.
2. The Company shall require its directors, executives, or persons holding accounting manager or financing manager positions or similar positions to prepare and submit such report on the holding of securities of such directors, executives, their spouses or cohabiting couple and minor children through the Company Secretary prior to filing with the Office of the SEC. The report shall be prepared and filed within 30 days from the appointment date of directors and executives or within three business days from the date on which securities are purchased, sold, transferred or received.

Moreover, the Board is also responsible for monitoring the use of inside information. To this end, Directors must inform Board meetings their shareholding information, including that for the high-level executives, at the Board meeting on a quarterly basis. The shareholding information of the Directors and high-level executives at the end of previous and present year can be found in the Shareholding Report as described in the topic "Management Structure".

3. The Company shall require its directors, executives, including persons holding accounting manager or financing manager positions, or similar positions, and any related employees who have knowledge of material inside information which can potentially affect securities price to refrain from sale and purchase of securities of the Company during the period prior to the disclosure of financial statements or financial status of the Company until such information has been disclosed to the public, during the Blackout Period. Blackout Period means the period of one month prior to, and on the date

which, the financial report of the Company has been disclosed annually and on a quarterly basis. The Company will advise in writing its directors and executives, including persons holding accounting manager or financing manager positions, or similar positions, to refrain from sale and purchase of securities of the Company. Such advice shall be sent at least 30 days in advance prior to the disclosure of information to the public and shall wait for at least 24 hours after the disclosure of information to the public. The disclosure of material information to other persons is also prohibited.

4. Disciplinary action will apply in case of breach of duty on the use of internal information for personal benefits. This may be done by issuance of warning letter, deduction of wage, temporary suspension of work without payment, or termination of employment, taking into account the intention and seriousness of such violation.

Remuneration of the auditor

For the year ended 31 December 2020, the Company and its subsidiaries paid PricewaterhouseCoopers ABAS Ltd. (PwC) for the audit of the consolidated financial statements in the amount of THB 2,899,570, and there were no the Non-Audit fees in 2020. The person or business related to the auditor and the audit office is not a person or business related to the Company.

Implementation of Corporate Governance Code for Listed Companies 2017 and Good corporate governance guidelines in other aspects

The Board of Directors formulated the CG Policy in written form in 2016, and the most updated version was issued in 2018. All Directors, executives and employees are responsible for acknowledging and abiding by this policy. The Company disseminated this policy, principles and guidelines via the Company's website at www.wha-up.com, which allows the interested public to study and download the information. In 2017, The Company regularly studied and reviewed rules, notices and guidelines on good corporate governance.

Moreover, the Board of Directors considered applying the practice guidelines outlined in Corporate Governance Code for Listed Companies 2017 (the CG Code) developed by the Securities and Exchange Commission (SEC) into the Company business operations e.g.:

- Provided an opportunity for shareholders to propose agenda and to nominate Director candidates. The details and procedures are placed on the Company's website and SET's SCP system from 1 November 2019 to 31 January 2020.
- The Company submitted news releases to SET's SCP system. On 15 May 2020, a resolution was passed by the Board to set the AGM 2020 date. The Company published the AGM invitation notice 2020 via the Company's website in both Thai and English for at least 30 days prior to the date of the AGM (5 June 2020) and distribute the AGM invitation notice along with its annual report and in the Barcode format to shareholders no less than 21 days prior to the meeting (18 June 2020). The Company also announced the date of the AGM in newspapers for three consecutive days and at least three days prior to the AGM for the shareholders to prepare themselves for the meeting.
- For institutional investors, the Company facilitated the AGM registration process. The Company has contacted institutional investors to coordinate on preparation of proxy forms prior to the date of the meeting.
- The Company held the AGM 2020 on Friday, 10 July 2020 at at Grand Ballroom, 3rd Floor, Golden Tulip Sovereign Hotel. The Company ensured that the meeting venue has enough room to accommodate shareholders in attendance.
- The Company disclosed the resolutions of the AGM along with the vote results on the same day after the meeting by notifying SET in the form of a newsletter through SET's SCP system and the Company also prepared the minutes of the shareholder's meeting and notified SET within 14 days after the meeting (22 July 2020) through SET's SCP system and on the Company's website.
- The Board offers opportunities for the public to file complaints about improper behavior of directors, the management, and staff or their violation of the

Company's code of conduct. The Company treats all complaints on the basis of equality, transparency, attention, and fairness to all concerned. An appropriate timeframe to consider the complaints is set, and secrecy and protection of whistleblowers will be observed. No significant complaint on ethics was filed this year.

In 2020, the Company was rated on corporate governance practice and sustainability as follows:

- Rated "Excellent" according to Corporate Governance Report of Thai Listed Companies 2020 carried out by the Thai Institute of Directors (IOD).
- Rated 100 points according to the evaluation of the quality of Annual General Meeting of Shareholders 2020 (AGM checklist) of listed companies carried out by the Thai Investors Association.
- Listed in the 2020 Thailand Sustainability Investment (THIS) of the Stock Exchange of Thailand.

In summary, in 2020, the Company complied with all elements of the corporate governance policy for listed companies as required by SET, with exception for the following point. First is the Cumulative Voting. According to the Company's Regulation, states one share carries one vote, and each shareholder may choose to exercise all of his or her votes for one or more Directors, but may not divide his or her votes for any preferred candidate. Another point is a term limit of nine years or less for independent directors, where the Company still has the exception of the term of office of independent directors for a period of no more than 9 consecutive years except pursuant to the approval of shareholders due to there were not many independent directors with knowledge of the Company's business. The existing independent directors are composed of three members, and all of them have had work experience with their knowledge, competence, and skill that will be useful for the Company's business operation.



CORPORATE SOCIAL RESPONSIBILITY (CSR)

The Company conducts its business in accordance with the principles of corporate governance : with transparency and accountability. It aims to concurrently improve its business and maintain a balance of economic, social and environmental awareness. One of the Company's pledges is to be a good corporate citizen, which operates sustainably, grows steadily and gains public recognition based on its code of ethics and corporate governance. The Company also strives for healthy returns to shareholders; however, any effects of its operations may have on all stakeholders are always taken into account.

Taking the view that social responsibility is important, the Company has established a CSR policy consisting of the following components :

1. Fair conduct

Guidelines to treat all stakeholders with responsibility are provided in the Company's code of conduct. Stakeholders include shareholders, employees, customers, trading partners, creditors, competitors, as well as local communities, wider society, the environment and government agencies. The Company's code of conduct also embraces the principles of free competition, the prevention of conflicts of interest and infringements of intellectual property rights, and anti-corruption. Key policies can be summarized as follows :

(1) Corporate governance

The Company aims to operate fairly, honestly and transparently, and with public accountability, as well as disclose material information. It always considers both the benefits and effects that may be experienced by shareholders, customers, trading partners, employees and all stakeholders. The Company considers the right and fair sharing of profit to be crucial.

(2) Corporate social responsibility (CSR)

The Company pursues the CSR policy under the code of ethics to ensure fairness toward all stakeholders. The principles of corporate governance also serve as guidelines for the Company to maintain a balance between its performance and its economic, community, social and environmental awareness, which will lead to the success and sustainability of its business.

(3) Compliance policy

The Company recognizes the significance of compliance with applicable laws, rules and regulations, including the code of conduct in accordance with international standards. All of its directors, executives and employees must comply with applicable laws, rules and regulations and avoid being involved in, supporting or otherwise dealing with a breach of law and related regulations.



(4) Responsible use of resources

All of the Company's directors, executives and employees are encouraged to appropriately, efficiently and sustainably use resources for the utmost benefit. The Company always communicates with all employees and stakeholders to promote and educate about the responsible use of resources for the benefit of the organization, to ensure awareness of resource management is inherent in the Company.

2. Respect for human rights

The Company recognizes the importance of respect for human rights, and emphasizes the equitable treatment of those within and outside of the Company. Direct or indirect infringements of an individual's rights or freedoms are prohibited. Respect for and protection of human rights are promoted in combination with measures that have been established in order to prevent the Company's business from involving the infringement of human rights, e.g. forced labour and child labour. It also stresses the fair and respectful treatment of all stakeholders on the basis of human dignity. Discrimination by origin of birth, race, gender, age, complexion, religion, physical appearance, social status or class, and genealogical history is strongly opposed. Internally, the Company promotes a mechanism for the monitoring of all employees' compliance with its rules on human rights. Externally, it encourages all joint venture parties, trading partners and stakeholders to follow the principles of preserving human rights in accordance with international standards. For any stakeholders who suffer an infringement of human rights resulting from the Company's operations, the Company offers compensation worth not lower than the rate imposed by law.

3. Fair labour practices

The employees' right to enjoy a working life in a good and respectful environment is highlighted on the Company's agenda. Employees at all levels are encouraged to treat their colleagues with respect. Taking advantage of other colleagues is ardently discouraged. In relation to labour practices, the Company has a comprehensive policy of human resources management involving recruitment, HR development and training, fair remuneration and welfare benefits. All employees are offered opportunities for career prospects, with training courses provided to employees at all levels with a view to improving their professional skills. Key policies of the Company can be summarized as follows :

(1) Remuneration and welfare benefits

The Company has a policy to provide fair remuneration, enhance job security and promote career paths for all employees. It provides all

necessary employee welfare benefits as required by law, such as social security benefits. Also offered are extra welfare benefits other than those required by law, such as health and accident insurance, financial contributions towards the funeral costs of employee's parents, and scholarships for the children of employees.

(2) Know-how improvement and training

The Company promotes HR development by encouraging all employees to improve upon their knowledge, and enhance their ability, potential, attitude, morals and ethics, and embrace the spirit of teamwork. Training workshops and seminars are organized from time to time to effect those improvements. Further, the Company supports corporate and human resources development, focusing on efficiently implementing operating procedures, clearly defining the scope of employees' roles and duties, determining appropriate rates of remuneration, improving the performance evaluation system and expanding employee's capacity.

(3) Occupational health and safety

Company policy stresses the importance of employee occupational health and safety in a good workplace. Great efforts have been made to implement precautionary measures to avoid work-related accidents with great efforts. Safety awareness is established among employees. Training sessions are held from time to time to promote and educate all employees about occupational health (e.g. any acts or things that are detrimental to the health or condition of customers or service users and should be avoided). All employees are encouraged to keep the workspace in a hygienic and safe condition at all times.

4. Consumer liability

The Company commits itself to dealing honestly with customers (in other words, they are consumers) by complying with any agreements made in accordance with applicable standards required by law. Quality control is emphasized in all steps of the production process. The Company recognizes that water quality and safety are a foundation of its operations. In addition, it stresses the importance of ensuring that skilled personnel are available, and the stringent measures of quality control in the production process, from the procurement of the raw materials until the manufactured end products.

5. Eco-friendly practice

Environmental protection is one of the Company's concerns. In managing its business in the past, the Company has always taken into account environmental effects which may result from any stage of its operating procedures. For instance, an initial environmental examination is always carried out before construction work is commenced. All necessary operating systems and regulations have been carefully designed and established to prevent potential harmful effects on the environment and local communities. ISO14001 international environmental management standards were adopted as a guideline for the Company's business. With the view that sustainable use of natural resources is crucial, the Company will reuse by-products or residue of the production process, adopt a treatment system to manage wastewater from its manufacturing activities and regularly evaluate the environmental management system.

6. Participation in social developments

The Company strongly aims to contribute benefits to the country's economy and society and to be a good citizen that complies with all applicable laws and regulations. It also commits itself to improving and elevating the quality of life of locals in proximity to its premises as well as expanding its business at the same time, which constitutes a component of its code of conduct. The Company always operates according to environmental standards; for instance, in the production process, power and resources are efficiently used and preventive measures are taken to control and avoid pollutant products. Environmental management is performed according to well-established standards and is regularly monitored and evaluated for further development.

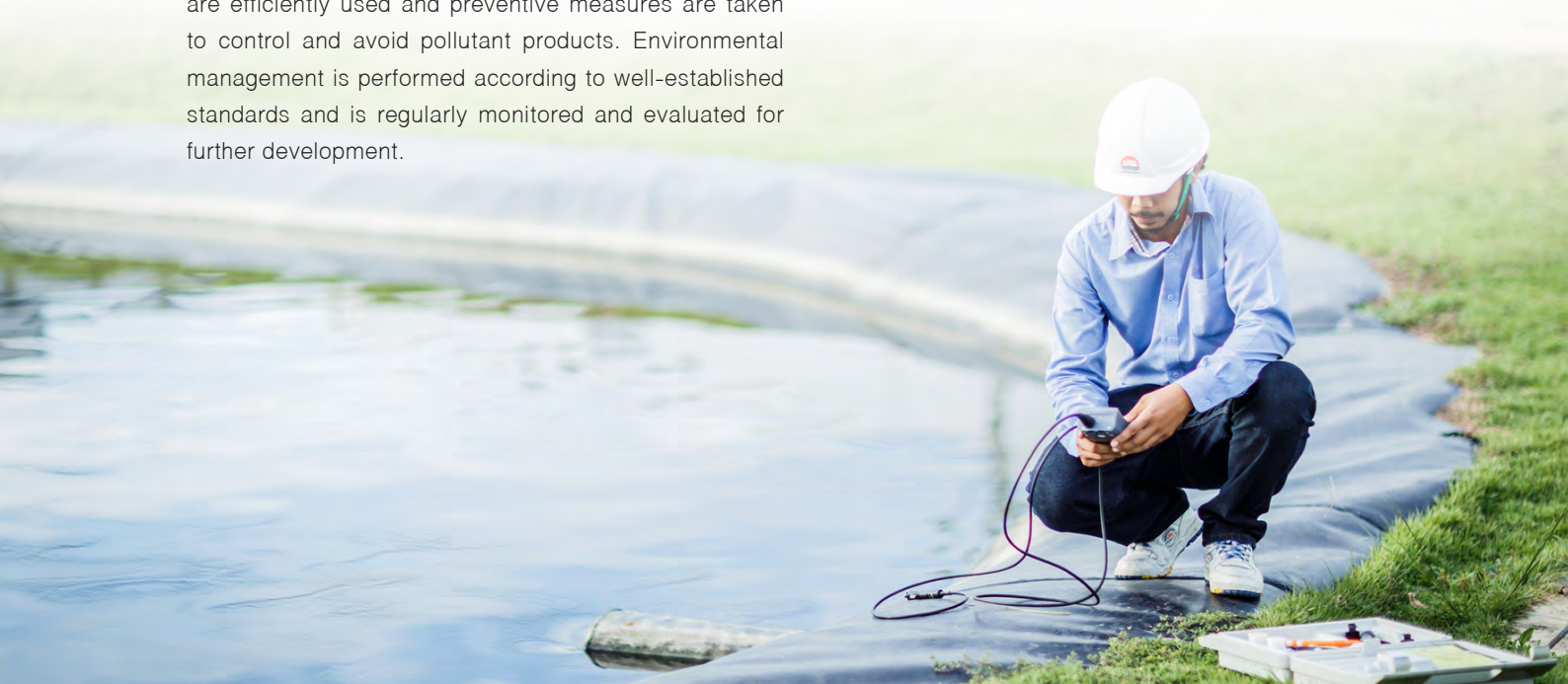
To foster a good relationship with local communities, the Company always supports local activities and campaigns, taking into account the suitability and benefits to the communities for enhancing sustainable development.

7. Green innovation

The Company recognizes the value and importance of non-renewable water resources, as well as the importance of environmental conservation and social responsibility. Therefore, water preservation is a policy imposed to underline the Company's strong commitment to efficiently using resources in its operations and manufacturing activities. The Company also emphasizes power saving practices by adopting innovation and efficient management systems, such as using solar and other alternative energy in its power generation business. It also employs a policy to share know-how and educate customers and other related government bodies about power saving practices.

8. Intellectual property-related practice

The Company has a policy of avoiding taking any action that infringes intellectual property rights, i.e. copyrights, patents, trademarks, trade secrets and other intellectual property, as defined by law. For instance, all software used by the Company is copyrighted and must be screened and installed by the IT team in order to prevent the use of pirated software



CSR and Environmental Activities

In 2020, the Company has continued its engagement in CSR activities by working with different organizations and local offices to engage in community relations that can help build a strong, productive society. As a member of the community, the company dedicates efforts to initiating civic projects to improve the lives of the residents, address issues of relevance to the majority, and allow interaction and communication between employees and the community members.

01 EDUCATION

The Company's CSR program gives importance to education, which is the foundation of improving lives. From the earliest years, children should have access to schools that can gradually provide them with much-needed skills to help them find good jobs in the future.

Dr. Nippon Bundechanan, CEO of WHA Utilities & Power Plc (WHAUP) together with a group of WHA's staff, in collaboration with customers and partners over 70 companies in WHA industrial estates, delivered school materials and sports equipment for over 20,400 students in 65 schools under 23rd Annual School Contribution Program. In addition, this program was to promote personal hygiene and health awareness to keep students safe as schools reopen.



02 HEALTH



The Company has various programs that help provide adequate healthcare services to different communities. To provide the best service to individuals and families, it is necessary for health facilities and centers to have good staff, equipment and medicines.

Medical and dental equipment was purchased and delivered to the health centers of Nong Sua Chang and Tha Cham, both located in Nong Yai, Chonburi province, where community members of all ages have access to overall primary health care.

03 COMMUNITY ASSISTANCE

The Company, in cooperation with the Provincial Electricity Authority of Ban Bueng District, delivered the Solar Cells to the impoverished person that no electricity is used for daily life in Nong Bon Daeng Moo 3, Ban Bueng District, Chonburi province.



To celebrate National Police Day, food packs were sent to the Bo Win Police Station, Sri Racha, Chonburi Province, to be distributed to underprivileged children in the neighborhood. Financial support was also donated to the Khlong Kiu Police Station in Chonburi, to support community volunteers who help maintain peace and order.

In addition, the Group Company also gave donations to several temples for the annual Krathin robe-offering ceremony, which is an important part of Buddhist life. The Loy Krathong ceremony in Ban Khai district, Rayong was also sponsored by the Group Company. This colorful event is an important cultural festival when people pay respect to the Goddess of Water for a year of abundant supply.



04 HELPING SMALL BUSINESSES GROW

Kitchen equipment and appliances were purchased for the Tai Kod Community Enterprise Group in Ban Khai district, Rayong, to help local entrepreneurs enhance their production and generate more income from mushroom farming. Moreover, members of a small cottage industry that transforms water hyacinth into woven products such as bags, baskets, hampers, mats, etc. received a multi-level drying cabinet, to make it easier and faster to dry raw materials, without having to worry about the weather conditions.



GREENER ENVIRONMENT 05

To ensure that community members and visitors profit from a greener environment, the Group Company participated in a tree-planting activity, and supported the dredging of the Ma Feung canal in Ban Khai district, Rayong. Sunn hemp and sunflowers were planted to make the roads look clean and beautiful. These beautiful yellow flowers are also shelter for birds and butterflies.





INTERNAL CONTROL AND RISK MANAGEMENT

Board's opinion on internal control

The Company have placed the significance of good internal control system and corporate governance in the conduct of its business, i.e. implementing the operating system which is transparent, fair and reliable with checks and balances, which will lead ultimately to the benefit of shareholders, employees, trading partners, communities and other stakeholders. At the Board of Directors meeting no.6/2015 of 19 November 2015, the Company's board appointed Audit Committee consisting of three members to review the adequacy of the Company's internal control system and to check and ensure compliance with applicable laws and regulations issued by the Office of the Securities and Exchange Commission (SEC) and the Stock Exchange of Thailand (SET), including all other applicable laws relating to the Company's business.

At the Board of Directors' meeting no.2/2021, held on February 25, 2021 in which all members of the Audit Committee attended the Board of Directors considered and prepared the internal control sufficiency evaluation form of the Company. The questionnaire was completed by management, in conjunction with reference information from an analysis report on the adequacy of the Company's internal controls prepared by Dharmniti Internal Audit Company Limited. The board took the view that the Company's internal control system is adequate and appropriate and reflects the questions set out in the SEC questionnaire on the adequacy of internal controls. The Board of Director's analysis of the Company's internal control included the following aspects :

1. Control environm
2. Risk assessment
3. Control activities
4. Information and communication
5. Monitoring activities

Head of internal control and head of compliance

The Company appointed Dharmniti Internal Audit Company Limited (Dharmniti) as the Company's internal auditor, and Dharmniti designated Ms. Somcharee Kawkomdee to take charge of the Company's annual internal audit.

After reviewing the background of Dharmniti and Ms. Somcharee Kawkomdee, the Audit Committee found that Ms. Somcharee Kawkomdee is suitable for the designated function, considering her independence to make a judgment with more than 15 years' experience in internal audit and her understanding of the Company's activities and operations. Therefore, the Audit Committee viewed that she is qualified for this mission. An appointment, removal or transfer of the head of internal control requires an approval from the Audit Committee. Qualifications of the heads of internal control are set out as follows :



Head of internal audit - Dharmniti Internal Audit Company Limited

Subject	Internal auditor (external)
Internal auditor	Ms. Somcharee Kawkomdee (in charge of internal audit) Dharmniti Internal Audit Company Limited
Educational qualifications	Bachelor of Humanities and Social sciences, Major of Accounting, Burapha University
Work experience	More than 15 years' experience and works with Dharmniti Internal Audit Company Limited from 2006 until present.
Audit Committee's opinion on the internal auditor's experience	Ms. Somcharee Kawkomdee's knowledge and experience made her suitable to oversee the internal control for the Company.
Duties and responsibilities	<ul style="list-style-type: none"> To examine various operating systems of the Company as the audit committee determines or thinks fit. To advise the Audit Committee on an annual internal audit plan.

The Audit Committee Meeting No.6/2019 on 8 November, 2019 approved the internal control system audit plan for the year 2020, to consist of solar rooftop project construction control, procurement, security management and information technology control, the good corporate

governance assessment by the Standard of Corporate Governance report of Thai Listed Companies (CGR) and internal control as required by the Securities and Exchange Commission (SEC).



DETAILS RELATING TO DIRECTORS OF THE COMPANY AND SUBSIDIARIES

COMPANY		Ms. Jareeporn Jarukornsakul	Mr. David Richard Nardone	Mr. Vivat Jiratikarnsakul	Dr. Niphon Bundechanan	Mr. Weidt Nuchjalearn	Mr. Ekajai Tivutanond	Mrs. Punnee Worawuthichongsathit	Mr. Surathian Chakthranont	Mr. Prapon Chinudomsab	Mr. Natthapatt Tanboon-ek	Mr. Khamhoung Ratsamany	Mr. Maka Kornkum	Mr. Varanon Laosuwan	Mr. Punrapee Noparumpa	Mrs. Rattana Shinawatra	Ms. Siau Kuei Lian
WHA Utilities and Power Public Co., Ltd.		X	I	I	I,III	II,IV	II,IV	II,IV	II	III		III	III	III	III	III	
WHA Water Co., Ltd.	Subsidiaries	X	I	I	I												
WHA Energy Co., Ltd.	Subsidiaries	X	I	I	I												
WHA Energy 2 Co., Ltd.	Subsidiaries	X	I	I	I												
WHAUP International Co., Ltd.	Subsidiaries	X	I	I	I												
WHA Solar Co., Ltd.	Subsidiaries	X	I	I	I												
WHAUP (SG) 1 PTE. Limited	Subsidiaries	X	I	I	I												I
WHAUP (SG) 2 PTE. Limited	Subsidiaries	X	I	I	I												I
WHAUP (SG) 2DR PTE. Limited	Subsidiaries	X	I	I	I												I
WHAUP Nghe An Joint Stock Company	Subsidiaries	X	I	I	I												

Note : X = Chairman of the Board of Directors / I = Director / II = Independent Director / III = Executive / IV = Audit Committee

COMPANY		Ms. Jareeporn Jarukornsakul	Mr. David Richard Nardone	Mr. Vivat Jiratikornsakul	Dr. Niphon Bundechanan	Mr. Weidt Nuchjalearn	Mr. Ekajai Tivutanond	Mrs. Punnee Worawuthichongsathit	Mr. Surathian Chakthranont	Mr. Prapon Chinudomsab	Mr. Natthapatt Tanboon-ek	Mr. Khamhoung Ratsamany	Mr. Maka Kornkum	Mr. Varanon Laosuwan	Mr. Punrapee Noparumpa	Mrs. Rattana Shinawatra	Ms. Siau Kuei Lian
Cua Lo Water Supply Joint Stock Company	Joint Venture Companies				I					I							
Duong River Surface Water Plant Joint Stock Company	Joint Venture Companies		I	I	I												
Eastern Seaboard Clean Energy Co., Ltd.	Joint Venture Companies		X		I						I						
Chonburi Clean Energy Co., Ltd.	Joint Venture Companies		X		I						I						
Gheco-One Co., Ltd.	Joint Venture Companies		I	I	I												
Houay Ho Thai Co., Ltd.	Joint Venture Companies			I	I						I						
Houay Ho Power Co., Ltd.	Joint Venture Companies			I	I												
Glow IPP Co., Ltd.	Joint Venture Companies																
B.Grimm Power (WHA) 1 Ltd.	Joint Venture Companies				I					I	I						
WHA Gunkul Green Solar Roof 1 Co., Ltd.	Joint Venture Companies				I					I	I						
WHA Gunkul Green Solar Roof 3 Co., Ltd.	Joint Venture Companies				I					I	I						
WHA Gunkul Green Solar Roof 6 Co., Ltd.	Joint Venture Companies				I					I	I						
WHA Gunkul Green Solar Roof 17 Co., Ltd.	Joint Venture Companies				I					I	I						
Gulf WHA MT Natural Gas Distribution Co., Ltd.	Joint Venture Companies				I					I	I						

Note : X = Chairman of the Board of Directors / I = Director / II = Independent Director / III = Executive / IV = Audit Committee

COMPANY		Ms. Jareeporn Jarukornsakul	Mr. David Richard Nardone	Mr. Vivat Jiratikarnsakul	Dr. Niphon Bundechnan	Mr. Weidt Nuchjalearn	Mr. Ekajai Tivutanond	Mrs. Punnee Worawuthichongsathit	Mr. Surathian Chakthranont	Mr. Prapon Chinudomsab	Mr. Natthapatt Tanboon-ek	Mr. Khamhoung Ratsamany	Mr. Maka Kornkum	Mr. Varanon Laosuwan	Mr. Punrapee Noparumpa	Mrs. Rattana Shinawatra	Ms. Siau Kuei Lian
WHA Eastern Seaboard NGD2 Co., Ltd.	Joint Venture Companies				I					I	I						
WHA Eastern Seaboard NGD4 Co., Ltd.	Joint Venture Companies				I					I	I						
Gulf JP NLL Co., Ltd.	Joint Venture Companies				I						I						
Gulf Solar Co., Ltd.	Joint Venture Companies				I						I						
Gulf Solar BV Co., Ltd.	Joint Venture Companies				I						I						
Gulf Solar TS1 Co., Ltd.	Joint Venture Companies				I						I						
Gulf Solar TS2 Co., Ltd.	Joint Venture Companies				I						I						
Gulf Solar KKS Co., Ltd.	Joint Venture Companies				I						I						
Gulf TS1 Co., Ltd.	Joint Venture Companies				I						I						
Gulf TS2 Co., Ltd.	Joint Venture Companies				I						I						
Gulf TS3 Co., Ltd.	Joint Venture Companies				I						I						
Gulf TS4 Co., Ltd.	Joint Venture Companies				I						I						
Gulf VTP Co., Ltd.	Joint Venture Companies				I						I						
Gulf NLL2 Co., Ltd.	Joint Venture Companies				I						I						

Note : X = Chairman of the Board of Directors / I = Director / II = Independent Director / III = Executive / IV = Audit Committee



RELATED PARTY TRANSACTIONS

Persons with a possible conflict of interest; nature of relationship

The Company and its Subsidiaries have entered into transactions with persons who may have conflicts of interest, which can be summarized as follows:

