



**RATCH Group Public Company Limited**

Management Discussion and Analysis

For the Year Ended December 31, 2023

## Abbreviation

<b>The Company</b>	RATCH Group Public Company Limited
<b>The Group</b>	RATCH Group Public Company Limited and its subsidiaries
<b>PEA</b>	Provincial Electricity Authority
<b>EGAT</b>	Electricity Generating Authority of Thailand
<b>COD</b>	Commercial Operation Date
<b>EBITDA</b>	Earnings before Interest, Tax, Depreciation and Amortization
<b>FX</b>	Foreign Exchange Rate
<b>IPP</b>	Independent Power Producer
<b>PPA</b>	Power Purchase Agreement
<b>SPP</b>	Small Power Producer

## Projects/Companies

<b>CS</b>	Coc San Hydroelectric Power Plant, operated by Lao Cai Renewable Energy Stock Company, a wholly-owned indirect subsidiary
<b>LG1&amp;2</b>	Lincoln Gap 1&2 Wind Farm Project, operated by Lincoln Gap Wind Farm Pty Ltd., a wholly-owned indirect subsidiary
<b>HKP</b>	Hin Kong Combined-Cycle Power Plants, operated by Hin Kong Power Company Limited, a direct joint venture in proportion of 51%
<b>HPC</b>	Hongsa Thermal Power Plants, operated by Hongsa Power Company Limited, an indirect joint venture in proportion of 40%
<b>NN2</b>	Nam Ngum 2 Hydroelectric Power Plant, operated by SouthEast Asia Energy Limited, a direct joint venture in proportion of 33.33%
<b>NNEG</b>	Nava Nakorn Power Plant, operated by Nava Nakorn Electricity Generating Company Limited, an indirect joint venture in proportion of 40%
<b>NREI</b>	Nexif Ratch Energy Investment Pte. Ltd., an indirect joint venture in proportion of 49 percent
<b>PNPC</b>	Xe-Pian Xe-Namnoy Hydroelectric Power Plant, operated by Xe-Pian Xe-Namnoy Power Company Limited, a direct joint venture in proportion of 25%
<b>RAC</b>	RATCH-Australia Corporation Pty Ltd, a wholly-owned indirect subsidiary
<b>RCO</b>	RATCH Cogeneration Power Plant, operated by RATCH Cogeneration Company Limited, a wholly-owned subsidiary
<b>REN</b>	REN Korat Energy Cogeneration Power Plant, operated by REN Korat Energy Company Limited, a direct joint venture in proportion of 40%
<b>RER</b>	RATCH Energy Rayong Power Plant, operated by RATCH Energy Rayong Company Limited (previous name : “Nexif RATCH Energy Rayong Company Limited”), a subsidiary
<b>RG</b>	Ratchaburi Power Plants, operated by Ratchaburi Electricity Generating Company Limited, a wholly-owned subsidiary
<b>RHIS</b>	RH International (Singapore) Corporation Pte Ltd, a wholly-owned indirect subsidiary
<b>SCG</b>	Sahacogen (Chonburi) Public Company Limited, a subsidiary in proportion of 51.67%
<b>SLT</b>	Solarta Solar Power Plants, operated by Solarta Company Limited, an indirect joint venture in proportion of 49%
<b>SP</b>	Snapper Point Gas-Fired Power Plant, operated by Port Adelaide Energy Pty Ltd., a wholly-owned indirect subsidiary

## Executive Summary

### Industry and Economic Situation

The Office of the National Economic and Social Development Council (NESDC) has announced that in the 4<sup>th</sup> quarter of 2023, the Thai Economy grew by 1.7%, up from the 1.4% growth in the 3<sup>rd</sup> quarter of 2023. Seasonally adjusted, the economy decreased by 0.6% from the 3<sup>rd</sup> quarter of 2023. This growth was driven by the increase in private consumption and exports albeit offset by the decline in government consumption. Consequently, the economic growth of the year 2023 reached 1.9%, down from 2.5% in 2022.

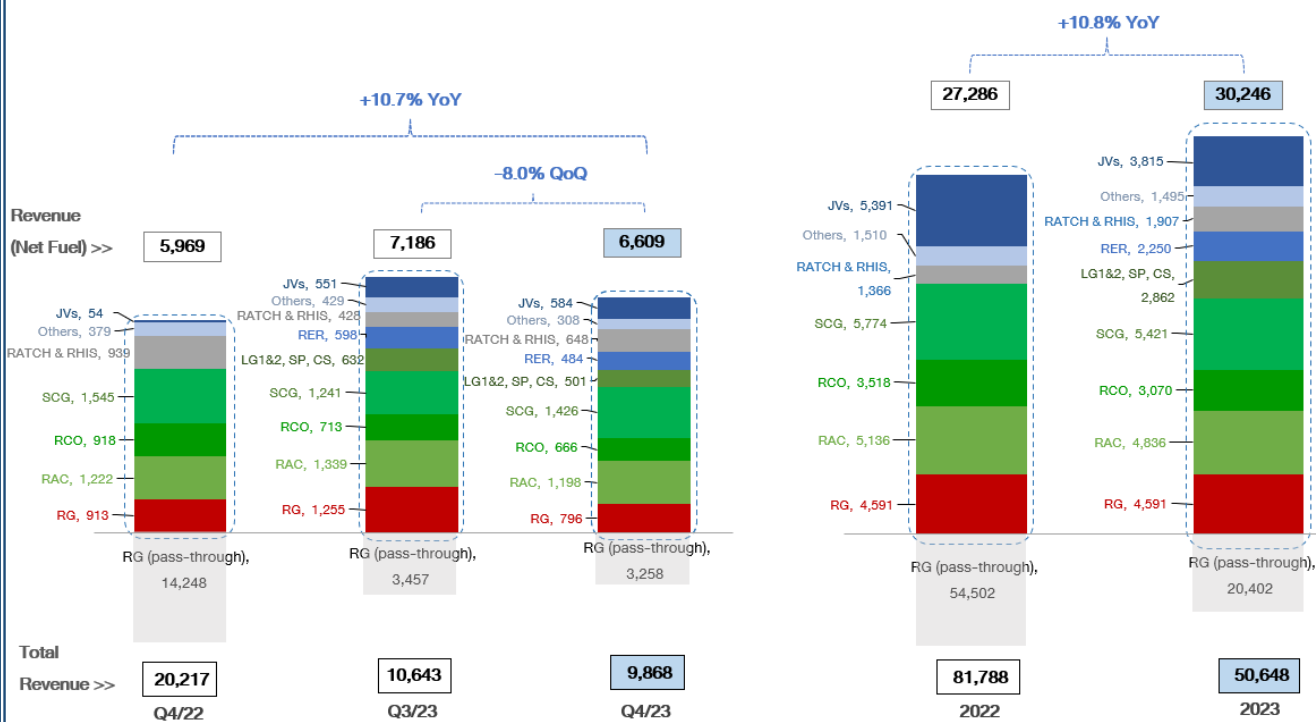
As for production side, electricity, gas, and steam increased by 6.0% from a 4.7% rise in the 3<sup>rd</sup> quarter of 2023. Electricity power generation, transmission, and distribution grew by 5.8%, in accordance with the increase of electricity consumption which rose by 5.6%, higher than an increase of 3.5% in the 3<sup>rd</sup> quarter of 2023. This expansion includes the demand from the residential, small, medium, and large enterprises sectors. Additionally, the gas separation expanded by 6.8%, in line with the increase in gas generation. Thai Economic Outlook for 2024 is projected to expand in the range of 2.2 - 3.2%. Key supporting factors include: (1) the expansion of export of goods in line with the global economic recovery (2) the favorable growths of private consumption and private investment and (3) the continual recovery of tourism sector. Headline inflation is estimated to be in the range of 0.9 - 1.9%.

The crude oil price in the global market declined from the same period last year and the previous quarter. In the 4<sup>th</sup> quarter of 2023, the average crude oil price in four major markets (Dubai, Brent, Oman, and WTI) stood at 82.4 USD per barrel, decreased by 3.2% from the average price of the same period last year and by 3.4% from the previous quarter. Key reasons leading to a decrease in the global crude oil price were (1) investors' concern over the maintaining of the US policy rate and the slowdown of China's economic growth, (2) the decrease in OPEC plus's oil production and (3) the increase in the US commercial crude oil inventories in the 4<sup>th</sup> quarter of 2023. The average crude oil price in four major markets of the year 2023 stood at 80.8 USD per barrel, decreased by 16.2% from the average price in the previous year.

