

Dow Jones
Sustainability Indices

Powered by the S&P Global CSA



Management Discussion and Analysis

Year 2022 and 4th Quarter of 2022



Significant Events in 2022 - Present

- The spread of COVID-19 situation in Thailand has been improved since the second half of 2022, the Centre for COVID-19 Situation Administration (CCSA) has eased the level of COVID-19 restrictions since the beginning of July. And from 1 October 2022 onward, Ministry of Public Health announced COVID-19 as a "Disease under surveillance" instead of a "dangerous infectious disease". Nonetheless, the Company continues to monitor the situation closely and gives importance to the control measures for safety of employees and counterparties to ensure the stability and continuity of our electricity and utilities supply system and respond to our customer needs as targeted.
- The ongoing tension between Russia-Ukraine together with the energy demand recovery after countries reopening significantly drove up energy prices, including crude oil and other commodities in 2022. The Company's performance has impacted from higher cost of natural gas and coal especially for electricity selling to industrial customers. However, the Energy Regulatory Commission (ERC) has announced the increase of the Fuel Adjustment Charge (Ft) totalling 3 times in 2022 from -15.32 to 1.39, 24.77, and 93.43 Satang per unit in January, May, and September 2022, respectively, as well as an increase of Ft for a period between January April 2023 by 61.49 Satang per unit from the previous period to THB 1.5492 per unit for other electricity users (excluding households). The Ft increase has partially mitigated the impact of higher fuel costs on the Company's performance. Moreover, the Company has dosely monitored natural gas and coal prices and managed the production process optimization to ensure efficiency of its power plants, as well as generated the electricity and steam from the lowest marginal costs of production first or merit order and focusing on synergy from connecting electricity and steam networks together with continuous enhancing other synergies to achieve the highest returns.
- On June 7, 2022, there was a restructuring of power business in PTT Group as Thai Oil Public Company Limited (TOP) sold its 10.78% shares in GPSC to PTT Public Company Limited (PTT) and Siam Management Holding Company Limited (SMH). As a result, PTT and SMH owns 47.27% and 7.96% respectively and TOP owns 10.00% of all issued shares of GPSC. Currently, GPSC's major shareholding is illustrated on right hand side pie chart.



- On June 9, 2022, the Company successfully issued its second green bonds for institutional and high-net-worth investors worth THB 12 billion with tenor of 3-15 years at coupon rates between 2.55 4.40%. The green bonds were assigned a rating of "AA+" with "Stable" outlook by TRIS Ratings. The use of proceeds of this issuance are to invest in renewable energy projects and to refinance the company's existing loans and the group's green projects.
- On September 13, 2022, GPSC Treasury Center Company Limited (GPSC TC), a wholly owned subsidiary of GPSC, entered into an agreement with Sumitomo Mitsui Banking Corporation (SMBC) for Green Loan of USD 185 million with 10-year contract term designated for the implementation of dean energy projects. This will support to scale-up green energy to over 50% of its total capacity by 2030.

Investments and Project Progress

term PPA since August 1, 2021.

- On January 18, 2022, the Company paid for the paid-up share capital of Global Renewable Synergy Company Limited (GRSC), which the Company owns 100% of shares, of 164,990,000 shares at THB 5.12 per share, totaling THB 845 million. Accordingly, GRSC paid for the paid-up capital of Avaada Energy Private Limited (AEPL) of 28,234,308 shares at INR 66.41 per share, totaling INR 1,875 million or approximately THB 841 million. Consequently, the Company's shareholding proportion in AEPL was increased from 41.62% to 42.93%.

 Later, on June 30, 2022, the Company has completed the process of determining fair value of the net assets acquired and reviewing the purchase price allocation from the acquisition of Avaada Energy Private Limited (AEPL) on July 13, 2021. Consequently, the Company has to amortize the rights in the long-term power purchase agreement (PPA) by the straight-line method over the period of such long-
- On February 7, 2022, the Company has entered into the Unit Purchase Agreement with CES Iwate Taiyoko Hatsudensho GK to sell all shares in Ichinoseki Solar Power 1 GK (ISP1), which the Company held 100% stake. The transaction has been completed on March 18, 2022, and the Company recognized net profit (after tax and related expenses) from selling ISP1 amounting THB 592 million.
- On April 29, 2022, the Company transferred assets related to battery business, i.e., battery plant with the capacity of 30 MWh per year and 100% of the ordinary shares of GPSC-SG Holding Company, Singapore that holds 10.3% in Anhui Axxiva New Energy Technology Co., Ltd to Nuovo Plus Company Limited (NUOVO PLUS) which is a joint venture company incorporated by the Company and ARUN PLUS Company Limited (ARUN PLUS), holding 49% and 51% of the shares, respectively, and the Company recognized net profit (after tax and related expenses) from transferring of assets amounting THB 288 million.

Investments and Project Progress (cont.)

- On June 13, 2022, the Company and the Provincial Electricity Authority (PEA) signed a Memorandum of Understanding (MOU) "Seeking Mutual Opportunities to Become Energy Suppliers and Operate Related Businesses" in the energy trading projects of PEA, with the scope to study and develop the energy supplier model with PEA and prepare for other service businesses, such as trading and exchange of Renewable Energy Certificates (RECs), Energy Attributed Certificates (EACs), or Carbon Credits, as well as other relevant business models to support the Company to be a service provider via the platform.
- On August 15, 2022, the Company has been qualified for the ERC Sandbox Phase 2 Project of the ERC. The Project focuses on green innovation and enables operators to test technology-related energy innovations in a limited area in order to serve consumers' needs and the stability of electricity system. The details of qualified projects of the Company and partners are as follows:
 - A project to study and develop green energy trading platform and Renewable Energy Certificate (REC).
 - A project to study the business model of electricity trading under the new PPA with the Third Party Access (TPA).
 - A pilot project for the development of energy management innovation in the smart city.
- On September 2, 2022, the Company, PTT Public Company Limited (PTT) and Western Digital Storage Technology (Thailand) Limited (WD) have announced their cooperation in studying renewable energy development for using in the production processes of WD factories in Thailand. This collaborative initiative consists of an evaluation of opportunities for procurement of renewable energy from many sources for WD through new electricity purchase contracts under the ERC Sandbox Phase 2 Project, and the development of renewable energy trading through the Third Party Access (TPA) Project which will grant the permission to third parties to use or connect as well as sell or buy electricity through the electricity network systems.
- On September 15, 2022, the Company, SANY Heavy Industry Thailand (SANY), LEADWAY Heavy Machinery Company Limited (LEADWAY), and ROOTCLOUD Technology (Singapore) Company Limited (ROOTCLOUD) signed a memorandum of understanding (MOU) to study the feasibility to develop battery swapping services and battery-as-a-service business for electric commercial vehicles (eCV) along with the development of monitoring and operational management software for the batteries and swapping stations. The aim of the project is to support the need of commercial fleet to go green.
- On November 29, 2022, the Company has signed the Joint Venture Agreement to develop a portfolio of wind projects with Copenhagen Infrastructure Partners Group ("CIP") via CI NMF I Cooperatief U.A. ("CI NMF I") with the purpose of jointly exploring opportunities in wind power, especially wind power projects in Thailand. On January 30, 2023, the Company and CI NMF I has jointly established WindPower Development Co., Ltd., holding 51% and 49% of shares, respectively.
- On December 15, 2022, Nuovo Plus Company Limited (NUOVO PLUS), which is a joint venture company incorporated by the Company and ARUN PLUS Company Limited (ARUN PLUS), has entered into a joint venture agreement with Gotion Singapore Pte. Ltd. ("Gotion"), a company in the group of Gotion High-tech Co. Ltd., established NV Gotion Co., Ltd. (NV Gotion) with an authorized capital less than THB 600 million 51% from NUOVO PLUS and 49% from Gotion. NV Gotion plans to conduct the business of importing, assembling, and distributing battery modules, battery packs for energy storage systems, and electric vehicles (EV). An initial capacity of production will be 1 GWh per year and expanded to 2 GWh per year by 2025.
- On January 25, 2023, the Energy Regulatory Commission (ERC) announced a list of qualified companies for the Pass/Fail Basis from renewable energy sources under the Feed-in Tariff (FiT) scheme 2022-2030 for power plants with no fuel costs B.E. 2565 (2022). Eurus Plus Company Limited, Helios 1 Company Limited, Helios 3 Company Limited, and Helios 4 Company Limited which are joint ventures between the Company and business partners, have officially qualified the abovementioned announcement and will proceed further the next qualification round that the final result is expected to be announced within the first quarter of 2023.

Synergy from Acquisition of GLOW

In 2022, the Company recognized synergy value from the merger of over THB 2,740 million (after tax), higher than planned. The synergy value was mainly from power and steam network integration, commercial activities especially cost optimization, production and expanding customers base, production costs management and debentures management.