Persons who may have conflicts	Nature of Business	Nature of Relationship
WHA Industrial Development Public Company Limited ("WHAID")	- Real estate business development and industrial estate management	- It is a major shareholder of the Company holding 70.45% of paid-up capital. (Both direct and indirect) - There are 3 common directors: 1) Ms. Jareeporn Jarukornsakul 2) Mr. David Richard Nardone 3) Mr.Vivat Jiratikarnsakul
Eastern Seaboard Industrial Estate (Rayong) Company Limited ("ESIE")	- Real estate business development and industrial estate management	- A subsidiary of WHAID, which is the Company's major shareholder holding 60% of the paid-up capital. (Both direct and indirect) - There are 3 common directors: 1) Ms. Jareeporn Jarukornsakul 2) Mr. David Richard Nardone 3) Mr.Vivat Jiratikarnsakul
WHA Eastern Industrial Estate Co., Ltd. ("WHA EIE")	- Real estate business development and industrial estate management	- A subsidiary of WHAID, which is the Company's major shareholder, holding 99.99% of the paid-up capital. (Both direct and indirect) - There are 3 common directors: 1) Ms. Jareeporn Jarukornsakul 2) Mr. David Richard Nardone 3) Mr.Vivat Jiratikarnsakul
WHA Eastern Seaboard Industrial Estate Co., Ltd. ("WHA ESIE")	- Real estate business development and industrial estate management	
WHA Rayong Industrial Land Co., Ltd. ("WHA RIL")	- Real estate development and management of industrial zone projects	
WHA Saraburi Industrial Land Co., Ltd. ("WHA SIL")	- Real estate development and management of industrial zone projects	
WHA Eastern Seaboard Industrial Estate 4 Co., Ltd. ("WHA ESIE4")	- Real estate business development and industrial estate management	

Persons who may have conflicts	Nature of Business	Nature of Relationship
WHA Industrial Development Engineering Co., Ltd. ("WHA IDE")	- Design and construction services	<ul style="list-style-type: none"> - A subsidiary of WHAID, which is the Company's major shareholder, holding 99.99% of the paid-up capital. (Both direct and indirect)- - There are 2 common directors: <ol style="list-style-type: none"> 1) Ms. Jareeporn Jarukornsakul 2) Mr. David Richard Nardone
WHA Industrial Building Co., Ltd. ("WHA IB")	- Logistics business, selling and renting factory buildings, and finished warehouses	<ul style="list-style-type: none"> - A subsidiary of WHAID, which is the Company's major shareholder, holding 99.99% of the paid-up capital. (Both direct and indirect)
WHA Eastern Pipeline Services Co., Ltd. ("WHA EPS")	- Pipe rack rental services	<ul style="list-style-type: none"> - A subsidiary of WHAID, which is the Company's major shareholder, holding 99.99% of the paid-up capital. (Both direct and indirect) - There are 3 common directors: <ol style="list-style-type: none"> 1) Ms. Jareeporn Jarukornsakul 2) Mr. David Richard Nardone 3) Mr. Vivat Jiratikarnsakul
WHA Corporation Public Company Limited ("WHA")	- Logistics business, selling and renting factory buildings, warehouses and other properties	<ul style="list-style-type: none"> - A parent company of WHAID, which is the WHAID's major shareholder, holding 98.54% of the paid-up capital. (Both direct and indirect)- - There is a common directors: <ol style="list-style-type: none"> 1) Ms. Jareeporn Jarukornsakul 2) Mr. David Richard Nardone 3) Mr. Vivat Jiratikarnsakul
WHA Infonite Co., Ltd. ("WHA Infonite")	- Digital services, data center, Internet connection and other IT services	<ul style="list-style-type: none"> - A subsidiary of WHA, which is the Company's major shareholder, holding 97.67% of the paid-up capital. (Both direct and indirect) - There is a common directors: <ol style="list-style-type: none"> 1) Ms. Jareeporn Jarukornsakul

Transactions between the Company and its Subsidiaries with persons who may have conflict of interest

Transactions between 2019 and 2020 can be summarized as follows:

1) Water management services

Items	Size of Transaction (Million Baht)		Description	Opinion of the Audit Committee
	Financial year 31 December 2019	Financial year 31 December 2020		
Revenue from management fee			The Company has entered into an agreement to manage the water business by providing wastewater treatment services to ESIE and providing industrial water and wastewater treatment services to WHA IB (For water services in WHALP1). The agreement is valid for 3 years and effective from 30 March 2016 and has been extended to expire on 31 December 2021 because the two companies do not have professional staff in water business as a result of business restructuring. The Company charged the average of direct expenses plus a margin of 8% which is comparable to the margins of the same service provider in the market.	The Audit Committee considered and opined that such transactions are necessary and reasonable, which is a normal business transactions on with general trading conditions and the management rate can be compared with other companies providing the same services.
• ESIE	3.66	3.82		
• WHA IB	0.55	0.58		
Accrued income				
• ESIE	0.44	0.32		
• WHA IB	0.07	0.05		

2) Rental services

Items	Size of Transaction (Million Baht)		Description	Opinion of the Audit Committee
	Financial year 31 December 2019	Financial year 31 December 2020		
Revenue from Rental fee			The Company has entered into a contract with WHA to lease solar rooftop equipment and providing maintenance services. The contract is valid for 15 years.	The Audit Committee considered and opined that such transactions are necessary and reasonable, which is a normal business transactions on with general trading conditions and the lease rate can be compared with other companies providing the same services.
• WHA	4.50	4.41		
Accrued income				
• WHA	0.74	0.69		

3) Raw water procurement
3.1 Raw water procurement in ESIE

Items	Size of Transaction (Million Baht)		Description	Opinion of the Audit Committee
	Financial year 31 December 2019	Financial year 31 December 2020		
Raw water cost			<p>In 2008, the Company entered into a contract to purchase raw water from ESIE under a lease agreement for the production and distribution of industrial water. The contract period is 25 years. The Company agreed to purchase raw water at the rate of raw water cost defined by the lessor plus a margin of 15%. The cost of repairs and maintenance is the responsibility of the lessor.</p> <p>However, the Company is in the process of entering into a contract to purchase raw water directly from the East Water Development and Management Co., Ltd. ("EASTW")</p>	<p>The Audit Committee considered and opined that such transaction is necessary and reasonable and beneficial to the Company's business. It is normal business transaction with general trading conditions. Raw water is the main raw material to produce industrial water and both the Company and WHA ID Group will benefit from the supply of such raw water.</p>
<ul style="list-style-type: none"> ESIE 	95.76	72.57		
Accounts payable and accrued expenses				
<ul style="list-style-type: none"> ESIE 	10.79	9.10		

3.2 Purchase of raw water in industrial estates and other industrial zones

Items	Size of Transaction (Million Baht)		Description	Opinion of the Audit Committee
	Financial year 31 December 2019	Financial year 31 December 2020		
Raw water cost			The Company entered into the raw water purchasing contract with WHA ID, WHA EIE WHA ESIE, WHA RIL, WHA SIL, WHA ESIE4 with the term for 50 years, in accordance with the terms of the Lease Agreement for the production and distribution of industrial water and the management of wastewater to supply raw water to customers in the industrial estates since the Company is in the process of entering into a direct contract with EASTW. The raw water price under this contract is equal to the raw water cost of the lessor plus the average of the difference between the cost of the lessor and the price the company has to pay if it buys raw water directly. The Company is responsible for the cost of repairs and maintenance of equipment and assets of the raw water system.	The Audit Committee considered and opined that such transaction is necessary and reasonable and beneficial to the Company's business. It is normal business transaction with general trading conditions. Raw water is the main raw material to produce industrial water and both the Company and WHA ID Group will benefit from the supply of such raw water.
• WHA ID	46.25	47.51		
• WHA EIE	428.61	416.38		
• WHA ESIE	90.97	88.43		
• WHA RIL	47.21	42.77		
• WHA SIL	0.09	0.01		
• WHA ESIE4	3.23	2.50		
Accounts payable and accrued expenses				
• WHA ID	4.84	3.80		
• WHA EIE	38.58	44.44		
• WHA ESIE	9.38	8.88		
• WHA RIL	4.53	3.97		
• WHA ESIE 4	0.25	0.24		

4) Lease of land and pipe rack for business purposes

Items	Size of Transaction (Million Baht)		Description	Opinion of the Audit Committee
	Financial year 31 December 2019	Financial year 31 December 2020		
Land rental			The Company and WHA Water Co., Ltd., a Company's subsidiary, have entered into a land rental agreement with WHA ID, WHA ESIE, WHA EIE and WHA ESIE 4 to use in the industrial water production business. The rental rate per rai per year is comparable with the market price to be increased by 10% every 5 years, rental to be paid monthly which is the rate that other industrial estates charge from general customers. Each rental agreement is 30 years old, with WHA ID WHA ESIE and WHA EIE commencing from March 30, 2016 to March 29, 2046. WHA ESIE 4 commenced from May 1, 2017 to April 30, 2047, and is renewable for another 20 years.	The Audit Committee considered and opined that such transactions were necessary and reasonable for the operation of the business of the Company. The rental rate is the rate that other industrial estates charge to the general customers.
• WHA ID	3.13	2.40		
• WHA EIE	1.90	1.46		
• WHA ESIE	2.96	2.27		
• WHA ESIE4	2.08	1.64		
Accounts payable and accrued expenses				
• WHA ID	0.01	-		
• WHA EIE	0.01	-		
• WHA ESIE	0.01	-		
Pipe rack rental				
• WHA EPS	0.65	1.82	WHA Water Co., Ltd., a Company's subsidiary, have entered into a pipe rack rental agreement with WHA EPS to use in the industrial water production business. The rental rate per rai per year is comparable with the market price to be increased by 5% every years. The rental agreement is 15 years, starting from October 1, 2019 to September 30, 2034.	The Audit Committee considered and opined that such transactions were necessary and reasonable for the operation of the business of the Company. The rental rate is the rate that other industrial estates charge to the general customers.

5) Management expenses

Items	Size of Transaction (Million Baht)		Description	Opinion of the Audit Committee
	Financial year 31 December 2019	Financial year 31 December 2020		
Management expenses				
• WHA ID	31.99	31.99	<ul style="list-style-type: none"> The Company entered into the Management Contract with WHA ID to provide financial, information and other administrative services. The agreement is valid for 1 year from January 1, 2020 to December 31, 2020. The management fee is calculated based on the costs related with the business plus an 8% margin which can be compared to other companies' profit margins in the same business. 	<p>The Audit Committee considered and opined that the transaction is necessary and reasonable. The scope of services under the management agreement is consistent with the organizational structure and the new management policy of the Company. In addition, the management fee in such contract is a reasonable rate.</p>
• WHA	1.38	1.20		
Accounts payable and accrued expenses				
• WHA ID	2.67	5.52	<ul style="list-style-type: none"> The Company entered into the Management Contract with WHA regarding the HR Business Partner and Internal Auditor to provide human resource advisory services and monitoring internal control systems . The agreement is valid for 1 year from January 1, 2020 to December 31, 2020. The management fee is calculated based on the costs related with the business plus an 8% margin which can be compared to other companies' profit margins in the same business. 	
			<ul style="list-style-type: none"> The Company entered into an agreement with the WHA for Personal Data Protection Officer. In order to have a person acting as a personal data protection officer Personal Data Protection Act, B.E. 2019 Providing recommendations for reviewing operations coordinate and cooperate develop, investigate and report on compliance. Personal Data Protection Act, 2019, the agreement is valid for 1 year and 7 months from May 26, 2020 to December 31, 2021. The management fee is calculated based on the costs related with the business plus an 8% margin which can be compared to other companies' profit margins in the same business. 	

Items	Size of Transaction (Million Baht)		Description	Opinion of the Audit Committee
	Financial year 31 December 2019	Financial year 31 December 2020		
Trade accounts payable <ul style="list-style-type: none"> WHA IDE 	1.38	0.32	<p>The Company contracted WHA IDE to manage and supervise the construction for each water system in each project because WHA IDE has experience in engineering in industrial estates. The Company entered into such contract on January 1, 2019 and would expire on December 31, 2020. Currently, WHA IDE is in the process of supervising the construction of the water production and wastewater treatment systems in WHA ESIE3 industrial estate. The service tariff is calculated from the related costs plus the margin that can be comparable to those of the same business.</p>	<p>Such transactions are considered as necessary and beneficial to the Company since the Company has expanded its business and the industrial water system has to be installed for production and services. Therefore, it is necessary to hire experienced engineers to design and supervise the construction work. The Audit Committee considered and opined that such transaction is necessary and reasonable and is beneficial to the business operation.</p>

6) Renting the right to produce and distribute industrial water with ESIE

Items	Size of Transaction (Million Baht)		Description	Opinion of the Audit Committee
	Financial year 31 December 2019	Financial year 31 December 2020		
Royalties for production and distribution – Write off <ul style="list-style-type: none"> ESIE 	8.69	8.69	<p>In 2008, the Company entered into agreements to lease the rights to produce and distribute industrial water with ESIE for a period of 25 years to provide industrial water services to the operators in the industrial estate and will gradually amortize until the end of the contract.</p>	<p>The Committee considered that this transaction occurred before the appointment of the Audit Committee. In addition, ESIE is a joint venture between WHA ID and other entities. The Audit Committee considered and opined that such transaction is necessary and reasonable and is beneficial to the business operation.</p>

7) Renting the right to produce and distribute industrial water

Items	Size of Transaction (Million Baht)		Description	Opinion of the Audit Committee
	Financial year 31 December 2019	Financial year 31 December 2020		
Annual royalties			<ul style="list-style-type: none"> In 2008, the Company entered into a lease agreement with WHA ID, WHA EIE and WHA ESIE for a period of 25 years to provide industrial water services to industrial operators. Subsequently, on March 30, 2016, the three contracts were canceled and new contracts were entered into. The annual royalties fee is an agreement under the lease agreement for the right to operate and distribute industrial water and waste water management. The Company entered into a contract with WHA ID Group with the annual royalties fee from the water business as follows: <ul style="list-style-type: none"> Year 1-3: 1% per annum of revenue from water business in the project Year 4 onwards: 3% per annum of revenue from water business in the project. The rate of the royalties' fee is comparable to other businesses in the market. 	The Audit Committee considered and opined that such transaction is necessary and reasonable. The rate of the royalties' fee of the new contract is comparable to other businesses in the market. Such remuneration represents a percentage of revenue from the operation of the water business in the project is reasonable since the variation is in line with actual revenue and arising from business restructuring.
• WHA ID	2.91	3.17		
• WHA EIE	9.24	9.35		
• WHA ESIE	4.50	4.66		
• WHA RIL	2.67	2.88		
• WHA SIL	4.22	4.51		
• WHA ESIE4	0.08	0.08		
Accounts payable and accrued expenses				
• WHA ID	0.29	0.25		
• WHA EIE	0.28	1.55		
• WHA ESIE	0.92	0.87		
• WHA RIL	0.28	0.64		
• WHA SIL	0.91	0.79		
• WHA ESIE4	0.01	0.01		



MANAGEMENT DISCUSSION AND ANALYSIS

EXECUTIVE SUMMARY

WHA Utilities and Power Public Company Limited (“WHAUP” or “the Company”) recorded the 2020 performance with a Normalized Net Income of Baht 763.7 million, a 55.9% decrease from 2019 and Net Profit was Baht 812.7 million or a 62.0% decreased from 2019.

(Unit: Million Baht)

Consolidated Financial Statements	YTD	YTD	%
	2020	2019	Change
Total Revenue	1,698.0	1,857.2	-8.6%
Gross Profit	499.8	692.8	-27.9%
Normalized Share of Profit from Investments in Associates	821.6	1,491.1	-44.9%
Net Profit attributable to Owners of the Parent	812.7	2,137.2	-62.0%
Normalized Net Income attributable to Owners of the Parent ¹	763.7	1,732.9	-55.9%

¹ Definition of Normalized Net Income attributable to Owners of the Parent is changed from Net Profit attributable to Owners of the Parent excluding Foreign Exchange Gain/Loss and related tax, impact from TFRS 9 and TFRS 16 Accounting Standard and one-time accounting adjustment.

In 2020, Normalized Net Income was 763.7 and decreased by Baht 969.2 million or equivalent to a 55.9% decrease YoY. The decrease in Normalized Net Income in 2020 was mainly attributable to the decrease in Normalized Share of Profit of Baht 533.6 million from GHECO-One (account for 55.1% of total change in Normalized Net Income YoY), resulting from a decrease in Availability Payment profile as specified in the PPA and maintenance, a lower Energy margin, declining coal prices and 10% corporate tax rate (recently become effective since November, 2019). Nevertheless, GHECO-One still provide a strong cash flow position because debt services declined along with Availability Payment Rate (APR). Total sales volume from the operation of all 8 SPPs recorded a Baht 30.6 million decrease in Normalized Share of Profit compared to 2019, which was because of major planned maintenance from 4 out of 8 SPPs even though CCE provided positive contribution of Baht 50.7 million.

The COVID-19 pandemic and the drought negatively impacted the domestic sales revenue of Utilities business YoY. The effect from this outbreak outweighed the additional contribution from value-added water products,

namely Demineralized water and Premium Clarified water, resulting a decrease in domestic Utilities sales revenue YoY; however, Vietnam utilities sales volume showed an improvement YoY, but it was still lower ramp-up than planned and recorded normalized share of loss of Baht 122.3 million in 2020 and the impact from PPA amortization of Baht 39.1 million. Total Share of Loss of Baht 161.4 million from SDWTP was recorded as a result.

Significant Events in 2020:

- WHAUP issued Baht 3,000 million Bond in February, 2020 with average coupon rate of 2.765%. There are 2 tranches of bonds (i) Baht 1,500 billion with 2 years and 10 months tenor and (ii) Baht 1,500 billion with 10-year tenor which has been the longest tenor that WHAUP ever issued.
- Premium Clarified Water sold to Gulf SPPs from Reclaimed Water projects with capacity of 5,200 cubic meter per day at WHA ESIE has fully commenced COD in July, 2020.
- Nghe An Wastewater Treatment with capacity of 3,200 cubic meter per day has begun commercial operation in Q3'2020

- Wastewater Reclamation project, the largest reclamation plant in Thailand according to the daily capacity of 25,000 m³, has completed the construction in December 2020.
- Solar Rooftop signed new contracts of 17.9 MW, resulting in a total signed installed capacity of 50.9 MW, of which 39.5 MW and has begun the commercial operation in 2020.

RESULTS OF OPERATION

(Unit: Million Baht)

Consolidated Financial Statements	YTD	YTD	%
	2020	2019	Change
Total Revenue	1,698.0	1,857.2	-8.6%
- Utilities Business	1,642.6	1,847.1	-11.1%
- Operating Revenue ¹	1,624.7	1,734.3	-6.3%
- Other Revenue from Utilities Business ²	17.9	112.7	-84.1%
- Power Business	55.4	10.2	443.1%
Costs of Sales and Services	(1,198.1)	(1,164.4)	2.9%
Gross Profit	499.8	692.8	-27.9%
Gross Profit from Operation³	481.9	580.1	-16.9%
Other Income	79.3	145.7	-45.6%
Net Impairment on Financial Assets	(1.1)	0.0	N/A
Administrative Expenses	(188.1)	(197.5)	-4.8%
Gain (Loss) from Exchange Rate ⁴	0.7	0.0	N/A
Share of Profit from Investments in Associates and Joint Ventures	866.3	1,881.1	-53.9%
Finance Costs	(432.9)	(342.0)	26.6%
Income Tax (Expense)	(11.2)	(42.8)	-73.8%
Net Profit attributable to Owners of the Parent	812.7	2,137.2	-62.0%
Foreign Exchange Loss / (Gain) ⁹	(38.8)	(344.5)	-88.7%
Income Tax Related to FX Gain ⁵	5.9	0.0	N/A
One-time Accounting Adjustment ⁶	0.0	(59.8)	-100.0%
Impact of Accounting Standard (TFRS 9 and TFRS 16)	(16.2)	0.0	N/A
Normalized Net Income attributable to Owners of the Parent⁷	763.7	1,732.9	-55.9%

Key Profitability Ratio:	YTD	YTD
	2020	2019
Gross Profit Margin	29.4%	37.3%
Net Profit Margin ⁸	30.7%	55.0%

¹ Operating Revenue consists of Raw Water Sales, Industrial Water Sales and Wastewater Treatment Services.

² Other Utilities Revenue consists of Excessive Charge and Service Fees for Wastewater Management

³ Gross Profit from Operation excludes Other Revenue from Utilities Business.

⁴ Foreign Exchange Loss / (Gain) consists of unrealized and realized Loss (Gain) on exchange rate from USD Loan from Subsidiaries

⁵ Income Tax Related to FX Gain is derived from Gain on exchange rate from USD Loan to related parties at WUPIN

⁶ One-time Accounting Adjustment is the revision of recognition of maintenance cost of Gulf SPPs (GVTP, GTS1, GTS2, GTS3 and GTS4) but this revision had impact to WHAUP Profit and Loss Statement in 1Q'2019.

⁷ Definition of Normalized Net Income attributable to Owners of the Parent is changed from Net Profit attributable to Owners of the Parent excluding Foreign Exchange Gain/Loss and related tax, impact from TFRS 9 and TFRS 16 Accounting Standard and one-time accounting adjustment.

⁸ Net profit margin is calculated by dividing the Net Profit attributable to Owners of the Parent by Total Revenue and Share of Profit and other income

⁹ Foreign Exchange Loss / (Gain) consists of unrealized and realized Loss (Gain) on exchange rate from USD Loan from Subsidiaries and Associates

Total Revenue

In 2020, Total Revenue was Baht 1,698.0 million, a 8.6% decrease from Baht 1,857.2 million YoY due to a Baht 109.6 million decrease in Operating Revenue of Utilities business (which mainly consisted of Excessive Charge) YoY and a decrease in Other Utilities Revenue by Baht 94.8 million YoY despite an increase in Baht 45.2 million from Solar rooftop projects.

Gross Profit and Gross Profit from Operation

In 2020, Gross Profit was Baht 499.8 million, a 27.9% decrease from Baht 692.8 million YoY, and Gross Profit from Operation was Baht 481.9 million, a 16.9% decrease from Baht 580.1 million YoY. The decrease in Gross Profit and Gross Profit from Operation were due to the decrease in Operating Revenue and Excessive Charge despite the higher revenue from Demineralized Water and Solar rooftop projects and new income from Premium Clarified Water.

Share of Profit from Investments in Associates and Joint Ventures (“Share of Profit from Investments”)

(Unit : Million Baht)

Share of Profit from Investments	YTD	YTD	%
	2020	2019	Change
Share of Profit from Investments	866.3	1,881.1	-53.9%
- Utilities Business	(159.7)	(13.5)	-1085.5%
- Power Business	1,026.0	1,894.6	-45.8%
Adjustment Items:			
- Foreign Exchange Loss / (Gain) related to Share of Profit	(38.1)	(344.5)	88.9%
- One-time Accounting Adjustment	-	(59.8)	100.0%
- Impact of Accounting Standard (TFRS 9 and TFRS 16) from Associates and Joint Ventures	(6.6)	-	N/A
Normalized Share of Profit from Investments	821.6	1,476.8	-44.4%
- Utilities Business	(159.7)	(13.5)	N/A
- Power Business	981.3	1,490.3	-34.2%

Normalized Share of Profit from Investments is adjusted from Share of Profit by excluding (i) Foreign Exchange Loss/(Gain), (ii) One-time Accounting Adjustment which is the revision of recognition of maintenance cost of Gulf SPPs (GVTP, GTS1, GTS2, GTS3 and GTS4). This revision had impact to WHAUP Profit and Loss Statement in 1Q'2019 and (iii) the impact from new accounting implement (TFRS 9 and TFRS 16)

In 2020, Normalized Share of Profit from Investments was Baht 821.6 million, a 44.4% decrease from Baht 1,476.8 million YoY which mainly due to (i) a lower contribution from GHECO-One of Baht 533.6 million resulting from decrease in Availability Payment profile as specified in the PPA (ii) lower Energy margin (iii) declining coal price (iv) a 10% corporate tax rate which recently applied in November, 2019 (v) a Baht 30.6 million decrease in contribution from the SPPs (4 of 8 SPPs performed planned maintenance) and (vi) a Share of loss from SDWTP which included the impact from PPA amortization of Baht 39.1 million

Net Profit attributable to Owners of the Parent

In 2020, Profit attributable to Owners of the Parent was Baht 812.7 million, a 62.0% decrease from Baht 2,137.2 million YoY. The decrease was mainly from

- i) Baht 1,014.9 million decrease in Share of Profit from Investments in Associates and Joint Ventures mainly due to GHECO-One of Baht 702.6 million, all 8 SPPs of Baht 219.4 million and SDWTP of Baht 147.1 million despite new contribution from CCE of Baht 60.6 million. However, Normalized Share of Profit which included no impact of FX, TFRS 9 & 16, and one-time accounting adjustment decrease by Baht 655.2 million YoY.
- ii) Baht 193.0 million decrease in Gross Profit mainly due to lower water sales volume, lower excessive charge, and higher Depreciation Costs of new projects despite higher revenue from Demineralized Water and Solar rooftop projects and new income from Premium Clarified Water

- iii) Baht 90.8 million increase in Finance Costs from Baht 342.0 million to Baht 432.9 million mainly due to financing for SDWTP and Interest Expense from the new adoption of TFRS 16 ; and
- iv) Baht 66.4 million decrease in Other Income which was mainly due to lower Interest Income and lower Dividend Income from GIPP

despite

- i) Baht 31.6 million decrease in Income Tax Expense due to lower Earnings before Tax

Normalized Net Income attributable to Owners of the Parent

The Normalized Net Income attributable to Owners of the Parent is Net Profit attributable to Owners of the Parent adjusted by i) Foreign Exchange Loss/(Gain) ii) Income Tax related to FX Gain on USD Loan iii) One-time Accounting Adjustment and iv) Impact of Accounting Standard (TFRS 9 and TFRS 16)

In 2020, there was a Gain on Foreign Exchange of Baht 32.9 million recording from Thai Baht appreciation against USD loan of Associate companies and Impact of Accounting Standard (TFRS 9 and TFRS 16) of Baht 16.2 million were adjusted accounts to calculate Normalized Net Income. Therefore, the Normalized Net Income attributable to Owners of the Parent in 2020 was Baht 763.7 million, a 55.9% decrease YoY.

PERFORMANCE BY BUSINESS

Utilities Business

In 2020, Total Revenue and Share of Profit/(Loss) of Utilities Business was Baht 1,482.9 million, a 19.1% decrease YoY. Revenue from Utilities Business decreased by 11.1% to Baht 1,642.6 million because of lower water sales as well as lower Other Utilities Incomes. Moreover, Share of Loss of Baht 161.4 million from SDWTP recorded in 2020 due to the delay of planned volume ramp-up caused by Covid-19 pandemic. The details are shown in the table below.

(Unit: Million Baht)

Utilities Business	YTD	YTD	%
	2020	2019	Change
Total Revenue from Utilities Business	1,642.6	1,847.1	-11.1%
- Industrial Water Sales	1,233.8	1,309.5	-5.8%
- Raw Water Sales	250.4	264.0	-5.2%
- Wastewater Treatment Services	140.5	160.8	-12.6%
- Other Incomes from Utilities Business ¹	17.9	112.7	-84.1%
Share of Profit from Utilities Business	(159.7)	(13.5)	N/A
Total Revenue & Share of Profit from Utilities Business	1,482.9	1,833.6	-19.1%

¹ Other Utilities Revenue consists of Excessive Charge, Service Fees for Wastewater Management

i) The Utilities sales volume;

- Industrial Water sales volume decreased 9.6% from 55.0 million cubic meters in 2019 to 49.7 million cubic meters in 2020, which was mainly due to lower demand according to drought mitigation plan by the government during the first half of 2020 and COVID-19 despite the higher contribution from value-added products (Demineralized Water and Premium Clarified Water) of which improved by 2.5 million cubic meters YoY.
- Raw Water sales volume decreased 8.5% from 16.6 million cubic meters in 2019 to 15.2 million cubic meters in 2020
- Wastewater treatment and management volume decreased from 35.4 million cubic meters in 2019 to 31.1 million cubic meters in 2020, or decreased by 12.2%.

ii) Other Utilities Revenue was Baht 17.9 million or decreased by Baht 94.8 million YoY. Other Utilities Revenue mainly consisted of Excessive charge.