On February 7, 2024, the Monetary Policy Committee (MPC) has decided to maintain the policy rate at 2.50%. The Thai economy is projected to slow in 2024 from exports and manufacturing activity amid softening global demand and moderating growth in China. Structural headwinds are restraining merchandise exports and tourism more than expected. Meanwhile, domestic demand continues to expand and remains a key driver of the economy. Inflation stays at a low level and should gradually pick up towards the target range albeit at a slower-than-expected pace. The current policy interest rate is consistent with preserving macro-financial stability, a key foundation for sustainable growth in the longer term.

On January 10, 2024, the Energy Regulatory Commission (ERC) approved to decrease fuel tariff (Ft), applicable between January and April 2024 from 89.55 satang per unit to 39.72 satang per unit resulting in an average electricity rate of 4.18 baht per unit. This was mainly due to the adjustment of estimated spot LNG price and measures of gas price calculation.

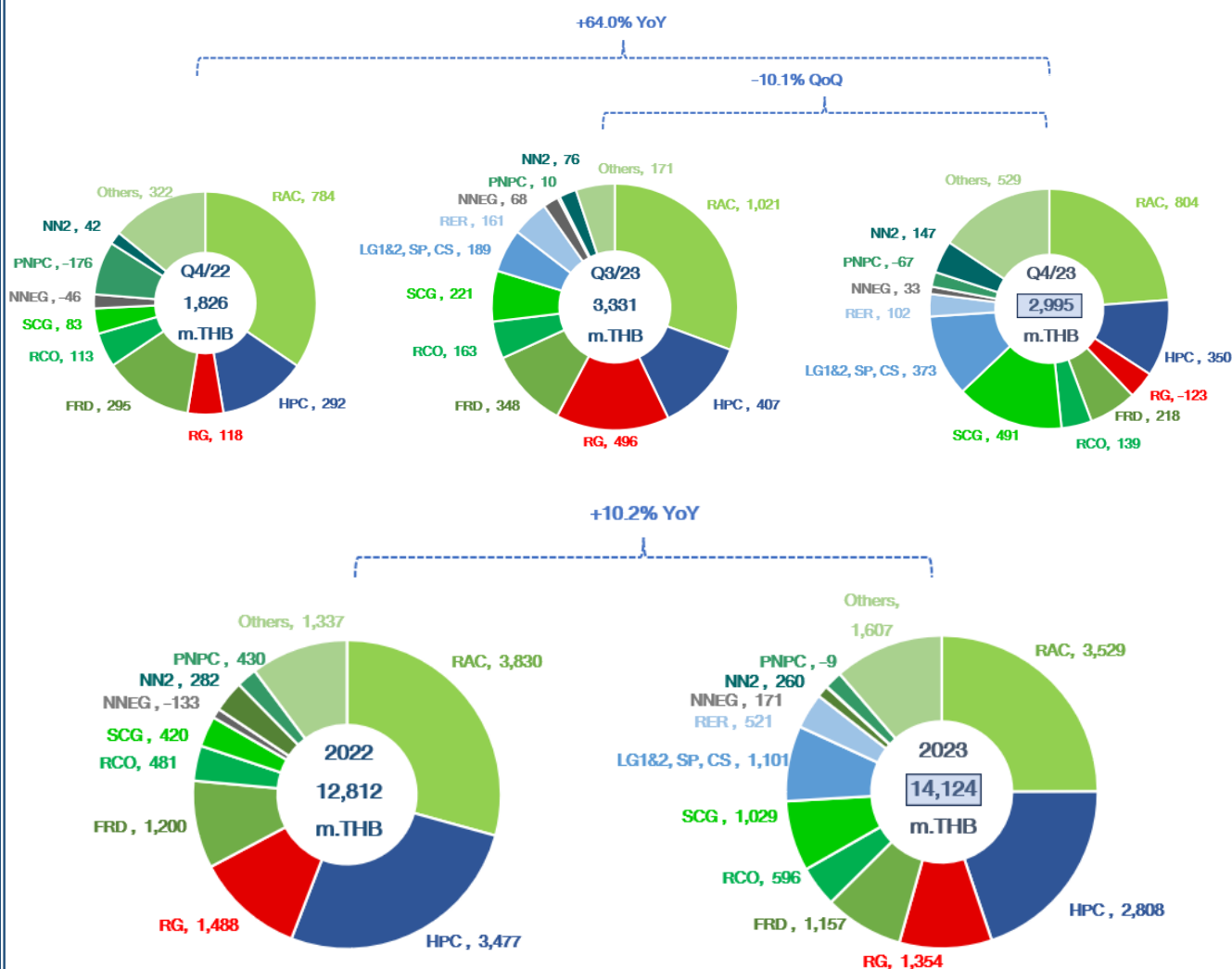
### Total Revenues



- In the 4<sup>th</sup> quarter and the 12M period of 2023, the total revenues were THB 9,868 million and THB 50,648 million, respectively. By excluding the Energy Payment (pass-through), the total revenue increased by 10.7% and 10.8% YoY, respectively. The main reason was that the Company has consolidated the revenue of LG1&2, SP and CS post the acquisition by RHIS in December 2022. In addition, the revenue from sale of RER has been consolidated due to status change from a joint venture to a subsidiary. Meanwhile, the sale revenues of RCO and SCG decreased because of the steady decline in gas price since the beginning of 2023. In addition, in the 12M period of 2023, the share profit of HPC decreased mainly due to planned maintenance to maintain the operation effectively and continues to generate profit consistently.

- In the 4<sup>th</sup> quarter of 2023, by excluding the Energy Payment (pass-through), the total revenue decreased by 8.0% QoQ, as the sale revenues of RCO and SCG decreased because of the decline in gas price according to the Cabinet resolution approving the measure to reduce the burden of electricity expenses for the public. This resulted in the fixed gas price during September and December 2023. Moreover, the electricity price in Australia decreased.

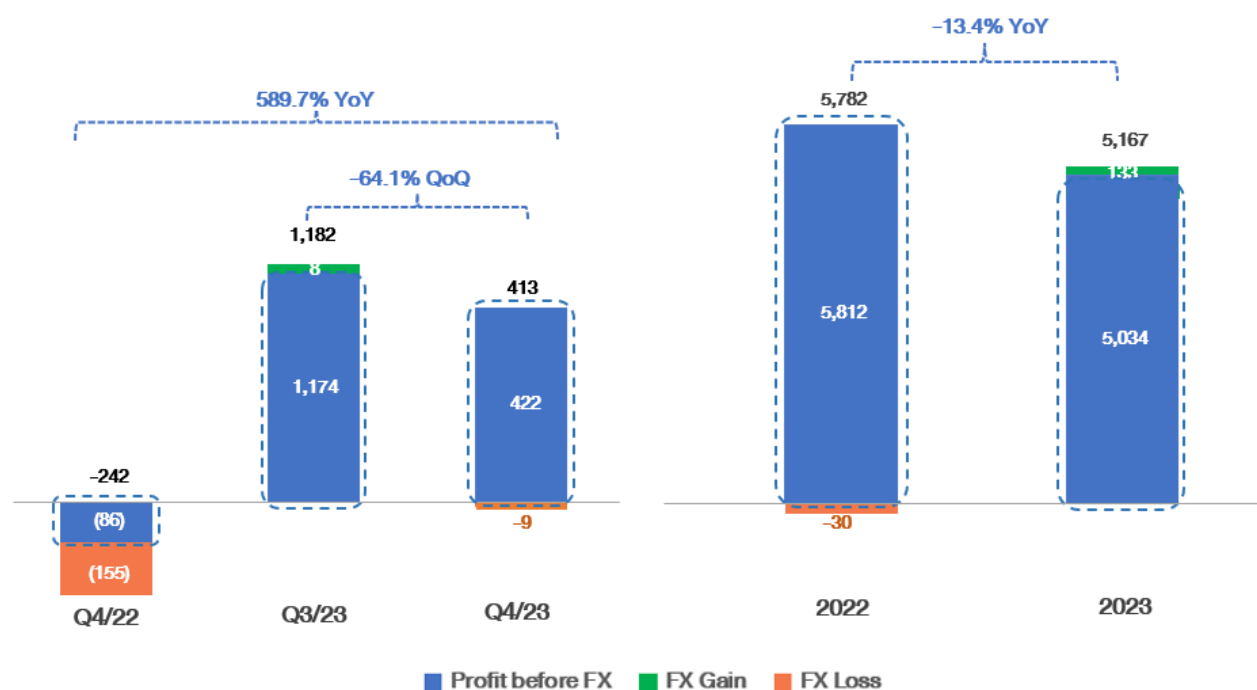
**EBITDA**



- In the 4<sup>th</sup> quarter and the 12M period of 2023, the EBITDA were THB 2,995 million and THB 14,124 million, respectively. The EBITDA increased by 64.0% and 10.2% YoY respectively. The main reason was, the Company has consolidated the EBITDA of LG1&2, SP, CS, and RER. Also, there was an increase in the EBITDA of SCG, RCO and NNEG due to the rise in Ft from the previous year while gas price declined. Furthermore, in the 4<sup>th</sup> quarter of 2023, the share profit of NN2 and PNPC increased YoY mainly due to the increase in water level in the reservoirs.