Q4/2022 Operating Results

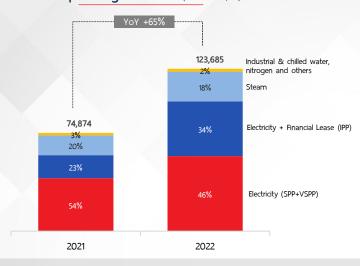
- Operating result of the Company has net loss in Q4/2022 of THB 436 million, decreased by THB 1,605 million from Q4/2021 which was mainly due to natural gas and coal price increased significantly, resulting in lower margin in selling electricity to industrial customers. Furthermore, electricity and steam sales volume to industrial customers were lower in line with plant maintenance of industrial customers in Q4/2022. However, IPP's operating results were higher due to an increase in electricity sales volume corresponding to higher dispatch instructed by EGAT and the generations using diesel instead of natural gas, resulting in higher margin from electricity sales.
- When comparing to Q3/2022, net profit for the Company decreased by THB 767 million mainly due to lower shares of profit from Xayaburi hydro power plant according to seasonality. Furthermore, electricity and steam sales volume to industrial customers were lower in line with plant maintenance of industrial customers and natural gas and coal price increased continuously. Even though, Ft increased to 93.43 Satang per unit since September 2022, which could help offsetting the lower margin in selling electricity to industrial customers partially. In addition, the Company recognized partial insurance claim of the Glow Energy Phase 5 power plant in this quarter.
- The Company recognized synergy value from the acquisition of GLOW amounting THB 1,149 million (after tax) in Q4/2022, mainly from power and steam network integration, commercial activities especially cost optimization, production and expanding customers base, production costs management and debentures management..

Overall operating results of the Company and its subsidiaries	Q4/21	Q3/22	Q4/22	change	+/(-)	2021	2022	Change +/(-)
(unit: THB million)	QHIZI	QSIZE	QHIZZ	YoY	QoQ	2021	2022	YoY
Operating revenue	22,019	33,866	34,839	58%	3%	74,874	123,685	65%
Cost of sales (excluding depreciation and amortization)	(18,098)	(30,917)	(32,355)	79%	5%	(55,206)	(111,814)	103%
Gross profit	3,920	2,949	2,484	(37%)	(16%)	19,667	11,871	(40%)
Selling and administrative expenses	(582)	(401)	(641)	10%	60%	(1,963)	(1,868)	(5%)
Other operating income	5	6	6	10%	0%	20	23	14%
EBITDA	3,343	2,554	1,849	(45%)	(28%)	17,724	10,026	(43%)
Depreciation and amortization	(2,200)	(2,150)	(2,156)	(2%)	0.3%	(8,630)	(8,600)	(0.4%)
EBIT	1,143	403	(307)	(127%)	(176%)	9,094	1,425	(84%)
Finance costs	(901)	(1,068)	(1,210)	34%	13%	(3,860)	(4,299)	11%
Other non-operating income and expenses	1,063	205	420	(61%)	105%	2,100	2,164	3%
Dividend received and shares of profit of associates and joint ventures	201	764	359	79%	(53%)	1,792	1,731	(3%)
Income tax expenses	(97)	158	238	(345%)	50%	(1,192)	376	(132%)
Profit before FX and extraordinary items	1,409	462	(501)	(136%)	(208%)	7,934	1,398	(82%)
Net foreign exchange gain (loss)	68	(61)	372	(448%)	710%	(93)	59	(163%)
Net profit	1,477	401	(128)	(109%)	(132%)	7,840	1,457	(81%)
Non-controlling interests	(309)	(70)	(308)	(0.1%)	342%	(522)	(566)	8%
Net profit for the Company	1,168	331	(436)	(137%)	(232%)	7,319	891	(88%)
Adjusted Net Income ¹	1,571	784	21	(99%)	(97%)	8,907	2,779	(69%)
Gross profit margin (%)	18%	9%	7%	(11%)	(2%)	26%	10%	(17%)
Net profit margin (%)	5%	1%	-1%	(7%)	(2%)	10%	1%	(9%)
Adjusted Net Income margin (%)	7%	2%	0.1%	(7%)	(2%)	12%	2%	(10%)

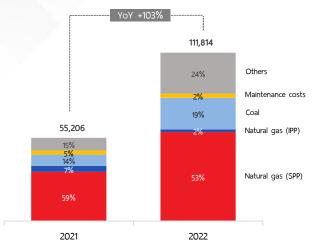
Notes: 1. Adjusted Net Income is net profit attributed to the Company excluding "fair value of intangible assets from the acquisition of GLOW". (see details on page 25)

Comparison of Company's Performance

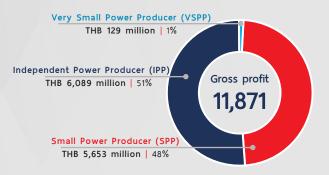
Operating Revenue (THB million, %)



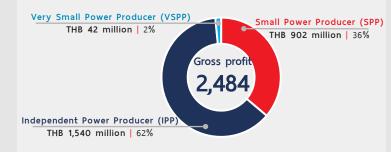
Cost of Sales (THB million, %)



2022 Gross Profit Breakdown (THB million, %)



Q4/2022 Gross Profit Breakdown (THB million, %)



Gross profit for the year 2022 was THB 11,871 million, decreased by THB 7,796 million or 40% from 2021

HB 11,871 million, decreased

Gross profit in Q4/2022 was THB 2,484 million, decreased by

THB 1,436 million or 37% from Q4/2021 and decreased by THB 465

million or 16% from Q3/2022.

VOV Q4/2022 VS Q4/2021

- Gross profit of Independent Power Producer (IPP) increased by THB 117 million or 8%, mainly due to Higher Energy Payment (EP) of Sriracha Power Plant and GIPP corresponding to higher dispatch instructed by EGAT and the generations using diesel instead of natural gas, resulting in higher margin from electricity sales
- decreased by THB 1,535 million or 63% mainly due to significantly higher natural gas and coal price, resulting in lower margin in selling electricity to industrial customers. However, total electricity sales volume was stable from higher electricity sales volume to EGAT, while electricity and steam sales volume to industrial customers decreased due to plant maintenance of industrial customers in Q4/2022.

QQ Q4/2022 VS Q3/2022

- Gross profit of Independent Power Producer (IPP) decreased slightly by THB 18 million or 1%, mainly due to the following:
 - Lower Availability Payment (AP) from GIPP as USD-linked portion of the AP decreased due to THB appreciation against USD.
 - Lower revenue from sales of HHPC due to lower electricity dispatch from seasonality.
- Gross profit of Small Power Producer (SPP)
 decreased by THB 473 million or 34% mainly due to
 higher natural gas and coal price, as well as
 electricity and steam sales volume to industrial
 customers decreased due to plant maintenance of
 industrial customers in O4/2022.

Quarterly Comparison of Company's Performance (cont.)

YOY Q4/2022 VS Q4/2021

- Gross profit of Very Small Power Producer (VSPP) and others decreased by THB 19 million or 31% mainly due to the Company has divested all shares in Ichinoseki Solar Power 1 GK (ISP1) to CES Iwate Taiyoko Hatsydensho GK on March 18, 2022.
- Other income and expenses in Q4/2022, was THB 420 million, decreased by THB 643 million mainly due to the Company recognized partial insurance claim of the Glow Energy Phase 5 power plant amounting THB 1,295 million in Q4/2021, while recognized amounting THB 432 million in Q4/2022.
- Others in Q4/2022, Selling and administrative expenses and Other expenses was THB 3,397 million, decreased by THB 315 million mainly from net gain foreign exchange increased by THB 304 million, and lower tax expense due to lower operating results in Q4/2022.
- Dividend received and shares of profit of associates and joint ventures was THB 359 million in Q4/2022, increased by THB 159 million or 79%, mainly from shares of profit from Xayaburi Power Co., Ltd. (XPCL) increased by THB 36 million and the Company recognized shares of profit from offshore wind power plant in Taiwan Changfang Project and Xidao Project (CFXD) totalling THB 250 million.
- Non-controlling interests decreased by THB 1 million

QQ Q4/2022 VS Q3/2022

- Gross profit of Very Small Power Producer (VSPP) and others increased by THB 26 million or 172% mainly due to higher income from RDF power plant corresponding to higher electricity sales volume and electricity average selling price.
- Other income and expenses and Others in Q4/2022, was THB 420 million, increased by THB 214 million mainly due to the Company recognized partial insurance claim of the Glow Energy Phase 5 power plant amounting THB 432 million.
- Others in Q4/2022, Selling and administrative expenses and Other expenses was THB 3,397 million, decreased by THB 126 million mainly due to higher net gain from foreign exchange.
- Dividend received and shares of profit of associates and joint ventures was THB 359 million, decreased by THB 404 million or 53% mainly due to a decrease in shares of profit from Xayaburi Power Co., Ltd. (XPCL) by THB 668 million due to lower water level according to seasonality resulting in lower electricity production.
- Non-controlling interests increased by THB 238 million.

Yearly Comparison of Company's Performance (2022 VS 2021)

Net profit in 2022 was THB 891 million, decreased by THB 6,428 million or 88% from 2021 which was mainly due to the following:

- Gross profit of SPP decreased by THB 8,770 million due to significantly higher natural gas and coal price, resulting in lower margin in selling electricity to industrial customers, while the Ft did not reflect fuel costs in time.
- Gross profit of IPP increased by THB 1,200 million mainly due to Sriracha Power Plant and GIPP generated electricity using diesel instead of natural gas, resulting in higher margin from electricity sales, and higher electricity sales volume of Sriracha Power Plant corresponding higher electricity dispatch instructed by EGAT.
- Shares of profit from Xayaburi Power Co., Ltd. (XPCL) increased by THB 330 million as a result of higher water level than 2021.