Power Business

In 2020, Total Revenue from Power Business and Share of Profit from Investment and Dividend Income was Baht 1,117.8 million, a 43.5% decrease from Baht 1,979.8 million YoY. However, Normalized Total Revenue from Power Business and Share of Profit from Investments and Dividend was Baht 1,073.1 million, a 31.9% decrease YoY.



The breakdowns of the Company's Revenue and Share of Profit from Investment and Dividend Income by category of power plant are following

(Unit: Million Baht)

Power Business	YTD	YTD	%
	2020	2019	Change
Revenue from Power Business	55.4	10.2	443.1%
Share of Profit from Power Business	1,026.0	1,894.6	-45.8%
Dividend Income	36.5	75.0	-51.3%
Total Revenue from Power Business and Share of Profit from Investments and Dividend	1,117.8	1,979.8	-43.5%
Normalized Total Revenue from Power Business and Share of Profit from Investments and Dividend	1,073.1¹	1,575.5²	-31.9%
- IPP	324.6	907.0	-64.2%
- SPP	638.3	668.8	-4.6%
- Renewable Energy	111.7	6.3	1,661.7%
- Others ³	(1.3)	(6.7)	80.4%

¹ Normalized Share of Profit for 2020 were adjusted with Foreign Exchange Loss / (Gain) and Impact Accounting Standard (TFRS 9 and TFRS 16) that related with Share of Profit from Associates and Joint Ventures

² Normalized Share of Profit for 2019 is adjusted with Foreign Exchange Loss / (Gain) and One-time Accounting Adjustment as aforementioned

³ WHA Natural Gas Distribution Projects (WHA NDGPs) is a collaboration among WHAUP, GULF and MITG

IPP

- In 2020, all 3 IPPs generated Baht 324.6 million of Normalized Share of Profit and Dividend, a 64.2% decrease YoY. The decreased Normalized Share of Profit and Dividend was mainly caused by GHECCO-one from Availability Payment decreasing along with PPA, lower Energy Margin, declining coal price and 10% corporate tax rate (which recently applied in November, 2019)

SPP

- In 2020, all 8 SPPs generated Baht 638.3 million of Normalized Share of Profit, a 4.6% decrease from 2019 which mainly due to lower demand from EGAT

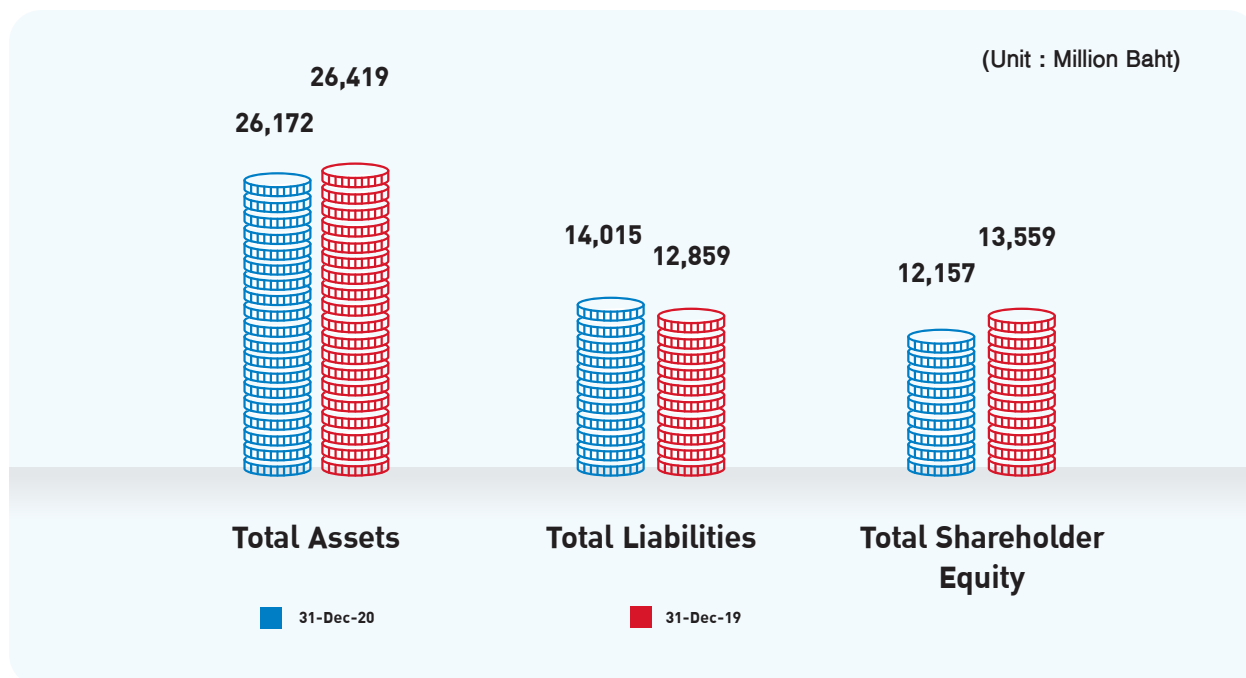
and IU and higher maintenance costs associated with planned maintenance from 4 out of 8 SPPs in 2020.

Renewable Energy

- In 2020, Solar Rooftop Projects generated Baht 61.0 million of Revenue and Share of Profit to WHAUP, a Baht 44.7 million increase from 2019 due to higher MW COD. In addition, CCE contributed Baht 50.7 million of Share of Profit to WHAUP this year while it was a negative contribution of Baht 10.0 million in 2019.

FINANCIAL POSITION

The Consolidated Balance Sheet as of 31 December 2020 is summarized as follows.



Assets

As of 31 December 2020, the Company's total Assets was Baht 26,171.6 million, decreased by Baht 247.1 million from Baht 26,418.7 million at year end 2019. The decrease was mainly due to a Baht 1,880.8 million decrease in Investment in Associates, which mainly impacted when TFRS9 was applied, and a Baht 569.8 million decrease in Net Trade and Other Receivables despite a Baht 1,029.6 million increase in Cash and Cash Equivalents, a Baht 857.2 million increase in Net Property Plant and Equipment and a Baht 231.6 million increase in Right of Use (TFRS 16).

The key elements of Assets in the Company's Consolidated Financial Statements consisted of: (i) Investments in Associates of Baht 12,706.8 million, (ii) Net Property Plant and Equipment of Baht 4,807.4 million (iii) Goodwills of Baht 2,772.9 million, (iv) Intangible assets of Baht 1,987.9 million and (v) Cash and Cash Equivalents of Baht 1,784.2 million.

Liabilities

As of 31 December 2020, Total Liabilities was Baht 14,014.5 million, increased by Baht 1,155.1 million from Baht 12,859.5 million at year-end 2019 which mainly due to (i) a Baht 3,748.6 million increase in Long-term borrowings from financial institutions (ii) a Baht 609.8 million increase in Long-term borrowings debenture despite (i) a Baht of

1,765.0 million decrease in Short-term from Financial Institutions and (ii) a Baht of 1,609.1 million decrease in Current portion of Long-term Debentures. Interest-bearing Debt as of 31 December 2020 was Baht 12,866.2 million, a Baht 1,109.4 million increase from Baht 11,756.7 million at year-end 2019.

Total Liabilities mainly consisted of: (i) Long-term Borrowings Debentures amounted Baht 5,604.1 million, (ii) Long-term Borrowings from Financial Institutions amounted Baht 4,623.0 million, (iii) Current portion of Long-term Borrowings Debentures amounted Baht 2,388.9 million and (iv) Current portion of Long-term Borrowings from Financial Institutions amounted Baht 249.8 million.

Shareholders' Equity

As of 31 December 2020, Total Shareholders' Equity was Baht 12,157.1 million, decreased by Baht 1,442.2 million from Baht 13,559.3 million at year-end 2019. The decrease in Shareholders' Equity was mainly consisted of a Baht 1,308.2 million decrease in Other Components of Equity, an unrealized loss from financial instrument of Associates and Joint Ventures according to TFRS 9 accounting standard and a Baht 175.6 million decrease in Retained Earnings (a dividend payment of Baht 965.8 million was partly offset by Net Income of Baht 812.7 million and Other Components of Equity of Baht 22.5 million).

KEY FINANCIAL RATIOS

	2020	2019
Return on Equity (%)	6.3%	15.5%
Effective Tax Rate (%)	1.4%	2.0%
Debt/Equity Ratio (times)	1.15x	0.95x
Net Interest-bearing Debt/Equity Ratio (times)	0.91x	0.81x
Average Collection Period (days)	35	30

As of 31 December 2020, the Company's Return on Equity was 6.3%, decreased from 15.5% in 2019. The Company's Effective Tax rate was 2.0% and 1.4% in 2019 and 2020 respectively. An Effective Tax rate was lower than the 20% corporate income tax rate because of tax privileges and accounting treatment. In this regard, most projects that the Company has invested are still granted the tax privileges and Share of Profit from Investment in Associates and Joint Ventures which was booked in Profit and Loss statement was already taxed with corporate income tax rate (the invested companies already paid tax expense as shown in their Profit and Loss statement, therefore the Company is not subject this taxation in its line of Share of profits). The Company's Debt-to-Equity ratio was 1.15x, increased from 0.95x at year-end 2019. The Net Interest-bearing Debt-to-Equity ratio was 0.91x at the end of the Fourth Quarter 2020, increased from 0.81x at year-end 2019. The increase was mainly from an increase in Long-term Borrowings from Financial Institutions of Baht of 3,748.6

million and a decrease in Total Shareholder Equity of Baht 1,402.2 million, despite an increase in Cash and Cash Equivalents of Baht 1,029.6 million.

For a ratio that measures the quality of Accounts Receivables, the Company had a higher average collection period of 35 days in 2020, an increase by 5 days from 30 days in 2019. The main driver was the COVID-19 pandemic which caused an economic slowdown and greatly impacted a few company's customers. Although, actual average collection period was in a range of company's credit term policy which are 15-30 days (the invoice will be delivered to customers within 5 days following the month of invoice). The Company has monitored and reviewed accounts receivables' outstanding on a regular basis. In addition, Accounts Receivables are accounted for only 0.6% of Total Assets in both 2019 and 2020. Therefore, the Company expects no significant loss as a consequence from the poorer debt quality.

PROJECTS UNDER CONSTRUCTION

Power

As of 31 December 2020, Solar Rooftop had 11.4 MW which are under construction and expects to commence COD in 1Q'2021-3Q'2021.

Power plant	Type of power	Category of producer	Equity holding (%)	Installed Capacity (MW)	Equity Capacity (MW)	Commercial Operation Date
Solar Rooftop	Solar	Private PPA	100	11.4	11.4	1Q'2021-3Q'2021
Total				11.4	11.4	



REPORT ON RESPONSIBILITIES OF THE BOARD OF DIRECTORS TOWARDS THE FINANCIAL REPORT OF THE YEAR 2020

The Board of Directors of WHA Utilities and Power Public Company Limited realizes its role and responsibility as the Directors in supervising the Company to have the Financial Reports of year 2020 to present sufficient in materiality, relevant and transparent financial and accounting information. Appropriate accounting policies have been put in place and adhered to on a consistent basis according to the generally accepted accounting principle while due consideration has been placed on the process of preparing the Company's and the Consolidated fiscal year 2020 financial statements including other information that have been included in the annual report of this year. The Audit Committee, who is appointed by the Company's Board of Directors, comprising of independent directors fully qualified in accordance with the requirement of the Stock Exchange of Thailand have reviewed and ensure accuracy and sufficiency of the financial report including accurate and complete disclosure of connected transactions or transactions with possible conflict of interests, sufficient and effective internal control and internal audit system, risk management and appropriate corporate governance and to be compliance with the requirement of the Stock Exchange of Thailand and relevant rules and regulations.

The Company's Board of Directors has the opinion that the financial statements and financial reports for the year 2020 of the Company and the Subsidiaries, which have been reviewed by the Audit Committee in conjunction with the management, and audited by the Company's auditors, reflect accurate financial position, operational results and cash flow status in accordance with consistent appropriate accounting policies generally accepted accounting standards and according to relevant rules and regulations.

(Ms. Jareeporn Jarukornsakul)
Chairman of the Board of Directors
25 February 2021

(Dr. Niphon Bundechanan)
Director & CEO
25 February 2021



RISK MANAGEMENT COMMITTEE REPORT



Dear Shareholders

The Risk Management Committee of WHA Utilities and Power Public Company Limited consists of the following three knowledgeable, competent, experienced members with mastery of the Company's business as its members:

1. Ms Jareeporn Jarukornsakul

Chairman of the Risk Management Committee

2. Mr. David Richard Nardone

Risk Management Committee member

3. Mr. Surathian Chakthranont

Risk Management Committee member

To achieve business goals while promoting confidence and credibility among investors and stakeholders, this year the Risk Management Committee operated with its best efforts to support the Board of Directors (the Board) on the corporate risk management. The committee defined and reviewed the corporate risk management scope, policy, and processes as prescribed in the Risk Management Committee Charter, providing recommendations on suitable approaches for efficient business conduct in line with strategic directions and business plans.

In 2020, six meetings were held by the committee as planned with the highlights of performance are as follows:

1. Endorsed the Personal Data Protection Policy and guidelines, including related procedures and measures to comply with the Personal Data Protection Act B.E. 2562 (2019).
2. Considered the Company Risk Report 2019.
3. Considered the Risk issue and mitigation plan of SDWTP.
4. Considered for Drought Situation.
5. Considered the report of the progress of Company's Risk mitigation plan
6. Considered the report of the progress of Risk issue and mitigation plan of SDWTP
7. Endorsed the exercising of contractual right under share purchase agreement of Song Duong River Water Treatment Plant Joint Stocks Company ("SDWTP").
8. Reviewed the Risk Management Committee Charter.
9. Endorsed the investment in Hemraj Leasehold Real Estate Investment Trust (HREIT).

This year, the Risk Management Committee found that the Company has developed its corporate risk management system to embrace all aspects of risks, and commanded continual risk management practices in line with prevailing circumstances. The committee held meeting to promptly review key and urgent risks, rendering the Company's risk management effective. In conclusion, the Company commanded key corporate risk management practices that has been proved efficient, suitable, and manageable within the indicated risk tolerance.

Ms. Jareeporn Jarukornsakul

Chairman of the Risk
Management Committee





CORPORATE GOVERNANCE COMMITTEE REPORT

Dear Shareholders

The Corporate Governance Committee of WHA Utilities and Power Public Company Limited consists of three knowledgeable directors as its members:

1. **Mrs. Punnee Worawuthichongsathit**
Chairman of the Corporate Governance Committee
2. **Mr. Ekajai Tivutanond**
Corporate Governance Committee member
3. **Mr. Vivat Jiratikarnsakul**
Corporate Governance Committee member

The Board has assigned the committee to propose CG guidelines and oversee the conduct of the directors and the management so as to ensure conformance to CG principles, SET's CG principles, IOD's recommendation from the Corporate Governance Assessment Report. The committee's mandate also includes formulating the frameworks for the Company's Anti-Corruption tasks.

In 2020, three meetings were held by the committee as planned as highlighted below:

1. Reviewed the documents in relation to the Environmental, Social and Governance (ESG) of the Company.
2. Reviewed the Corporate Governance Policy, Anti-Corruption Policy, Code of Conduct and the Corporate Governance Committee Charter.
3. Reviewed the submitting a Thailand Sustainability Investment (THSI) form.
4. Reviewed the filing of an Investor Relations operation questionnaire of listed companies (Investor Relations).
5. Reviewed the assessment results of the Corporate Governance Report of Thai Listed Companies Project (CGR) for the year 2020
6. Reviewed the AGM Assessment Score Year 2020 (AGM Checklist).
7. Reviewed the CAC 71 Checklist version 4.0.
8. Reviewed the Information Disclosure Policy.

The Corporate Governance Committee remains committed to improve its efficiency in steering the Company's CG, and social responsibility to align with the Company's business strategies for the best interests of all stakeholders and greater international acceptance.

Mrs. Punnee Worawuthichongsathit

Chairman of the Corporate
Governance Committee



NOMINATION AND REMUNERATION COMMITTEE REPORT



Dear Shareholders

The Nomination and Remuneration Committee of WHA Utilities and Power Public Company Limited consists of three knowledgeable directors as its members:

- 1. Mr. Weidt Nuchjalearn**
Chairman of the Nomination and Remuneration Committee
- 2. Ms. Jareeporn Jarukornsakul**
Nomination and Remuneration Committee member
- 3. Mr. Ekajai Tivutanond**
Nomination and Remuneration Committee member

In accordance with the stated process, the committee nominates individuals whose qualifications meet the indicated criteria to be appointed as directors, Chief Executive Officer (CEO), and Board-Committee members. It also reviews the forms and criteria for directors' remuneration before tabling to the Board for endorsement and to shareholders for approval respectively.

In 2020, three meetings were held by the committee with the highlights of performance are as follows:

1. Nominated and selected experts for directors' appointment in line with the stated processes and criteria before tabling to the Board or shareholders for approval as required by law.
2. Nominated and selected qualified candidate(s) in replacement of directors who resigned before term completion, as well as members of Board-Committee, including the Top Executives, before tabling to the Board for the consideration and approval of the appointment to fill the vacancies upon directors' resignation or term completion;
3. Reviewed the 2020 remuneration of the Board of Directors.
4. Assessed the CEO's performance before tabling to the Board for the consideration of salary adjustment and Bonus.
5. Reviewed the Nomination and Remuneration Committee Charter.
6. Encouraged minor shareholders to propose agenda items and nominate directors for election by announcing to shareholders before the 2020 AGM.

Moreover, the Nomination and Remuneration Committee also provided views and recommendations to the Management with regard to human resources management to foster the morale and retention of highly capable employees with the Company.

Mr. Weidt Nuchjalearn
Chairman of the Nomination and
Remuneration Committee





AUDIT COMMITTEE REPORT

Dear Shareholders

The Audit Committee of WHA Utilities and Power Public Company Limited consists of three knowledgeable independent non-executive directors as its members:

1. **Mr. Weidt Nuchjalearn**
Chairman of the Audit Committee
2. **Mr. Ekajai Tivutanond**
Audit Committee member
3. **Mrs. Punnee Worawuthichongsathit**
Audit Committee member

The Audit Committee members are qualified in accordance with the rules and regulations for Audit Committees, as issued by the Securities and Exchange Commission and the Stock Exchange of Thailand. The Audit Committee has fulfilled its responsibilities according to the scope and duties assigned by the Board of Directors in compliance with its Charter and official regulations.

Five formal Audit Committee meeting were held in respect of its 2020 financial year duties. By invitation, such meeting were also attended by the internal and external auditors, as well as by members of the company management, inclusive of the Chief Financial Officer, with occasional participations by the Chief Executive Officer upon requests. Moreover, the Audit Committee also arranged time to meet the internal and external auditors without executives of the Company being present. The meeting were officially arranged quarterly, in case informal consultations added as deemed necessary.

The activities of the Audit Committee covered the following areas:

1. **Review of the interim and annual financial statements of 2020** to verify that the statements were accurate and complete, and that relevant supporting financial information was disclosed. The review was conducted with inputs from the management and the external auditors. The Audit Committee and external auditors agreed that the financial statements were correct with financial reporting standards. The Company had diligently applied itself to the Federation of Accounting Professionals of Thailand's revised sets of accounting standards, which had been introduced in conjunction with international practice.
2. **Review of the internal and risk management control system** in order to verify that the system was appropriate and effective in meeting its objectives. The review which was conducted with inputs from the internal auditors, coupled with discussions with the external auditors, did not reveal any significant weaknesses or deficiencies, either at company or subsidiary level. The Audit Committee and both the internal and external auditors are of the view that the prevailing internal control and risk management system meet the requirements of the SET and SEC, and is adequate to safeguard assets and provide sufficient disclosure of information.
3. **Review of the internal audit function to ensure its effectiveness and independence.** The internal audit function is conducted by a reputable and independent internal audit firm. Work is performed in accordance with a program jointly studied and approved on a continuing basis by the Audit Committee, together with the Management. The internal auditors report their findings to both the Audit Committee and the Management on a quarterly basis, with open access to the Audit Committee at all times. The Audit Committee believes that the internal audit functions of the Company and subsidiaries are appropriate, effective and independent.

4. **Review of compliance with the Securities and Exchange Acts, other relevant laws and SEC-SET regulations, as well as the Company's own rules and obligations to external parties.** This review, which was performed by the Audit Committee members, with contracted assistance from the internal auditors, did not find any significant instances of non-compliance.
5. **Review of, and giving opinion on, connected transactions and transactions potentially giving rise to conflicts of interest, together with the aspect of information disclosure on such transactions in compliance with the regulations of the SET and SEC.** The Audit Committee and both the internal and external auditors were of the opinion that such transactions had fully and appropriately been disclosed in the financial statements and notes thereto, and were reasonable, of a normal business nature, as well as being beneficial to the Company.
6. **Considering the appointment of external auditors and their remunerations for the year 2021.** The Audit Committee recommending such to the Board of Directors for submission to the Shareholders' Annual General Meeting for the next year. Having considered for performance, independence and remuneration issues, the Audit Committee was satisfied with audit personnel of the present external audit firm, PricewaterhouseCoopers ABAS Ltd., on all count. The committee thus recommended Mr. Chanchai Chaiprasit (Certified Public Accountant registration number 3760), Mr. Paiboon Tunkoon (Certified Public Accountant registration number 4298), and Mr. Boonrueng Lerdwiseswit (Certified Public Accountant registration number 6552) to appointed the Company's external auditor for the year 2021 at a remuneration of Baht 2,452,000 and other expenses as relevant to the audit according to the appropriation.

The external auditors had no family, financial interest, employment, investment or business relationship with the Company or any of its subsidiaries, other than in the normal course of audit business.

In summary, the Audit Committee, in the course of discharging its Chartered responsibilities as assigned by the Board of Directors, found that the Company had presented its financial and operational information in a true and fair manner, had appropriate and effective internal control and audit and risk management, had complied with laws, regulations and obligations, and had disclosed connected transactions correctly

Mr. Weidt Nuchjalearn

Chairman of the Audit Committee



INDEPENDENT AUDITOR'S REPORT **FINANCIAL STATEMENTS**





INDEPENDENT AUDITOR'S REPORT AND FINANCIAL STATEMENT



Independent Auditor's Report

To the shareholders and the Board of Directors of WHA Utilities and Power Public Company Limited

My opinion

In my opinion, the consolidated financial statements and the separate financial statements present fairly, in all material respects, the consolidated financial position of WHA Utilities and Power Public Company Limited (the Company) and its subsidiaries (the Group) and the separate financial position of the Company as at 31 December 2020, and its consolidated and separate financial performance and its consolidated and separate cash flows for the year then ended in accordance with Thai Financial Reporting Standards (TFRS).

What I have audited

The consolidated financial statements and the separate financial statements comprise:

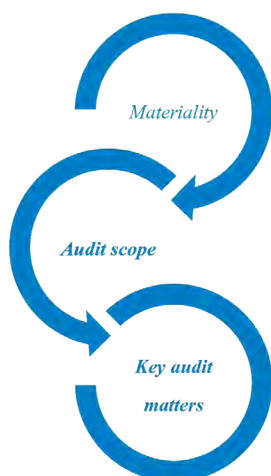
- the consolidated and separate statements of financial position as at 31 December 2020;
- the consolidated and separate statements of comprehensive income for the year then ended;
- the consolidated and separate statements of changes in equity for the year then ended;
- the consolidated and separate statements of cash flows for the year then ended; and
- the notes to the consolidated and separate financial statements, which include significant accounting policies and other explanatory information.

Basis for opinion

I conducted my audit in accordance with Thai Standards on Auditing (TSAs). My responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the consolidated and separate financial statements section of my report. I am independent of the Group and the Company in accordance with the Code of Ethics for Professional Accountants issued by the Federation of Accounting Professions that are relevant to my audit of the consolidated and separate financial statements, and I have fulfilled my other ethical responsibilities in accordance with these requirements. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.



My audit approach - overview



Materiality

Overall group materiality: Baht 37 million which represents approximately 5% of Group's profit before tax.

Audit scope

I conduct with audit work of the consolidated financial statements by focusing on the significant components which account for 82% of the Group's profit before tax and 79% of the Group's total assets.

Key audit matters

I identified Goodwill impairment assessment as key audit matter.

Materiality

The scope of my audit was influenced by my application of materiality. An audit is designed to obtain reasonable assurance whether the financial statements are free from material misstatement. Misstatements may arise due to fraud or error. They are considered material if individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the consolidated financial statements.

Based on my professional judgement, I determined certain quantitative thresholds for overall materiality for the consolidated financial statements as set out in the table below. These, together with qualitative considerations, helped me to determine the scope of my audit and the nature, timing and extent of my audit procedures and to evaluate the effect of misstatements, both individually and in aggregate on the financial statements as a whole.

Overall materiality for consolidated financial statements	Baht 37 million
How I determined it	5% of Group's profit before tax
Rationale for the materiality benchmark applied	I chose profit before tax as the critical measure because, in my view, it is the measure against the performance of the Group. The 5% benchmark is a generally accepted auditing practice and there were no significant unusual elements that merited adjustments to this benchmark.

I agreed with the audit committee that I would report to them misstatements identified during my audit above Baht 3.7 million.

Audit scope

I tailored the scope of my audit in order to perform sufficient work to enable me to provide an opinion on the consolidated financial statements as a whole, taking into account the structure of the Group, the accounting processes and controls, and the industry in which the Group operates.

Key audit matters

Key audit matters are those matters that, in my professional judgement, were of most significance in my audit of the consolidated and separate financial statements of the current period. I determine one key audit matter which was goodwill impairment assessment. The matter was addressed in the context of my audit of the consolidated and separate financial statements as a whole, and in forming my opinion thereon, and I do not provide a separate opinion on the matter.

Key audit matter	How my audit addressed the key audit matter
<p>Goodwill impairment assessment</p> <p>Refer to Note 9 'Critical accounting estimates and judgements' and Note 18 'Goodwill' to the financial statements. As at 31 December 2020, the Group had goodwill of Baht 2,773 million.</p> <p>The Group's goodwill arose from past acquisitions of power and water businesses. The Group is required to test for goodwill impairment annually in accordance with the requirements of the Thai Financial Reporting Standards.</p> <p>I focussed on the goodwill impairment assessment because the goodwill balance is material to the financial statements. The Group's management uses its judgement and future projections to determine the recoverable amount of cash-generating units, which includes goodwill.</p> <p>The recoverable amount is based on the fair value less costs of disposal determined using the present value method. The key assumptions used to estimate the future net cash flow discounted to net present value are the gross margin, growth rate and discount rate.</p> <p>From the impairment assessment this year, the Group's management concluded that there was no impairment of goodwill because the recoverable amount was higher than the carrying amount.</p>	<p>My audit procedures included:</p> <ul style="list-style-type: none">• understanding and assessing how the Group's management forecasted future cash flow• comparing cash flow projections with approved budgets and business plans set by the Group's management, and reviewing other supporting evidence from the management on future operation plans• challenging the reasonableness of management's key assumptions used in cash flow projections, such as its future business plans, projected future gross margin, growth rate and discount rate using the weighted average cost of capital method (WACC), and taking into account the sensitivity of these assumptions with regards to the recoverable amount, and• testing the mathematical accuracy of estimated key figures based on the above assumptions and used them to calculate the recoverable amount, then comparing it with the carrying value. <p>Based on these audit procedures, I found that the goodwill impairment assessment was reasonable and consistent with the supporting evidences.</p>

Other information

The directors are responsible for the other information. The other information comprises the information included in the annual report, but does not include the consolidated and separate financial statements and my auditor's report thereon. The annual report is expected to be made available to me after the date of this auditor's report.