- In the 4<sup>th</sup> quarter of 2023, the EBITDA decreased by 10.1% QoQ. The main reason was that the revenue from sales of RG decreased due to the lower electricity generation than that of the previous year, corresponding to lower dispatch instruction by EGAT, together with the decrease in fuel price.

Profit to Owner of the Company



- In the 4<sup>th</sup> quarter of 2023, by excluding the effect of FX, the operating result was THB 422 million. The profit increased by 589.7% as the share profit of NN2 and PNPC increased mainly due to the increase in water level in the reservoirs. In addition, interest income increased as the Companies has managed its cash investment and received a higher interest rate. Also, the Company has consolidated the profit of LG1&2, SP, CS, and RER.

- In the 4<sup>th</sup> quarter of 2023, by excluding the effect of FX, the operating result decreased QoQ by 64.1% from the decrease in revenue from sales of RG together with the electricity price in Australia decreased.

- In the 12M period of 2023, by excluding the effect of FX, the operating result was THB 5,034 million. The profit mainly decreased by 13.4% from the planned maintenance of HPC. In addition, the finance cost increased from loan drawdown from financial institutions during the period for the purpose of investment in projects along with the rise in interest rate. However, there was the increase in the profit of NNEG, SCG and RCO from the lower gas price and higher Ft. Also, the Company has consolidated the profit of LG1&2, SP, CS, and RER.

## 1. Business Overview and Significant Events in 2023



### Overall Business Performance and ESG (Environment, Social and Governance)

In 2023, the Company has continued steadfastly with the sustainable development practices in conducting its business operations, aiming to foster growth for the organization while concurrently generating added value in a balanced manner among business, society, and environment. The significant operations in 2023 are summarized as follows:

#### Economic and Governance Dimension

The Company's business operations are guided by principles of good corporate governance, ethics, integrity, risk management, and human resource management, all of which have been fundamental to the Company's success. In 2023, the Company successfully generated economic value for the organization, shareholders, and stakeholders throughout the business value chain, as evidenced by the financial statements. Power generation remains the core business, contributing approximately 92% of total revenue. The electricity generated is distributed to customers to support economic development, improve quality of life, and enhance the security of the country's electricity system.

Furthermore, the Company has implemented sustainable supply chain management practices within its procurement process. This includes establishing a Supplier Code of Conduct, conducting assessments of suppliers' environmental, social, human rights, and governance risks, and auditing suppliers to ensure adherence to ethical and environmentally friendly practices. Regarding governance, the company monitors compliance with its Code of Conduct and relevant laws, while continuously reviewing and enhancing operations based on the principles of good corporate governance. This includes measures to manage and mitigate organizational risks, corruption, and compliance risks, as well as improving the effectiveness of complaint handling processes and channels. The Company has maintained full compliance with the law, upheld its Code of Conduct without any breaches, and received no complaints related to corruption.

#### Environmental Dimension

The Company has announced to reach carbon neutrality by 2050, aligning with the country's target. To achieve this target, the Company has outlined three key approaches for reducing greenhouse gas emissions: enhancing energy efficiency, increasing investment in renewable energy/low-carbon businesses, and implementing natural removal or carbon offsetting measures. Currently, the implementation of these approaches is underway, with several initiatives progressing gradually. These include: conducting scope 1-3 GHG inventory for the Company and its operating controlled entities, increasing renewable energy capacity to 30 percent by 2030 and 40 percent by 2035, studying on green hydrogen fuel technology and exploring investment opportunities both domestically and internationally, engaging in joint investments in energy innovation businesses aligned with the Net Zero emissions goal as well as initiatives such as reforestation, restoration, and conservation of community forests which facilitate carbon sequestration and acquire carbon offset credits from the forestry sector.

The Company has conducted climate change risk assessment reviews in accordance with the Task Force on Climate-Related Financial Disclosures (TCFD) framework for 22 projects invested and operated in Thailand, Australia, Indonesia, and Vietnam in 2023. These assessments encompassed evaluations of physical risks, transition risks, and strategies for preventing and mitigating impacts (the details can be found in Sustainability Report 2023 or on the Company's website) The Company mandates a review of climate change risk assessments according to the TCFD framework every three years.

In addition, the Company has developed the Environmental and Social Management System (ESMS) as a tool to manage environmental and social issues crucial to the business. The ESMS aims to increase the efficiency of environmental and social operations to achieve sustainable business growth, covering all stages of the project from development, construction, operation, and demolition. Aligned with the guidelines for developing environmental and social management systems and addressing environmental and social issues set by the International Finance Corporation (IFC), this system will be implemented in 2024.

### **Social Dimension**

The Company has maintained its focus on promoting the principle of respecting human rights within the organization since 2022, when the Human Rights Policy was introduced and the Human Rights Due Diligence process was initiated. This process began with the implementation of a Human Rights Risk Assessment (HRRRA) and the preparation of Human Rights Risk Profile. This year, the Company has conducted a Human Rights Impact Assessment (HRIA) for its employees and the operational controlled entities. The assessment results have been utilized to validate the identified risk issues and determine the level of impact on employees, with all issues being assessed showing low impacts and the existing mitigation measures deemed sufficient. (the details can be found in the Sustainability Report 2023)

Additionally, the Company has collaborated with the Rights and Liberties Protection Department of the Ministry of Justice to educate its employees and the operational controlled entities about human rights principles and the responsibilities of the business sector in upholding these principles. In 2023, there were no reported cases of human rights violations within the Company and the operational controlled entities, thus achieving the Company's goal of maintaining a "Zero" human rights violations.



**Awards of the Year 2023**

- SET ESG Ratings “AA” in 2023 by the Stock Exchange of Thailand
- Sustainability Disclosure Award 2023 for 5 consecutive years from by Thaipat Institute
- Honorable Mention Award from the 11<sup>th</sup> NACC Integrity Awards in 2022 by the Office of National Anti-corruption Commission
- Honorary Certificate as a supporter of the Royal Forest Department in Community Forest Promotion and Development category in 2023
- “Best” 2023 Corporate Governance Report of Thai Listed Companies (CGR) organized by the Thai Institute of Directors Association (IOD), 8 consecutive years
- Full score in the evaluation of Annual Shareholders General Meeting’s quality in 2023 (AGM Checklist 2023) conducted by the Thai Investors Association
- Best Value Creation Energy Infrastructure Company APAC 2023 Award by Capital Finance International Magazine, a UK business, economy, and finance magazine
- Chief Innovation Officer Award from the National Innovation Agency
- Refinance Deal of the Year – Portfolio of the IJGlobal Awards 2022



## Significant Events of the Year 2023

### 1.1 Commercial Operation of RATCH Cogeneration SPP Power Plant (Expansion)

On February 1, 2023, RATCH Cogeneration SPP Power Plant (Expansion) with the installed power generating capacity of 31.2 megawatts and steam generating capacity of 7.15 ton per hour, has officially commenced commercial operation. The power plant has power and steam purchase agreement with industrial users.

### 1.2 Progress on the Purchasing of Ordinary Shares to Invest in Thermal Power Plant in the Republic of Indonesia

RHIS has reached an arrangement that it will be acquiring 36.26 percent of power plant business in PT Paiton Energy and in Minejesa Capital B.V. and will be acquiring 65 percent in IPM Asia Pte. Ltd., which undertakes power plant operations and maintenance business. This arrangement is in line with the Company's commercial objectives and this investment will deliver consistent returns to the Company. This is also a part of the process to complete conditions precedent of Sale and Purchase Agreement which RHIS has signed on June 22, 2021.