Awards Received in O4/2022 and 2023 Economic Outlook

Awards Received in Q4/2022 - Present

The GPSC successful year of 2022 has qualified as a member of **Dow Jones Sustainability Indices (DJSI)** in **Electric Utilities Industry of Emerging Markets Index with the highest score in the social dimension among all Electric Utilities sector in the world that representing the incessant commitment to promote the Sustainable Business through the environmentally friendly energy innovation business. The company is also planning to increase the proportion of power generation based on renewable energy by more than 50% within 2030** and ready to join hands with the partners to study and invest in the potential areas of the 4S strategy with the ultimate goal to become a net zero organization. Furthermore, the company continues to drive business through the green energy development strategy in line with the direction of sustainable growth and has been recognized and awarded both domestically and internationally.

On 4 October 2022, the company received the awards of **Eco Factory plus Social Value 2022 with two Gold plus awards** from **Department of Industrial Works** for its two power plants, i.e. Central Utility Plant 1 and Central Utility Plant 2 in Map Ta Phut Area, Rayong Province. The awards herein are designated to honor the entrepreneurs from various sectors who have been running their industrial factories with an emphasis on efficient resource management and environmentally friendly processes. In addition, these honorable awards are given to those who intend to promote community activities and enhance community value by means of circular economy based on the context of eco-industrial town. The objectives thereof are to heighten the community and local economy as well as creating social value, which will lead to the ideal goal of livable eco industrial town.

On 28 October 2022, the company received the Sustainability Excellence awards in terms of Highly Commended Sustainability Awards at the event of SET AWARDS 2022 that represents the organization's commitment to operate its business in accordance with corporate governance or ESG (Environmental, Social and Governance), and bring about economic, social and environmental sustainability with an intention to provide the shareholders with good returns.

On 9 December 2022, the company received four awards from the 12th Asian Excellence Awards 2022 for the third consecutive year consist of 1. Asia's Best CEO presented to Mr. Worawat Pitayasiri, President and Chief Executive Officer, 2. Asia's Best CFO given to Mr. Thitipong Jurapornsiridee, Chief Financial Officer, 3. Asia's Best CSR, and 4. Best Investor Relations Company (Thailand). It organized by Corporate Governance Asia magazine, the leading financial magazine in Hong Kong and Asia. The said awards are presented to the leaders and the organizations with excellence in organizational management, corporate governance, financial management and investor relations, as well as social and environmental responsibility in the international level.

Economic outlook in 2023

Thai economy: The Bank of Thailand (BOT) predicts that Thai economy will grow by 3.7% in 2023 due to strong recovery in the tourism industry, reflected by increasing number of foreign tourists. In addition, private consumption has been supported by economic activities including better employment and higher labor income that are more evenly distributed. Tourism and private consumption are expected to be important contributors in 2023, while the global economic slowdown will impact exports to slow down, leading to the outlook of overall economic recovery remains similar from previous year.

Thailand's inflation rate in 2023 is expected to be at 3% which will be slowing down from peak in Q3/2022 and returning to target inflation rate in 2023 from lower energy prices outlook. However, inflation rate should still be closely monitored due to domestic energy prices that remain uncertain and pass-through costs from business operators to consumers that could be larger and faster than expected from higher cost of production in several sectors Including higher electricity costs.

Ft adjustment: On December 28, 2022, the Energy Regulatory Commission (ERC) approved an official Ft increase for the collection of electricity invoices during January – April 2023 due to higher fuel cost from the rising global energy prices, especially a larger share and higher prices of Spot LNG imports, along with Baht depreciation trend. Furthermore, the ERC has considered the resolution of the National Energy Policy Council on November 25, 2022, which specifies a policy to reduce the burden on electricity costs for households by allocating natural gas from the Gulf of Thailand after the natural gas separation plant for households first in the amount that does not increase the electricity costs burden from the current electricity costs. Therefore, the Ft for the period of January - April 2023 is divided into 2 cases as follows:

- 1. Ft for households was maintained at 93.43 Satang per unit by allocating natural gas from the Gulf of Thailand after the natural gas separation plant for households first in the amount that does not increase the electricity costs burden.
- 2. Ft for non-household sector was increased by 61.49 Satang per unit from the previous period to 154.92 Satang per unit.

 However, with the energy situation still fluctuating at a high level, concerns about the economic recession, and other important factors that may affect the business operations, the Company continues to dosely monitor various situations and manage all aspects to ensure continuous efficiency.

Operating Results: Independent Power Producer (IPP)

Operating results (unit: THB million)	Q4/21	Q3/22	Q4/22	Change	e +/(-)	2021	2022	Change +/(-)
Operating results (drift. This fillimon)	Q-1/21	QSIZE	Q TI LL	YoY	QoQ			YoY
Revenue from electricity sales								
- Availability Payment: AP	1,453	1,189	1,257	(13%)	6%	5,318	5,097	(4%)
- Energy Payment: EP	5,575	8,752	12,473	124%	43%	12,225	36,589	199%
- Money received to submit to Power Developments Funds	7	7	13	83%	72%	15	38	145%
Total revenue from electricity sales	7,035	9,948	13,743	95%	38%	17,558	41,724	138%
Revenue from finance lease agreement	227	148	134	(41%)	(10%)	737	602	(18%)
Other income	0	0	0	N/A	N/A	0	(2)	N/A
Total revenue	7,262	10,097	13,877	91%	37%	18,295	42,323	131%
Cost of raw materials								
- Natural gas ¹	556	442	415	(25%)	(6%)	4,011	1,784	(56%)
- Coal	1,431	2,613	3,820	167%	46%	4,233	11,605	174%
- Others	3,409	4,998	7,611	123%	52%	3,706	21,122	470%
Total cost of raw materials	5,397	8,053	11,845	119%	47%	11,950	34,511	189%
Maintenance cost ²	251	206	233	(8%)	13%	755	819	8%
Others (excluding depreciation and amortization)	191	279	259	35%	(7%)	701	905	29%
Total cost of sales of goods and rendering of services	5,840	8,538	12,337	111%	44%	13,406	36,234	170%
Gross profit	1,423	1,558	1,540	8%	(1%)	4,889	6,089	25%
Gross profit margin	20%	15%	11%	(8%)	(4%)	27%	14%	(12%)

Notes: : 1. Induding gas pipeline transmission cost (fixed cost)

Revenue: IPP

Key revenue drivers	Q4/21	Q3/22	Q4/22	Change	+/(-)	2021	2022	Change +/(-)
key revenue univers	Q4/21	QSIZZ	Q4122	YoY	QoQ	2021	2022	YoY
Availability Rate (%)								
Sriracha Power Plant	63%	45%	76%	14%	31%	91%	75%	(16%)
GIPP	93%	96%	96%	3%	1%	92%	97%	5%
GHECO-One	96%	78%	87%	(9%)	10%	75%	83%	8%
Electricity dispatch (GWh)								
Sriracha Power Plant	472	496	859	82%	73%	1,316	2,534	93%
GIPP	148	244	317	114%	30%	697	685	(2%)
GHECO-One	1,408	1,138	1,273	(10%)	12%	4,372	4,709	8%
Houay Ho Power	83	104	66	(20%)	(36%)	403	414	3%
Total electricity dispatch	2,111	1,982	2,515	19%	27%	6,788	8,342	23%
Average selling price								
Average selling price (THB/kWh)	3.44	5.02	5.45	58%	9%	2.70	5.00	85%

Operating Performance by Plant Type (IPP)

Quarterly Comparison of IPP's Revenue

YOY Q4/2022 VS Q4/2021

Revenue from IPP business in Q4/2022 was THB 13,877 million, increased by THB 6,614 million or 91% yoy mainly due to the following contributing factors:

- Revenue from Sriracha Power Plant increased by THB 2,832 million mainly from higher Energy Payment (EP) corresponding higher electricity dispatch instructed by EGAT and Availability Payment (AP) increased due to 65-day planned maintenance in Q4/2021.
- Revenue from IPP business of GLOW increased by THB 3,782 million mainly due to GHECO-One and GIPP's higher revenue by THB 2,182 million and THB 1,539 million, respectively, from GHECO-One's higher EP from higher electricity average selling price due to higher coal price, as well as GIPP's higher EP corresponding to higher electricity dispatch to EGAT and higher electricity average selling price due to higher natural gas price. Meanwhile, revenue of HHPC decreased due to lower electricity dispatch.

QQQ Q4/2022 VS Q3/2022

Revenue from IPP business in Q4/2022 was THB 13,877 million, increased by THB 3,780 million or 37% qoq mainly due to the following contributing factors:

- Revenue from Sriracha Power Plant increased by THB 1,938 million mainly from higher Energy Payment (EP) corresponding to higher electricity dispatch instructed by EGAT and Availability Payment (AP) increased due to planned and unplanned maintenance in Q3/2022.
- Revenue from IPP business of GLOW increased by THB 1,842 million mainly due to higher revenue from GHECO-One and GIPP by THB 1,040 million and THB 876 million, respectively, from higher EP corresponding to higher electricity dispatch instructed by EGAT. Meanwhile, revenue of HHPC decreased due to lower electricity dispatch.