My opinion on the consolidated and separate financial statements does not cover the other information and I will not express any form of assurance conclusion thereon.

In connection with my audit of the consolidated and separate financial statements, my responsibility is to read the other information identified above when it becomes available and, in doing so, consider whether the other information is materially inconsistent with the consolidated and separate financial statements or my knowledge obtained in the audit, or otherwise appears to be materially misstated.

When I read the annual report, if I conclude that there is a material misstatement therein, I am required to communicate the matter to the audit committee.

Responsibilities of the directors for the consolidated and separate financial statements

The directors are responsible for the preparation and fair presentation of the consolidated and separate financial statements in accordance with TFRS, and for such internal control as the directors determine is necessary to enable the preparation of consolidated and separate financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated and separate financial statements, the directors are responsible for assessing the Group's and the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the Group and the Company or to cease operations, or has no realistic alternative but to do so.

The audit committee assists the directors in discharging their responsibilities for overseeing the Group's and the Company's financial reporting process.

Auditor's responsibilities for the audit of the consolidated and separate financial statements

My objectives are to obtain reasonable assurance about whether the consolidated and separate financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with TSAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated and separate financial statements.

As part of an audit in accordance with TSAs, I exercise professional judgement and maintain professional scepticism throughout the audit. I also:

- Identify and assess the risks of material misstatement of the consolidated and separate financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's and the Company's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the directors.
- Conclude on the appropriateness of the directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's and the Company's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the consolidated and separate financial statements or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the Group and the Company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated and separate financial statements, including the disclosures, and whether the consolidated and separate financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. I am responsible for the direction, supervision and performance of the group audit. I remain solely responsible for my audit opinion.

I communicate with the audit committee regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

I also provide the audit committee with a statement that I have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on my independence, and where applicable, related safeguards.

From the matters communicated with the audit committee, I determine those matters that were of most significance in the audit of the consolidated and separate financial statements of the current period and are therefore the key audit matters. I describe these matters in my auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, I determine that a matter should not be communicated in my report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

PricewaterhouseCoopers ABAS Ltd.



Chanchai Chaiprasit
 Certified Public Accountant (Thailand) No. 3760
 Bangkok
 25 February 2021

STATEMENT OF FINANCIAL POSITION

WHA UTILITIES AND POWER PUBLIC COMPANY LIMITED

AS AT 31 DECEMBER 2020

	Notes	Consolidated financial statements		Separate financial statements	
		2020	2019	2020	2019
		Baht	Baht	Baht	Baht
Assets					
Current assets					
Cash and cash equivalents	11	1,784,154,716	754,591,304	967,860,536	541,569,322
Trade and other receivables, net	12	241,529,713	811,378,643	423,792,531	277,486,695
Short-term loans to related parties	31	-	283,490,552	687,000,000	5,029,490,000
Other current assets		218,319,945	224,806,825	110,222,411	152,134,369
Total current assets		2,244,004,374	2,074,267,324	2,188,875,478	6,000,680,386
Non-current assets					
Financial assets measured at fair value through profit or loss	8	328,772,518	-	-	-
Investments in associates	14	12,706,816,492	14,587,636,917	-	-
Investments in subsidiaries	15	-	-	9,524,499,944	9,324,499,944
Interests in joint ventures	14	781,978,409	737,554,465	158,900,000	158,900,000
Other long-term investment, net		-	253,557,521	-	-
Loans to related parties	31	248,490,552	-	5,384,490,000	-
Financial lease receivables		21,888,344	-	-	-
Property, plant and equipments, net	16	5,039,005,609	3,950,235,348	2,993,486,199	2,804,749,720
Intangible assets, net	17	1,987,912,390	2,035,470,443	1,945,020,316	1,991,856,390
Goodwill	18	2,772,877,526	2,772,877,526	597,693,413	597,693,413
Deferred tax assets	19	1,157,156	154,004	-	-
Other non-current assets		38,711,087	6,963,882	37,780,679	6,963,882
Total non-current assets		23,927,610,083	24,344,450,106	20,641,870,551	14,884,663,349
Total assets		26,171,614,457	26,418,717,430	22,830,746,029	20,885,343,735

The accompanying notes are an integral part of these financial statements.

STATEMENT OF FINANCIAL POSITION

WHA UTILITIES AND POWER PUBLIC COMPANY LIMITED

AS AT 31 DECEMBER 2020

	Notes	Consolidated financial statements		Separate financial statements	
		2020	2019	2020	2019
		Baht	Baht	Baht	Baht
Liabilities and equity					
Current liabilities					
Trade and other payables	21	342,434,404	292,213,975	195,918,519	194,633,354
Short-term borrowings from financial institutions	20	-	1,765,000,000	-	1,765,000,000
Current portion of long-term borrowings from financial institutions	20	249,782,612	124,729,533	249,782,612	124,729,533
Current portion of debentures	20	2,389,299,319	3,998,377,529	2,389,299,319	3,998,377,529
Current portion of lease liabilities		8,272,490	-	7,252,465	-
Income tax payable		16,039,533	29,983,988	-	-
Contingent consideration	14	-	242,915,209	-	-
Other current liabilities		28,406,056	28,452,287	23,871,256	21,541,148
Total current liabilities		3,034,234,414	6,481,672,521	2,866,124,171	6,104,281,564
Non-current liabilities					
Long-term borrowings from financial institutions	20	4,622,982,354	874,343,972	4,622,982,354	874,343,972
Debentures	20	5,604,086,210	4,994,265,166	5,604,086,210	4,994,265,166
Deferred tax liabilities	19	121,518,189	122,793,288	77,105,150	93,301,174
Provision for liabilities from water business	22	347,711,124	340,466,383	338,711,268	332,485,373
Employee benefit obligations	23	22,570,095	18,838,462	22,570,095	18,838,462
Lease liabilities		235,130,053	-	166,686,183	-
Other non-current liabilities		26,301,584	27,070,351	15,164,733	15,590,508
Total non-current liabilities		10,980,299,609	6,377,777,622	10,847,305,993	6,328,824,655
Total liabilities		14,014,534,023	12,859,450,143	13,713,430,164	12,433,106,219

The accompanying notes are an integral part of these financial statements.

STATEMENT OF FINANCIAL POSITION

WHA UTILITIES AND POWER PUBLIC COMPANY LIMITED

AS AT 31 DECEMBER 2020

	Note	Consolidated financial statements		Separate financial statements	
		2020	2019	2020	2019
		Baht	Baht	Baht	Baht
Liabilities and equity					
Equity					
Share capital					
Authorised share capital					
Ordinary shares 3,825,000,000 shares at a par value of Baht 1 each		3,825,000,000	3,825,000,000	3,825,000,000	3,825,000,000
Issued and paid-up share capital					
Ordinary shares 3,825,000,000 shares at paid-up at Baht 1 each		3,825,000,000	3,825,000,000	3,825,000,000	3,825,000,000
Share premium on ordinary shares		2,557,841,248	2,557,841,248	2,557,841,248	2,557,841,248
Retained earnings					
Appropriated - legal reserve	25	245,981,167	164,386,579	245,981,167	164,386,579
Unappropriated		3,316,403,452	3,491,991,192	1,210,577,774	627,094,013
Other components of equity		2,211,854,448	3,520,048,146	1,277,915,676	1,277,915,676
Equity attributable to the owners of the parent		12,157,080,315	13,559,267,165	9,117,315,865	8,452,237,516
Non-controlling interests		119	122	-	-
Total equity		12,157,080,434	13,559,267,287	9,117,315,865	8,452,237,516
Total liabilities and equity		26,171,614,457	26,418,717,430	22,830,746,029	20,885,343,735

The accompanying notes are an integral part of these financial statements.

STATEMENT OF COMPREHENSIVE INCOME

WHA UTILITIES AND POWER PUBLIC COMPANY LIMITED

FOR THE YEAR ENDED 31 DECEMBER 2020

	Notes	Consolidated financial statements		Separate financial statements	
		2020	2019	2020	2019
		Baht	Baht	Baht	Baht
Revenue from sales		1,492,532,037	1,639,778,843	1,175,922,240	1,305,298,758
Revenues from leases and services		203,635,415	217,469,003	198,798,581	261,357,638
Interest earned from financial leases		1,797,711	-	-	-
Total revenues		1,697,965,163	1,857,247,846	1,374,720,821	1,566,656,396
Cost of sales		(1,009,435,952)	(1,014,792,686)	(925,628,899)	(957,595,384)
Cost of services		(188,692,174)	(149,614,420)	(150,623,546)	(143,332,680)
Total costs		(1,198,128,126)	(1,164,407,106)	(1,076,252,445)	(1,100,928,064)
Gross profit		499,837,037	692,840,740	298,468,376	465,728,332
Other income	26	79,956,660	145,671,434	1,921,655,769	1,054,117,435
Expected credit loss on financial assets		(1,125,351)	-	(1,125,351)	-
Administrative expenses		(188,113,352)	(197,548,033)	(179,082,873)	(166,161,717)
Finance costs	27	(432,857,291)	(342,024,905)	(429,585,990)	(337,735,184)
Share of profit of associates and interests in joint ventures	14	866,266,542	1,881,117,658	-	-
Profit before income tax		823,964,245	2,180,056,894	1,610,329,931	1,015,948,866
Income tax (expense) benefit	29	(11,237,189)	(42,847,843)	21,561,828	16,446,803
Profit for the year		812,727,056	2,137,209,051	1,631,891,759	1,032,395,669
Other comprehensive income:					
Items that will not be reclassified subsequently to profit or loss					
Remeasurements of employee benefit obligations	23	-	1,769,703	-	1,769,703
Income tax on items that will not be reclassified subsequently to profit or loss		-	(353,941)	-	(353,941)
Total items that will not be reclassified subsequently to profit or loss		-	1,415,762	-	1,415,762
Items that will be reclassified subsequently to profit or loss					
Exchange rate difference on translation of the financial statements of subsidiaries		(11,016,131)	(22,148,436)	-	-
Share of other comprehensive income (expense) of associates and joint ventures accounted for using the equity method	14	(159,220,542)	(12,418,877)	-	-
Total items that will be reclassified subsequently to profit or loss		(170,236,673)	(34,567,313)	-	-
Other comprehensive income (expense) for the year, net of tax		(170,236,673)	(33,151,551)	-	1,415,762
Total comprehensive income for the year		642,490,383	2,104,057,500	1,631,891,759	1,033,811,431
Profit attributable to					
Owners of the parent		812,727,022	2,137,209,022	1,631,891,759	1,032,395,669
Non-controlling interests		34	29	-	-
		812,727,056	2,137,209,051	1,631,891,759	1,032,395,669
Total comprehensive income attributable to					
Owners of the parent		642,490,349	2,104,057,471	1,631,891,759	1,033,811,431
Non-controlling interests		34	29	-	-
		642,490,383	2,104,057,500	1,631,891,759	1,033,811,431
Earnings per share					
Basic earnings per share	30	0.21	0.56	0.43	0.27

The accompanying notes are an integral part of these financial statements.

STATEMENT OF CHANGES IN EQUITY

WHA UTILITIES AND POWER PUBLIC COMPANY LIMITED

FOR THE YEAR ENDED 31 DECEMBER 2020

Consolidated financial statements											
Attributable to the owners of the parent											
Notes	Retained earnings				Other components of equity				Total owner of the parent	Other non-controlling interests	Total equity
	Issued and paid-up share capital	Share premium on ordinary shares	Appropriated - legal reserve	Unappropriated	Surplus arising from business combination under common control	Other comprehensive expense					
						Exchange rate differences on translation of the financial statements of subsidiaries	Remeasurements of employee benefit obligations	Share of other comprehensive expense of associates and joint ventures			
Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht
	3,825,000,000	2,557,841,248	112,766,796	4,000,462,005	3,576,558,531	(423,012)	(1,864,616)	(21,071,206)	14,049,269,746	118	14,049,269,864
	-	-	-	(1,431,260,052)	-	-	-	-	(1,431,260,052)	-	(1,431,260,052)
	3,825,000,000	2,557,841,248	112,766,796	2,569,201,953	3,576,558,531	(423,012)	(1,864,616)	(21,071,206)	12,618,009,694	118	12,618,009,812
24	-	-	-	(1,162,800,000)	-	-	-	-	(1,162,800,000)	-	(1,162,800,000)
25	-	-	51,619,783	(51,619,783)	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	(40)	(40)
	-	-	-	-	-	-	-	-	-	15	15
	-	-	-	2,137,209,022	-	(22,148,436)	1,415,762	(12,418,877)	2,104,057,471	29	2,104,057,500
	3,825,000,000	2,557,841,248	164,386,579	3,491,991,192	3,576,558,531	(22,571,448)	(448,854)	(33,490,083)	13,559,267,165	122	13,559,267,287
	3,825,000,000	2,557,841,248	164,386,579	3,491,991,192	3,576,558,531	(22,571,448)	(448,854)	(33,490,083)	13,559,267,165	122	13,559,267,287
5	-	-	-	59,092,326	-	-	-	(1,137,957,025)	(1,078,864,699)	-	(1,078,864,699)
	3,825,000,000	2,557,841,248	164,386,579	3,551,083,518	3,576,558,531	(22,571,448)	(448,854)	(1,171,447,108)	12,480,402,466	122	12,480,402,588
24	-	-	-	(965,812,500)	-	-	-	-	(965,812,500)	-	(965,812,500)
25	-	-	81,594,588	(81,594,588)	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	(37)	(37)
	-	-	-	812,727,022	-	(11,016,131)	-	(159,220,542)	642,490,349	34	642,490,383
	3,825,000,000	2,557,841,248	245,981,167	3,316,403,452	3,576,558,531	(33,587,579)	(448,854)	(1,330,667,650)	12,157,080,315	119	12,157,080,434

The accompanying notes are an integral part of these financial statements.

STATEMENT OF CHANGES IN EQUITY

WHA UTILITIES AND POWER PUBLIC COMPANY LIMITED
FOR THE YEAR ENDED 31 DECEMBER 2020

		Separate financial statements							
		Retained earnings					Other components of equity		Total equity Baht
							Other comprehensive expense		
							Surplus from business combination under common control Baht	Remeasurements of employee benefit obligations Baht	
Appropriated - legal reserve Baht	Unappropriated Baht								
Notes	Baht	Baht	Baht	Baht	Baht	Baht	Baht	Baht	
Opening balance as at 1 January 2019		3,825,000,000	2,557,841,248	112,766,796	809,118,127	1,278,364,530	(1,864,616)	8,581,226,085	
Dividend paid	24	-	-	-	(1,162,800,000)	-	-	(1,162,800,000)	
Legal reserve	25	-	-	51,619,783	(51,619,783)	-	-	-	
Total comprehensive income for the year		-	-	-	1,032,395,669	-	1,415,762	1,033,811,431	
Closing balance as at 31 December 2019		<u>3,825,000,000</u>	<u>2,557,841,248</u>	<u>164,386,579</u>	<u>627,094,013</u>	<u>1,278,364,530</u>	<u>(448,854)</u>	<u>8,452,237,516</u>	
Opening balance as at 1 January 2020		3,825,000,000	2,557,841,248	164,386,579	627,094,013	1,278,364,530	(448,854)	8,452,237,516	
Retrospective adjustments from changes in accounting policy	5	-	-	-	(1,000,910)	-	-	(1,000,910)	
Opening balance as at 1 January 2020 - restated		3,825,000,000	2,557,841,248	164,386,579	626,093,103	1,278,364,530	(448,854)	8,451,236,606	
Dividend paid	24	-	-	-	(965,812,500)	-	-	(965,812,500)	
Legal reserve	25	-	-	81,594,588	(81,594,588)	-	-	-	
Total comprehensive income for the year		-	-	-	1,631,891,759	-	-	1,631,891,759	
Closing balance as at 31 December 2020		<u>3,825,000,000</u>	<u>2,557,841,248</u>	<u>245,981,167</u>	<u>1,210,577,774</u>	<u>1,278,364,530</u>	<u>(448,854)</u>	<u>9,117,315,865</u>	

The accompanying notes are an integral part of these financial statements.

STATEMENT OF CASH FLOWS

WHA UTILITIES AND POWER PUBLIC COMPANY LIMITED FOR THE YEAR ENDED 31 DECEMBER 2020

	Notes	Consolidated financial statements		Separate financial statements	
		2020 Baht	2019 Baht	2020 Baht	2019 Baht
Cash flows from operating activities					
Profit before income tax		823,964,245	2,180,056,894	1,610,329,931	1,015,948,866
Adjustments for:					
Allowance for expected credit losses		1,125,351	-	1,125,351	-
Doubtful debt		-	815,622	-	815,622
Gains on exchange rates		(671,943)	-	-	-
Share of profit from investments in associates and interests in joint ventures		(866,266,542)	(1,881,117,658)	-	-
Gain from disposals of available-for-sale investment		-	(922,760)	-	(922,759)
Gain (Loss) from disposal of equipment		332,338	(645,422)	332,338	(78,716)
Depreciation	28	217,608,064	157,995,675	158,841,962	139,769,935
Amortisation of intangible assets	28	47,886,062	46,943,452	47,153,574	46,943,452
Amortisation of long-term investments		-	13,872,687	-	-
Provision for maintenance		1,810,254	-	1,810,254	-
Employee benefit obligations	23	4,013,593	3,568,716	4,013,593	3,568,716
Dividend income		(36,494,253)	(74,983,505)	(1,719,992,966)	(921,322,161)
Interest income		(19,048,669)	(47,948,721)	(200,265,852)	(131,789,193)
Finance costs	27	432,857,291	342,024,905	429,585,990	337,735,184
Changes in operating assets and liabilities:					
Trade and other receivables		2,986,222	(9,926,649)	11,035,850	(32,175,756)
Other current assets		(12,771,519)	(22,527,128)	22,815,528	36,735,750
Financial lease receivable		202,289	-	-	-
Intangible assets		-	-	-	43,614,053
Goodwill		-	-	-	12,976,460
Other non-current assets		(700,515)	1,414,252	(440,017)	1,414,252
Trade and other payables		24,658,959	10,906,595	19,341,398	7,848,585
Other current liabilities		(1,856,484)	10,307,012	519,853	8,830,043
Provision for liabilities from water business	22	(24,645,439)	(23,629,923)	(24,573,523)	(30,840,915)
Employee benefit obligations		(281,960)	-	(281,960)	-
Other non-current liabilities		4,044,124	13,812,090	3,287,768	3,109,376
Cash generated from operations		598,751,468	720,016,134	364,639,072	542,180,794
Interest received		19,582,221	47,590,310	40,547,677	89,340,135
Interest paid		(420,345,545)	(292,547,672)	(418,165,007)	(289,027,968)
Dividends received		1,753,769,945	803,743,394	1,719,992,966	921,322,161
Cash paid for corporate income tax		(54,040,956)	(62,630,962)	(5,664,317)	(10,713,285)
Net cash receipts from operating activities		1,897,717,133	1,216,171,204	1,701,350,391	1,253,101,837

The accompanying notes are an integral part of these financial statements.

STATEMENT OF CASH FLOWS

WHA UTILITIES AND POWER PUBLIC COMPANY LIMITED

FOR THE YEAR ENDED 31 DECEMBER 2020

	Notes	Consolidated financial statements		Separate financial statements	
		2020	2019	2020	2019
		Baht	Baht	Baht	Baht
Cash flows from investing activities					
Payments for the acquisition of available-for-sale investments		-	(650,000,000)	-	(650,000,000)
Proceeds from the disposal of available-for-sale investments		-	650,922,759	-	650,922,759
Payments for loans to related parties	31	-	(230,490,552)	(2,518,000,000)	(4,137,490,000)
Proceeds from loans to related parties	31	35,000,000	701,550,500	1,476,000,000	1,761,440,000
Payments for acquisition of investments in associates		-	(2,525,362,094)	-	-
Payments for acquisition of investments in subsidiaries		-	-	(200,000,000)	-
Payments for acquisition of interests in joint ventures		-	(26,075,008)	-	(26,075,000)
Payments for acquisition of property, plant and equipment		(1,032,683,054)	(818,340,820)	(163,764,580)	(104,595,068)
Proceeds from disposal of property, plant and equipment		156,394	4,374,176	156,394	224,766
Payments for acquisition of intangible assets	17	(613,009)	(745,000)	(602,500)	(745,000)
Net cash payments from investing activities		(998,139,669)	(2,894,166,039)	(1,406,210,686)	(2,506,317,543)
Cash flows from financing activities					
Proceeds from short-term borrowings from financial institutions	20	1,590,000,000	2,891,000,000	1,590,000,000	2,891,000,000
Repayment of short-term borrowings from financial institutions	20	(3,355,000,000)	(1,126,000,000)	(3,355,000,000)	(1,126,000,000)
Proceeds from long-term borrowings from financial institutions	20	4,000,000,000	1,000,000,000	4,000,000,000	1,000,000,000
Repayment of long-term borrowings from financial institutions	20	(125,000,000)	-	(125,000,000)	-
Proceeds from debentures	20	3,000,000,000	-	3,000,000,000	-
Repayment of debentures	20	(4,000,000,000)	-	(4,000,000,000)	-
Payments for issuing cost of long-term borrowings from financial institutions	20	(2,000,000)	(1,000,000)	(2,000,000)	(1,000,000)
Payments for debentures issuance	20	(3,793,150)	-	(3,793,150)	-
Payments for lease liabilities		(8,375,806)	-	(7,365,327)	-
Dividend paid	24	(965,690,014)	(1,162,727,680)	(965,690,014)	(1,162,727,680)
Dividend paid from a subsidiaries to non-controlling interests		(37)	(40)	-	-
Net cash receipts from financing activities		130,140,993	1,601,272,280	131,151,509	1,601,272,320

The accompanying notes are an integral part of these financial statements.

STATEMENT OF CASH FLOWS

WHA UTILITIES AND POWER PUBLIC COMPANY LIMITED

FOR THE YEAR ENDED 31 DECEMBER 2020

	Note	Consolidated financial statements		Separate financial statements	
		2020	2019	2020	2019
		Baht	Baht	Baht	Baht
Net increase (decrease) in cash and cash equivalents		1,029,718,457	(76,722,555)	426,291,214	348,056,614
Cash and cash equivalents at the beginning of the year		754,591,304	853,462,295	541,569,322	193,512,708
Exchange gains (losses) on cash and cash equivalents		(155,045)	(22,148,436)	-	-
Cash and cash equivalents at the end of the year		1,784,154,716	754,591,304	967,860,536	541,569,322
Non-cash transactions					
Significant non-cash transactions for the year ended 31 December					
Account payables from acquisition of property, plant and equipment		145,627,848	95,550,043	12,719,228	6,266,975
Right-of-use assets and lease liabilities		11,967,072	-	5,972,561	-
Dividend payable		122,486	-	122,486	-
Contingent consideration	14	-	242,915,209	-	-
Recognised changes in the value of contingent consideration to investment in associates	14	242,915,209	-	-	-

The accompanying notes are an integral part of these financial statements.

NOTES TO THE CONSOLIDATES AND SEPARATE FINANCIAL STATEMENT

WHA UTILITIES AND POWER PUBLIC COMPANY LIMITED

FOR THE YEAR ENDED 31 DECEMBER 2020

1 General information

WHA Utilities and Power Public Company Limited (the Company) is a public limited company which is listed on the Stock Exchange of Thailand and is incorporated and domiciled in Thailand. The address of the Company's registered office is as follows:

777 WHA Tower 22nd floor, Unit 2203-2205, Moo 13, Debaratna Road (Bangna-Trad) KM.7, Bang Kaeo, Bang Phli, Samut Prakarn 10540

The principal business operations of the Company and its subsidiaries (the Group) are to produce and distribute the industrial water, provide waste water treatment service in industrial estate, operate solar power business and invest in water and power business.

These consolidated and separate financial statements were authorised for issue by the Board of Directors on 25 February 2021.

2 Significant events during the current year

The outbreak of Coronavirus Disease 2019 ("COVID-19") in 2020 had adverse effects on operating results for the year ended 31 December 2020 of related parties. Thus, the Group decided to relieve the calling on repayment of short-term loans to related parties for at least one year. Therefore, the loans were classified to non-current.

3 Basis of preparation

The consolidated and separate financial statements have been prepared in accordance with Thai Financial Reporting Standards ("TFRS") and the financial reporting requirements issued under the Securities and Exchange Act.

The consolidated and separate financial statements have been prepared under the historical cost convention except as disclosed in the accounting policies below.

The preparation of financial statements in conformity with TFRS requires management to use certain critical accounting estimates and to exercise its judgement in applying the Group's accounting policies. The areas involving a higher degree of judgement or complexity, or areas that are more likely to be materially adjusted due to changes in estimates and assumptions are disclosed in Note 9.

An English version of the consolidated and separate financial statements have been prepared from the statutory financial statements that are in the Thai language. In the event of a conflict or a difference in interpretation between the two languages, the Thai language statutory financial statements shall prevail.

The purpose of reclassifications in presentation is to be aligned with nature of accounts. Comparative figures have been reclassified to conform with the current year.

4 New and amended financial reporting standards

4.1 New and amended financial reporting standards that are effective for accounting period beginning on or after 1 January 2020 and have significant impacts to the Group

The new financial standards are as follows:

TAS 32	Financial instruments: Presentation
TFRS 7	Financial instruments: Disclosures
TFRS 9	Financial instruments
TFRS 16	Leases

The new financial reporting standards related to financial instruments introduce new classification and measurement requirements for financial instruments as well as provide derecognition guidance on financial assets and financial liabilities. The new guidance also provides an option for the Group to apply hedge accounting to reduce accounting mismatch between hedged item and hedging instrument. In addition, the new rule provides detailed guidance on financial instruments issued by the Group whether it is a liability or an equity. Among other things, they require extensive disclosure on financial instruments and related risks.

The new classification requirements of financial assets require the Group to assess both i) business model for holding the financial assets; and ii) cash flow characteristics of the asset whether the contractual cash flows represent solely payments of principal and interest (SPPI). The classification affects the financial assets' measurement. The new guidance requires assessment of impairment of financial assets as well as contract assets and recognition of expected credit loss from initial recognition.

On 1 January 2020, the Group has adopted the financial reporting standards related to financial instruments in its financial statements. The impact from the first-time adoption has been disclosed in Note 5.

Where the Group is a lessee, TFRS 16, *Leases* will result in almost all leases being recognised on the balance sheet as the distinction between operating and finance leases is removed. A right-of-use asset and a lease liability will be recognised, with exception on short-term and low-value leases.

On 1 January 2020, the Group has adopted the new lease standard in its financial statements. The impact from the first-time adoption has been disclosed in Note 5.

4.2 New and amended financial reporting standards that are effective for accounting period beginning or after 1 January 2021 and 1 January 2022

The Group has not early adopted the new and amended Thai Financial Reporting Standards which are effective on 1 January 2020 and 1 January 2022. The Group's management is currently assessing the impact of adoption of these standards.

5 Impacts from initial application of the new and revised financial reporting standards

This note explains the impact of the adoption of TAS 32 *Financial Instruments: Presentation*, TFRS 7 *Financial Instruments: Disclosure*, TFRS 9 *Financial Instruments* and TFRS 16 *Leases* on the Group's consolidated financial statements and the Company's separate financial statements. The new accounting policies applied from 1 January 2020 were disclosed in Note 6.

The Group and the Company have adopted those accounting policies from 1 January 2020 by applying the modified retrospective approach. The comparative figures have not been restated. The reclassifications and the adjustments arising from the changes in accounting policies were therefore recognised in the statement of financial position as of 1 January 2020.