Paiton power plant is the coal-fired thermal power plant with total capacity of 2,045 megawatts located in Paiton Power Generation Complex in the Republic of Indonesia.

### 1.3 The Company has Successfully Completed Green Loans Refinancing of 3 Renewable Projects in Australia and Received "the Refinance Deal of the Year-Portfolio" Award by IJGlobal Awards

On April 10, 2023, the company has successfully completed in AUD 495 million green loans refinancing of 3 renewable power plants in Australia namely; 226.8-MW Collector Wind Power Plant, 180.45-MW Mount Emerald Wind Power Plant, and 42.5-MW Collinsville Solar Power Plant. The transaction was proceeded by RAC under its Green Finance Framework corresponding to the Green Bond Principle of International Capital Market Association and the Green Loan Principle of Loan Market Association.

The RAC's green loan was received the "Refinance Deal of the Year – Portfolio" of the IJGlobal Awards 2022 in the Asia-Pacific region as a result of successful renewable portfolio refinancing transaction and support from the Company, its sole shareholder, which having a strong financial position. Concurrently, Asahan-1 hydroelectric power plant 180 MW in Indonesia, an indirect subsidiary in proportion of 47.89%, was presented "Refinance Deal of the Year – Hydropower" of the IJGlobal Awards 2022.

### 1.4 NREI Achieves Financial Close of its Calabanga Solar Power Project in the Philippines

On June 19, 2023, NREI achieved financial close for its 74 Megawatts Calabanga solar power project, located in Calabanga, Camarines Sur, South Luzon, Philippines. The Calabanga project is being implemented by a Philippines' subsidiary, Calabanga Renewable Energy, Inc., and will sell 85% of the generated energy through a power supply agreement with subsidiaries of Aboitiz Power Corporation and the remaining in the Wholesale Electricity Spot Market or direct short-term contracts with commercial and contestable customers.

Debt financing for the project is provided by Security Bank Corporation as Lender with SB Capital Investment Corporation acting as the Lead Arranger, to fund 70% of the project cost on a limited recourse basis. The construction of the project is expected to be completed and COD by the 2<sup>nd</sup> quarter of 2024.

#### 1.5 Commercial Operation of MRT Yellow Line and Pink Line Projects

On July 3, 2023, MRT Yellow Line Project operated by Eastern Bangkok Monorail Company Limited (EBM), a 10% held by the Company, received Substantial Commissioning Certificate and has officially started the operation for all 23 stations from Lat Phrao Station to Samrong Station.

On December 31, 2023, MRT Pink Line Project operated by Northern Bangkok Monorail Company Limited (NBM), a 10% held by the Company, received Substantial Commissioning Certificate and has officially started the operation for all 30 stations from Nonthaburi Civic Center Station to Min Buri Station since January 7, 2024.

#### 1.6 The Company received "CFI.co" Award 2023 from Capital Finance International Magazine in the United Kingdom

In August, 2023, the Company received "CFI.co" Award 2023 for the Best Value Creation Energy Infrastructure Company APAC 2023 from Capital Finance International Magazine, a UK business, economy, and finance magazine. This reflects the Company's success in creating value for its energy infrastructure that is internationally accepted. The award is given to individuals and organizations with outstanding performance in creating added economic value along with creating value for stakeholders. It is also an inspiration for individuals and organizations to develop their operational potential.

The Company has a vision to focus on being a leading value-oriented energy and infrastructure company in the Asia Pacific region, driven by the 3S strategy: Strength-Synergy-Sustainability, that focuses on creating added value and economic growth by adhering to the principles of good governance socially responsible and environment.

#### 1.7 Signing of the Operation & Maintenance Service Agreement of REN Korat Energy Cogeneration Power Plant

On August 8, 2023, REN Korat Energy Company Limited, an operator of REN Korat Energy Cogeneration Power Plant (REN) with an installed capacity of 31.2 megawatts, entered the Operation & Maintenance Service Agreement with EGCO Engineering & Service Company Limited, a EGCO Group's subsidiary. The 12-year and 3-month contract started from October 1, 2023 to December 31, 2035. The electric power will be sold to industrial customers in the Nava Nakorn Industrial Zone in Nakhonratchasima province.

#### 1.8 Signing of the Term LNG Supply Agreement for Hin Kong Combined-Cycle Power Plant Project, Ratchaburi Province

On August 24, 2023, Hin Kong Power Holding Company Limited (HKH), a 51% held by the Company entered the Term LNG Supply Agreement with Gunvor Singapore Pte. Ltd. (Gunvor), which is a subsidiary of Gunvor Group Ltd., a leading-energy-commodities trading company. The agreement is for supplying and importing LNG to support electricity production for Hin Kong Combined-Cycle Power Plant Project, a gas-fired IPP power project with contracted capacity of 1,400 megawatts. Under this contract, Gunvor will supply approximately 0.5 million of ton per annum of LNG to HKH. The first shipment will be made in March 2024 to support the electricity production of Hin Kong Combined-Cycle Power Plant Project Unit 1, with a contracted capacity of 700 megawatts, which will commence operation in the same month.

#### 1.9 Commercial Operation of ECOWIN Wind Power Plant

On September 29, 2023, Thanh Phong Wind Power Plant Project (ECOWIN), a 51% held by RHIS, with an installed capacity of 29.7 megawatts and 20-year Power Purchase Agreement with Vietnam Electricity (EVN) has officially started commercial operation.

#### 1.10 Signing of Power Purchase Agreement for a Solar Power Project

On December 20, 2023, Solarist Thungfai Company Limited, an indirect subsidiary of SCG, has entered into a 25-year Power Purchase Agreement with EGAT to develop the solar farms project with contracted capacity of 27 megawatts with the scheduled commercial operation in 2030.

The operation of the Project will help reduce fuel price volatility and alleviate both household and industrial sectors' electricity cost burden by providing access to electricity from clean energy at a lower price in comparison with the current average electricity price throughout the contract period. It also supports the Company's investment expansion in renewable energy, carbon neutrality, and sustainable growth with responsibility for the environment, society and governance.

#### 1.11 Signing of a Shareholders Agreement to Invest in Secondary Care Private Hospital Service Business with 59 Beds

On December 22, 2023, the Company has signed a Shareholders Agreement with Principal Healthcare Company Limited (PRINH), a subsidiary of Principal Capital Public Company Limited, to purchase 7.5 million ordinary shares of Principal Healthcare – Mukdahan Company Limited (PMDH), a subsidiary of PRINH, at THB 10 each, totaling THB 75 million.

Consequently, the Company's and PRINH's shareholding proportion in PMDH will be 25% and 75% respectively. The purpose of the transaction is to jointly invest in secondary care private hospital service business with 59 beds "PRINC Mukdahan Hospital" which is expected to complete its construction within Quarter 4 of 2024. It will also increase the opportunity to expand investment network for the private hospital service business in the upper northeast region which is in line with the projects that the Company had previously invested in PRINC Sakon Nakhon Hospital.

#### 1.12 Signing of Power Purchase Agreement for Xekong 4A and 4B Hydroelectric Power Project with EGAT

On December 25, 2023, Xekong 4 Power Company Limited (XK4), an operator of Xekong 4A and 4B Hydroelectric Power Project with an installed capacity of 355 megawatts which is located in Xekong Province, Lao People's Democratic Republic, has entered into the Power Purchase Agreement for Xekong 4A and 4B Hydroelectric Power Project with EGAT for 27 years. It is scheduled for commercial operation in 2033.

#### 1.13 The success in purchasing shares to invest in Minh Luong Hydroelectric Power Plant in the Socialist Republic of Vietnam

On December 29, 2023, NREI has successfully purchased 100% of shares to invest in Minh Luong Hydroelectric Power Plant with the investment value of approximately USD 25 million or equivalent to approximately THB 860 million.

The Power Plant is a Run-of-the-River hydroelectric power plant with generating capacity of 30 megawatts (equivalent to the Company's proportion of 14.7 megawatts). It is located in Lao Cai Province in the north west of the Socialist Republic of Vietnam. It has a 20-year Power Purchase Agreement with Vietnam Electricity (EVN) and been commercially operating since April 2018.