Yearly Comparison of IPP's Revenue (2022 VS 2021)

Revenue from IPP business in 2022 was THB 42,323 million, increased by THB 24,028 million or 131% from 2021 mainly from the following:

- Revenue from Sriracha Power Plant increased by THB 13,136 million mainly due to higher Energy Payment (EP) according
 to an increase of electricity dispatch to EGAT and higher electricity average selling price due to higher cost of raw materials.
 Meanwhile, Availability Payment (AP) decreased due to more planned and unplanned outages in 2022 than previous year.
- Revenue from IPP Business of GLOW increased THB 10,891 million mainly due to (1) higher revenue from GHECO-One due to higher EP corresponding to higher electricity average selling price from higher coal price and higher electricity sales volume due to higher electricity dispatch instructed by EGAT, while Availability Payment (AP) was stable (2) revenue of GIPP increased as a result of higher EP corresponding to higher electricity average selling price due to higher cost of raw materials and (3) revenue from sales of HHPC increased due to higher electricity dispatch.

Cost of Sales of Goods and Rendering of Services: IPP

w	0.4/21	02/22	04/22	Change	+/(-)	2021	2022	Change +/(-)
Key cost drivers	Q4/21	Q3/22	Q4/22	YoY	QoQ	2021	2022	YoY
Natural Gas		,						
Natural gas consumption								
GPSC's natural gas consumption ('000 MMBTU)	130	30	241	86%	704%	6,775	321	(95%)
GLOW's natural gas consumption ('000 MMBTU)	205	250	110	(47%)	(56%)	4,977	392	(92%)
Coal								
Coal consumption (Ton JPU)	503,052	409,193	456,018	(9%)	11%	1,562,000	1,702,088	9%
Average coal cost (excluding freight) (USD/Ton JPU)	95.7	168.5	242.3	153%	44%	87.5	208.8	139%

Operating Performance by Plant Type (IPP)

Quarterly Comparison of IPP's Cost of Sales of Goods and Rendering of Services

YOY Q4/2022 VS Q4/2021

Cost of sales of goods and rendering of services of IPP business in Q4/2022 was THB 12,337 million, increased by THB 6,497 million or 111% yoy mainly due to the following:

- Cost of natural gas decreased by THB 141 million mainly due to using diesel instead of natural gas of Sriracha Power Plant and GIPP.
- Cost of coal increased by THB 2,388 million due to an increase of average coal price by 153% while consumption of coal of GHECO-One decreased by 9%.
- Other raw materials increased THB 4,201 million mainly due to using diesel instead of natural gas of Sriracha Power Plant and GIPP and higher electricity sales volume as instructed by EGAT.

QQQ Q4/2022 VS Q3/2022

Cost of sales of goods and rendering of services of IPP business in Q4/2022 was THB 12,337 million, increased by THB 3,799 million or 44% goq mainly due to the following:

- Cost of natural gas decreased by THB 27 million mainly due to using diesel instead of natural gas of Sriracha Power Plant and GIPP.
- Cost of coal increased by THB 1,206 million due to consumption of coal of GHECO-One increased by 11% according to higher electricity sales volume and an increase of average coal price (including the impact of coal inventory adjustment) by 44%.
- Other raw materials increased THB 2,613 million mainly due to using diesel instead of natural gas of Sriracha Power Plant and GIPP and higher electricity sales volume as instructed by EGAT.

Yearly Comparison of IPP's Cost of Sales of Goods and Rendering of Services (2022 VS 2021)

Cost of sales of goods and rendering of services of IPP business in 2022 was THB 36,234 million, increased by THB 22,828 million or 170% from 2021 primarily due to cost of other raw materials increased by THB 17,415 million from using diesel instead of natural gas of Sriracha Power Plant and GIPP and higher electricity dispatch of Sriracha Power Plant. Moreover, cost of coal of GHECO-One increased THB 7,373 million due to average coal price increased by 139% and coal consumption of GHECO-One increased by 9%. Meanwhile, cost of natural gas decreased THB 2,227 million from lower natural gas consumption.

Gross Profit: IPP

Gross profit of IPP business in Q4/2022 was THB 1,540 million, increased by THB 117 million or 8% from Q4/2021 primarily due to the following:

- Gross profit of Sriracha Power Plant increased due to higher Energy Payment (EP) corresponding to higher dispatch instructed by EGAT and the generations using diesel instead of natural gas, resulting in higher margin from electricity sales.
- Gross profit of IPP business of GLOW decreased mainly due to lower Availability Payment (AP) of GHECO-One due to maintenance in Q4/2022 and lower electricity sales volume of HHPC.

When comparing to Q3/2022, gross profit of IPP business decreased by THB 18 million or 1% primarily due to the following:

- Gross profit of IPP business of GLOW decreased due to lower electricity sales volume of HHPC according to seasonality.

 Moreover, GIPP's USD-linked portion of AP decreased due to THB appreciation.
- Gross profit of Sriracha Power Plant increased due to higher EP corresponding to higher dispatch instructed by EGAT, and AP increased due to planned and unplanned maintenance in Q3/2022.

Gross profit of IPP business in 2022 was THB 6,089 million, increased by THB 1,200 million or 25% from 2021 mainly from using diesel instead of natural gas of Sriracha Power Plant and GIPP, resulting in higher margin from electricity sales. In addition, Sriracha Power Plant has higher electricity dispatch corresponding to instruction by EGAT.



Operating Results: Small Power Producer (SPP)

Operating results (unit: THB million)	Q4/21	Q3/22	Q4/22	Change	Change +/(-)		2022	Change +/(-)
				YoY	QoQ			YoY
Revenue								
Revenue from electricity sales	10,051	17,028	14,785	47%	(13%)	39,975	56,918	42%
Revenue from steam sales	4,311	6,254	5,839	35%	(7%)	15,032	22,660	51%
Other income	215	250	120	(44%)	(52%)	882	941	7%
Total revenue	14,577	23,532	20,744	42%	(12%)	55,889	80,519	44%
Cost of raw materials								
Natural gas	9,523	17,196	15,176	59%	(12%)	32,395	59,104	82%
Coal	872	3,160	2,979	242%	(6%)	3,250	9,361	188%
Others	384	656	624	63%	(5%)	897	2,766	208%
Total cost of raw materials	10,778	21,012	18,779	74%	(11%)	36,542	71,230	95%
Maintenance cost	519	531	550	6%	4%	1,956	1,848	(6%)
Others (excluding depreciation and amortization)	842	615	514	(39%)	(16%)	2,968	1,789	(40%)
Total cost of sales of goods and rendering of services	12,140	22,157	19,842	63%	(10%)	41,466	74,867	81%
Gross profit	2,437	1,375	902	(63%)	(34%)	14,423	5,653	(61%)
Gross profit margin	17%	6%	4%	(12%)	(1%)	26%	7%	(19%)

Revenue: SPP

Key revenue drivers	Q4/21	Q3/22	Q4/22	Change	+/(-)	2021	2022	Change +/(-)
				YoY	QoQ		Î	YoY
Electricity sales volume								
GPSC's electricity sales volume (GWh)	1,127	1,189	1,105	(2%)	(7%)	4,574	4,618	1%
GLOW's electricity sales volume (GWh)	2,044	2,313	2,057	1%	(11%)	8,739	8,530	(2%)
Total electricity sales volume (GWh)	3,172	3,502	3,162	(0.3%)	(10%)	13,313	13,148	(1%)
Electricity average selling price								
Weighted average selling price (THB/kWh)	3.17	4.86	4.68	48%	(4%)	3.00	4.29	43%
Steam sales volume								
GPSC's steam sales volume ('000 tons)	1,741	1,943	1,599	(8%)	(18%)	7,025	7,203	3%
GLOW's steam sales volume ('000 tons)	2,000	1,888	1,623	(19%)	(14%)	8,065	7,306	(9%)
Total steam sales volume ('000 tons)	3,741	3,831	3,222	(14%)	(16%)	15,089	14,509	(4%)
Steam average selling price								
Weighted average selling price (THB/ton)	1,153	1,633	1,812	57%	11%	996	1,562	57%

Quarterly Comparison of SPP's Revenue

VOV Q4/2022 VS Q4/2021

Revenue from SPP business in Q4/2022 was THB 20,744 million, increased by THB 6,167 million or 42% yoy mainly due to the following:

- Revenue from SPP business of GPSC increased by THB 2,093 million mainly from an increase of revenue of Rayong Central Utility Plant (CUP) by THB 1,866 million due to higher electricity and steam average selling prices, and higher electricity sales volume to EGAT, while electricity and steam sales volume to industrial customers decreased due to plant maintenance of industrial customers in Q4/2022, resulting in lower total electricity and steam sales volume. Moreover, revenue of IRPC-CP increased by THB 227 million from higher electricity and steam average selling prices due to higher natural gas price, although total electricity and steam sales volume to industrial customers decreased.
- Revenue from SPP business of GLOW increased by THB
 4,047 million mainly from higher electricity and steam
 average selling prices due to higher Ft and natural gas price,
 as well as higher sales volume to EGAT, although electricity
 and steam sales volume to industrial customers decreased,
 resulting in higher total electricity sales volume.