The impact of first-time adoption of new financial reporting standards on the consolidated and separate statements of financial position are as follows:

		Consolidated financial statements			
	Notes	31 December 2019 Baht	TFRS 9 and TAS 32 Baht	TFRS 16 Baht	1 January 2020 Baht
Current assets					
Trade and other receivables, net	A	811,378,643	(1,251,138)	-	810,127,505
Non-current assets					
Financial assets measured at fair value through profit or loss	B	-	328,772,518	-	328,772,518
Investments in associates	C	14,587,636,917	(1,137,957,025)	-	13,449,679,892
Interests in joint ventures	C	737,554,465	(78,762)	-	737,475,703
Other long-term investments, net	B	253,557,521	(253,557,521)	-	-
Property, plant and equipment, net	D, E	3,950,235,348	-	234,965,448	4,185,200,796
Total assets affected		20,340,362,894	(1,064,071,928)	234,965,448	19,511,256,414
Current liabilities					
Trade and other payables	D, E	292,213,975	-	(32,938)	292,181,037
Current portion of lease liabilities	D, E	-	-	9,917,044	9,917,044
Non-current liabilities					
Lease liabilities	D, E	-	-	229,894,233	229,894,233
Deferred tax liabilities	F	122,793,288	14,792,771	-	137,586,059
Other non-current liabilities	D, E	27,070,351	-	(4,812,891)	22,257,460
Total liabilities affected		442,077,614	14,792,771	234,965,448	691,835,833
Retained earnings		3,491,991,192	59,092,326	-	3,551,083,518
Other components of equity	C	3,520,048,146	(1,137,957,025)	-	2,382,091,121
Total equity affected		7,012,039,338	(1,078,864,699)	-	5,933,174,639

		Separate financial statements			
	Notes	31 December 2019 Baht	TFRS 9 and TAS 32 Baht	TFRS 16 Baht	1 January 2020 Baht
Current assets					
Trade and other receivables, net	A	277,486,695	(1,251,138)	-	276,235,557
Non-current assets					
Property, plant and equipment, net	D, E	2,804,749,720	-	171,592,779	2,976,342,499
Total assets affected		3,082,236,415	(1,251,138)	171,592,779	3,252,578,056
Current liabilities					
Trade and other payables	D, E	194,633,354	-	(25,092)	194,608,262
Current portion of lease liabilities	D, E	-	-	8,619,214	8,619,214
Non-current liabilities					
Lease liabilities	D, E	-	-	166,712,200	166,712,200
Deferred tax liabilities	F	93,301,174	(250,228)	-	93,050,946
Other non-current liabilities	D, E	15,590,508	-	(3,713,543)	11,876,965
Total liabilities affected		303,525,036	(250,228)	171,592,779	474,867,587
Unappropriated retained earnings		627,094,013	(1,000,910)	-	626,093,103
Total equity affected		627,094,013	(1,000,910)	-	626,093,103

Note:

- A) Adjustment on impairment of trade and other receivables (Note 5.1)
- B) Impacts from changes in classification and measurement of financial assets (Note 5.1)
- C) Impacts from TFRS 9 of associates and joint ventures (Note 5.1)
- D) Recognition of right of use assets and lease liabilities under TFRS 16 (Note 5.2)
- E) Reclassification of leased assets and finance lease liabilities (Note 5.2)
- F) Adjustments on deferred tax assets and liabilities resulted from the above adjustments

5.1 Financial instruments

The total impact on the Group's and the Company's unappropriated retained earnings and equity as of 1 January 2020 are as follows:

		Consolidated financial statements	
	Notes	Unappropriated retained earnings Baht	Share of other comprehensive expense of associates and joint ventures Baht
Balance as of 31 December 2019 (as previously reported)		3,491,991,192	(33,490,083)
Reclassifications of general investments to investments at fair value through profit or loss (FVPL)	a	75,214,997	-
Increase in impairment of trade receivables	e	(1,251,138)	-
Impacts from investments in associates and interests in joint ventures accounted for using the equity method			
Investments in associates	c	-	(1,137,957,025)
Interests in joint ventures	c	(78,762)	-
Increase in deferred tax liabilities related to the above adjustments		(14,792,771)	-
Balance as of 1 January 2020 after reflecting TFRS 9 adoption		3,551,083,518	(1,171,447,108)

		Separate financial statements
		Unappropriated retained earnings
	Note	Baht
Balance as of 31 December 2019 (as previously reported)		627,094,013
Increase in impairment for trade receivables	e	(1,251,138)
Increase in deferred tax liabilities related to the above adjustments		250,228
Balance as of 1 January 2020 after reflecting TFRS 9 adoption		626,093,103

On 1 January 2020 (the date of initial application), the management has assessed which business models apply to the financial assets and financial liabilities, and has classified its financial instruments into the appropriate TFRS 9 categories as follows:

		Consolidated financial statements		
	Notes	General investments Baht	Provision for liabilities from water business Baht	Financial assets or liabilities measured at fair value Baht
Financial assets				
Balance as at 31 December 2019 (Previously reported)		253,557,521	-	-
Reclassify general investments to FVPL	a	(253,557,521)	-	253,557,521
Fair value adjustments on financial assets		-	-	75,214,997
Opening balance 1 January 2020 - TFRS 9 adoption		-	-	328,772,518
Financial liabilities				
Balance as at 31 December 2019 (Previously reported)		-	340,466,383	-
Reclassify provision for liabilities from water business to financial liabilities measured at fair value	b	-	(340,466,383)	340,466,383
Opening balance 1 January 2020 - TFRS 9 adoption		-	-	340,466,383

		Separate financial statements	
	Notes	Provision for liabilities from water business Baht	Financial assets or liabilities measured at fair value Baht
Financial liabilities			
Balance as at 31 December 2019 (Previously reported)		332,485,373	-
Reclassify provision for liabilities from water business to financial liabilities measured at fair value	b	(332,485,373)	332,485,373
Opening balance 1 January 2020 - TFRS 9 adoption		-	332,485,373

(a) General investments classified as FVPL

As of 1 January 2020, the Group reclassified general investments in equity instruments that previously measured at cost less impairment of Baht 253,557,521 to FVPL. The respective fair value gains of Baht 75,214,997 million was recognised in retained earnings on 1 January 2020 as they are held as long-term strategic investments.

(b) Provision for liabilities from water business classified as financial liabilities measured at fair value

As of 1 January 2020, the Group and the Company reclassified provision for liabilities from water business of Baht 340,466,383 and Baht 332,485,373, respectively to financial liabilities measured at fair value.

(c) Investments in associates and interests in joint ventures accounted for using the equity method

Significant impacts from associates and joint ventures' TFRS 9 adoptions came from derivatives and hedging activities. The associates and joint ventures recognised derivatives in the statements of financial position at fair value and recognised corresponding adjustments to retained earnings as at 1 January 2020, unless hedges accounting is applied. Gain or loss on derivatives under hedge accounting relating to effective portion are recognised to other components of equity while gain or loss of ineffective portion are recognised to retained earnings.

(d) Reclassifications of financial instruments on adoption of TFRS 9

There were no significant change in measurement methods on other financial instruments which were measured at amortised cost. On 1 January 2020, the date of initial application, the carrying amounts of financial assets and financial liabilities were as follows.

	Consolidated financial statements Baht	Separate financial statements Baht
Assets		
Current assets		
Cash and cash equivalents	754,591,304	541,569,322
Trade and other receivables	811,378,643	277,486,695
Short-term loans to related parties	283,490,552	5,029,490,000
Liabilities		
Current liabilities		
Trade and other payables	292,213,975	194,633,354
Short-term borrowings from financial institutions	1,765,000,000	1,765,000,000
Current portion of long-term borrowings from financial institutions	124,729,533	124,729,533
Current portion of debentures	3,998,377,529	3,998,377,529
Non-current liabilities		
Long-term borrowings	874,343,972	874,343,972
Debentures	4,994,265,166	4,994,265,166
Other non-current liabilities	27,070,351	15,590,508

(e) Impairment of financial assets

The Group and the Company have following financial assets that are subject to the expected credit loss model:

- cash and cash equivalents
- trade and other receivables
- loans to related parties

The Group was required to revise its impairment methodology under TFRS 9. The impact of the change in impairment methodology was recognised to the Group's and the Company's retained earnings on 1 January 2020.

While cash and cash equivalents and loans to related parties are subject to the new impairment requirement, the identified impact was immaterial.

Trade receivables

The Group applies the simplified approach in measuring expected credit losses, which uses a lifetime expected loss allowance for all trade receivables.

To measure the expected credit losses, trade receivables have been grouped based on shared credit risk characteristics and the days past due. The expected loss rates are based on the historical payment profiles of sales, the corresponding historical credit losses experienced as well as forward-looking information that may affect the ability of the customers to settle the receivables.

As of 1 January 2020, the Group and the Company recognised additional loss allowance of Baht 1,251,138 for trade receivables.

The Group chose to apply the temporary measures to relieve the impact from COVID-19 announced by TFAC for the reporting periods ended between 1 January 2020 and 31 December 2020 by excluding forward-looking information in assessing the expected credit loss under the simplified approach of trade receivables. The expected credit loss for trade receivables were assessed based on historical credit loss together with the management's judgement in estimating the expected credit loss.

The loss allowance for trade receivables and amounts due from related parties as at 1 January 2020 was determined as follows:

	Consolidated financial statements		Separate financial statements	
	Trade receivables and amounts due from related parties Baht	Loss allowance Baht	Trade receivables and amounts due from related parties Baht	Loss allowance Baht
Not yet due	149,403,378	(219,077)	119,657,529	(219,077)
Overdue				
Within 3 months	13,559,774	(1,032,061)	14,488,021	(1,032,061)
3 - 6 months	706,281	(706,281)	706,281	(706,281)
6 - 12 months	1,913,367	(1,913,367)	1,913,367	(1,913,367)
Over 12 months	7,422,273	(7,422,273)	7,422,273	(7,422,273)
Total	173,005,073	(11,293,059)	144,187,471	(11,293,059)

5.2 Leases

On adoption of TFRS 16, the Group recognised lease liabilities in relation to leases which had previously been classified as 'operating leases' under the principles of TAS 17 *Leases* for leases of land, buildings and vehicles with lease terms of more than 12 months. These liabilities were measured at the present value of the remaining lease payments, discounted using the lessee's incremental borrowing rate as of 1 January 2020. The lessee's incremental borrowing rate applied to the lease liabilities on 1 January 2020 was 1.88 - 5.21% per annum.

The Group recognised right-of-use assets at the amount equal to the lease liability, adjusted by the amount of any prepaid or accrued lease payments relating to that lease recognised in the statement of financial position as at 31 December 2019. There were no onerous lease contracts that would have required an adjustment to the right-of-use assets when applying TFRS 16 for the first time.

	Consolidated financial statements Baht	Separate financial statements Baht
Operating lease commitments disclosed as at 31 December 2019	283,767,684	232,949,118
(Less): Discounted using the lessee's incremental borrowing rate of at the date of initial application	(276,920,812)	(225,494,395)
(Less): Short-term leases recognised on a straight-line basis as expense	(3,305,293)	(3,305,293)
Add: Adjustments as a result of a different treatment of extension and termination options	236,269,698	171,181,984
Lease liability recognised as at 1 January 2020	239,811,277	175,331,414
Current lease liabilities	9,917,044	8,619,214
Non-current lease liabilities	229,894,233	166,712,200

Practical expedients applied

In applying TFRS 16 for the first time with the lease agreement that the group has before 1 January 2020, the group has used the following practical expedients permitted by the standard:

- the use of a single discount rate to a portfolio of leases with reasonably similar characteristics
- reliance on previous assessments on whether leases are onerous
- the accounting for operating leases with a remaining lease term of less than 12 months as at 1 January 2020 as short-term leases
- the exclusion of initial direct costs for the measurement of the right-of-use asset at the date of initial application
- the use of hindsight in determining the lease term where the contract contains options to extend or terminate the lease, and
- elect not to reassess whether a contract is, or contains a lease as defined under TFRS 16 at the date of initial application but relied on its assessment made applying TAS 17 and TFRIC 4 Determining whether an arrangement contains a Lease.

6.1 Principles of consolidation and equity accounting**a) Subsidiaries**

Subsidiaries are all entities over which the Group has control. The Group controls an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. Subsidiaries are consolidated from the date on which control is transferred to the Group until the date that control ceases.

In the separate financial statements, investments in subsidiaries are accounted for using cost method.

b) Associates

Associates are all entities over which the Group has significant influence but not control or joint control. Investments in associates are accounted for using the equity method of accounting.

In the separate financial statements, investments in associates are accounted for using cost method.

c) Joint arrangements

Investments in joint arrangements are classified as either joint operations or joint ventures depending on the contractual rights and obligations of each investor, rather than the legal structure of the joint arrangements.

A joint venture is a joint arrangement whereby the Group has rights to the net assets of the arrangement. Interests in joint ventures are accounted for using the equity method.

In the separate financial statements, investments in joint ventures are accounted for using cost method.

d) Equity method

The investment is initially recognised at cost which is consideration paid and directly attributable costs.

The Group's subsequently recognises shares of its associates and joint ventures' profits or losses and other comprehensive income in the profit or loss and other comprehensive income, respectively. The subsequent cumulative movements are adjusted against the carrying amount of the investment.

When the Group's share of losses in associates and joint ventures equals or exceeds its interest in the associates and joint ventures, the Group does not recognise further losses, unless it has incurred obligations or made payments on behalf of the associates and joint ventures.

e) Intercompany transactions on consolidation

Intra-group transactions, balances and unrealised gains on transactions are eliminated. Unrealised gains on transactions between the Group and its associates and joint ventures are eliminated to the extent of the Group's interest in the associates and joint ventures. Unrealised losses are also eliminated in the same manner unless the transaction provides evidence of an impairment of the asset transferred.

f) **Business combination under common control**

The Group accounts for business combination under common control by measuring acquired assets and liabilities of the acquiree at their carrying values presented in the highest level of the consolidation. The Group retrospectively adjusted the business combination under common control transactions as if the combination had occurred on the later of the beginning of the preceding comparative period and the date the acquiree has become under common control.

Consideration of business combination under common control are the aggregated amount of fair value of assets transferred, liabilities incurred and equity instruments issued by the acquirer at the date of which the exchange in control occurs.

The difference between consideration under business combination under common control and the acquirer's interests in the carrying value of the acquiree; and changes in contingent consideration (apart from interest portion) are presented as "surplus arising from business combination under common control" in equity and is derecognised when the investment is disposed by transferring to retained earnings.

6.2 **Foreign currency translation**

a) **Functional and presentation currency**

The financial statements are presented in Thai Baht, which is the Group's and the Company's functional and presentation currency.

b) **Transactions and balances**

Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions or the date of revaluation where items are re-measured.

Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation of monetary assets and liabilities denominated in foreign currencies are recognised in the profit or loss.

Any exchange component of gains and losses on a non-monetary item that recognised in profit or loss, or other comprehensive income is recognised following the recognition of a gain or loss on the non-monetary item.

c) **Group companies**

The operational results and financial position of the Group's entities (none of which has the currency of a hyper-inflationary economy) that have a different functional currency from the Group's presentation currency are translated into the presentation currency as follows.

- Assets and liabilities are translated at the closing rate at the date of respective statement of financial position;
- Income and expenses for statement of comprehensive income are translated at average exchange rates; and
- All resulting exchange differences are recognised in other comprehensive income.

6.3 **Cash and cash equivalents**

In the statements of cash flows, cash and cash equivalents includes cash on hand, deposits held at call, short-term highly liquid investments with maturities of three months or less from acquisition date.

6.4 Trade accounts receivable

Trade receivables are amounts due from customers for goods sold and services performed in the ordinary course of business. They are generally due for settlement within 30 days and therefore are classified as current.

Trade receivables are recognised initially at the amount of consideration that is unconditional unless they contain significant financing components, they are recognised at fair value. The Group holds the trade receivables with the objective to collect the contractual cash flows and therefore measures them subsequently at amortised cost.

6.5 Financial asset

For the year ended 31 December 2020

a) Classification

From 1 January 2020, the Group classifies its debt instrument financial assets in the following measurement categories depending on i) business model for managing the asset and ii) the cash flow characteristics of the asset whether they represent solely payments of principal and interest (SPPI).

- those to be measured subsequently at fair value (either through other comprehensive income or through profit or loss); and
- those to be measured at amortised cost.

The Group reclassifies debt investments when and only when its business model for managing those assets changes.

For investments in equity instruments, the Group has an irrevocable election at the time of initial recognition to account for the equity investment at fair value through profit or loss (FVPL) or at fair value through other comprehensive income (FVOCI) except those that are held for trading, they are measured at FVPL.

b) Recognition and derecognition

Regular way purchases, acquires and sales of financial assets are recognised on trade-date, the date on which the Group commits to purchase or sell the asset. Financial assets are derecognised when the rights to receive cash flows from the financial assets have expired or have been transferred and the Group has transferred substantially all the risks and rewards of ownership.

c) Measurement

At initial recognition, the Group measures a financial asset at its fair value plus, in the case of a financial asset not at FVPL, transaction costs that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets carried at FVPL are expensed in profit or loss.

Financial assets with embedded derivatives are considered in their entirety when determining whether the cash flows are solely payment of principal and interest.

d) Debt instruments

Subsequent measurement of debt instruments depends on the Group's business model for managing the asset and the cash flow characteristics of the financial assets. There are two measurement categories which the Group classifies its debt instruments:

- Amortised cost: Financial assets that are held for collection of contractual cash flows where those cash flows represent solely payments of principal and interest are measured at amortised cost. Interest income from these financial assets is included in finance income using the effective interest rate method. Any gain or loss arising on derecognition is recognised directly in profit or loss and presented in other gains/(losses) together with foreign exchange gains and losses. Impairment losses are presented as a separate line item in the statement of comprehensive income.
- FVPL: Financial assets that do not meet the criteria for amortised cost or FVOCI are measured at FVPL. A gain or loss on a debt investment that is subsequently measured at FVPL is recognised in profit or loss and presented net within other gains/(losses) in the period in which it arises.

e) Equity instruments

The Group measures all equity investments at fair value. Where the Group has elected to present fair value gains and losses on equity instruments in OCI, there is no subsequent reclassification of fair value gains and losses to profit or loss following the derecognition of the investment. Dividends from such investments continue to be recognised in profit or loss as other income when the right to receive payments is established.

Changes in the fair value of financial assets at FVPL are recognised in other gains/(losses) in the statement of comprehensive income.

Impairment losses (and reversal of impairment losses) on equity investments are reported together with changes in fair value.

The Group chose to apply the temporary measures to relieve the impact from COVID-19 announced by TFAC for the reporting periods ended between 1 January 2020 and 31 December 2020 by measuring the fair value of its unquoted equity investments at the end of the reporting period at the same amount as the investments' fair value on 1 January 2020 (the date of initial application of TFRS 9). As a result, the equity investments measured at FVPL as at 31 December 2020 of Baht 328,772,518 was presented at their fair value as of 1 January 2020. No gain or loss from changes in fair value was recognised.

f) Impairment

From 1 January 2020, the Group assesses on a forward looking basis the expected credit loss associated with its debt instruments carried at amortised cost. The impairment methodology applied depends on whether there has been a significant increase in credit risk.

For trade receivables, the Group applies the simplified approach, which requires expected lifetime losses to be recognised from initial recognition of the receivables.

The Group chose to apply the temporary measures to relieve the impact from COVID-19 announced by TFAC for the reporting periods ended between 1 January 2020 and 31 December 2020 by excluding forward-looking information in assessing the expected credit loss under the simplified approach of trade receivables, contract assets and lease receivables. The Group applied historical credit loss adjusted with the management's judgement in estimating the expected credit loss.

Impairment (and reversal of impairment) losses are recognised in profit or loss as a separate line item.

For the year ended 31 December 2019

Other long-term investments

General investments are carried at cost less impairment.

Investments other than investments in subsidiaries, associates and joint ventures are initially recognised at fair value of consideration paid plus direct transaction cost.

Disposal of investments

On a disposal of an investment, the difference between the net disposal proceeds and the carrying amount (including cumulative changes in fair value recognised in equity) is recognised to the profit or loss. When the Group disposes an investment partially, the carrying amount of the disposed part is determined by the weighted average method.

6.6 Property, plant and equipment

All other property, plant and equipment are stated at historical cost less accumulated depreciation and impairment losses. Historical cost includes expenditure that is directly attributable to the acquisition of the items.

Subsequent costs are included in the asset's carrying amount, only when it is probable that future economic benefits associated with the item will flow to the Group. The carrying amount of the replaced part is derecognised.

All other repairs and maintenance are charged to profit or loss when incurred.

Land is not depreciated. Depreciation on other assets is calculated using the straight-line method to allocate their cost to their residual values over their estimated useful lives, or the straight-line method over the shorter of the asset's useful life and the lease term, for the right-of-use asset, as follows:

Building improvements	5 and 10 years
Buildings and structure	30 years
Tools	5 and 15 years
Equipment, furniture and fixtures	5 years
Vehicles	5 years
Raw water pipes	25 years
Industrial water production systems	30 years
Waste water treatment systems	30 years
Solar systems	5 - 25 years
Right-of-use land	15 - 47 years

The assets' residual values and useful lives are reviewed, and adjusted if appropriate, at the end of each reporting period.

Gains or losses on disposals are determined by comparing the proceeds with the carrying amount and are recognised in other gains or losses.

6.7 Intangible assets

Right to operate and distribute the industrial water and to provide waste water treatment service

Right to operate and distribute the industrial water and to provide waste water treatment service to customers in the industrial estate is measured at historical cost and subsequently carried and cost less accumulate amortisation and accumulated impairment losses. The amortisation is calculated using the straight-line method over 25 or 50 years which are contractual life.

Computer software and water plant maintenance program

Computer software and water plant maintenance program's costs are recognised as assets and are amortised over their estimated useful lives, which does not exceed 3 years.

All other repairs and maintenance are charged to profit or loss when incurred.

6.8 Goodwill

Goodwill is tested for impairment annually, or more frequently if events or changes in circumstances indicate that it might be impaired. It is carried at cost less accumulated impairment losses.

For the purpose of impairment testing, goodwill is allocated to cash-generating units or groups of cash-generating units that are expected to benefit from the business combination in which the goodwill arose. The units or groups of units are identified at the lowest level at which goodwill is monitored for internal management purposes, being the operating segments.

6.9 Impairment of assets

Assets that are subject to amortisation are reviewed for impairment whenever there is an indication of impairment. An impairment loss is recognised for the amount by which the carrying amount of the assets exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs of disposal and value in use.

Where the reasons for previously recognised impairments no longer exist, the impairment losses on the assets concerned other than goodwill is reversed.

6.10 Leases

For the year ended 31 December 2020

Leases - where the Group is the lessee

At the date at which the leased asset is available for use by the Group right-of-use asset and a corresponding lease liability are recognised. Each lease payment is allocated between the liability and finance cost. The finance cost is charged to profit or loss over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period. The right-of-use asset is depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis.

Contracts may contain both lease and non-lease components. The Group allocates the consideration in the contract to the lease and non-lease components based on their relative stand-alone prices. However, for leases of real estate for which the group is a lessee, it has elected not to separate lease and non-lease components and instead accounts for these as a single lease component

Assets and liabilities arising from a lease are initially measured on a present value basis. Lease liabilities include the net present value of the following lease payments:

- fixed payments (including in-substance fixed payments), less any lease incentives receivable
- variable lease payment that are based on an index or a rate
- amounts expected to be payable by the lessee under residual value guarantees
- the exercise price of a purchase option if the lessee is reasonably certain to exercise that option, and
- payments of penalties for terminating the lease, if the lease term reflects the lessee exercising that option.

Lease payments to be made under reasonably certain extension options are also included in the measurement of the liability.

The lease payments are discounted using the interest rate implicit in the lease. If that rate cannot be determined, the lessee's incremental borrowing rate is used, being the rate that the lessee would have to pay to borrow the funds necessary to obtain an asset of similar value in a similar economic environment with similar terms and conditions.

Right-of-use assets are measured at cost comprising the following:

- the amount of the initial measurement of lease liability
- any lease payments made at or before the commencement date less any lease incentives received
- any initial direct costs, and
- restoration costs.

Right-of-use assets are presented in property, plant and equipment in the statement of financial position.

Payments associated with short-term leases and leases of low-value assets are recognised on a straight-line basis as an expense in profit or loss. Short-term leases are leases with a lease term of 12 months or less.

Leases - where the Group is the lessor

When assets are leased out under a finance lease, the present value of the lease payments is recognised as a receivable. The difference between the gross receivable and the present value of the receivable is recognised as unearned finance income. Lease income is recognised over the term of the lease which reflects a constant periodic rate of return. Initial direct costs are included in initial measurement of the finance lease receivable and reduce the amount of income recognised over the lease term.

Rental income under operating leases (net of any incentives given to lessees) is recognised on a straight-line basis over the lease term. Initial direct costs incurred in obtaining an operating lease are added to the carrying amount of the underlying asset and recognised as expense over the lease term on the same basis as lease income. The respective leased assets are included in the statement of financial position based on their nature.

For the year ended 31 December 2019

Leases - where the Group is the lessee

Payments made under operating leases (net of any incentives received from the lessor) are charged to profit or loss on a straight-line basis over the period of the lease.

At the inception of finance lease, the lower of the fair value of the leased property and the present value of the minimum lease payments is capitalised. Each lease payment is allocated between the liability and finance charges to achieve a constant rate on the liabilities balance outstanding. The corresponding rental obligations is presented net of finance charges. Finance cost is charged to profit or loss over the lease period.

Leases - where the Group is the lessor

When assets are leased out under a finance lease, the present value of the lease payments is recognised as a receivable. The difference between the gross receivable and the present value of the receivable is recognised as unearned finance income. Lease income is recognised over the term of the lease which reflects a constant periodic rate of return. Initial direct costs are included in initial measurement of the finance lease receivable and reduce the amount of income recognised over the lease term.

Rental income under operating leases (net of any incentives given to lessees) is recognised on a straight-line basis over the lease term.

6.11 Financial liabilities

a) Classification

Financial instruments issued by the Group are classified as either financial liabilities or equity securities by considering contractual obligations.

- Where the Group has an unconditional contractual obligation to deliver cash or another financial asset to another entity, it is considered a financial liability unless there is a predetermined or possible settlement for a fixed amount of cash in exchange of a fixed number of the Group's own equity instruments.
- Where the Group has no contractual obligation or has an unconditional right to avoid delivering cash or another financial asset in settlement of the obligation, it is considered an equity instrument.

Borrowings are classified as current liabilities unless the Group has an unconditional right to defer settlement of the liability for at least 12 months after the reporting date.

b) Measurement

Financial liabilities are initially recognised at fair value and are subsequently measured at amortised cost except contingent consideration that is measured at fair value. Changes in fair value of contingent consideration arising from business combination under common control is disclosed in Note 6.1.

c) Derecognition and modification

Financial liabilities are derecognised when the obligation specified in the contract is discharged, cancelled, or expired.

Where the terms of a financial liability are renegotiated/modified, the Group assesses whether the renegotiation / modification results in the derecognition of that financial liability. Where the modification results in an extinguishment, the new financial liability is recognised based on fair value of its obligation. The remaining carrying amount of financial liability is derecognised. The difference as well as proceed paid is recognised as other gains/(losses) in profit or loss.

Where the modification does not result in the derecognition of the financial liability, the carrying amount of the financial liability is recalculated as the present value of the renegotiated / modified contractual cash flows discounted at its original effective interest rate. The difference is recognised in other gains/(losses) in profit or loss.

6.12 Borrowing costs

General and specific borrowing costs directly attributable to the acquisition, construction or production of qualifying assets are added to the cost of those assets less investment income earned from those specific borrowings. The capitalisation of borrowing costs is ceased when substantially all the activities necessary to prepare the qualifying asset for its intended use or sale are complete.

Other borrowing costs are expensed in the period in which they are incurred.