 Progress of Projects under Construction (as of December 31, 2023)



Hin Kong Power Plant (HKP)	
Type of Power Plant	IPP
Type of Fuel	Natural Gas
Install Capacity (MW)	1,540
Location	Ratchaburi Province
Ownership	51%
PPA	25 Years with EGAT
COD	Year 2024 and 2025
Progress	97.10%



R E N Korat Energy Power Plant (R E N)	
Type of Power Plant	Cogeneration IPS Power Plant
Type of Fuel	Natural Gas
Install Capacity (MW)	31.2
Location	Nakhon Ratchasima Province
Ownership	40%
Customers	Industrial Promotion Zone, Nakhon Ratchasima Province
COD	Year 2024
Progress	87.91%



The Expansion of NNEG Phase 3	
Type of Power Plant	SPP Cogeneration
Type of Fuel	Natural Gas
Install Capacity (MW)	30
Location	Pathumthani Province
Ownership	40%
Customers	Industrial Users
COD	Year 2024
Progress	10.35%



Calabanga Power Plant	
Type of Power Plant	Solar Power Plant
Install Capacity (MW)	74.1
Location	Luzon Island, Philippines
Ownership	49%
COD	Year 2024
Progress	46.54%



Song Giang 1 Power Plant	
Type of Power Plant	Hydroelectric Power Plant
Install Capacity (MW)	12
Location	Khanh Hoa Province, Vietnam
Ownership	46.22%
COD	Year 2024
Progress	28.90%



Wood Pellet Production and Sale Project	
Type	Wood Pellet Production and Sale
Capacity	60,000 Tons per Year
Location	Champasak Province, Lao PDR
Ownership	25%
Contract Term	15 Years
COD	Year 2024
Progress	91.00%



MRT Pink Line Extension Project	
Technology	Monorail
Route	Sirat – Muang Thong Thani
Ownership	10%
Contract Term	30 Years
COD	Year 2024
Progress	Civil Works = 57.87% Railway System = 28.75%



Intercity Motorway Bang Pa-In – Nakhon Ratchasima (M6)	
Type	Designing, Construction, Civil Works Maintenance and Installation of Toll-Collection System
Route	Bang Pa-In – Nakhon Ratchasima
Ownership	10%
Contract Term	Phase 1: Designing and Construction – 3 Years Phase 2: Maintenance – 30 Years
COD	Year 2025
Progress	28.88%



Intercity Motorway Bang Yai – Kanchanaburi (M81)	
Type	Designing, Construction, Civil Works Maintenance and Installation of Toll-Collection System
Route	Bang Yai – Kanchanaburi
Ownership	10%
Contract Term	Phase 1: Designing and Construction – 3 Years Phase 2: Maintenance – 30 Years
COD	Year 2025
Progress	35.41%



## 2. Operation Performance according to Consolidated Financial Statement

### Analysis of Revenues

	Q4/2022	Q3/2023	Q4/2023	Increase(Decrease)%		2022	2023	Increase (Decrease)%
				QoQ	YoY			YoY
<b>Revenue from sales and rendering of services</b>	<b>18,438</b>	<b>8,856</b>	<b>7,492</b>	<b>-15.4%</b>	<b>-59.4%</b>	<b>71,882</b>	<b>41,239</b>	<b>-42.6%</b>
RG	14,787	4,384	3,747	-14.5%	-74.7%	57,427	23,661	-58.8%
RAC	1,157	1,258	1,038	-17.5%	-10.3%	5,017	4,486	-10.6%
RCO	918	713	666	-6.7%	-27.5%	3,518	3,069	-12.7%
SCG	1,541	1,219	1,100	-9.8%	-28.6%	5,740	5,045	-12.1%
LG1&2, SP IIIa- CS	-	583	481	-17.5%	-	-	2,547	-
RER	-	598	483	-19.4%	-	-	2,248	-
Others	35	99	(22)	-121.8%	-162.0%	180	181	0.7%
<b>Revenue from leases contracts</b>	<b>682</b>	<b>603</b>	<b>592</b>	<b>-1.9%</b>	<b>-13.2%</b>	<b>2,843</b>	<b>2,437</b>	<b>-14.3%</b>
<b>Share of profit of associates and joint ventures</b>	<b>54</b>	<b>551</b>	<b>584</b>	<b>6.0%</b>	<b>985.0%</b>	<b>5,391</b>	<b>3,815</b>	<b>-29.2%</b>
IPPs	269	394	428	8.6%	59.4%	3,962	3,035	-23.4%
SPPs	(118)	145	83	-42.5%	-170.8%	354	440	24.3%
Hydro Power Plants	(138)	79	100	26.0%	-172.1%	707	250	-64.6%
Renewable Power Plants	13	(47)	(35)	-25.1%	-375.4%	228	9	-95.9%
Infrastructure and Others	29	(21)	7	-135.0%	-74.2%	140	80	-42.8%
<b>Other incomes</b>	<b>1,045</b>	<b>633</b>	<b>1,200</b>	<b>89.5%</b>	<b>14.9%</b>	<b>1,672</b>	<b>3,158</b>	<b>88.9%</b>
Management service income	62	52	119	130.0%	91.6%	275	301	9.3%
Interest income	249	470	518	10.3%	108.2%	500	1,831	266.4%
Dividend Income	-	-	-	-	-	27	17	-34.6%
Gain from change in proportion of investment - RER	661	-	-	-	-	661	-	-
Other income	72	112	562	4.04	678.8%	209	1,009	382.5%
<b>Total revenues</b>	<b>20,217</b>	<b>10,643</b>	<b>9,868</b>	<b>-7.3%</b>	<b>-51.2%</b>	<b>81,788</b>	<b>50,648</b>	<b>-38.1%</b>

• **RG Power Plant**

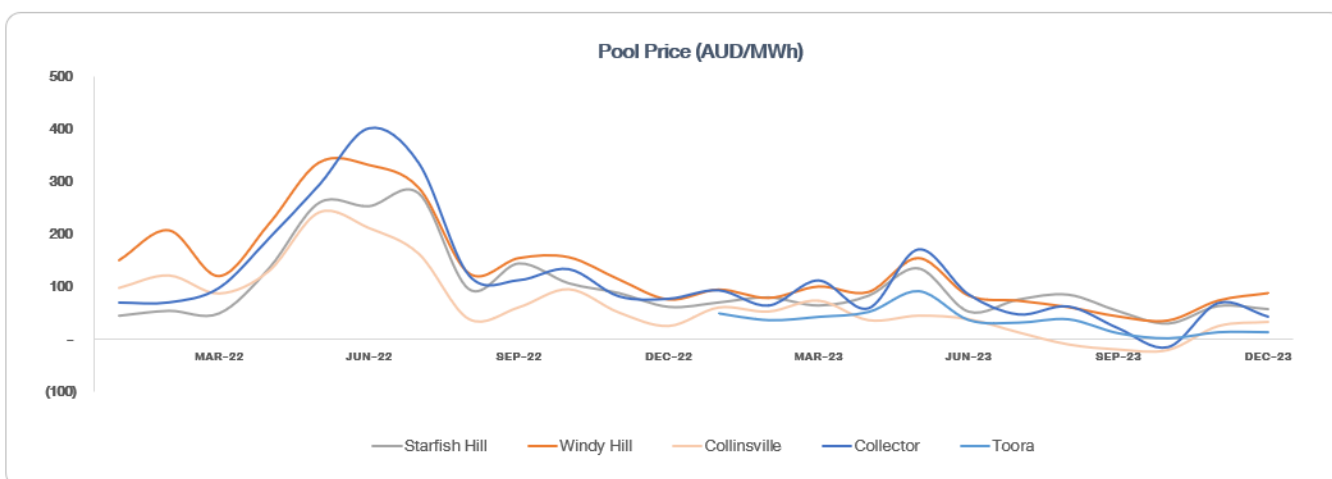
Key Revenue Drivers	Q4/2022	Q3/2023	Q4/2023	Increase (Decrease) %		2022	2023	Increase (Decrease) %
				QoQ	YoY			YoY
Electricity Sale Volume to EGAT (GWh)								
Natural Gas	3,262	1,457	1,308	-10.2%	-59.9%	13,454	6,396	-52.5%
Heavy Oil	423	-	-	-	-	1,167	389	-66.7%
Diesel Oil	15	-	-	-	-	82	1	-99.1%
	3,700	1,457	1,308	-10.2%	-64.6%	14,703	6,786	-53.8%
Average Fuel Price								
Natural Gas (THB/mmBTU)	515	371	358	-3.5%	-30.5%	499	406	-18.5%
Heavy Oil (THB/Litre)	17	-	-	-	-	19	16	-17.8%
Diesel (THB/Litre)	29	-	-	-	-	27	28	3.4%

Revenue from sales decreased QoQ and YoY. The main reason was the lower electricity generation than that of the previous year, corresponding to lower dispatch instruction by EGAT, together with the decrease in fuel price. In addition, there was the planned shutdown of the power plants as follow.