QOQ Q4/2022 VS Q3/2022

Revenue from SPP business in Q4/2022 was THB 20,744 million, decreased by THB 2,788 million or 12% qoq mainly due to the following:

- Revenue from SPP business of GPSC decreased by THB 906 million mainly from lower revenue of IRPC-CP and Rayong Central Utility Plant (CUP) by THB 611 million and THB 295 million, respectively, from lower electricity sales volume to EGAT and electricity and steam sales volume to industrial customers.
- Revenue from SPP business of GLOW decreased by THB 1,882 million mainly due to lower electricity sales volume to EGAT and electricity and steam sales volume to industrial customers.

Yearly Comparison of SPP's Revenue (2022 VS 2021)

Revenue from SPP business in 2022 was THB 80,519 million, increased by THB 24,630 million or 44% primarily due to electricity and steam average selling prices increased by 43% and 57%, respectively, from higher Ft and natural gas price that rose significantly. Although, total electricity sales volume increased and steam sales volume to industrial customers decreased.

Cost of Sales of Goods and Rendering of Services: SPP

Key cost drivers	Q4/21 Q3/22		Q4/22	Change	+/(-)	2021 2022		Change +/(-)
				YoY	QoQ			YoY
Natural Gas								
Natural gas consumption								
GPSC's natural gas consumption ('000 MMBTU)	12,907	14,191	12,551	(3%)	(12%)	52,857	53,787	2%
GLOW's natural gas consumption ('000 MMBTU)	15,879	19,300	15,889	0.1%	(18%)	69,421	69,865	1%
Total natural gas consumption ('000 MMBTU)	28,786	33,492	28,440	(1%)	(15%)	122,277	123,652	1%
Average natural gas price								
Average natural gas price (THB/MMBTU)	331	513	534	61%	4%	265	478	80%
Coal								
GLOW's coal consumption (Ton JPU)	258,630	234,507	203,680	(21%)	(13%)	1,047,416	927,334	(11%)
Average coal cost (excluding freight)(USD/Ton JPU)	144.2	355.5	423.2	193%	19%	102.5	290.2	183%

Quarterly Comparison of SPP's Cost of Sales of Goods and Rendering of Services

YOY Q4/2022 VS Q4/2021

Cost of sales of goods and rendering of services of SPP business in Q4/2022 was THB 19,842 million, increased by THB 7,702 million or 63% yoy mainly due to the following:

- Cost of natural gas increased by THB 5,653 million (GLOW of THB 3,070 million and GPSC of THB 2,583 million) from average natural gas price increased by 61%, while natural gas consumption decreased slightly.
- Cost of coal increased by THB 2,107 million primarily due to average coal price increased by 193% although coal consumption decreased by 21%.

QQQ Q4/2022 VS Q3/2022

Cost of sales of goods and rendering of services of SPP business in Q4/2022 was THB 19,842 million, decreased by THB 2,315 million or 10% goq mainly due to the following:

- Cost of natural gas decreased by THB 2,020 million (GLOW of THB 1,572 million and GPSC of THB 448 million) mainly due to total natural gas consumption decreased by 15% as a result of lower electricity and steam sales volume to industrial customers due to plant maintenance of industrial customers in Q4/2022
- Cost of coal decreased by THB 181 million mainly from coal consumption decreased by 13%, while coal average price increased by 19%.

Yearly Comparison of SPP's Costs of Sales of Goods and Rendering of Services (2022 VS 2021)

Cost of sales of goods and rendering of services of SPP business in 2022 was THB 74,867 million, increased by 33,400 million or 81% mainly due to natural gas and coal average price increased by 80% and 183%, respectively, and natural gas consumption increased slightly by 1% while coal consumption decreased by 11%.

Gross Profit: SPP

Gross profit of SPP business in Q4/2022 was THB 902 million, decreased by THB 1,535 million or 63% from Q4/2021 mainly due to significantly higher natural gas and coal price, resulting in lower margin in selling electricity to industrial customers. Although, total electricity sales volume was stable from higher electricity sales volume to EGAT, but electricity and steam sales volume to industrial customers decreased due to plant maintenance of industrial customers in Q4/2022.

When comparing to gross profit of Q3/2022, gross profit of SPP business decreased by THB 473 million or 34% mainly due to higher natural gas and coal price and electricity and steam sales volume to industrial customers decreased due to plant maintenance of industrial customers in Q4/2022.

Gross profit of SPP business in 2022 was THB 5,653 million, decreased by THB 8,770 million or 61% from 2021 mainly due to significantly higher natural gas and coal price, resulting in lower margin in selling electricity to industrial customers, while the Ft did not reflect fuel costs in time.

Operating Results: Very Small Power Producer (VSPP) and Others

Operating results	Q4/21	Q3/22	Q4/22	Change	+/(-)	2021	2022	Change +/(-)
(unit: THB million)				YoY	QoQ			YoY
Revenue								
Revenue from electricity sales	103	52	70	(31%)	35%	418	244	(42%)
Revenue from chilled water sales	43	54	52	19%	(4%)	182	203	12%
Other income	33	131	96	190%	(27%)	89	396	346%
Total revenue	179	237	218	22%	(8%)	689	843	22%
Cost of raw materials								
Natural gas and others	28	186	144	407%	(23%)	175	605	246%
Total cost of raw materials	28	186	144	407%	(23%)	175	605	246%
Maintenance cost	27	32	27	0.2%	(17%)	60	96	61%
Others (excluding depreciation and amortization)	64	3	6	(91%)	78%	100	12	(88%)
Total cost of sales of goods and rendering of	119	221	176	400/	(200/)	224	713	4420/
services	119	221	1/6	49%	(20%)	334	/15	113%
Gross profit	61	15	42	(31%)	172%	355	129	(64%)
Gross profit margin	34%	6%	19%	(15%)	13%	51%	15%	(70%)

Note: VSPP and others include Combine Heat and Power Producing Co., Ltd. (CHPP) and Rayong Waste to Energy (WTE)

Revenue: VSPP and Others

Key revenue drivers	Q4/21	4/21 Q3/22		Change +/(-)		2021	2022	Change +/(-)
				YoY	QoQ			YoY
Electricity								
Sales volume (GWh)	13	10	12	(14%)	21%	47	41	(13%)
Average selling price (THB/kWh)	7.70	5.49	6.11	(21%)	11%	8.93	5.99	(33%)
Chilled water								
Sales volume ('000 RT)	5,651	6,534	5,557	(2%)	(15%)	25,228	24,419	(3%)
Average selling price (THB/RT)	7.70	8.21	9.28	21%	13%	7.21	8.33	16%

Quarterly Comparison of VSPP's and Others' Revenue

VOV Q4/2022 VS Q4/2021

Revenue from VSPP and other businesses in Q4/2022 was THB 218 million, increased by THB 39 million or 22% yoy mainly due to the following:

- Revenue from electricity sales decreased by THB 32 million mainly due to the Company has divested 100% shares held in ISP1 on March 18, 2022. Although, revenue from RDF power plant increased from higher electricity sales volume.
- Other income increased by THB 63 million mainly due to revenue from pontoons and Engineering, Procurement and Construction services (EPC) of Combine Heat and Power Producing Co., Ltd. (CHPP).

QOQ Q4/2022 VS Q3/2022

Revenue from VSPP and other businesses in Q4/2022 was THB 218 million, decreased by THB 19 million or 8% qoq mainly due to the following:

- Revenue from electricity sales increased by THB 18
 million mainly from higher revenue from Combine Heat
 and Power Producing Co., Ltd. (CHPP) from higher
 electricity and RDF power plant due to higher electricity
 sales volume and average selling price.
- Other income decreased by THB 35 million mainly due to lower revenue from pontoons of Combine Heat and Power Producing Co., Ltd. (CHPP) corresponding to lower number of projects.

Yearly Comparison of VSPP's Revenue (2022 VS 2021)

Revenue from VSPP and other business in 2022 was THB 684 million increased by THB 154 million or 22% from 2021 mainly due to revenue from Combine Heat and Power Producing Co., Ltd. (CHPP) increased by THB 335 million from pontoons and Engineering, Procurement and Construction services (EPC), as well as revenue from RDF power plant increased THB 99 million. Meanwhile, revenue from ISP1 decreased THB 279 million as the Company has completely divested shares in ISP1 on March 18, 2022.

Cost of Sales of Goods and Rendering of Services: VSPP and Others

Quarterly Comparison of VSPP's Cost of Sales of Goods and Rendering of Services

YOY Q4/2022 VS Q4/2021

Cost of sales of goods and rendering of services of VSPP and other businesses in Q4/2022 was THB 176 million, increased by 58 million or 49% yoy mainly due to the following:

 The cost of rendering of services increased mainly due to an increase of cost associated with pontoons and EPC works of Combine Heat and Power Producing Co., Ltd. (CHPP) corresponding to higher number of projects.