6.13 Current and deferred income taxes

The tax expense for the period comprises current and deferred tax. Tax is recognised in profit or loss, except to the extent that it relates to items recognised in other comprehensive income or directly in equity.

Current tax

The current income tax is calculated on the basis of the tax laws enacted or substantively enacted at the end of the reporting period. Management periodically evaluates positions taken in tax returns with respect to situations in which applicable tax regulation is subject to interpretation. It establishes provisions where appropriate on the basis of amounts expected to be paid to the tax authorities.

Deferred income tax

Deferred income tax is recognised on temporary differences arising from differences between the tax base of assets and liabilities and their carrying amounts in the financial statements. However, deferred income tax is not recognised for temporary differences arise from:

- initial recognition of an asset or liability in a transaction other than a business combination that affects neither accounting nor taxable profit or loss is not recognised
- investments in subsidiaries, associates and joint arrangements where the timing of the reversal of the temporary difference is controlled by the Group and it is probable that the temporary difference will not reverse in the foreseeable future.

Deferred income tax is measured using tax rates of the period in which temporary difference is expected to be reversed, based on tax rates and laws that have been enacted or substantially enacted by the end of the reporting period.

Deferred tax assets are recognised only to the extent that it is probable that future taxable profit will be available against which the temporary differences can be utilised.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets and liabilities and when the deferred tax balances relate to the same taxation authority. Current tax assets and tax liabilities are offset where the entity has a legally enforceable right to offset and intends either to settle on a net basis, or to realise the asset and settle the liability simultaneously.

6.14 Employee benefits

Short-term employee benefits

Liabilities for short-term employee benefits that are expected to be settled wholly within 12 months after the end of the period are recognised in respect of employees' service up to the end of the reporting period. They are measured at the amount expected to be paid.

Defined contribution plan

The Group pays contributions to a separate fund on a mandatory basis. The Group has no further payment obligations once the contributions have been paid. The contributions are recognised as employee benefit expense when they are due.

Defined benefit plans

Amount of retirement benefits is defined by the agreed benefits the employees will receive after the completion of employment. It usually depends on factors such as age, years of service and an employee's latest compensation at retirement.

The defined benefit obligation is calculated annually by an independent actuary using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using market yield of government bonds that matches the terms and currency of the expected cash outflows.

Remeasurement gains and losses are recognised directly to other comprehensive income in the period in which they arise. They are presented as a separate item in statements of changes in equity.

Past-service costs are recognised immediately in profit or loss.

6.15 Provisions

Provisions are recognised when the Group has a present legal or constructive obligation as a result of past events; it is probable that an outflow of resources will be required to settle the obligation; and the amount has been reliably estimated.

Provisions are measured at the present value of the expenditures expected to be required to settle the obligation. The increase in the provision due to passage of time is recognised as interest expense.

6.16 Share capital

Ordinary shares are classified as equity.

Incremental costs directly attributable to the issue of new shares or options (net of tax) are shown as a deduction in equity.

6.17 Revenue recognition

Revenue includes all revenues from ordinary business activities. All ancillary income in connection with the delivery of goods and rendering of services in the course of the Group's ordinary activities are also presented as revenue.

Revenue are recorded net of value added tax. They are recognised in accordance with the provision of goods or services, provided that collectability of the consideration is probable.

Multiple element arrangements involving delivery or provision of multiple products or services are separated into individual distinct performance obligations. Total transaction price of the bundled contract is allocated to each performance obligation based on their relative standalone selling prices or estimated standalone selling prices. Each performance obligation is recognised as revenue on fulfilment of the obligation to the customer.

Revenue from sales

Revenue from sales of industrial water are recognised at a point in time when the controls over the industrial water is transferred to customers at destinations as stated in the agreements. The revenue under the sales of industrial water is recognised based on transaction price net of output tax, rebates and discounts.

Revenue from service

The Group recognises revenue under the waste water treatment service over the time when rendering services to customer according to the agreements. If the Group receives consideration above the services rendered, the Group recognises the excess consideration as a contract liability. On the other hand, if the Group receives consideration less than the services rendered, the Group recognises the consideration as a contract asset.

Rental income from operating leases

The Group recognised rental income as revenue on a straight-line basis over the contract term, regardless of the payment pattern.

Interest earned from financial leases

The assets under the finance lease are recognized as finance lease receivables at the present value of the lease payments. The difference between the total amount of receivables that has not yet been discounted and the present value of the receivable is gradually recognized as financial income using the net investment method reflecting the constant rate of return. Initial direct costs are included in initial measurement of the finance lease receivable and are gradually recognized by reducing income over the life of the lease.

Dividend income

Dividend income is recognised when the right to receive payment is established.

Other income

Other income is recognised on an accrual basis.

Financing components

The Group does not expect to have any contracts where the period between the transfer of the promised goods or services to the customer and payment by the customer exceeds one year. As a consequence, the Group does not adjust any of the transaction prices for the time value of money.

6.18 Dividend distribution

Dividend distributed to the Company's shareholders is recognised as a liability when interim dividends are approved by the Board of Directors, and when the annual dividends are approved by the shareholders.

6.19 Derivatives and hedging activities

The Group's associates and joint ventures recognised derivatives at fair value with changes in fair value recognised in profit or loss, unless hedges accounting is applied. Gain or loss on derivatives under hedge accounting relating to effective portion are recognised to other components of equity while gain or loss of ineffective portion are recognised to profit or loss.

7 Financial risk management

Financial risk factors

The Group's activities are exposed to a variety of financial risks, such as impact of changes in market price risk (including currency risk and fair value risk), credit risk and liquidity risk. The Group's overall risk management programme focuses on managing the fluctuation of financial markets and seeks to minimise potential adverse effects on the Group's financial performance. The board of directors provides written principles for overall risk management which is carried out by a central treasury department (the Group treasury), including identification, evaluation and hedge of financial risks in close co-operation with operating units.

Foreign exchange risk

Since the core business of the Group's associates is production and distribution of electricity with partial sources of loans denominated in foreign currencies, the Group's share of profit from associate is exposed to foreign currency risk from the borrowings. The associates seek to reduce this risk by entering derivative financial instruments to hedge foreign currency exposure when they consider appropriate.

Interest rate risk

The Group has interest rate risk from borrowings and debentures at fixed and floating interest rates. The Group has no significant interest-bearing assets.

For the year ended 31 December 2020, a change of 1% increase or a 1% decrease in floating rates applied to the long-term borrowings would impact to the financial statements increased or decreased on profit for the period by Baht 20 million or Baht 20 million (2019: increased Baht 8 million or decreased Baht 8 million)

Information about interest rates from borrowings is disclosed in Note 20.

Credit risk

The Group has no significant concentrations of credit risk. The Group has policies in place to ensure that contracts are made with customers who have an appropriate credit history, limiting customers' credit limit as well as obtaining appropriate guarantees from customers. Deposits counterparties are limited to high credit quality financial institutions. The Group has policies that limit the amount of credit exposure to any one financial institution.

Liquidity risk

Liquidity risk is the risk that suitable sources of fund for the Group's business activities may not be available. The Group applies prudent liquidity risk management in which the Group maintains sufficient cash to use for its business activities. The Group's availability of fund is managed through an adequate amount of committed credit facilities provided to the Group.

The following are the contractual maturities of financial liabilities:

Consolidated financial statements						
	On demand	Within	1 - 5 years	Over	Total	Net Book
	Million Baht	1 year	Million Baht	5 years	Million Baht	Value
	Million Baht	Million Baht	Million Baht	Million Baht	Million Baht	Million Baht
As at 31 December 2020						
Trade and other payables	-	301	-	-	301	301
Borrowings from financial institutions	-	395	4,791	-	5,186	4,873
Debentures	-	2,594	4,581	1,720	8,895	7,993
Lease liabilities	-	18	54	579	651	243
Provision for liabilities from water business*	-	35	162	1,762	1,959	347
Guarantee received	-	-	-	6	6	6
Total	-	3,343	9,588	4,067	16,998	13,763

Consolidated financial statements						
	On demand	Within	1 - 5 years	Over	Total	Net Book
	Million Baht	1 year	Million Baht	5 years	Million Baht	Value
	Million Baht	Million Baht	Million Baht	Million Baht	Million Baht	Million Baht
As at 31 December 2019						
Trade and other payables	-	228	-	-	228	228
Borrowings from financial institutions	200	1,729	930	-	2,859	2,764
Debentures	-	6,671	2,937	24	9,632	8,993
Lease liabilities	-	-	-	-	-	-
Provision for liabilities from water business*	-	33	155	1,806	1,994	340
Contingent consideration	-	243	-	-	243	243
Guarantee received	-	-	1	6	7	7
Total	200	8,904	4,023	1,836	14,963	12,575

	Separate financial statements					Net Book Value
	On demand	Within 1 year	1 - 5 years	Over 5 years	Total	
	Million Baht	Million Baht	Million Baht	Million Baht	Million Baht	Million Baht
As at 31 December 2020						
Trade and other payables	-	155	-	-	155	155
Borrowings from financial institutions	-	395	4,791	-	5,186	4,873
Debentures	-	2,594	4,581	1,720	8,895	7,993
Lease liabilities	-	14	38	445	497	174
Provision for liabilities from water business*	-	35	158	1,699	1,892	339
Guarantee received	-	-	-	6	6	6
Total	-	3,193	9,568	3,870	16,631	13,540

	Separate financial statements					Net Book Value
	On demand	Within 1 year	1 - 5 years	Over 5 years	Total	
	Million Baht	Million Baht	Million Baht	Million Baht	Million Baht	Million Baht
As at 31 December 2019						
Trade and other payables	-	130	-	-	130	130
Borrowings from financial institutions	200	1,729	930	-	2,859	2,764
Debentures	-	6,672	2,937	24	9,633	8,993
Lease liabilities	-	-	-	-	-	-
Provision for liabilities from water business*	-	33	151	1,740	1,924	332
Guarantee received	-	-	-	6	6	6
Total	200	8,564	4,018	1,770	14,552	12,225

*Provision for liabilities from water business was calculated from the expected future payment obligation. Information about the provision is disclosed in Note 22.

Risk management

The objectives when managing capital are to safeguard their ability to continue as a going concern, to provide returns for shareholders and benefits for other stakeholders, and maintain an optimal capital structure to reduce the cost of capital.

In order to maintain or adjust the capital structure, the Group may adjust the amount of dividends paid to shareholders, return capital to shareholders, issue new shares or sell assets to reduce debt.

8 Fair value

The following table presents fair value of financial assets and liabilities recognised at fair value hierarchy.

	Level 1		Level 2		Level 3	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Consolidated financial statements						
Financial assets						
Unquoted equity investments	-	-	-	-	328,772,518	-
Financial liabilities						
Provision for liabilities from water business	-	-	-	-	347,711,124	340,466,383
Separate financial statements						
Financial liabilities						
Provision for liabilities from water business	-	-	-	-	338,711,268	332,485,373

Fair values are categorised into hierarchy based on inputs used as follows:

- Level 1: The fair value of financial instruments is based on the current bid price / closing price by active markets such as the Stock Exchange of Thailand / the Thai Bond Dealing Centre.
- Level 2: The fair value of financial instruments is determined using significant observable inputs and, as little as possible, entity-specific estimates.
- Level 3: The fair value of financial instruments is not based on observable market data.

The Group did not have any transfers between levels during the period.

Changes in level 3 financial instruments for the period ended 31 December 2020 is as follows:

	Consolidated financial statements		
	Unlisted equity securities Baht	Provision for liabilities from water business Baht	Total Baht
As at 1 January 2019	267,430,208	331,571,745	599,001,953
Paid during the year	-	(23,629,922)	(23,629,922)
Loss recognised in profit or loss	(13,872,687)	32,524,560	18,651,873
As at 31 December 2019	253,557,521	340,466,383	594,023,904
Adjustments from changes in accounting policy	75,214,997	-	75,214,997
Paid during the year	-	(24,645,439)	(24,645,439)
Loss recognised in profit or loss	-	31,890,180	31,890,180
As at 31 December 2020	328,772,518	347,711,124	676,483,642

	Separate financial statements Provision for liabilities from water business Baht
As at 1 January 2019	331,571,745
Paid during the year	(23,629,923)
Loss recognised in profit or loss	31,754,543
Transfer of rights to a subsidiary	(7,210,992)
As at 31 December 2019	332,485,373
Paid during the year	(24,573,523)
Loss recognised in profit or loss	30,799,418
As at 31 December 2020	338,711,268

The following table summarises the quantitative information about the significant unobservable inputs used in level 3 fair value measurements and relationship of unobservable inputs to fair value.

			Change in fair value	
	Range of inputs	Movement	Increase in inputs	Decrease in inputs
Consolidated financial statements				
Unlisted equity securities				
Adjusted net asset value	Baht 6.58 billion	1%	Decrease by 1%	Increase by 1%
Provision for liabilities from water business				
Risk-adjusted discount rate	12% - 14%	1%	Decrease by 7%	Increase by 9%
Separate financial statements				
Provision for liabilities from water business				
Risk-adjusted discount rate	12% - 14%	1%	Decrease by 7%	Increase by 9%

The Group's valuation processes

Management and valuation teams discuss valuation processes and results quarterly.

Fair value of unquoted equity investments is determined using valuation techniques by valuation techniques based on Net Asset Value (NAV) which is estimated based on the issuance entities' enterprise value.

Fair value of provision for liabilities from water business calculations use pre-tax cash flow projections based on financial budgets approved by management covering a 5-year period. Cash flows beyond the 5-year period are extrapolated using the estimated growth rates stated below. The growth rate does not exceed the long-term average growth rate for the operating water business.

9 Critical accounting estimates and judgements

Estimates and judgements are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances.

a) Fair value of certain financial assets

The fair value of financial instruments that are not traded in an active market is determined using valuation techniques. The Group uses judgement to select a variety of methods and make assumptions that are mainly based on market conditions existing at the end of each reporting period. Details of key assumptions used are included in Note 8.

b) Goodwill impairment

The recoverable amounts of cash-generating units have been determined based on value-in-use calculations. The calculations use cash flow projections based on financial budget approved by management covering a five-year period.

Cash flows beyond the five-year period are extrapolated using the estimated growth rates stated in Note 18. These growth rates are consistent with forecasts included in industry reports specific to the industry in which each CGU operates.

c) Defined retirement benefit obligations

The present value of the retirement benefit obligations depends on a number of assumptions. Key assumptions used and impacts from possible changes in key assumptions are disclosed in Note 23.

d) Determination of lease terms

Critical judgement in determining the lease term, the Group considers all facts and circumstances that create an economic incentive to exercise an extension option, or not exercise a termination option. Extension options (or periods after termination options) are only included in the lease term if the lease is reasonably certain to be extended (or not terminated).

For leases of properties, the most relevant factors are historical lease durations, the costs and conditions of leased assets.

Most extension options on offices and vehicles leases have not been included in the lease liability, because the Group considers i) the underlying asset condition and/or ii) insignificant cost to replace the leased assets.

The lease term is reassessed if an option is actually exercised (or not exercised) or the Group becomes obliged to exercise (or not exercise) it. The assessment of reasonable certainty is only revised if a significant event or a significant change in circumstance affecting this assessment occur, and that it is within the control of the Group.

e) Determination of discount rate applied to leases

The Group determines the incremental borrowing rate as follows:

- Where possible, use recent third-party financing received by the individual lessee as a starting point, adjusting to reflect changes in its financing conditions.
- Make adjustments specific to the lease, e.g. term, country, currency and security.

f) Impairment of financial assets

The loss allowances for financial assets are based on assumptions about default risk and expected loss rates. The Group uses judgement in making these assumptions and selecting the inputs used in the impairment calculation, based on the Group's past history and existing market conditions, as well as forward-looking estimates at the end of each reporting period.

g) Fair value of provision from water business

The Group estimates the liabilities from water business according to the strategic partnership agreement and production and distribution license agreements for industrial water operations and wastewater treatment by determining the demand of sales and services, price and other relevant factors. The Group uses future cashflows expected to pay under the agreements and discount rate which reflects the related risk.

10 Segment information

The Group's chief operating decision-maker e.g. Board of directors identifies reportable segments of its business to examine the Group's performance by product lines and geographical location of customers. Material information about incomes and profits information by business segment are as follows:

	2020					2019				
	Domestic		Overseas		Total Baht	Domestic		Overseas		Total Baht
	Water business	Power business	Water business	Holding company		Water business	Power business	Water business	Holding company	
Revenues from sales	1,492,360,787	-	171,250	-	1,492,532,037	1,639,715,710	-	63,133	-	1,639,778,843
Revenues from services	150,061,385	53,574,030	-	-	203,635,415	207,274,027	10,194,976	-	-	217,469,003
Interest earned from financial leases	-	1,797,711	-	-	1,797,711	-	-	-	-	-
Total revenues	1,642,422,172	55,371,741	171,250	-	1,697,965,163	1,846,989,737	10,194,976	63,133	-	1,857,247,846
Profit (loss) from operations	298,653,759	17,326,184	(3,217,357)	(2,164,252)	310,598,334	527,824,119	(15,384,568)	(1,183,525)	(15,608,201)	495,647,825
Other income	7,442,087	71,815,702	400	28,209	79,286,398	3,105,795	142,511,722	730	53,187	145,671,434
Gain (loss) on exchange rates	(1,680)	-	62,605,191	(61,933,249)	670,262	-	-	(179,019)	(176,099)	(355,118)
Finance costs	(120,167,893)	(214,561,639)	(98,127,759)	-	(432,857,291)	(72,841,472)	(268,676,968)	(506,465)	-	(342,024,905)
Share of profit (loss) of associates and joint ventures	-	1,025,958,730	(159,692,188)	-	866,266,542	-	1,894,588,338	(13,470,680)	-	1,881,117,658
Income tax expense	635,266	(6,983,303)	(4,876,330)	(12,822)	(11,237,189)	(32,919,281)	(9,928,562)	-	-	(42,847,843)
Profit (loss) for the year	186,561,539	893,555,674	(203,308,043)	(64,082,114)	812,727,056	425,169,161	1,743,109,962	(15,338,959)	(15,731,113)	2,137,209,051
Profit attributable to non-controlling interests					(34)					(29)
Profit attributable to owners of the parent					812,727,022					2,137,209,022
Segment depreciation and amortisation	231,746,373	33,230,428	517,325	-	265,494,126	198,791,380	20,020,434	-	-	218,811,814

Assets and liabilities information by business segment are as follows:

	31 December 2020					31 December 2019				
	Domestic		Overseas		Total Baht	Domestic		Overseas		Total Baht
	Water business Baht	Power business Baht	Water business Baht	Holding company Baht		Water business Baht	Power business Baht	Water business Baht	Holding company Baht	
Non-current assets										
Segment non-current assets	6,525,522,344	14,998,782,790	2,403,086,020	218,929	23,927,610,083	5,995,949,378	15,588,039,278	2,760,461,450	-	24,344,450,106
Other assets										
Segment other assets	1,559,219,989	653,390,517	17,474,464	13,919,404	2,244,004,374	989,883,985	1,020,819,841	38,265,047	25,298,451	2,074,267,324
Total assets	8,084,742,333	15,652,173,307	2,420,560,484	14,138,333	26,171,614,457	6,985,833,363	16,608,859,119	2,798,726,497	25,298,451	26,418,717,430
Segment liabilities	4,741,716,386	6,624,646,847	2,644,186,006	3,984,784	14,014,534,023	4,701,864,111	7,897,021,812	17,052,050	243,512,170	12,859,450,143

Business segment information in the consolidated financial statement is as follows:

	31 December 2020					31 December 2019				
	Domestic		Overseas		Total Baht	Domestic		Overseas		Total Baht
	Water business Baht	Power business Baht	Water business Baht	Holding company Baht		Water business Baht	Power business Baht	Water business Baht	Holding company Baht	
Cash and cash equivalents	1,211,524,591	551,179,229	7,532,107	13,918,789	1,784,154,716	601,476,997	106,275,794	21,540,062	25,298,451	754,591,304
Financial assets measured at fair value through profit or loss	-	328,772,518	-	-	328,772,518	-	-	-	-	-
Investments in associates	-	10,402,109,133	2,304,707,359	-	12,706,816,492	-	11,872,208,582	2,715,428,335	-	14,587,636,917
Interests in joint ventures	-	781,978,409	-	-	781,978,409	-	737,554,465	-	-	737,554,465
Other long-term investment, net	-	-	-	-	-	-	253,557,521	-	-	253,557,521
Property, plant and equipment, net	3,888,207,289	1,052,470,530	98,327,790	-	5,039,005,609	3,342,691,176	562,511,057	45,033,115	-	3,950,235,348
Intangible assets, net	1,987,903,087	-	9,303	-	1,987,912,390	2,035,470,443	-	-	-	2,035,470,443
Goodwill	610,669,873	2,162,207,653	-	-	2,772,877,526	610,669,873	2,162,207,653	-	-	2,772,877,526
Others	386,437,493	373,455,835	9,983,924	219,545	770,096,797	395,524,874	914,544,047	16,724,985	-	1,326,793,906
Total assets	8,084,742,333	15,652,173,307	2,420,560,483	14,138,334	26,171,614,457	6,985,833,363	16,608,859,119	2,798,726,497	25,298,451	26,418,717,430

11 Cash and cash equivalents

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Cash at bank and on hand	246,299	263,621	169,998	213,621
Short-term bank deposits	1,798,908,417	754,327,683	967,690,538	541,355,701
Total	1,784,154,716	754,591,304	967,860,536	541,569,322

The interest rates on deposits are as follows:

	Consolidated financial statements		Separate financial statements	
	2020 % (per annum)	2019 % (per annum)	2020 % (per annum)	2019 % (per annum)
Deposits held at call	0.05 - 0.25	0.10 - 0.625	0.05 - 0.25	0.10 - 0.625

12 Trade and other receivables

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Trade receivables - third parties	155,052,589	148,076,199	93,318,483	98,017,038
Trade receivables - related parties (Note 31)	22,736,897	24,928,874	66,537,753	46,170,433
<u>Less</u> Loss allowance (2019: Allowance for doubtful accounts under TAS 101)	(12,418,410)	(10,041,921)	(12,418,410)	(10,041,921)
Trade accounts receivable, net	165,371,076	162,963,152	147,437,826	134,145,550
Prepaid expenses	6,189,971	4,674,721	5,324,140	3,892,343
Accrued income	67,282,929	63,596,707	58,410,873	86,650,605
Dividend receivable	-	564,287,076	-	-
Accrued interest receivable	1,838,694	2,372,246	211,424,250	51,706,075
Other receivables	847,043	13,484,741	1,195,442	1,092,122
Total	241,529,713	811,378,643	423,792,531	277,486,695

Fair values of trade receivables

Due to the short-term nature of the current receivables, their carrying amount is considered to be the same as their fair value.

Impairments of trade receivables

The loss allowance for trade receivables as at 31 December 2020 was determined as follows:

	Consolidated financial statements		Separate financial statements	
	Trade receivables and amounts due from related parties Baht	Loss allowance Baht	Trade receivables and amounts due from related parties Baht	Loss allowance Baht
Within due	149,237,186	(41,108)	110,129,316	(41,108)
Overdue				
Up to 3 months	16,580,438	(405,440)	37,755,058	(405,440)
3 - 6 months	513	(513)	513	(513)
6 - 12 months	1,355	(1,355)	1,355	(1,355)
Over 12 months	11,969,994	(11,969,994)	11,969,994	(11,969,994)
Total	177,789,486	(12,418,410)	159,856,236	(12,418,410)

The reconciliations of loss allowance for trade receivables for the year ended 31 December are as follows:

	Consolidated and separate financial statements	
	2020 Baht	2019 Baht
As at 31 December - calculated under TAS 101		
Amounts restated through opening retained earnings	10,041,921	9,226,299
	1,251,138	-
Opening loss allowance as at 1 January - calculated under TFRS 9 (2019: TAS 101)	11,293,059	9,226,299
Increase in loss allowance recognised in profit or loss during the year	1,125,351	3,555,734
Receivable written off during the year as uncollectible	-	(2,740,112)
As at 31 December - calculated under TFRS 9 (2019: calculated under TAS 101)	12,418,410	10,041,921

13 Financial assets and financial liabilities

As at 31 December 2020, classification of the Group's financial assets and financial liabilities are as follows:

Consolidated financial statements			
	Fair value Baht	Amortised cost Baht	Total Baht
Assets			
Current assets			
Cash and cash equivalents	-	1,784,154,716	1,784,154,716
Trade and other receivables, net	-	235,339,742	235,339,742
Non-current assets			
Financial assets measured at fair value through profit or loss	328,772,518	-	328,772,518
Loans to related parties	-	248,490,552	248,490,552
Financial lease receivables	-	21,888,344	21,888,344
Liabilities			
Current liabilities			
Trade and other payables	-	339,759,592	339,759,592
Current portion of long-term borrowings from financial institutions	-	249,782,612	249,782,612
Current portion of debentures	-	2,389,299,319	2,389,299,319
Current portion of lease liabilities	-	8,272,490	8,272,490
Non-current liabilities			
Long-term borrowings from financial institutions	-	4,622,982,354	4,622,982,354
Debentures	-	5,604,086,210	5,604,086,210
Provision for liabilities from water business	347,711,124	-	347,711,124
Lease liabilities	-	235,130,053	235,130,053
Other non-current liabilities	-	26,301,584	26,301,584
Separate financial statements			
	Fair value Baht	Amortised cost Baht	Total Baht
Assets			
Current assets			
Cash and cash equivalents	-	967,860,536	967,860,536
Trade and other receivables, net	-	418,468,391	418,468,391
Short-term loans to related parties	-	687,000,000	687,000,000
Non-current assets			
Loans to related parties	-	5,384,490,000	5,384,490,000
Liabilities			
Current liabilities			
Trade and other payables	-	193,243,706	193,243,706
Current portion of long-term borrowings from financial institutions	-	249,782,612	249,782,612
Current portion of debentures	-	2,389,299,319	2,389,299,319
Current portion of lease liabilities	-	7,252,465	7,252,465
Non-current liabilities			
Long-term borrowings from financial institutions	-	4,622,982,354	4,622,982,354
Debentures	-	5,604,086,210	5,604,086,210
Provision for liabilities from water business	338,711,268	-	338,711,268
Lease liabilities	-	166,686,183	166,686,183
Other non-current liabilities	-	15,164,733	15,164,733

Due to nature of the current portion of financial assets and liabilities measured at amortised cost, the carrying amount are close to fair value. For the non-current financial liabilities, the fair values are disclosed in relating notes to financial statements.

14 Interests in associates and joint ventures

The material investments in associates and joint ventures are as follows:

Name of entity	Country	Nature of business	% of ownership interest		Consolidated financial statements Investment at equity method		Separate financial statements Investment at cost method	
			2020	2019	2020	2019	2020	2019
			%	%	Million Baht	Million Baht	Million Baht	Million Baht
Material Associates								
GHECO - One Company Limited	Thailand	Power plant operation and sale of electricity	35	35	7,325	7,894	-	-
Duong River Surface Water Plant Joint Stock Company*	Vietnam	Production and distribution of water supply	34	-	2,272	-	-	-
Immaterial associates					3,110	6,694	-	-
Total					12,707	14,588	-	-
<i>Joint ventures:</i>								
Immaterial joint ventures					782	738	159	159
Total					782	738	159	159

*Considered as material associate since 2020

The Group has contingent liabilities relating to guarantee of associates and joint ventures' loans by ordinary shares of such associates and joint ventures' and joint ventures' bank guarantees facilities by subsidiaries which are shareholders of such associates and joint ventures.