Planned Maintenance	2022	2023
Thermal Power Plant Unit 1	-	MI : Oct 1 - Nov 9, 23 (40 days)
Thermal Power Plant Unit 2	-	MI : Nov 12 - Dec 21, 23 (40 days)
Combine Power Plant Unit 1	CI : Nov 27 - Dec 7, 22 (11 days)	CI : Dec 7-21, 23 (15 days) MI : Nov 26 - Dec 21, 23 (26 days)
Combine Power Plant Unit 2	MI : Apr 3 - May 2, 22 (30 days)	CI : Sep 7-21, 23 (15 days) MI : Aug 27 - Sep 21, 23 (26 days)
Combine Power Plant Unit 3	CI : Feb 6 - 14, 22 (9 days)	MI : Jun 3 - 29, 23 (27 days)

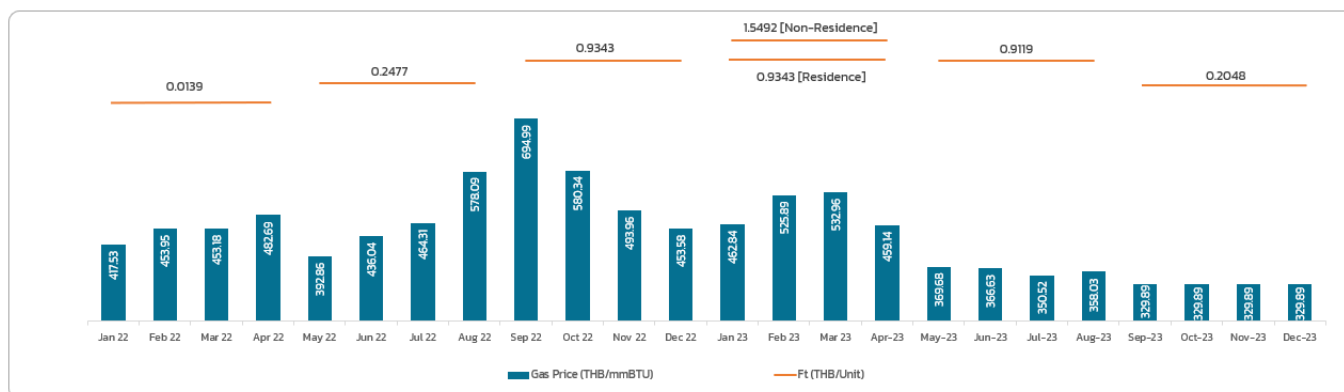
CI : Combustion Inspection , MI : Minor Inspection

• **RAC Power Plant**



Revenue from sales decrease QoQ and YoY mainly due to the decrease in electricity price. During March and July 2022, there was the increase in demand in Australia relatively driven by lower temperatures during winter season, therefore, the electricity price increased significantly in 2022. In addition, revenue from sales decreased QoQ due mainly to the decrease in average wind speed of Mount Emerald wind farm.

- **RCO & SCG Power Plants**



Ft was higher than that of the previous year, as shown in the above graph. However, the revenue from sales decreased QoQ and YoY mainly due to the decrease in average gas price, resulting in lower Energy Payment of RCO and SCG.

- **LG1&2, SP, CS Power Plants**

The Company has consolidated the revenues of LG1&2, SP, CS due to the acquisition by RHIS in December 2022. However, revenue from sales decreased QoQ due mainly to the decrease in the revenue from sale of SP from the decrease in the electricity generation as well as the electricity price.

- **RER Power Plant**

Post the acquisition by RHIS in December 2022, the revenue from sales of RER increased YoY as the revenue has been consolidated due to the status change from a joint venture to a subsidiary. However, the revenue decreased QoQ due to the decrease in average gas price, resulting in lower Energy Payment.

## Share of Profit of Associates and Joint Ventures

### IPPs

- Hongsa Thermal Powerplants (HPC)

Key Revenue Drivers	Q4/2022	Q3/2023	Q4/2023	Increase (Decrease) %		2022	2023	Increase (Decrease)%
				QoQ	YoY			
				YoY				
Commercial Equivalent Availability Factor (%)	80.79	70.73	83.27	17.7%	3.1%	85.87	84.92	-1.1%
EGAT Dispatch Factor (% DF)	103.48	103.53	102.44	-1.1%	-1.0%	103.79	102.80	-1.0%
EDL Dispatch Factor (% DF)	98.95	85.83	100.80	17.4%	1.9%	86.33	110.83	28.4%
Average FX (THB/USD)	35.99	35.25	35.06	-0.5%	-2.6%	35.20	34.78	-1.2%

Planned Maintenance	2022	2023
Power Plant - Unit 1	Nov 20 – Dec 11, 22 (22 days)	Jul 24 – Sep 20, 23 (59 days)
Power Plant - Unit 2	Jan 14 – Feb 26, 22 (44 days)	Oct 8 – 30, 23 (23 days)
Power Plant - Unit 3	Oct 16 – Nov 6, 22 (22 days)	Dec 24 – 31, 23 (8 days)

In the 4<sup>th</sup> quarter of 2023, by excluding the effect of FX, the share profit of HPC increased QoQ and YoY due to the increase in the Availability Payment from less planned maintenance, comparing to those in the 4<sup>th</sup> quarter of 2022 and the 3<sup>rd</sup> quarter of 2023.

In 2023, by excluding the effect of FX, the share profit of HPC decreased YoY as the Availability Payment decreased from planned maintenance to maintain the operation effectively and continues to generate profit consistently. In addition, the revenue from lease contract decreased in accordance with the effective interest method. Also, tax rate changed from 7.5% in 2022 to 15% in 2023.

In 2022, HPC had gain on FX due to THB depreciated in relative to USD, the asset value in USD increased; whereas, in 2023, HPC had loss on FX due to THB appreciated in relative to USD.

### SPPs

- Nava Nakorn SPP Power Plant (NNEG)

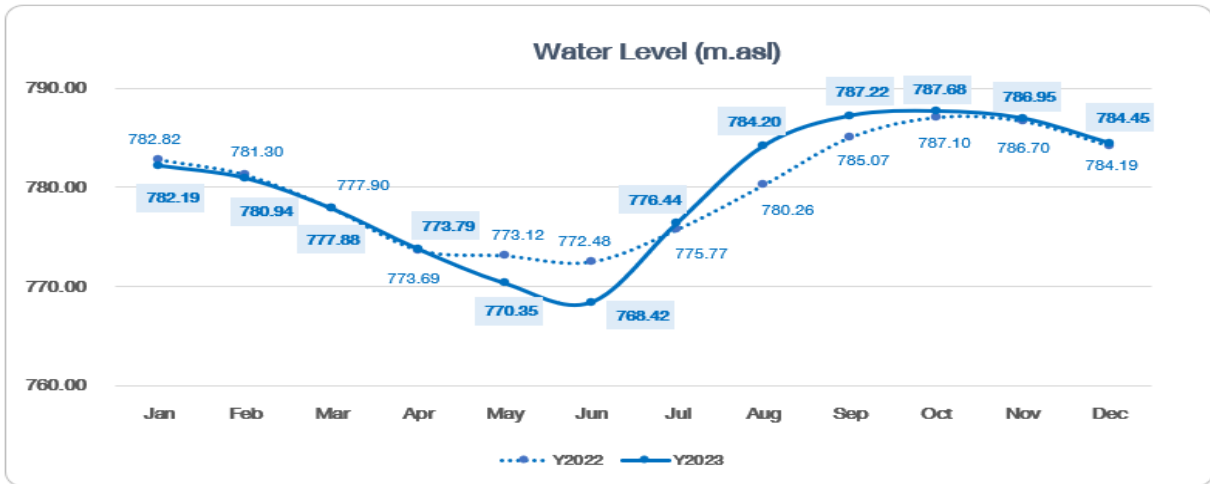
The share profit of NNEG increased YoY due to the increase in Ft; while, there was the decline in gas price. On the other hand, the share profit of NNEG decreased QoQ due to the decrease in Ft.

- RATCH Energy Rayong Power Plant (RER)

The share profit of RER decreased due to the change of its status from a joint venture to a subsidiary post the acquisition by RHIS in December 2022.