QQQ Q4/2022 VS Q3/2022

Cost of sales of goods and rendering of services of VSPP and other businesses in Q4/2022 was THB 176 million, decreased by 45 million or 20% qoq mainly due to the following:

 The cost of rendering of services decreased mainly due to lower cost associated with pontoons of Combine Heat and Power Producing Co., Ltd. (CHPP) corresponding to lower number of projects.

Yearly Comparison of VSPP's Cost of Sales of Goods and Rendering of Services (2022 VS 2021)

Cost of sales of goods and rendering of services of VSPP and other businesses in 2022 was THB 713 million, increased by THB 379 million or 113% from 2021 mainly due to an increase in other costs from an increase of cost following to pontoons and EPC works of Combine Heat and Power Producing Co., Ltd. (CHPP) corresponding to higher number of projects, as well as an increase of RDF power plant after commenced the Commercial Operation Date on May 28, 2021.

Gross Profit: VSPP and Others

Gross profit of VSPP and other businesses in Q4/2022 was THB 42 million, decreased by THB 19 million or 31% from Q4/2021 mainly due to the Company has completely divested 100% shares in ISP1 to CES Iwate Taiyoko Hatsydensho GK on March 18, 2022.

When comparing to Q3/2022, gross profit of VSPP increased by THB 26 million or 172% mainly due to higher revenue from RDF power plant due to higher electricity sales volume and electricity average selling price.

Gross profit of VSPP and other businesses in 2022 was THB 129 million, decreased by THB 225 million or 64% from 2021 mainly due to the Company has completely divested 100% shares in ISP1 to CES lwate Taiyoko Hatsydensho GK on March 18, 2022.

Operating Results of the Company

Other Expenses

Selling and administrative expenses and	04/21	03/22	4/22	Change	+/(-)	12M/21	12M/22	Change +/(-)		
Other expenses (unit: THB million)	Q4/ZI	QSIZZ	4122	YoY QoQ				12141721	12141/22	YoY
Selling and administrative expenses	582	401	641	10%	60%	1,963	1,868	(5%)		
Depreciation and amortization	2,200	2,150	2,156	(2%)	0.3%	8,630	8,600	(0.4%)		
Finance costs	901	1,068	1,210	34%	13%	3,860	4,299	11%		
Income tax expense	97	(158)	(238)	(345%)	50%	1,192	(376)	(132%)		
Net foreign exchange loss (gain)	(68)	61	(372)	448%	(710%)	93	(59)	(163%)		
Total other expenses	3,712	3,523	3,397	(8%)	(4%)	15,739	14,332	(9%)		

Quarterly Comparison of Other Expenses

VOV Q4/2022 VS Q4/2021

Other expenses was THB 3,397 million in Q4/2022, decreased by THB 315 million or 8% mainly from the following:

- Selling and administrative expenses: was THB 641 million in Q4/2022, increased by THB 58 million or 10% from Q4/2021, mainly from the advisory fee for investment and business development expenses.
- Depreciation and amortization: was THB 2,156 million in Q4/2022, decreased by THB 43 million or 2% from Q4/2021.
- Finance costs: was THB 1,210 million in Q4/2022, increased by THB 309 million or 34% from Q4/2021, mainly issued the green debentures and green loans.
- Income tax expenses: was THB -238 million in Q4/2022, decreased by THB 334 million or 345% from Q4/2021 from lower operating results.
- Net foreign exchange gain/loss: net gain of THB 372 million was recorded in Q4/2022, increased by THB 304 million or 448% from Q4/2021. This was due to record of
 - i. Increase in gain from fair value valuation of derivatives instruments of THB 54 million;
 - ii. Increase in unrealized FX loss of THB 193 million; and
 - iii. Increase in realized FX loss by THB 58 million.

QOQ Q4/2022 VS Q3/2022

Other expenses was THB 3,397 million in Q4/2022, decreased by THB 126 million or 4% mainly from the following:

- Selling and administrative expenses: was THB 641 million in Q4/2022, increased by THB 240 million or 60% from Q3/2022 mainly from the advisory fee for investment and business development expenses, maintenance and service expense for IT system, and public relations-related expenses.
- Depreciation and amortization: was THB 2,156 million in Q4/2022, increased by THB 6 million or 0.3% from O3/2022.
- Finance costs: was THB 1,210 million in Q4/2022, increased by THB 141 million or 13% from Q3/2022, mainly the green loans increased.
- Income tax expenses: was THB -238 million in Q4/2022, decreased by THB 79 million or 50% from Q3/2022 from lower operating results.
- Net foreign exchange gain/loss: net gain of THB 372 million was recorded in Q4/2022, increased by THB 434 million or 710% from Q3/2022. This was due to record of
 - Decrease in loss from fair value valuation of derivatives instruments of THB 34 million;
 - ii. Increase in unrealized FX gain of THB 347 million; and
 - iii. Increase in realized FX gain by THB 121 million.

Operating Results of the Company

Shares of Profit of Associates and Joint Ventures

Shares of Profit (Loss) of Associates and	Share-				Change	+/(-)			Change +/(-)
Joint Ventures (unit: THB million)	holdin g %	Q4/21	Q3/22	Q4/22	YoY	QoQ	12M/21	12M/22	YoY
Independent Power Producer (IPP)									
Xayaburi Power Company Limited (XPCL)	25%	37	741	73	98%	(90%)	944	1,274	35%
Small Power Producer (SPP)									
Bangpa-in Cogeneration Company Limited (BIC)	25%	23	5	5	(77%)	2%	123	43	(65%)
Nava Nakorn Electricity Generating Company Limited (NNEG)	30%	4	(48)	(34)	(877%)	(28%)	116	(100)	(186%)
Nam Lik 1 Power Company Limited (NL1PC)	40%	21	14	10	(50%)	(27%)	67	59	(13%)
Very Small Power Plant (VSPP) and Others									
Thai Solar Renewable Company Limited (TSR)	40%	65	77	80	22%	4%	335	342	2%
Eastern Seaboard Clean Energy Company Limited (ESCE)	33%	6	6	(9)	(249%)	(240%)	27	12	(55%)
Avaada Energy Private Limited (AEPL)	42%	(25)	(110)	(36)	43%	(67%)	(57)	(301)	433%
Global Renewable Power Company Limited (GRP)	50%	(11)	10	(39)	250%	(499%)	(20)	5	(124%)
Nuovo Plus Company Limited (NUOVO PLUS)	49%	0	(13)	(19)	N/A	46%	0	(44)	N/A
CI Changfang Limited and CI Xidao Limited (CFXD)	25%	0	0	250	N/A	N/A	0	250	N/A
Total shares of profit (loss) of associates and joint ventures		120	683	281	134%	(59%)	1,536	1,539	0.2%

Shares of profit of associates and joint ventures in Q4/2022 was THB 281 million, increased by THB 161 million or 134% from Q4/2021 and decreased by THB 401 million or 59% from Q3/2022.

Xayaburi Power Co., Ltd. (XPCL)

XAYABURI POWER Share of profit from XPCL increased by THB 36 million from Q4/2021 due to higher water volume from China and Laos and decreased by THB 668 million from Q3/2022 due to lower water level according to seasonality.

Nava Nakorn Electricity Generating Co., Ltd. (NNEG)

Share of profit from NNEG decreased by THB 39 million from Q4/2021 cause due to higher natural gas cost and loss profit THB 13 million from Q3/2022 due to lower natural gas cost

Bangpa-in Cogeneration Co., Ltd. (BIC)

Share of profit from BIC decreased by THB 18 million from 4Q/2021 due to higher natural gas cost, while stable share of profit from 3Q/2022

Nam Lik 1 Power Co., Ltd. (NL1PC)

Share of profit from NL1PC decreased by THB 10 million from Q4/2021 and decreased by THB 4 million from Q3/2022 cause higher interest expense in line with floating rate

Thai Solar Renewable Co., Ltd. (TSR)

Share of profit from TSR increased by THB 15 million from Q4/2021 mainly from higher tax expenses from some power plant expired BOI's investment privileges and increased by THB 3 million from Q3/2022 due to higher Ft rate but higher administrative expense affected by replacing solar panel cost

บริษัท Avaada Energy Private Limited (AEPL)

Share of profit from AEPL decreased by THB 11

AVAADA million from Q4/2021 due to amortization of the rights in the long-term PPA as THB 48 million and increased THB 74 million from Q3/2022 due to additional COD and higher actual radiation according to seasonality.

Global Renewable Power Co., Ltd. (GRP)

Share of profit from GRP decreased by THB 28 million from Q4/2021 and decreased by THB 49 million from Q3/2022 mainly from higher selling and administrative due to higher advisory fee for investment

CI Changfang Limited and CI Xidao Limited (CFXD)

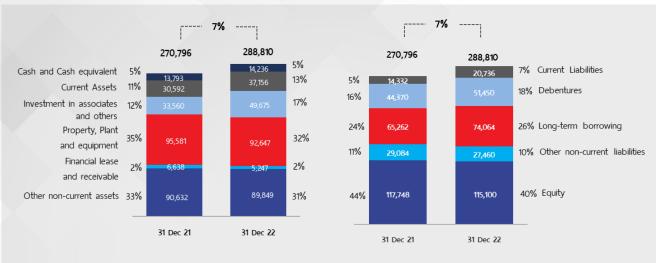


The Company recognized share of profit from CFXD from Q4/2022 due to unrealized gain from interest rate swap.