The movements of investments in associates are as follows:

As at 1 January

	Consolidated financial statements	
	2020 Baht	2019 Baht
As at 1 January	14,587,636,917	12,630,879,987
Additions	-	2,768,277,303
Changes in the value of contingent consideration	(242,915,209)	-
Currency translation differences	(7,687,323)	2,591,000
Share of profits in associates	777,874,402	1,846,172,983
Impact of changes in accounting policies	(1,298,924,865)	(1,431,260,052)
Dividends received	(1,109,167,430)	(1,229,024,304)
As at 31 December	12,706,816,492	14,587,636,917

Dividend income from associates are as follows:

	Consolidated financial statements	
	2020 Baht	2019 Baht
GHECO-One Company Limited	419,858,878	564,287,076
Gulf TS1 Company Limited	87,655,048	114,625,832
Gulf TS2 Company Limited	98,059,208	107,780,595
Gulf TS3 Company Limited	100,740,280	128,491,376
Gulf TS4 Company Limited	113,235,276	109,558,806
Others	289,618,741	204,280,619
Total	1,109,167,431	1,229,024,304

On 25 October 2019, the Group acquired ordinary shares of Duong River Surface Water Plant Joint Stock Company, equivalent to 34% ownership interests, and classified as investment in associates. The Group partially paid for share capital and recognised contingent consideration in the amount of Baht 242,915,209.

Contingent consideration is initially recognised at fair value and included as part of the cost of acquisition of an investment in an associate. The Group elects to recognise subsequent changes in the value of contingent consideration applying a cost-based approach by including changes in the contingent consideration as an inclusion or a reduction of the cost of the investment.

As of 31 December 2019, the measurement of acquired assets and assumed liabilities was not completed. During 2020, the Group adjusted the fair value of assets acquired and liabilities assumed as follows:

	Balance as previously reported Baht	Adjustment Baht	Adjusted balance Baht
Purchase consideration			
Cash paid	2,451,235,290	-	2,451,235,290
Contingent consideration	242,915,209	(242,915,209)	-
Total purchase consideration	2,694,150,499	(242,915,209)	2,451,235,290
Net assets acquired			
Net identifiable assets acquired	1,101,175,442	3,990,947,269	5,092,122,711
Group's share in associates (34%)	374,399,650	1,356,922,072	1,731,321,722
Goodwill	2,319,750,849	(1,599,837,281)	719,913,568
Net assets acquired	2,694,150,499	(242,915,209)	2,451,235,290

Summarised financial information for associates

The table below is summarised of financial information for associates that are material to the Group. The financial information is included in associates own financial statements which has been amended to reflect adjustments necessary for the equity method, including adjusting fair value and differences in accounting policy. There is no disclosure of the comparative figures of summarised financial information of Duong River Surface Water Plant Joint Stock Company as they're not material.

	GHECO - One Company Limited		Duong River Surface Water Plant Joint Stock Company
	2020 Baht	2019 Baht	2020 Baht
<i>Summarised of performance</i>			
Revenue	10,483,036,311	10,951,256,418	443,707,663
Profit (Loss) before income tax	811,210,125	1,572,321,154	(478,412,607)
Income tax	(28,141,223)	339,890,028	3,654,568
Profit (Loss) for the year	783,068,902	1,912,211,182	(474,758,039)
Other comprehensive income	(133,597,549)	-	10,379,296
Total comprehensive income	649,471,353	1,912,211,182	(464,378,743)
Dividends received from associate	419,858,878	564,287,076	-
<i>Summarised statement of financial position</i>			
Current assets	6,431,335,015	8,297,758,031	337,395,273
Non-current assets	32,512,147,054	32,816,247,881	10,206,811,359
Current liabilities	(1,867,651,510)	(3,615,946,073)	(318,350,558)
Non-current liabilities	(16,147,547,162)	(14,941,725,232)	(5,632,675,412)
Currency translation differences	-	-	(27,949,606)
Net assets	20,928,283,397	22,556,334,607	4,565,231,056
Group's share in associates (%)	35%	35%	34%
Group's share in associates (Baht)	7,324,572,493	7,894,412,075	1,552,178,559
Goodwill	-	-	719,913,568
Associates carrying amount	7,324,572,493	7,894,412,075	2,272,092,127

Individually immaterial associates and joint ventures

The table below is the carrying amount of its interests, in aggregate, all individually immaterial associates that are accounted for using equity method.

	2020 Baht	2019 Baht
Aggregate carrying amount of individually immaterial associates	3,110,151,872	6,693,224,842
The Group's share of:		
Profit from continuing operations	665,218,021	869,536,985
Other comprehensive income	(115,922,116)	-
Total comprehensive income	549,295,905	869,536,985
Aggregate carrying amount of individually immaterial joint ventures	781,978,409	737,554,465
The Group's share of:		
Profit from continuing operations	88,392,139	34,944,675
Other comprehensive income	(68,245)	(15,009,877)
Total comprehensive income	88,323,894	19,934,798

15 Investments in subsidiaries

The subsidiaries included in consolidated financial statements are listed below. The subsidiaries have only ordinary shares. The proportion of ownership interests held by the Group is equal to voting rights in subsidiaries held by the Group.

The material investments in subsidiaries are as follows:

Entity name	Country	Nature of business	Ownership interest held by Company		Ownership interest held by the Group		Investment in cost method	
			2020 (%)	2019 (%)	2020 (%)	2019 (%)	2020 Million Baht	2019 Million Baht
WHA Water Company Limited	Thailand	Water resources, development and management	100	100	-	-	301	101
WHA Energy Company Limited and its subsidiaries:	Thailand	Holding company	100	100	-	-	9,178	9,178
WHA Energy 2 Company Limited	Thailand	Holding company	-	-	100	100	7,270	7,270
WHA Solar Company Limited	Thailand	Power plant operation and sale of electricity	-	-	100	100	350	200
WHAUP International Company Limited and its subsidiaries:	Thailand	Holding company	100	100	-	-	45	45
WHAUP (SG) 1 PTE. Limited and its subsidiaries	Singapore	Holding company	-	-	100	100	43	43
WHAUP (SG) 2 PTE. Limited and its subsidiary	Singapore	Holding company	-	-	100	100	40	40
WHAUP (SG) 2DR PTE. Limited	Singapore	Holding company	-	-	100	100	3	3
WHAUP Nghe An Joint Stock Company	Vietnam	Water Industrial and wastewater treatment	-	-	100	100	40	40

16 Property, plant and equipment, net

Consolidated financial statements												
	Right-of-use land Baht	Building improvements Baht	Buildings and structure Baht	Tools Baht	Equipment, furniture and fixtures Baht	Vehicles Baht	Raw water pipes Baht	Industrial water production systems Baht	Waste water treatment systems Baht	Solar systems Baht	Construction in progress Baht	Total Baht
As at 1 January 2019												
Cost	-	9,792,664	271,273,919	132,908,343	12,451,110	672,897	2,041,973,148	955,174,570	293,011,540	35,476,439	97,142,643	3,849,877,273
Less Accumulated depreciation	-	(3,618,700)	(37,763,771)	(69,036,259)	(3,674,489)	(89,228)	(328,438,629)	(169,568,088)	(22,131,983)	(1,239,789)	-	(635,560,936)
Net book amount	-	6,173,964	233,510,148	63,872,084	8,776,621	583,669	1,713,534,519	785,606,482	270,879,557	34,236,650	97,142,643	3,214,316,337
For the year ended 31 December 2019												
Opening net book amount	-	6,173,964	233,510,148	63,872,084	8,776,621	583,669	1,713,534,519	785,606,482	270,879,557	34,236,650	97,142,643	3,214,316,337
Additions	-	4,462,472	740,000	7,328,992	622,888	-	9,327,363	219,104	-	-	874,942,621	897,643,440
Transfers in (out)	-	1,075,000	-	13,377,385	176,000	-	88,140,383	58,150,935	13,753,385	168,802,953	(343,476,041)	-
Disposal	-	-	-	-	-	(146,050)	-	-	-	-	(3,582,704)	(3,728,754)
Depreciation (Note 28)	-	(1,776,884)	(9,157,588)	(10,873,024)	(2,495,670)	(113,276)	(83,357,954)	(33,246,761)	(10,408,612)	(6,565,906)	-	(157,995,675)
Closing net book amount	-	9,934,552	225,092,560	73,705,437	7,079,839	324,343	1,727,644,311	810,729,760	274,224,330	196,473,697	625,026,519	3,950,235,348
As at 31 December 2019												
Cost	-	15,330,136	272,013,919	153,614,720	13,249,998	485,981	2,139,440,894	1,013,544,609	306,764,925	204,279,392	625,026,519	4,743,751,093
Less Accumulated depreciation	-	(5,395,584)	(46,921,359)	(79,909,283)	(6,170,159)	(161,638)	(411,796,583)	(202,814,849)	(32,540,595)	(7,805,695)	-	(793,515,745)
Net book amount	-	9,934,552	225,092,560	73,705,437	7,079,839	324,343	1,727,644,311	810,729,760	274,224,330	196,473,697	625,026,519	3,950,235,348

Consolidated financial statements												
	Right-of-use land Baht	Building improvements Baht	Buildings and structure Baht	Tools Baht	Equipment, furniture and fixtures Baht	Vehicles Baht	Raw water pipes Baht	Industrial water production systems Baht	Waste water treatment systems Baht	Solar systems Baht	Construction in progress Baht	Total Baht
Adjustments from change in accounting policy (Note 5)												
Cost	212,884,752	13,729,778	-	-	-	8,350,918	-	-	-	-	-	234,965,448
<u>Less</u> Accumulated depreciation		-	-	-	-	-	-	-	-	-	-	-
Net book amount	212,884,752	13,729,778	-	-	-	8,350,918	-	-	-	-	-	234,965,448
As at 1 January 2020 - adjusted												
Cost	212,884,752	29,059,914	272,013,919	153,614,720	13,249,998	8,836,899	2,139,440,894	1,013,544,609	306,764,925	204,279,392	625,026,519	4,978,716,541
<u>Less</u> Accumulated depreciation		(5,395,584)	(46,921,359)	(79,909,283)	(6,170,159)	(161,638)	(411,796,583)	(202,814,849)	(32,540,595)	(7,805,695)	-	(793,515,745)
Net book amount	212,884,752	23,664,330	225,092,560	73,705,437	7,079,839	8,675,261	1,727,644,311	810,729,760	274,224,330	196,473,697	625,026,519	4,185,200,796
For the year ended 31 December 2020												
Opening net book amount	212,884,752	23,664,330	225,092,560	73,705,437	7,079,839	8,675,261	1,727,644,311	810,729,760	274,224,330	196,473,697	625,026,519	4,185,200,796
Additions	2,634,327	7,151,169	42,200	6,707,582	2,111,586	3,338,234	6,217,743	1,836,449	9,200,214	-	1,056,231,064	1,095,470,568
Transfers in (out)	-	-	4,294,397	12,000,751	224,688	-	219,994,461	164,966,495	31,436,916	757,466,428	(1,190,384,136)	-
Disposal	-	-	-	-	(52,449)	(151,284)	-	-	-	-	-	(203,733)
Transfer to finance lease receivables	-	-	-	-	-	-	-	-	-	(23,167,680)	-	(23,167,680)
Depreciation (Note 28)	(5,945,207)	(8,152,615)	(9,298,864)	(11,332,233)	(2,852,602)	(3,878,709)	(92,616,607)	(38,331,087)	(11,498,637)	(33,701,503)	-	(217,608,064)
Currency translation differences	-	-	(157,016)	(298,298)	(5,970)	-	(20,438)	(204,556)	-	-	-	(686,278)
Closing net book amount	209,573,872	22,662,884	219,973,277	80,783,239	6,505,092	7,983,502	1,861,219,470	938,997,061	303,362,823	897,070,942	490,873,447	5,039,005,609
As at 31 December 2020												
Cost	215,519,079	36,211,083	276,191,180	172,017,458	15,522,509	11,932,142	2,365,632,419	1,180,139,975	347,402,055	938,578,140	490,873,447	6,050,019,487
<u>Less</u> Accumulated depreciation	(5,945,207)	(13,548,199)	(56,217,903)	(91,234,219)	(9,017,417)	(3,948,640)	(504,412,949)	(241,142,914)	(44,039,232)	(41,507,198)	-	(1,011,013,878)
Net book amount	209,573,872	22,662,884	219,973,277	80,783,239	6,505,092	7,983,502	1,861,219,470	938,997,061	303,362,823	897,070,942	490,873,447	5,039,005,609

Separate financial statements										
Right-of-use land Baht	Building improvements Baht	Buildings and structure Baht	Tools Baht	Equipment, furniture and fixtures Baht	Vehicles Baht	Raw water pipes Baht	water production systems Baht	Waste water treatment systems Baht	Construction in progress Baht	Total Baht
-	9,714,608	271,273,919	127,384,507	12,451,110	672,897	2,017,029,690	626,947,402	293,011,541	17,367,845	3,375,853,519
-	(3,618,358)	(37,763,771)	(65,735,357)	(3,674,489)	(89,228)	(320,930,781)	(84,795,812)	(22,131,983)	-	(538,739,779)
-	6,096,250	233,510,148	61,649,150	8,776,621	583,669	1,696,098,909	542,151,590	270,879,558	17,367,845	2,837,113,740
-	6,096,250	233,510,148	61,649,150	8,776,621	583,669	1,696,098,909	542,151,590	270,879,558	17,367,845	2,837,113,740
-	4,206,172	-	7,206,092	567,532	-	9,191,849	219,104	-	86,161,216	107,551,965
-	1,075,000	-	13,377,386	176,000	-	69,682,439	1,000,000	13,753,385	(99,064,210)	-
-	-	-	-	-	(146,050)	-	-	-	-	(146,050)
-	(1,749,608)	(9,148,972)	(10,592,283)	(2,494,822)	(113,276)	(82,297,906)	(22,964,456)	(10,408,612)	-	(139,769,935)
-	9,627,814	224,361,176	71,640,345	7,025,331	324,343	1,692,675,291	520,406,238	274,224,331	4,464,851	2,804,749,720
-	14,995,780	271,273,919	147,967,985	13,194,642	485,981	2,095,903,978	628,166,506	306,764,926	4,464,851	3,483,218,568
-	(5,367,966)	(46,912,743)	(76,327,640)	(6,169,311)	(161,638)	(403,228,687)	(107,760,268)	(32,540,595)	-	(678,468,848)
-	9,627,814	224,361,176	71,640,345	7,025,331	324,343	1,692,675,291	520,406,238	274,224,331	4,464,851	2,804,749,720

Adjustments from change in accounting policy (Note 5)

Separate financial statements											
	Right-of-use land Baht	Building improvements Baht	Buildings and structure Baht	Tools Baht	Equipment, furniture and fixtures Baht	Vehicles Baht	Raw water pipes Baht	water production systems Baht	Waste water treatment systems Baht	Construction in progress Baht	Total Baht
Cost	149,512,082	13,729,779	-	-	-	8,350,918	-	-	-	-	171,592,779
Less Accumulated depreciation	-	-	-	-	-	-	-	-	-	-	-
Net book amount	149,512,082	13,729,779	-	-	-	8,350,918	-	-	-	-	171,592,779
As at 1 January 2020 - adjusted											
Cost	149,512,082	28,725,559	271,273,919	147,967,985	13,194,642	8,836,899	2,095,903,978	628,166,506	306,764,926	4,464,851	3,654,811,347
Less Accumulated depreciation	-	(5,367,966)	(46,912,743)	(76,327,640)	(6,169,311)	(161,638)	(403,228,687)	(107,760,268)	(32,540,595)	-	(678,468,848)
Net book amount	149,512,082	23,357,593	224,361,176	71,640,345	7,025,331	8,675,261	1,692,675,291	520,406,238	274,224,331	4,464,851	2,976,342,499
For the year ended 31 December 2020											
Opening net book amount	149,512,082	23,357,593	224,361,176	71,640,345	7,025,331	8,675,261	1,692,675,291	520,406,238	274,224,331	4,464,851	2,976,342,499
Additions	2,634,327	1,156,657	-	5,417,108	2,077,688	3,338,234	1,817,257	1,050,000	8,994,954	149,703,170	176,189,395
Transfers in (out)	-	-	-	3,775,470	81,839	-	56,631,230	80,072,817	-	(140,561,356)	-
Disposal	-	-	-	-	(52,449)	(151,284)	-	-	-	-	(203,733)
Depreciation (Note 28)	(3,250,933)	(7,846,920)	(9,173,376)	(10,694,243)	(2,818,354)	(3,878,709)	(85,845,854)	(24,645,360)	(10,688,213)	-	(158,841,962)
Closing net book amount	148,895,476	16,667,330	215,187,800	70,138,680	6,314,055	7,983,502	1,665,277,924	576,883,695	272,531,072	13,606,665	2,993,486,199
As at 31 December 2020											
Cost	152,146,409	29,882,216	271,273,919	157,160,563	15,296,969	11,932,142	2,154,352,465	709,289,323	315,759,880	13,606,665	3,830,700,551
Less Accumulated depreciation	(3,250,933)	(13,214,886)	(56,086,119)	(87,021,883)	(8,982,914)	(3,948,640)	(489,074,541)	(132,405,628)	(43,228,808)	-	(837,214,352)
Net book amount	148,895,476	16,667,330	215,187,800	70,138,680	6,314,055	7,983,502	1,665,277,924	576,883,695	272,531,072	13,606,665	2,993,486,199

Borrowing costs of Baht 2,367,314 (2019: Baht 506,465) arising from financing specifically entered into for the construction of a new factory, were capitalised during the year and are included in 'additions'. A capitalisation rate of 2.88 % (2019: 3.21%) was used representing the actual borrowing cost of the loan used to finance the project.

The Group and the Company have right-of-use assets for the leases of building and equipment (2019: Finance lease assets) that are classified as property, buildings and equipment as follows:

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Right-of-use land	209,573,872	-	148,895,476	-
Building improvements	14,178,580	-	8,422,894	-
Vehicles	7,869,929	-	7,869,929	-
Total	231,622,381	-	165,188,299	-

During the year 2020, the Group and the Company's additions to the right-of-use assets that are included in the properties, buildings and equipment in consolidated and separate financial statements were Baht 11,967,072 and Baht 5,972,561, respectively.

Cash flows relating to leases of property, building and equipment are as follows:

	Consolidated financial statements Baht	Separate financial statements Baht
Expense relating to short-term leases	1,182,699	1,182,699
Expense relating to leases of low-value assets	2,000,140	1,923,500
Total cash outflow for leases	22,664,449	18,993,901

Depreciation charged to the statements of comprehensive income are as follows:

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Cost of sales	123,095,896	100,921,353	97,553,257	88,843,360
Cost of services	83,072,888	54,966,763	49,853,004	48,819,016
Administrative expense	11,439,280	2,107,559	11,435,701	2,107,559
Total	217,608,064	157,995,675	158,841,962	139,769,935

	Consolidated financial statements		
	Right to operate and distribute industrial water and waste management Baht	Computer software and water plant maintenance program Baht	Total Baht
At 1 January 2019			
Cost	2,269,769,461	3,672,800	2,273,442,261
<u>Less</u> Accumulated amortisation	(190,857,782)	(915,584)	(191,773,366)
Net book amount	2,078,911,679	2,757,216	2,081,668,895
For the year ended 31 December 2019			
Opening net book amount	2,078,911,679	2,757,216	2,081,668,895
Additions	-	745,000	745,000
Amortisation charged during the year (Note 28)	(45,594,219)	(1,349,233)	(46,943,452)
Closing net book amount	2,033,317,460	2,152,983	2,035,470,443
At 31 December 2019			
Cost	2,269,769,461	4,417,800	2,274,187,261
<u>Less</u> Accumulated amortisation	(236,452,001)	(2,264,817)	(238,716,818)
Net book amount	2,033,317,460	2,152,983	2,035,470,443
For the year ended 31 December 2020			
Opening net book amount	2,033,317,460	2,152,983	2,035,470,443
Additions	-	328,009	328,009
Amortisation charged during the year (Note 28)	(46,426,603)	(1,459,459)	(47,886,062)
Closing net book amount	1,986,890,857	1,021,533	1,987,912,390
At 31 December 2020			
Cost	2,269,769,461	4,745,809	2,274,515,270
<u>Less</u> Accumulated amortisation	(282,878,604)	(3,724,276)	(286,602,880)
Net book amount	1,986,890,857	1,021,533	1,987,912,390

	Separate financial statements		
	Right to operate and distribute industrial water and waste management Baht	Computer program and water plant maintenance program Baht	Total Baht
At 1 January 2019			
Cost	2,269,769,461	3,672,800	2,273,442,261
<u>Less</u> Accumulated amortisation	(190,857,782)	(915,584)	(191,773,366)
Net book amount	2,078,911,679	2,757,216	2,081,668,895
For the year ended 31 December 2019			
Opening net book amount	2,078,911,679	2,757,216	2,081,668,895
Additions	-	745,000	745,000
Transfer during the year	(43,614,053)	-	(43,614,053)
Amortisation charged during the year (Note 28)	(45,594,219)	(1,349,233)	(46,943,452)
Closing net book amount	1,989,703,407	2,152,983	1,991,856,390
At 31 December 2019			
Cost	2,226,155,408	4,417,800	2,230,573,208
<u>Less</u> Accumulated amortisation	(236,452,001)	(2,264,817)	(238,716,818)
Net book amount	1,989,703,407	2,152,983	1,991,856,390
For the year ended 31 December 2020			
Opening net book amount	1,989,703,407	2,152,983	1,991,856,390
Additions	-	317,500	317,500
Amortisation charged during the year (Note 28)	(45,695,320)	(1,458,254)	(47,153,574)
Closing net book amount	1,944,008,087	1,012,229	1,945,020,316
At 31 December 2020			
Cost	2,226,155,408	4,735,300	2,230,890,708
<u>Less</u> Accumulated amortisation	(282,147,321)	(3,723,071)	(285,870,392)
Net book amount	1,944,008,087	1,012,229	1,945,020,316

18 Goodwill

Goodwill is allocated to cash-generating groups (CGUs) by the operating segments as follows:

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Power business	2,162,207,653	2,162,207,653	-	-
Water business	610,669,873	610,669,873	597,693,413	597,693,413
	2,772,877,526	2,772,877,526	597,693,413	597,693,413

The recoverable amount of a CGU is determined based on fair value less costs of disposal and calculated by using a present value techniques that are within level 3 of the fair value hierarchy. These calculations use pre-tax cash flow projections based on financial budgets approved by management covering a 5-year period. Cash flows beyond the 5-year period are extrapolated using the estimated growth rates stated below. The growth rate does not exceed the long-term average growth rate for the business in which the CGU operates.

The key assumptions used for fair value less costs of disposal are as follows:

	Power business (%)	Water business (%)
Gross margin	-	29.1
Growth rate	(2.0)	3.1
Discount rate	5.4	9.5

Management determined budgeted gross margin based on past performance and its expectations of market development. The weighted average growth rates used are consistent with the forecasts included in industry reports. The discount rates used reflect specific risks relating to the relevant segments.

The recoverable amount will be equal to the carrying amount if the key assumptions used for fair value less costs of disposal changes to be as follows:

	Power business (%)	Water business (%)
Gross margin	-	24.5
Growth rate	(3.6)	0.6
Discount rate	7.1	12.4

19 Deferred income taxes

The analysis of deferred tax assets and deferred tax liabilities is as follows:

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Deferred tax assets:				
Deferred tax asset to be recovered more than 12 months	1,157,156	154,004	-	-
Deferred tax liabilities:				
Deferred tax liabilities to be settled within 12 months	(13,454,772)	(16,276,256)	(12,788,481)	(13,263,875)
Deferred tax liabilities to be settled more than 12 months	(108,063,417)	(106,517,032)	(64,316,669)	(80,037,299)
	(121,518,189)	(122,793,288)	(77,105,150)	(93,301,174)
Deferred tax asset (net)	(120,361,033)	(122,639,284)	(77,105,150)	(93,301,174)

The movements in deferred tax assets and liabilities during the year is as follows:

	Consolidated financial statements						
	As at 1 January 2019 Baht	Recognised to profit or loss Baht	Recognised to other comprehensive income Baht	As at 31 December 2019 Baht	Adjustment from changes in accounting policy Baht	Recognised to profit or loss Baht	As at 31 December 2020 Baht
Deferred tax assets							
Allowance for doubtful account	1,845,399	162,985	-	2,008,384	250,228	225,070	2,483,682
Cash received in advance	-	-	-	-	-	534,962	534,962
Employee benefit obligations	3,407,890	713,743	(353,941)	3,767,692	-	746,327	4,514,019
Cash paid for transfer of water business	518,555,858	(10,976,000)	-	507,579,858	-	(10,976,000)	496,603,858
Provision liabilities from water business	66,314,349	1,778,928	-	68,093,277	-	1,448,948	69,542,225
Lease liabilities	-	-	-	-	-	48,457,673	48,457,673
Provision for maintenance	-	-	-	-	-	362,050	362,050
	590,123,496	(8,320,344)	(353,941)	581,449,211	250,228	40,799,030	622,498,469
Deferred tax liabilities							
Right to operate and distribute industrial water and waste management	(390,582,680)	7,380,444	-	(383,202,236)	-	7,546,921	(375,655,315)
Depreciation	(312,122,060)	15,135,233	-	(296,986,827)	-	14,775,472	(282,211,355)
Right-of-use asset	-	-	-	-	-	(45,932,402)	(45,932,402)
Financial assets measured at FVPL (2019: Long-term investment)	(24,986,040)	2,774,537	-	(22,211,503)	(15,042,999)	-	(37,254,502)
Debenture underwriting fees	(2,428,823)	933,082	-	(1,495,741)	-	151,607	(1,344,134)
Interest expenses paid on borrowings	-	(192,188)	-	(192,188)	-	(269,606)	(461,794)
	(730,119,603)	26,031,108	-	(704,088,495)	(15,042,999)	(23,728,008)	(742,859,502)
Deferred income tax, net	(139,996,107)	17,710,764	(353,941)	(122,639,284)	(14,792,771)	17,071,022	(120,361,033)

Separate financial statements							
	As at 1 January 2019 Baht	Recognised to profit or loss Baht	Recognised to other comprehensive income Baht	As at 31 December 2019 Baht	Adjustment from changes in accounting policy Baht	Recognised to profit or loss Baht	As at 31 December 2020 Baht
Deferred tax assets							
Allowance for doubtful account	1,845,399	162,985	-	2,008,384	250,228	225,070	2,483,682
Cash received in advance	-	-	-	-	-	534,962	534,962
Employee benefit obligations	3,407,890	713,743	(353,941)	3,767,692	-	746,327	4,514,019
Cash paid for transfer of water business	518,555,858	(10,976,000)	-	507,579,858	-	(10,976,000)	496,603,858
Provision liabilities from water business	66,314,349	182,726	-	66,497,075	-	1,245,179	67,742,254
Lease liabilities	-	-	-	-	-	34,787,729	34,787,729
Provision for maintenance	-	-	-	-	-	362,051	362,051
	590,123,496	(9,916,546)	(353,941)	579,853,009	250,228	26,925,318	607,028,555
Deferred tax liabilities							
Right to operate and distribute industrial water and waste management	(390,582,680)	16,103,253	-	(374,479,427)	-	7,400,664	(367,078,763)
Depreciation	(312,122,060)	15,135,233	-	(296,986,827)	-	14,775,472	(282,211,355)
Right-of-use asset	-	-	-	-	-	(33,037,659)	(33,037,659)
Debenture underwriting fees	(2,428,823)	933,082	-	(1,495,741)	-	151,607	(1,344,134)
Interest expenses paid on borrowings	-	(192,188)	-	(192,188)	-	(269,606)	(461,794)
	(705,133,563)	31,979,380	-	(673,154,183)	-	(10,979,522)	(684,133,705)
Deferred income tax, net	(115,010,067)	22,062,834	(353,941)	(93,301,174)	250,228	15,945,796	(77,105,150)

	Consolidated and separate financial statements	
	2020 Baht	2019 Baht
Current		
Short-term borrowings from financial institutions	-	1,765,000,000
Current portion of long-term borrowings from financial institutions	249,782,612	124,729,533
Current portion of debentures	2,389,299,319	3,998,377,529
	2,639,081,931	5,888,107,062
Non-current		
Long-term borrowings from financial institutions	4,622,982,354	874,343,972
Debentures	5,604,086,210	4,994,265,166
	10,227,068,564	5,868,609,138
Total	12,866,150,495	11,756,716,200

The movements in loans from financing activities during the year are as follows:

	Consolidated and separate financial statements			
	Short-term borrowings from financial institutions Baht	Long-term borrowings from financial institutions Baht	Debentures Baht	Total Baht
As at 1 January 2019	-	-	8,987,977,050	8,987,977,050
Cash flows in	2,891,000,000	1,000,000,000	-	2,765,000,000
Cash flows out	(1,126,000,000)	(1,000,000)	-	(1,000,000)
Amortisation of deferred direct finance cost	-	73,505	4,665,645	4,739,150
As at 31 December 2019	1,765,000,000	999,073,505	8,992,642,695	11,756,716,200
Cash flows in	1,590,000,000	4,000,000,000	3,000,000,000	8,590,000,000
Cash flows out	(3,355,000,000)	(127,000,000)	(4,003,793,150)	(7,485,793,150)
Amortisation of deferred direct finance cost	-	691,461	4,535,984	5,227,445
As at 31 December 2020	-	4,872,764,966	7,993,385,529	12,866,150,495

The carrying amounts and fair values of certain long-term loans from financial institutions and debentures are as follows:

	Consolidated and separate financial statements			
	Carrying amount		Fair values	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Long-term borrowings from financial institutions	4,872,764,966	999,073,505	4,882,924,331	999,073,505
Debentures	7,993,385,530	8,992,642,695	7,996,104,983	9,136,743,356
	12,866,150,496	9,991,716,200	12,879,029,314	10,135,816,861

The fair values of long-term borrowings from financial institutions are based on discounted cash flows using a discount rate based upon the loan rate of 2.45% - 3.10% (2019: 3.47% -3.48%) and are within level 2 of the fair value hierarchy.