### Hydro Power Plants

- Xe-Pian Xe-Namnoy Hydro Power Plant (PNPC)

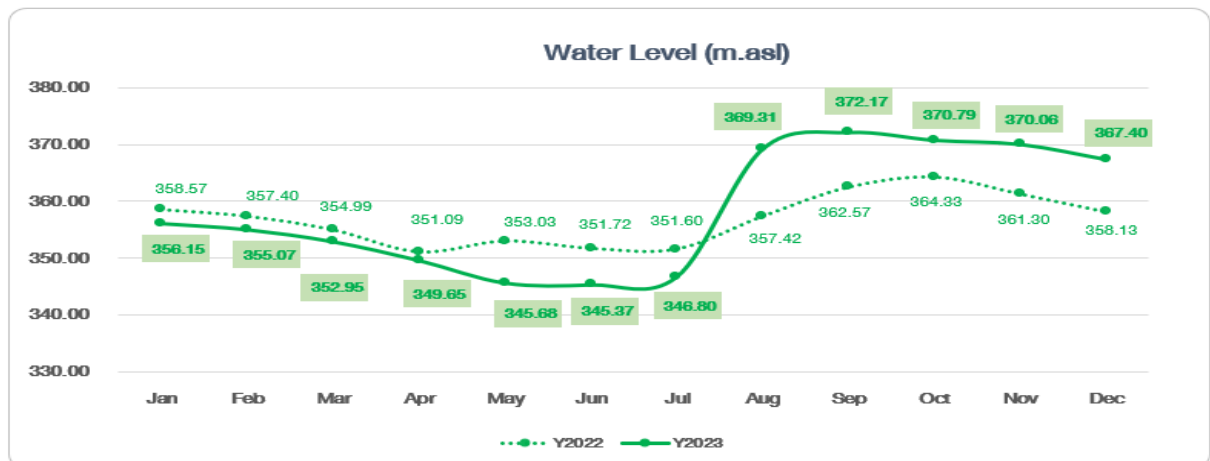


Planned Maintenance	2022	2023
Power Plant - Unit 1	-	Feb 4 - Mar 4, 23 (29 days)
Power Plant - Unit 2	-	-
Power Plant - Unit 3	-	Feb 19 - Mar 4, 23 (14 days)

In the 4<sup>th</sup> quarter of 2023, the operating result of PNPC increased YoY mainly due to the increase in water level in the reservoir.

In 2023, the operating result of PNPC decreased YoY as there was a planned shutdown for maintenance of the power plant unit 1&3. Also, the finance cost increased due to the rise in LIBOR and MLR rates. In addition, PNPC had loss on FX of loan from financial institutions in 2023 due to THB appreciated in relative to USD; while, PNPC had gain on FX due to THB depreciated in relative to USD in 2022.

- Nam Ngum 2 Hydro Power Plant (NN2)



The share profit of NN2 decreased YoY due to the lower electricity generation in the 1<sup>st</sup> half of 2023 from El Niño effect. This resulted in the amount of water inflow into the reservoir decreased. As a result, the Primary Energy (PE) electricity sales decreased. However, in the 3<sup>rd</sup> quarter of 2023, there was a significant increase in the amount of water inflow into the reservoir from increased rainfall starting in August. As a result, the power plant generated higher electricity in the 2<sup>nd</sup> half of 2023 with the sales of electricity in terms of Secondary Energy (SE) electricity, which can be sold only during the rainy season (August - October).

#### Renewable Power Plants

- The share profit of SLT decreased as it has no further received revenue from an adder subsidy in 2023.

#### Gain from Change in Proportion of Investment in RER

- On December 20, 2022, RHIS has acquired shares of Nexif Energy Holding B.V. (NEHBV); as a result, the Company and RHIS gain full control and have 100% ownership in RER. The Company recognized gain from change in proportion of investment in joint ventures in the amount of THB 661 million.

#### Other income

- Interest income increased YoY as the Companies has managed its cash investments and received a higher interest rate.
- LG2 power plant received the compensation (Liquidate Damage) from the contractor in the amount of AUD 9.8 million.
- SCG received compensation for equipment damage from an insurance company in the amount of THB 310 million.

## Analysis of EBITDA and Profit to Owner of the Company

Unit : Million THB

	Q4/2022	Q3/2023	Q4/2023	Increase (Decrease) %		2022	2023	Increase (Decrease)%
				QoQ	YoY			YoY
<b>Total Revenue</b>	<b>20,217</b>	<b>10,643</b>	<b>9,868</b>	<b>-7.3%</b>	<b>-51.2%</b>	<b>81,788</b>	<b>50,648</b>	<b>-38.1%</b>
Cost of Sales	17,445	6,668	6,216	-6.8%	-64.4%	66,420	34,011	-48.8%
<i>RG</i>	14,997	4,175	4,140	-0.8%	-72.4%	57,422	23,471	-59.1%
<i>RAC</i>	204	213	223	4.5%	9.3%	735	816	11.0%
<i>RCO</i>	796	542	513	-5.3%	-35.5%	3,006	2,434	-19.0%
<i>SCG</i>	1,422	974	905	-7.1%	-36.4%	5,182	4,205	-18.9%
<i>LG1&amp;2, SP and CS</i>	-	313	52	-83.4%	-	-	1,308	-
<i>RER</i>	-	426	355	-16.6%	-	-	1,676	-
<i>RL</i>	26	25	29	13.4%	10.7%	75	101	34.4%
Administrative expenses	946	644	657	1.9%	-30.6%	2,556	2,514	-1.6%
Total Expenses	18,391	7,312	6,873	-6.0%	-62.6%	68,976	36,525	-47.0%
<b>EBITDA</b>	<b>1,826</b>	<b>3,331</b>	<b>2,995</b>	<b>-10.1%</b>	<b>64.0%</b>	<b>12,812</b>	<b>14,124</b>	<b>10.2%</b>
Less Depreciation and Amortization	746	758	1,427	88.3%	91.4%	3,089	4,268	38.2%
(Gain) Loss on Fair Value Adjustment of Derivatives	309	(147)	(382)	160.6%	-223.6%	102	(793)	-873.6%
Finance Costs	753	1,141	1,277	11.9%	69.5%	2,977	4,443	49.2%
Tax Expenses	98	301	213	-29.0%	118.3%	937	860	-8.2%
Profit before FX	(80)	1,278	460	-64.0%	-677.6%	5,706	5,346	-6.3%
Gain (Loss) on FX	(155)	8	(9)	-220.3%	-94.0%	(30)	133	-542.9%
<b>Profit for the Period</b>	<b>(235)</b>	<b>1,286</b>	<b>451</b>	<b>-65.0%</b>	<b>-291.7%</b>	<b>5,676</b>	<b>5,479</b>	<b>-3.5%</b>
Non-Controlling Interests	7	104	38	-63.3%	481.9%	(106)	312	-394%
<b>Profit to Owner of the Company</b>	<b>(242)</b>	<b>1,182</b>	<b>413</b>	<b>-65.1%</b>	<b>-270.8%</b>	<b>5,782</b>	<b>5,167</b>	<b>-10.6%</b>
Effect of Gain (Loss) on FX	(155)	8	(9)	-220.3%	-94.0%	(30)	133	-542.9%
<b>Profit to Owner of the Company before FX</b>	<b>(86)</b>	<b>1,174</b>	<b>422</b>	<b>-64.1%</b>	<b>-589.7%</b>	<b>5,812</b>	<b>5,034</b>	<b>-13.4%</b>

In the 4<sup>th</sup> quarter and year 2023, EBITDA was THB 2,995 million and THB 14,124 million respectively. The changes in total revenues were described above. The change in cost of sales were as follows:

### Cost of Sales

- **RG Power Plant** – Cost of sales decreased QoQ and YoY as the power plants generated lower electricity, corresponding to lower dispatch instruction by EGAT, together with the decrease in fuel price.
- **LG1&2, SP, CS Power Plants** – The Company has consolidated the cost of sales of LG1&2, SP, CS post the acquisition by RHIS in December 2022. This resulted in the increase in cost of sales YoY. However, cost of sales decreased QoQ due mainly to the decrease electricity generation of SP.
- **RER Power Plants** – The Company has consolidated the cost of sales of RER since its changed status from a joint venture to a subsidiary due to the acquisition by RHIS in December 2022. Therefore, the cost of sales of RER increased YoY. However, the cost of sales decreased QoQ as the average gas price decreased.
- **RCO& SCG Power Plant** – The cost of sales declined due to the decrease in average gas price.