Summary of Financial Position of the Company and its Subsidiaries

Total Asset (THB million, %)

Total Liabilities and Equity (THB million, %)



Total Assets

As of December 31, 2022, the total assets of the Company and its subsidiaries were THB 288,810 million, increased by THB 18,014 million or 7% from December 31, 2021, mainly as a result of the following:

- Cash and cash equivalent increased by THB 443 million or 3%.
- Investments in associates and others increased by THB 16,114 million or 48%, due to purchased shares of CI Changfang Limited and CI Xidao (CFXD) and capital injection for operation in Nuovo Plus Company Limited.
- Property, Plant and Equipment decreased by THB 2,934 million or 3% from depreciation and amortization.
- Financial lease receivable decreased by THB 1,391 million or 21%.
- Other current assets increased by THB 6,564 million or 21%, mainly due to account receivable and inventories.
- Other non-current assets decreased by THB 783 million or 1% due to intangible asset decreased by THB 1,751 million from the Company transferred assets related to battery business to Nuovo Plus Company Limited (NUOVO PLUS).

Total Liabilities

As of December 31, 2022, total liabilities of the Company and its subsidiaries were at THB 173,710 million, increased by THB 20,662 million or 13% from December 31, 2021, mainly as a result of the following:

- Current liabilities increased by THB 6,404 million or 45% mainly account payable increased by THB 4,480 million and short-term borrowing from financial institution increased by THB 3,371 million.
- Long-term borrowings and debentures increased by THB 15,882 million or 14% mainly due to long-term loan from related parties increased by THB 8,100 million and issued green debentures.
- Other non-current liabilities decreased by THB 1,625 million or 6% mainly from deferred tax liabilities decreased by THB 986 million and non-current derivatives liabilities decreased by THB 720 million.

Total Equity

As of December 31, 2022, total shareholders' equity of the Company and its subsidiaries were at THB 115,100 million, decreased by THB 2,647 million or 2% from 31 December 2021 due to an unappropriated retained earnings increased by THB 1,457 million, dividend payout from operation results in the nine months of 2021 by THB 3,524 million, and other comprehensive income loss was THB 580 million.

Total Interest-Bearing Debt (THB million)

Short-term loans
and current portion of long-term loans
THB 14,828 million | 12%

Non-current portion of long-term loans and debentures
THB 114,057 million | 88%

As of December 31, 2022, the Company and its subsidiaries has total interest-bearing debt (excluding lease liabilities) of THB 128,885 million which comprised of current liabilities totaling THB 14,828 million or 12% and non-current liabilities totaling THB 114,057 million or 88%.

Cash Flow (unit: THB million)	12M/2022
Net cash flow from operating activities	3,438
Net cash flow used in investing activities	(14,092)
Net cash flow from financing activities	11,601
Net cash and cash equivalent (before exchange rate effect)	947
Effect of exchange rate to cash and cash equivalent	(504)
Net increase in cash and cash equivalents (after taken into account exchange rate)	443
Cash and cash equivalents at the beginning of the period	13,793
Cash and cash equivalents at the end of the period	14,236

At the end of Q4/2022, the Company and its subsidiaries had a net increase in cash and cash equivalent of THB 443 million from the end of 2021 which was primarily as a result of the following:

Cash Flow from Operating Activities

At the end of Q4/2022, the Company and its subsidiaries had net cash inflow from operating activities of THB 3,438 million, which was from cash received from operating activities of THB 4,840 million deducted by corporate income tax payment of THB 1,402 million.

Cash Flow from Financing Activities

At the end of Q4/2022, the Company and its subsidiaries had net cash inflow from financing activities of THB 11,601 million, which was from:

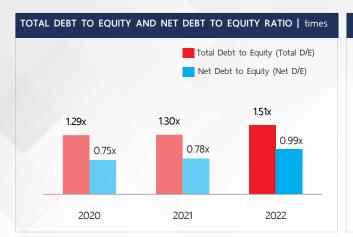
- i. Cash received from issued the green debentures, the long-term Green loans and long-term loans from related parties total amount THB 31,741 million;
- ii. Cash received from long-term loans financial institutions and debentures of THB 13,078 million;
- iii. Interest paid to financial institutions of THB 3,908 million;
- iv. Dividend payout of THB 3,524 million;
- v. Financial lease repayment of THB 186 million; and
- vi. Other financing activities of THB 188 million.

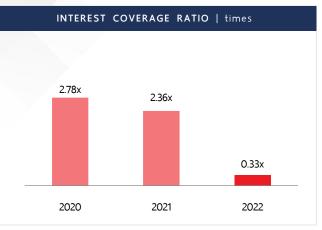
Cash Flow from Investing Activities

At the end of Q4/2022, the Company and its subsidiaries had net cash outflow of THB 14,092 million from investment activities, which was from:

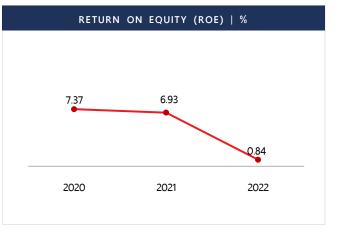
- i. Cash paid for investment in associates of THB 10,888 million;
- ii. CAPEX of THB 5,507 million;
- iii. Cash received on loans to related parties net of THB 1,261 million; and
- iv. Dividend received and others of THB 1,048 million.

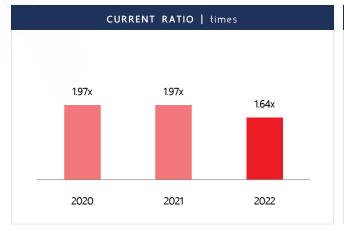
Key Financial Ratios

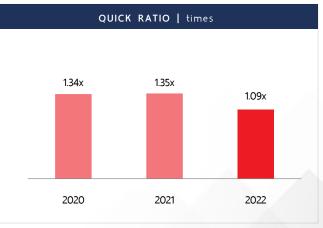












Total Debt to Equity Ratio	Total debt / Equity
Net Debt to Equity Ratio	(Interest-bearing debt - (cash and cash equivalent + restricted cash + temporary investment)) / Equity
Interest Coverage Ratio	Earnings before Interest and Taxes (EBIT) / Interest expenses
Earning per Share	Net profit for the Company / Weighted average number of common shares
Current Ratio	Current assets / Current liabilities
Quick Ratio	(Cash and cash equivalent + restricted cash + temporary investment + account receivable) / Current liabilities)

Update of Projects Under Construction as of December 31, 2023

Energy Recovery Unit (ERU)



Note: 1. The project has been affected by the COVID-19 pandemic and is expected to start commercial operation in 2025.

AERU



Project updates:

Overall, the project has reached 87.06% in detail; equipment work for steel structures, Circulating Fluidize Bed Boiler and Electrostatic Precipitator 3 units are being install. Installation of the SNOX Reactor of boiler unit 1 and the SNOX Wet Sulfuric Acid Condenser of boiler unit 3 have started.

In addition, steel structures for the steam turbine generator shelter and electrical equipment for the Substation 119 building are being installed.

Glow Energy Phase 2





4Q22

97.49%

Project updates:

The construction has reached 97.49%, and the project is in the process of testing machines and equipment according to power purchase agreement and construction agreement.

Projects	Electricity Capacity (MW)	Steam Production Capacity (t/h)	Contracted PPA with EGAT (MW)	
SPP Replacement Pr	oject Stage 1			
• Glow Energy Phase 2	200	300	60 (2 PPAs)	

Glow SPP2





4Q22 36.07%

Project updates:

The construction has reached 36.07% and the project is in the process of concrete foundation and equipment work on steam turbines, boilers and electrical control towers.

Projec	ts Cap	tricity acity IW)	Steam Production Capacity (t/h)	Contracted PPA with EGAT (MW)
GLOW SPP	2 Replacement			
Glow SI	PP2 9	98	230	60 (2 PPAs)

Update of Projects Under Construction as of December 31, 2023

Avaada Energy Private Limited (AEPL)



Project updates



- Total contracted capacity of 4,723 MW
- GPSC holds 42.93% of total AEPL shares

Project	Electricity Capacity (MW)	COD
Operating (28 projects)	3,931	-
Under construction (7 projects)	792	2023-2024

Offshore Wind Power Plant in Taiwan Changfang Project and Xidao Project (CFXD)



Project updates:

The construction has reached 54.0%, the first power has started in November 2022. The project expected to start full commercial operation in Q1/2024.