The fair values of debentures are based on clean price announced by Thai Bond Market Association that are within level 2 of the fair value hierarchy.

The proportion of fixed rate borrowings of the Group and Company are 59% (2019: 36%) of all borrowings.

The effective interest rates at the statement of financial position date were as follows:

	Consolidated and separate financial statements	
	2020 %	2019 %
Long-term borrowings from financial institutions	2.84 - 3.19	3.47 - 3.48
Debentures	2.27 - 3.63	2.70 - 3.63

Maturity of borrowings and debentures are as follows:

	Consolidated and separate financial statements	
	2020 Baht	2019 Baht
Within 1 year	2,639,081,931	5,888,107,062
Between 2 years and 5 years	8,728,852,189	4,550,540,922
Over 5 years	1,498,216,375	1,318,068,216
Total	12,866,150,495	11,756,716,200

21 Trade and other payable

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Trade payable from other parties	170,978,620	68,059,550	32,739,595	26,127,913
Trade payable from related parties (Note 31)	72,525,229	66,412,692	72,525,229	65,351,067
Income received in advance	2,674,812	-	2,674,812	-
Accrued interest expense	39,624,670	64,230,550	39,624,670	64,230,550
Accrued expenses	55,873,639	93,151,228	47,975,429	38,829,431
Others	757,434	359,955	378,784	94,393
Total	342,434,404	292,213,975	195,918,519	194,633,354

22 Provision for liabilities from water business

Provision for liabilities from water business represents the annual license fees to be paid under the strategic partnership agreement and production and distribution license agreements for industrial water operations and wastewater treatment. The annual fees are calculated at 1% on the first three years since 30 March 2016 and 3% on the fourth to fiftieth year of revenue from water business before deduction of expenses over the contracts period.

Movements of provision for liabilities from water business are as follows:

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
As at 1 January	340,466,383	331,571,745	332,485,373	331,571,745
Amount paid during the year	(24,645,439)	(23,629,923)	(24,573,523)	(23,629,923)
Interest expense	31,890,180	32,524,561	30,799,418	31,754,543
Transfer right to subsidiary company	-	-	-	(7,210,992)
As at 31 December	347,711,124	340,466,383	338,711,268	332,485,373

23 Employee benefit obligations

	Consolidated and separate financial statements	
	2020 Baht	2019 Baht
Statement of Financial Position		
Retirement benefits	22,570,095	18,838,462
Profit or loss		
Retirement benefits	4,013,593	3,568,716
Other comprehensive income		
Remeasurements	-	(1,769,703)

The movement of employee benefit obligation for the year is as follows:

	Consolidated and separate financial statements	
	2020 Baht	2019 Baht
As at 1 January	18,838,462	17,039,449
Current service cost	3,648,949	3,266,360
Interest expense	364,644	302,356
Paid during the year	(281,960)	-
Gain on remeasurements of retirement benefit obligations	-	(1,769,703)
As at 31 December	22,570,095	18,838,462

The principal actuarial assumptions used were as follows:

	Consolidated and separate financial statements	
	2020	2019
Discount rate	1.98%	1.98%
Salary increase rate	5.50%	5.50%
Retirement age	55 years old	55 years old
Turnover rate	9.00% - 15.00%	9.00% - 15.00%

Sensitivity analysis for each significant assumption used is as follows:

	Change in assumption	Consolidated and separate financial statements			
		Impact on defined benefit obligation			
		Increase in assumption		Decrease in assumption	
		2020	2019	2020	2019
Discount rate	1.00 %	Decrease by 5.07 %	Decrease by 5.07 %	Increase by 5.67 %	Increase by 5.67 %
Salary growth rate	1.00 %	Increase by 6.42 %	Increase by 6.42 %	Decrease by 5.86 %	Decrease by 5.86 %
Staff turnover rate	1.00 %	Decrease by 5.48 %	Decrease by 5.48 %	Increase by 2.93 %	Increase by 2.93 %

The above sensitivity analyses are based on a change in an assumption while holding all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions may be correlated. When calculating the sensitivity of the defined benefit obligation to significant actuarial assumption the same method (present value of the defined benefit obligation calculated with the projected unit credit method) has been applied as when calculating the retirement benefits recognised within the statement of financial position.

The weighted average durations of the retirement benefit obligation as at 31 December 2020 and 2019 are 9.09 and 8.24 years, respectively.

24 Dividend

On 21 April 2020, the Board of Directors at the Board of Directors Meeting No.4/2020 has approved a interim dividend payment for the operating results for the year ended 2019 at Baht 0.1600 per share, amounting to Baht 612 Million. The dividend was paid on 20 May 2020.

On 13 November 2020, the Board of Directors at the Board of Directors Meeting No.7/2020 has approved a interim dividend payment for the operating results for the nine-month period ended of 30 September 2020 at Baht 0.0925 per share, amounting to Baht 353.81 Million. The dividend was paid on 9 December 2020.

On 26 April 2019, the shareholders at the Annual General Meeting for the year ended 2019 has approved a dividend payment for the operating results for the year ended 2018 at Baht 0.2115 per share, amounting to Baht 808.99 million. The dividend was paid on 22 May 2019.

On 8 November 2019, the Board of Directors at the Board of Directors Meeting No.9/2019 has approved a interim dividend payment for the operating results for the nine-month period ended of 30 September 2019 at Baht 0.0925 per share, amounting to Baht 353.81 Million. The dividend was paid on 4 December 2019.

25 Legal reserve

	Consolidated and separate financial statements	
	2020 Baht	2019 Baht
As at 1 January	164,386,579	112,766,796
Appropriation during the year	81,594,588	51,619,783
As at 31 December	245,981,167	164,386,579

Under the public limited company Act., B.E. 2535, the Company is required to set aside as a legal reserve at least 5% of its net profit after accumulated deficit brought forward (if any) until the reserve is not less than 10% of the registered capital. The legal reserve is non-distributable.

26 Other income

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Dividend income	36,494,253	74,983,505	1,719,992,966	921,322,161
Interest income	19,048,669	47,948,721	200,265,852	131,789,193
Guarantee fee	18,670,317	21,141,204	-	-
Gain from disposal of available-for-sale investments	-	922,759	-	922,759
Others	5,743,421	675,245	1,396,951	83,322
Total	79,956,660	145,671,434	1,921,655,769	1,054,117,435

27 Finance costs

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Long-term borrowings from financial institutions	79,251,358	15,575,233	79,740,736	15,575,233
Debentures	300,958,849	285,739,763	303,343,250	285,739,763
Debenture underwriting fees (Note 20)	4,535,985	4,665,645	4,535,985	4,665,645
Provision for liabilities from water business (Note 22)	31,890,181	32,524,561	30,799,418	31,754,543
Lease liabilities (2019: Finance lease liabilities)	11,173,903	-	8,590,475	-
Others	5,047,015	3,519,703	2,576,126	-
Total	432,857,291	342,024,905	429,585,990	337,735,184

28 Expense by nature

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Cost of raw water	677,008,776	716,142,766	673,841,845	716,060,824
Employee benefit expense	111,015,898	106,367,854	109,730,315	105,813,520
Depreciation (Note 16)	217,608,064	157,995,675	158,841,962	139,769,935
Amortisation (Note 17)	47,886,062	46,943,452	47,153,574	46,943,452
Rental	3,245,566	22,449,643	3,106,198	19,833,164
Professional fee	33,253,313	33,370,200	33,196,613	33,370,200

29 Income tax expense (benefit)

Income tax expenses (benefit) for the year ended 31 December can be summarised below:

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Current tax	33,966,901	60,324,270	-	5,616,031
Adjustments in respect of prior year	(5,658,690)	234,337	(5,616,032)	-
Deferred tax (Note 19)	(17,071,022)	(17,710,764)	(15,945,796)	(22,062,834)
Total	11,237,189	42,847,843	(21,561,828)	(16,446,803)

The tax on the Group's profit before tax differs from the theoretical amount that would arise using the basic tax rate of the year presents as follows:

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Profit before income tax	823,964,245	2,180,056,894	1,610,329,931	1,015,948,866
Profit exempt from BOI	(61,337,301)	(55,575,195)	(6,956,640)	(32,410,477)
Share of profit from investments in associates and interest in joint ventures	(866,266,542)	(1,881,117,658)	-	-
	(103,639,598)	243,364,041	1,603,373,291	983,538,389
Tax calculated at a tax rate of 20%	(20,727,919)	48,672,808	320,674,658	196,707,678
Tax effect:				
Additional expenses deductible for tax purposes	(569,686)	(692,772)	(569,686)	(692,772)
Income not subject to tax	(3,649,425)	(7,498,351)	(343,998,593)	(184,264,432)
Expenses not deductible for tax purpose	5,713,349	9,396,440	2,573,888	3,165,203
Utilisation of previously unrecognised tax losses	(9,594,658)	(31,362,480)	-	(31,362,480)
Tax losses for which no deferred income tax asset was recognised	45,724,218	24,097,861	5,373,937	-
Adjustments in respect of prior year	(5,658,690)	234,337	(5,616,032)	-
Income tax expense (benefit)	11,237,189	42,847,843	(21,561,828)	(16,446,803)

The tax relating to component of other comprehensive income is as follows:

	Consolidated financial statements					
	2020			2019		
	Before tax Baht	Tax Baht	After tax Baht	Before tax Baht	Tax Baht	After tax Baht
Currency translation differences	(11,016,131)	-	(11,016,131)	(22,148,436)	-	(22,148,436)
Remeasurements on employee benefit obligations	-	-	-	1,769,703	(353,941)	1,415,762
Share of other comprehensive income of associates and joint ventures	(159,220,542)	-	(159,220,542)	(12,418,877)	-	(12,418,877)
Total	(170,236,673)	-	(170,236,673)	(32,797,610)	(353,941)	(33,151,551)

	Separate financial statements					
	2020			2019		
	Before tax Baht	Before tax Baht	Before tax Baht	Before tax Baht	Tax Baht	After tax Baht
Remeasurements on employee benefit obligations	-	-	-	1,769,703	(353,941)	1,415,762

30 Earnings per share

	Consolidated financial statements		Separate financial statements	
	2020	2019	2020	2019
Profit attributable to ordinary shareholders of the Company (Baht)	812,727,022	2,137,209,022	1,631,891,759	1,032,395,669
Weighted average number of ordinary shares outstanding (shares)	3,825,000,000	3,825,000,000	3,825,000,000	3,825,000,000
Basic earnings per share (Baht per share)	0.21	0.56	0.43	0.27

The Company does not have any potential dilutive ordinary shares in issue for the years ended 31 December 2020 and 2019, so no diluted earnings per share is presented.

31 Related party transactions

Company's major shareholder is WHA Industrial Development Public Company Limited in proportion of 70.45% which has WHA Corporation Public Company Limited as an ultimate parent company. The remaining 29.55% of the shares are widely held.

Other related parties comprise the entities under common control of WHA Industrial Development Public Company Limited and WHA Corporation Public Company Limited

Additional information for transactions with parties are as follows:

Transactions

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Ultimate parent company				
Revenue from sales and services	4,410,037	4,499,851	-	-
Management fee	1,204,613	1,378,200	1,204,613	1,378,200
Parent company				
Purchase of raw water	47,507,949	46,253,587	47,507,949	46,253,587
Maintenance fee	180,000	180,000	180,000	180,000
Property tax expenses	-	41,885	-	41,885
Management fee	31,992,000	31,992,000	31,992,000	31,992,000
Land rental	-	3,125,405	-	3,125,405
Advertising fee	3,782,450	420,000	3,362,450	-
Interest expense	3,044,155	-	3,044,155	-
Subsidiaries				
Revenue from sales and services	-	-	305,836,250	327,335,117
Interest income	-	-	194,400,195	130,618,464
Dividend income	-	-	1,719,992,966	921,322,161
Associates				
Revenue from sales and services	206,649,537	221,113,669	206,649,537	221,113,669
Interest income	-	34,490,451	-	-
Other income	18,524,007	20,024,853	-	-
Joint ventures				
Revenue from sales and services	12,318,437	17,152,586	12,018,437	16,828,586
Interest income	12,642,791	11,398,141	-	-
Other income	146,309	1,116,351	-	-
Other related parties				
Revenue from sales and services	5,600,836	4,541,133	4,680,051	4,541,133
Purchase of raw water	622,658,580	665,866,483	622,658,580	665,866,483
Electricity fee	1,107,285	785,576	1,107,285	785,576
Service fee	514,000	432,000	432,000	432,000
Property tax expenses	-	688,912	-	688,912
Rental	164,515	7,734,249	164,515	5,185,959
Advertising fee	13,544,980	600,000	12,944,980	-
Engineering fee	1,800,000	1,800,000	1,800,000	1,800,000
Training fee	9,900	6,000	9,900	6,000
Interest expense	7,317,823	-	4,945,180	-

Outstanding balances

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Trade receivables				
Ultimate parent company	692,567	738,641	-	-
Associates	19,993,305	22,462,027	15,626,520	17,693,991
Subsidiaries	-	-	49,181,693	26,946,776
Joint ventures	978,311	1,306,570	924,810	1,116,046
Other related parties	1,072,714	421,636	804,730	413,620
Total	22,736,897	24,928,874	66,537,753	46,170,433
Accrued income				
Subsidiaries	-	-	17,749,596	44,171,938
Other related parties	368,595	510,363	368,595	510,363
Total	368,595	510,363	18,118,191	44,682,301
Dividend receivables				
Associates	-	564,287,076	-	-
Total	-	564,287,076	-	-
Interest receivables				
Subsidiaries	-	-	211,424,250	51,706,075
Joint ventures	1,838,694	2,372,246	-	-
Total	1,838,694	2,372,246	211,424,250	51,706,075
Advance payment				
Subsidiaries	-	-	361,974	428,534
Total	-	-	361,974	428,534
Other receivables				
Parent company	10,161	10,161	-	-
Other related parties	14,516	14,516	-	-
Total	24,677	24,677	-	-
Trade and other payables				
Parent company	6,654,252	8,000,068	6,654,252	8,000,068
Other related parties	65,870,977	58,412,624	65,870,977	57,350,999
Total	72,525,229	66,412,692	72,525,229	65,351,067
Accrued expenses				
Ultimate parent company	239,680	138,244	239,680	138,244
Parent company	6,291,751	2,678,889	6,291,751	2,678,889
Other related parties	17,845,071	10,936,579	17,827,379	10,853,833
Total	24,376,502	13,753,712	24,358,810	13,670,966

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Provision for liabilities from water business				
Parent company and other related parties	347,711,124	340,466,383	338,711,268	332,485,373
Total	347,711,124	340,466,383	338,711,268	332,485,373
Lease liabilities				
Parent company	59,117,488	-	59,117,488	-
Other related parties	158,496,213	-	95,812,272	-
Total	217,613,701	-	154,929,760	-

Loans to related parties

The movements of loans to related parties are as follows:

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
At 1 January	283,490,552	754,550,500	5,029,490,000	2,653,440,000
Loans advanced during the period	-	230,490,552	2,518,000,000	4,137,490,000
Loans repayment received	(35,000,000)	(701,550,500)	(1,476,000,000)	(1,761,440,000)
At 31 December	248,490,552	283,490,552	6,071,490,000	5,029,490,000

Consolidated financial statements

The loans to related parties were made on commercial terms and conditions. The loans are maturity in 8 years without collaterals which carry interest at MLR minus 1.25% per annum (2019: MLR minus 1.25% per annum).

Separate financial statements

The loans to related parties are due at call without collaterals which carry interest at the fixed rate of 3.21% per annum (2019: 4.25% per annum).

Key management compensation

Key management includes directors (executive and non-executive), members of the Executive Committee, the Company Secretary and the Head of Internal Audit. The compensation paid or payable to key management is as follows:

	Consolidated and separate financial statements	
	2020 Baht	2019 Baht
Short-term benefits	49,693,779	54,247,246
Post-employment benefits	2,359,941	2,160,134
Total	52,053,720	56,407,380

Capital commitments

Capital commitment at the statement of financial position date, but not recognised in the financial statements is as follows:

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Construction in progress	79,478,417	238,463,925	2,311,807	18,630,607

Operating lease commitments

The Company has the obligations under low-value lease agreements for IT-equipment and office equipment with the term of contracts for 3 years and 5 years, respectively (2019: operating lease). The obligations for rental payments are as follows:

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Not later than 1 year	177,818	14,867,590	177,818	13,408,237
Later than 1 year but not later than 5 years	-	39,302,259	-	32,925,436
Over 5 years	-	229,597,835	-	186,615,445
Total	177,818	283,767,684	177,818	232,949,118

Contingent liabilities

The Group has contingent liabilities relating to a guarantee under conditions of the standby letters of credit issued by the financial institutions according to the performance bond with power business in the total amount of Baht 114.25 million (2019: Baht 175.59 million) and USD 5.56 million (2019: USD 5.50 million); the guarantees will expire in 30 April 2021.

The Group has contingent liabilities relating to a guarantee issued by the financial institutions according to the performance bond with Provincial Electricity Authority and other as follows:

	Consolidated financial statements		Separate financial statements	
	2020 Baht	2019 Baht	2020 Baht	2019 Baht
Not later than 1 year	750,000	7,375,100	-	7,375,100
Later than 1 year but not later than 5 years	8,153,500	-	7,341,500	-
Over 5 years	269,257	269,257	269,257	269,257
Total	9,172,757	7,644,357	7,610,757	7,644,357

33 Assets pledged as collaterals

Company	Assets pledged as collaterals	Collaterals
WHA Energy Company Limited	Investment in ordinary shares of associates - Gulf JP NLL Company Limited amounted to 26.31 million shares - B.Grim Power (WHA) 1 Limited amounted to 3.84 million shares - Gulf VTP Company Limited amounted 40.27 million shares - Gulf TS1 Company Limited amounted to 42.14 million shares - Gulf TS2 Company Limited amounted to 42.27 million shares - Gulf TS3 Company Limited amounted to 38.02 million shares - Gulf TS4 Company Limited amounted to 36.76 million shares - Gulf NLL2 Company Limited amounted to 36.01 million shares	Borrowings by Gulf JP NLL Co., Ltd. Borrowings by B.Grim Power (WHA) 1 Ltd. Borrowings by Gulf VTP Co., Ltd. Borrowings by Gulf TS1 Co., Ltd. Borrowings by Gulf TS2 Co., Ltd. Borrowings by Gulf TS3 Co., Ltd. Borrowings by Gulf TS4 Co., Ltd. Borrowings by Gulf NLL2 Co., Ltd.
WHA Energy 2 Company Limited	Investment in ordinary shares of associates - Gheco-One Company Limited amounted to 406.84 million	Borrowings by Gheco-One Co., Ltd.

34 Benefits from the Board of Investment of Thailand (BOI)

For the year ended 31 December 2020 and 2019, the Group has received the benefits from the BOI for public utilities and basis services production of water supply for industry, 7 certificates and basis services production of solar rooftop, 25 certificates.

Significant privileges consist of:

- 1) Tax exemption on the profit that the Company obtains (no more than 100% of the investment cost that is not include in land cost and working capital for a period of 8 years). Where the Company has loss from the operation during the exemption period as mentioned in 1 above, BOI allows the Company to deduct the loss from the profit that might occur after BOI expiry date within 5 years. In addition, the Company can also choose to deduct the loss within one year or within multiple years.
- 2) The Group does not need to include dividend received from a BOI-promoted entity to calculate the income tax expenses during the exemption period.
- 3) Tax deduction (50% of normal rate) on net profit within 5 years after the end of the privilege period as mentioned in 1 above.
- 4) Double deduction on distribution, electricity, and water supply cost within 10 years starting from the date that the Group receives its first profit from the operation.
- 5) Deduction on investment cost for installation or construction (25% of investment cost) that is not included in the normal depreciation deduction.

As a promoted company, the Company must comply with certain conditions and restrictions provided for in the promotional certificates.

Sales income and services income for promoted and non-promoted activities for the years ended 31 December can be classified as follows:

	Consolidated financial statements					
	2020			2019		
	Promoted activity Thousand Baht	Non-promoted activity Thousand Baht	Total Thousand Baht	Promoted activity Thousand Baht	Non-promoted activity Thousand Baht	Total Thousand Baht
Sales income	271,090	1,222,054	1,493,144	256,662	1,383,117	1,639,779
Services income	44,804	160,017	204,821	5,371	212,098	217,469
	315,894	1,382,071	1,697,965	262,033	1,595,215	1,857,248

35 Events occurring after the reporting period

On 9 February 2021, the Company issued the debentures No. 1/2021 under the Medium Term Notes Program with the total principal amount of Baht 700 Million and has been approved for trading in debt securities market by The Securities and Exchange Commission on 7 February 2020. The issuance of this debenture has already been approved by virtue of the resolution of the 2020 Annual General Meeting (AGM) dated 10 July 2020.



DEFINITION AND ABBREVIATION

The Company or WHAUP	: WHA Utilities and Power Public Company Limited
The Company Group	: WHA Utilities and Power Public Company Limited and its subsidiaries
WHA	: WHA Corporation Public Company Limited
WHA Group	: WHA Corporation Public Company Limited, subsidiaries and associated companies
WHAID	: WHA Industrial Development Public Company Limited
WHAID Group	: WHA Industrial Development Public Company Limited, subsidiaries and associated companies
WHAWT	: WHA Water Company Limited
WHAEG	: WHA Energy Company Limited
WHAET	: WHA Energy 2 Company Limited
WUPIN	: WHAUP International Company Limited
WHASL	: WHA Solar Company Limited
WUPS1	: WHAUP (SG) 1 PTE. Limited
WUPS2	: WHAUP (SG) 2 PTE. Limited
WUPSD	: WHAUP (SG) 2DR PTE. Limited
WUPNA	: WHAUP Nghe An Joint Stock Company
CUA LO	: Cua Lo Water Supply Joint Stock Company
SDWTP	: Duong River Surface Water Plant Joint Stock Company
WHA NGD2	: WHA Eastern Seaboard NGD2 Company Limited
WHA NGD4	: WHA Eastern Seaboard NGD4 Company Limited
Gheco-I	: Gheco-I Company Limited
HHTC	: Houay Ho Thai Company Limited
HHPC	: Houay Ho Power Company Limited (A company incorporated in Lao People's Democratic Republic)
GIPP	: Glow IPP Company Limited
BPWHA-1	: B.Grimm Power (WHA) 1 Company Limited
Gulf JP NLL	: Gulf JP NLL Company Limited
Gulf NLL 2	: Gulf NLL 2 Company Limited
Gulf TS 1	: Gulf TS 1 Company Limited
Gulf TS 2	: Gulf TS 2 Company Limited
Gulf TS 3	: Gulf TS 3 Company Limited
Gulf TS 4	: Gulf TS 4 Company Limited
Gulf VTP	: Gulf VTP Company Limited
Gulf Solar	: Gulf Solar Company Limited
Gulf Solar BV	: Gulf Solar BV Company Limited
Gulf Solar TS 1	: Gulf Solar TS 1 Company Limited
Gulf Solar TS 2	: Gulf Solar TS 2 Company Limited
Gulf Solar KKS	: Gulf Solar KKS Company Limited
Gulf WHA MT	: Gulf WHA MT Natural Gas Distribution Company Limited
Gulf MP	: Gulf MP Company Limited
ESCE	: Eastern Seaboard Clean Energy Company Limited
CCE	: Chonburi Clean Energy Company Limited

WHA Gunkul 1	: WHA Gunkul Green Solar Roof 1 Co., Ltd
WHA Gunkul 3	: WHA Gunkul Green Solar Roof 3 Co., Ltd
WHA Gunkul 6	: WHA Gunkul Green Solar Roof 6 Co., Ltd
WHA Gunkul 17	: WHA Gunkul Green Solar Roof 17 Co., Ltd
WHA CIE 1	: WHA Chonburi Industrial Estate 1
WHA CIE 2	: WHA Chonburi Industrial Estate 2
ESIE	: Eastern Seaboard Industrial Estate (Rayong)
WHA ESIE 1	: WHA Eastern Seaboard Industrial Estate 1
WHA ESIE 2	: WHA Eastern Seaboard Industrial Estate 2
WHA ESIE 3	: WHA Eastern Seaboard Industrial Estate 3
WHA ESIE 4	: WHA Eastern Seaboard Industrial Estate 4
WHA EIE	: WHA Eastern Industrial Estate (Map Ta Phut)
WHA RIL	: WHA Rayong Industrial Land
WHA SIL	: WHA Saraburi Industrial Land
WHA LP 1	: WHA Logistic Park 1
EECi	: Eastern Economic Corridor of Innovation.
Utilities business	: Water business and providing related utilities service e.g. gas distribution business or waste management business
Water business	: Distribution of raw water, production and distribution of industrial water and wastewater treatment business
Power business	: Generation and distribution of electricity business
COD	: Commercial Operation Date
SCOD	: Scheduled Commercial Operation Date
MW	: Megawatt
TPH	: Ton per hour
RT	: Ton of Refrigeration
IPP	: Independent Power Producer
SPP	: Small Power Producer
VSPP	: Very Small Power Producer
IEAT	: Industrial Estate Authority of Thailand
ERC	: Energy Regulatory Commission
NEPO	: National Energy Policy Office
EGAT	: Electricity Generating Authority of Thailand
PEA	: Provincial Electric Authority
MEA	: Metropolitan Electric Authority
PWA	: Provincial Waterworks Authority
MWA	: Metropolitan Waterworks Authority
Office of the SEC	: Office of the Securities and Exchange Commission of Thailand
SET	: Stock Exchange of Thailand
BOI	: Board of Investment of Thailand
EBITDA	: Earnings before interest, taxes, depreciation and amortization
CAGR	: Cumulative Annual Growth Rate
Glow Group	: Glow Energy Public Company Limited, subsidiaries and associated companies
Gulf Group	: Gulf Energy development Company Limited, subsidiaries and associated companies
B.Grimm Power Group	: B.Grimm Power Company Limited, subsidiaries and associated companies
Gunkul Group	: Gunkul Engineering Public Company Limited, subsidiaries and associated companies



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