From the EBITDA described above, the Company also had depreciation and amortization and finance costs. As a result, in the 4<sup>th</sup> quarter and year 2023, profit to owner of the Company were THB 413 million and THB 5,167 million, respectively. The details were as follows:

### Depreciation and Amortization

The depreciation and amortization increased as the Company has consolidated the depreciation and amortization of LG1&2, SP, CS and RER.

### The Effect of Fair Value Adjustment of Derivatives

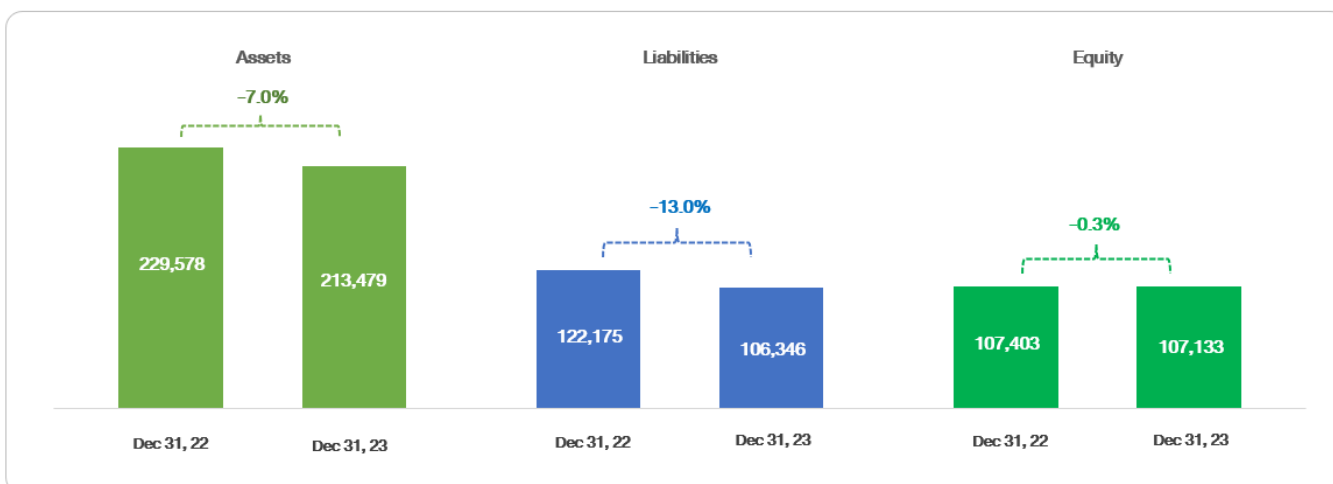
In 2023, the Company recorded gain on fair value adjustment of PPA derivatives of LG1&2. However, in 2022, the Company recorded loss on fair value adjustment of PPA derivatives of Collector wind farm power plant of RAC.

### Finance Costs

- The Company and RHIS – The finance cost increased from loan drawdown from financial institutions during the period for the purpose of investment in projects.
- The Company has consolidated the finance cost of LG1&2, SP, CS and RER.



### 3. Analysis of Statement of Financial Position



#### Assets

 Assets decreased in the amount of THB 16,099 million or 7.0%. The main reasons were as follows:

- Cash and cash equivalents decreased in the amount of THB 10,778 million, the details are described in no.4.

- Trade accounts receivable from related parties decreased in the amount of THB 7,344 million. The main reason was, trade accounts receivable of RG decreased as the electricity sales in November and December 2023 were less than those in November and December 2022.

- Lease receivable-net decreased in the amount of THB 2,254 million.

- Other current financial assets increased in the amount of THB 3,347 million.

- Investments in joint ventures and associates increased in the amount of THB 2,396 million. The main reasons were from the share of profit contributed during the year in the total amount of THB 3,815 million and additional investments in the amount of THB 2,235 million. While dividend received from joint ventures and associates was in the amount of THB 2,125 million and exchange rate adjustment in the amount of THB -430 million.

#### Liabilities and Equity

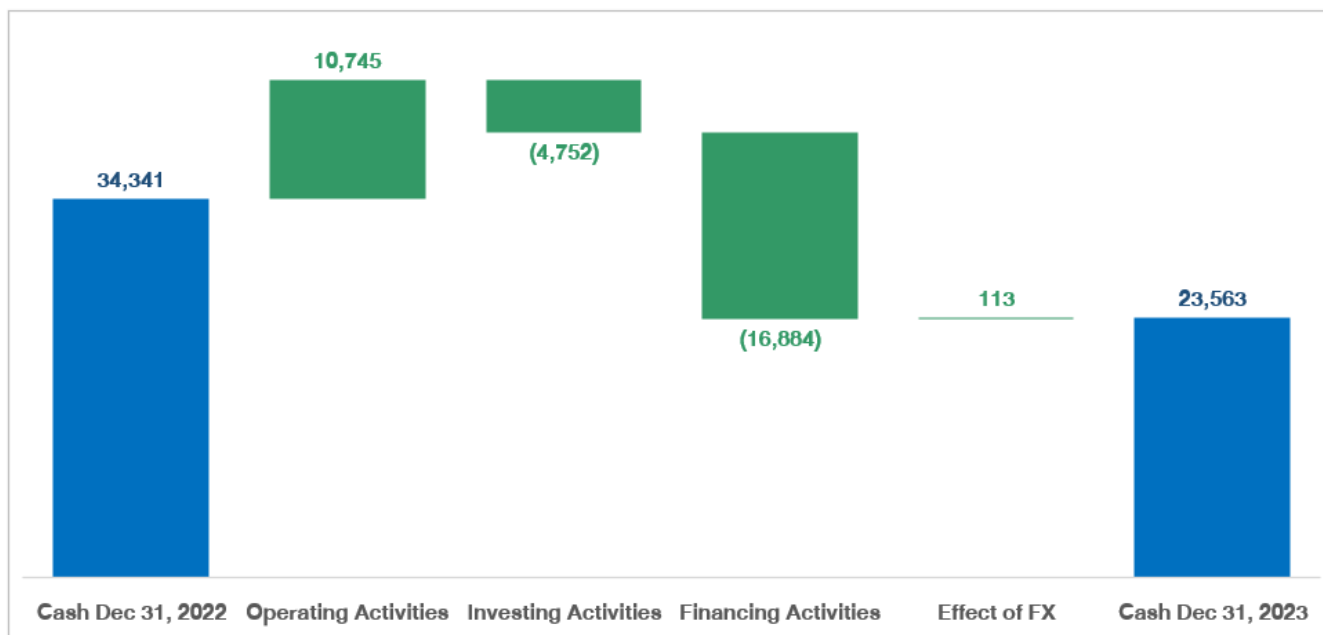
 Liabilities decreased in the amount of THB 15,829 million or 13.0%. The main reasons were as follows:

- The Company paid for loans from financial institutions in the amount of THB 8,960 million. In addition, as THB appreciated in relative to USD, the liabilities value in USD decreased.


- Trade accounts payable and other current payables decreased by THB 5,185 million. The main reason was, RG generated less electricity in November and December 2023 than that in November and December 2022, resulting in less fuel consumption.

 Equity decreased in the amount of THB 270 million or 0.3%.

#### 4. Analysis of Cash Flows



Cash and cash equivalents of the Company and its subsidiaries as at December 31, 2023 were THB 23,563 million, decreasing by THB 10,778 million from THB 34,341 million on December 31, 2022. The details were summarized below:

 Net cash from operating activities increased cash flow in the amount of THB 10,745 million. The reason was the operating result of 2023 improved cash position by THB 8,436 million, adjusted by the change in operating assets and liabilities in the amount of THB 2,309 million.

 Net cash used in investing activities decreased cash flow in the amount of THB 4,752 million. The main reasons were as follows:

- The Company paid for plant and equipment in the amount of THB 3,045 million.
- The Company had net cash outflow in other current financial assets in the amount of THB 2,836 million.
- The Company paid for additional investment in joint ventures and associates in the amount of THB 2,235 million.
- The Company received dividends in the total amount of THB 2,142 million.
- The Company received interest income in the amount of THB 1,554 million.

 Net cash used in financing activities decreased cash flow in the amount of THB 16,884 million. The main reasons were as follows:

- The Company paid for loans from financial institutions in the amount of THB 8,960 million.
- The Company paid for interest expenses during the period in the amount of THB 3,961 million.
- The Company paid dividend to owners in the amount of THB 3,480 million.

**5. Significant financial ratios (excluded the effect of foreign exchange rate of the Company and its subsidiaries)**