Power Plants of the Company, its subsidiaries, associates and joint ventures

Power plant	Fuel Type	e Location	Direct shareholding	Installed Power capacity (MW)	Equity Power capacity (MW)	Equity in operation (MW)	Steam equity capacity (t/h)	Customers	Commercial Operation Date (COD)
Independent Power Producer (IPP)									
Sriracha	Natural gas	Sriracha	GPSC (100%)	700	700	700	-	EGAT	2000
GIPP	Natural gas	WHA Chonburi Industrial Estate 1	GLOW (95%)	713	677	677	-	EGAT	2003
Houay Ho	Hydro	Attapeu Province, Lao PDR.	GLOW (67%)	152	102	102	-	EGAT / EDL	1999
GHECO-One	Coal	Map Ta Phut Industrial Estate	GLOW (65%)	660	429	429	-	EGAT	2012
XPCL	Hydro	Laos	GPSC (25%)	1,285	321	321	-	EGAT / EDL	2019
RPCL	Natural gas	Ratchaburi	GPSC (15%)	1,400	210	210	-	EGAT	2008
Total capacity of IPP	_			4,910	2,439	2,439			
Small Power Producer (S	SPP)							'	
CUP-1	Natural gas	WHA eastern industrial estate	GPSC (100%)	226	226	226	890	EGAT / IU	2006
CUP-2	Natural gas	Rayong industrial land	GPSC (100%)	113	113	113	170	EGAT / IU	2008
CUP-3	Natural gas	WHA eastern industrial estate	GPSC (100%)	-	-	-	280	IU	2009
Rayong Expansion (CUP-3)	Natural gas	WHA eastern industrial estate	GPSC (100%)	15	15	15	-	IU	2019
CUP-4	Natural gas	Asia Industrial Estate	GPSC (100%)	49	49	49	140	IU	2019
GLOW Energy Phase 1	Natural gas	Map ta phut Industrial Estate	GLOW (100%)	-	-	-	-	IU	1994
GLOW Energy Phase 2	Natural gas	Map ta phut Industrial Estate	GLOW (100%)	70	70	70	206	EGAT / IU	1996 (Details on p.20)
GLOW Energy Phase 2 (SPP replacement)	Natural gas	Map ta phut Industrial Estate	GLOW (100%)	200	200	100	460	EGAT / IU	2022-23 (Details on p.21)
GLOW Energy Phase 4	Natural gas	Map ta phut Industrial Estate	GLOW (100%)	77	77	77	137	EGAT / IU	2005
GLOW Energy Phase 5	Natural gas	Map ta phut Industrial Estate	GLOW (100%)	328	328	328	160	EGAT / IU	2011
GLOW SPP 2 / GLOW SPP 3	Natural gas and coal	Map ta phut Industrial Estate	GLOW (100%)	513	513	513	190	EGAT / IU	1999 (Details on p.21)
GLOW SPP 11 Phase 1	Natural gas	Siam Eastern Industrial Park	GLOW (100%)	120	120	120	-	EGAT / IU	2000
GLOW SPP 11 Phase 3	Natural gas	Siam Eastern Industrial Park	GLOW (100%)	42	42	42	-	EGAT / IU	2006
GLOW SPP 11 Phase 2	Natural gas	Siam Eastern Industrial Park	GLOW (100%)	110	110	110	-	EGAT / IU	2012
GLOW Energy CFB 3	Coal	Map ta phut Industrial Estate	GLOW (100%)	85	85	85	79)-{	2010



Power plants of the Company, its subsidiaries, associates and joint ventures (Cont.)

Power plant	Fuel Type	Location	Direct shareholding	Installed Power capacity (MW)	Equity Power capacity (MW)	Equity Power in operation (MW)	Steam equity capacity (t/h)	Customers	Commercial Operation Date (COD)
IRPC-CP Phase 1 - 2	Natural gas	IRPC industrial Zone	GPSC (51%)	240	122.4	122.4	153	EGAT/ IU	2015, 2017
IRPC-CP Phase 3	Natural gas	IRPC industrial Zone	GPSC (51%)	70	35.7	-	-	IU	2024
NNEG Phase 1 - 2	Natural gas	Nava Nakorn industrial promotion Zone	GPSC (30%)	185	56	56	12	EGAT / IU	2016, 2020
NNEG Phase 3	Natural gas	Nava Nakorn industrial promotion Zone	GPSC (30%)	30	9	-	1.59	IU	2024
BIC-1	Natural gas	Bangpa-in industrial estate	GPSC (25%)	117	29.25	29.25	5	EGAT / IU	2013
BIC-2	Natural gas	Bangpa-in industrial estate	GPSC (25%)	117	29.25	29.25	5	EGAT / IU	2017
Total capacity of SPP				2,707	2,230	2,085	2,889		
Very Small Power Pro	ducer (VSPP)							
Rayong Waste To Energy (WTE)	RDF	Rayong	GPSC (100%)	9.8	9.8	9.8	-	PEA	2021
Glow Energy Solar Plant	Solar	Asia Industrial Estate	GLOW (100%)	1.55	1.55	1.55	-	PEA	2012
CHPP	Natural gas	Government complex	GPSC (100%)	5	5	5	-	MEA / The Government Complex	2008
CHPP (Solar)	Solar	Chanthaburi	GPSC (100%)	5	5	5	-	PEA	2016
GRP (NPS,WXA,PPS)	Solar	Phichit, Suphan Buri, Lopburi, Khon Kaen	GPSC (50%)	39.5	19.75	19.75	-	PEA	2014-15
GRP1 (Sheng Yang)	Solar	Taiwan	GPSC (45%)	55.8	25.11	25.11	-	TaiPower	2016-21
AEPL (Solar Power Platform)	Solar	India	GPSC (43%)	4,634	1,990	1,649	-	Central and State Gov. and C&I	2018-24 (Details on p.21)
TSR (SSE1)	Solar	Suphanburi and Kanjanaburi	GPSC (40%)	80	32	32	-	PEA	2013
NL1PC	Hydro	Laos	GPSC (40%)	65	26	26	-	EDL	2019
Chonburi Clean Energy (CCE)	Industrial waste	WHA Chonburi Industrial Estate 1	GLOW (33%)	8.6	2.87	2.87	-	PEA/ IU	2019
CFXD (Offshore wind farm) (Under construction)	Wind	Taiwan	GPSC (25%)	595	149	-	-	TaiPower	2022-24 (Details on p.21)
Private PPA (GPSC Group)	Solar	Various Areas	GPSC Gr. (100%)	40.39	40.39	15.46	-	IU	2018-24
Total capacity of VSP	Р			5,540	2,306	1,792	-		
Others									
ERU (Under construction)	Petroleum Pitch	Chonburi	GPSC (100%)	250	250	-	175	Thai Oil PLC	2025 (Details on p.20)
Total capacity of Othe	ers	·		250	250	-	175		
Total				13,407	7,225	6,316	3,064		

Note: - Total committed equity capacity as of December 31, 2022.

⁻ Equity capacity includes 100% stake in GLOW.

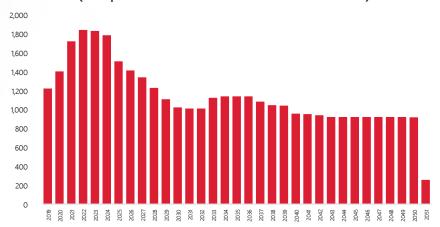
Fair Value Assessment of Net Assets from the Acquisition of GLOW

As accounting standard establishes that after any business acquisition, fair value of a company being acquired must be assessed by using comparable present market value. GPSC has evaluated fair value of GLOW by using the purchase price of 69.11% of GLOW's shares from ENGIE Global Developments B.V. on 14 March 2019 at THB 93,001 million. Details of fair value assessment of GLOW are as follows:

		/	unit: THB million
Items	Book Value	Fair Value	Differential
iterns	of GLOW	of GLOW	Value
Assets	107,655	155,500	47,845
Liabilities	(56,246)	(66,497)	(10,251)
Net Assets of GLOW as of 14 March 2019	51,409	89,003	37,594
Non-Controlling interests at 30.89%		(32,092)	
Total Net Asset obtained GLOW at 69.11%		56,911	
Goodwill		36,090	
Proportion of acquisition cost 69.11%		93,001	

From the fair value stated in the table, the majority portion is derived from valuing the Power Purchase Agreements (PPA) totaling THB 37,594 million. The fair value recognition of net assets acquired from GLOW will be amortized yearly. The amortization of PPA will be completed based on the remaining period of the contracts categorized under intangible assets by using straight-line method with estimated useful life of 5 to 31 years.

Amortization of fair value assessed from net assets acquired from GLOW during 2019 - 2051 (computed based on 100% of GLOW shares)



Adjusted Net Income

Adjusted Net Income is net profit attributable to the Company excluding "fair value of intangible assets from the acquisition of GLOW" which was derived from the assessment of the fair value of net assets and allocation of business acquisition cost which were calculated backwards from 14 March 2019 (the first day that GPSC has recognize GLOW's performance in GPSC's consolidated financial statement). The Adjusted Net Income is a good representation of GPSC's earnings from normal operations. In Q4/2022, such amortization expense added up to THB 458 million.

Adjusted Net Income (unit: THB million)	Q4/21 Q3/22		Q3/22 Q4/22		Change +/(-)		12M/22	Change +/(-)
				YoY	QoQ			YoY
Net Profit for the Company	1,168	331	(436)	(137%)	(232%)	7,319	891	(88%)
Add back: Amortization of assets acquired from the acquisition of GLOW	402	453	458	14%	1%	1,588	1,888	19%
Adjusted Net Income	1,571	784	21	(65%)	(35%)	8,907	2,779	(69%)



