



ANNUAL REPORT 2020
(56-1 ONE REPORT)

GLOBAL POWER SYNERGY PUBLIC COMPANY LIMITED

SMART ENERGY FOR EVOLVING LIFE





SMART ENERGY

We strive to become a leading energy innovation company poised to grow in the new energy industry to best serve that ever-changing lifestyles of people in the Digital Era.



FOR EVOLVING LIFE

Our goal is to elevate the quality of life for people and for society as a whole. Through creating and innovating new forms of energy that are clean and environmentally-friendly.



SMART ENERGY FOR EVOLVING LIFE

The new GPSC logo is developed with the concept **"Smart Energy for Evolving Life"** that reflects our commitment to operational excellence, efficiency and stability in terms of energy delivery - as well as providing flexible business operations. We strive to create sustainable energy solutions and make that available to all sectors while making sure progress under the vision of **"The Global Leading Innovative and Sustainable Power Company."**



SMART POWER

We are always looking out for cutting-edge technologies when it comes to electricity and utilities for businesses operating in the New S-Curve industry. Optimizing energy management through a 'smart energy' approach.



RENEWABLE POWER

We aim to develop sustainable businesses through the utilization of renewable energy resources and the lowering of carbon footprints while also reducing detrimental environmental impacts via solar and hydroelectric power plants on a domestic and international scale.




CONVENTIONAL POWER

We are dedicated toward creating and distributing electricity and utilities from the Central Utility Plants and GPSC Group power plants to ensure stability and reliability. Also, to reduce stagnation in terms of product delivery while maintaining optimal levels of customer satisfaction at all times.

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Message from the Chairman & President & CEO



Dear Shareholders,

Despite the impacts this year of Covid-19, which caused widespread deceleration of the economy and the business sector, Global Power Synergy Plc has registered resounding success in goal achievement, boosting profit growth as a result of the merger with Glow Energy Plc. This merger not only created mutual benefit, but also strengthened our overall business.

Our net profit this year surged 85% from that of last year due to our first full-year booking of Glow's operating results with a value of merger synergy of over Baht 700 million, beyond our own target. We also booked a share of the incremental profit from the Xayaburi hydropower plant, in commercial operation since October 2019. We expect this synergy to gradually rise to about Baht 1,600 million in booked value by 2024.

For investment growth, we have focused on growing innovation investment for future growth. This investment consists of the battery business with a plant of the semi-solid type with 30 MW-hours of phase-one capacity; we also launched the first G-Cell battery in Thailand on December 25, 2020. An Energy Storage & System Integration, which denotes business development for the provision of smart energy storage systems (ESSs) for efficient storage and consumption of energy; to this end, we implemented a number of these projects, including a cooperative project with PTT Global Chemical Plc (GC), where a 1.5 MW-hour ESS that lowered power costs and boosted the security and efficiency of an electrical system for GC's office buildings and Center for Innovation and Technology, and the smart city Project for VISTEC to establish an innovation platform for New S-Curve target industries. Finally, Smart Energy Management, meaning investigation, analysis, and selection of energy management suiting the New Energy Market to carve new future business niches.

GPSC forged ahead with equity hikes in renewable energy under the growth strategic plan for renewables power businesses abroad by acquiring 90% shares in a solar farm undertaking from Sheng Yang Energy in Taiwan with a 55.8-MW capacity. We cooperated with PTT Plc in developing and investing in international renewables power projects through Global Renewable Power Co., Ltd. (GRP), in which we hold 50% shares. This cooperation boosted our potential, proficiency, and opportunities for growing new renewables power projects in the international arena to achieve our growth goal as well as that of PTT Group, which envisions such growth to 8,000 MW by 2030.

For capital acquisition, we had astounding success in capital mobilization by issuing green bonds. The subscription exceeded Baht 30,000 million, which was six times the offered value. We garnered the Best Green Bond award from The Asset Triple A Country Award 2020 – Southeast Asia, which echoed investors' confidence.

As for organizational management, we installed a new corporate structure on April 1, 2020, under unified organization management that bolstered business strength. We also set a direction for efficient and fair human resource administration in tandem with the cultivation of incentives and employee engagement with the ACT SPIRIT values to bring about mutual sustainable success and progress between the workforce and GPSC.

GPSC values business conduct with responsibility to society, communities, and the environment. For society and communities, we stress activities linked to our mission and leveraging our proficiency so as to pass knowledge on to community development. The Light for a Better Life Project leverages our proficiency in looking after safety and electrical system security for them. Specifically, we aim to install and

deliver solar power systems and energy storage systems to remote areas and public service space nationwide to the tune of 1,000 kilowatts. Now in its third consecutive year, the GPSC Young Social Innovation (YSI) Project engages in innovation skill incubation among youths, with over 300 teams participating. This year the project humbly received permission from HRH Princess Maha Chakri Sirindhorn to name the winning trophy after her: the GPSC Young Social Innovator 2563 represented the grand prize for the contest on the environment. Finally, we focus on controlling and auditing volumes of pollutants from point sources in parallel with efficient resource consumption.

Thanks to the push and value given to society, communities, and the environment, GPSC garnered acclaim and awards worldwide: the Low Carbon and Sustainable Business Index (LCSi) for outstanding assessment for 2020, Thailand Voluntary Emission Reduction Program (T-VER) and the Low-Emission Support Scheme (LESS) award from the Thailand Greenhouse Gas Management Organization (Public Organization)(TGO), first runner-up ASEAN Renewable Energy Projects Award 2020 for GPSC's project to improve and install a solar power system in the Ko Kham, Chon Buri, Marine National Park from the ASEAN Energy Awards 2020 event, and Asia's Best CSR, presented by Corporate Governance Asia, and others.

In corporate governance, we were considered "Excellent" for the fifth year running by the CG survey among listed companies in 2020. We won the ASEAN CG Scorecard award for 2019 and the ASEAN Asset Class PLCs award, supported by the ASEAN Capital Markets Forum (ACMF) and the Asian Development Bank (ADB), honoring listed ASEAN companies adhering to corporate governance. Finally, we successfully renewed our CAC membership.

In 2021, we will remain committed to running the business of energy innovation with responsibility for society, communities, and the environment, underlined by good governance while pursuing The Global Leading Innovative and Sustainable Power Company goal. The Board of Directors, management, and the workforce do appreciate all shareholders' trust and wonderful support. Please rest assured that we all will join hands to develop GPSC and achieve our goals.



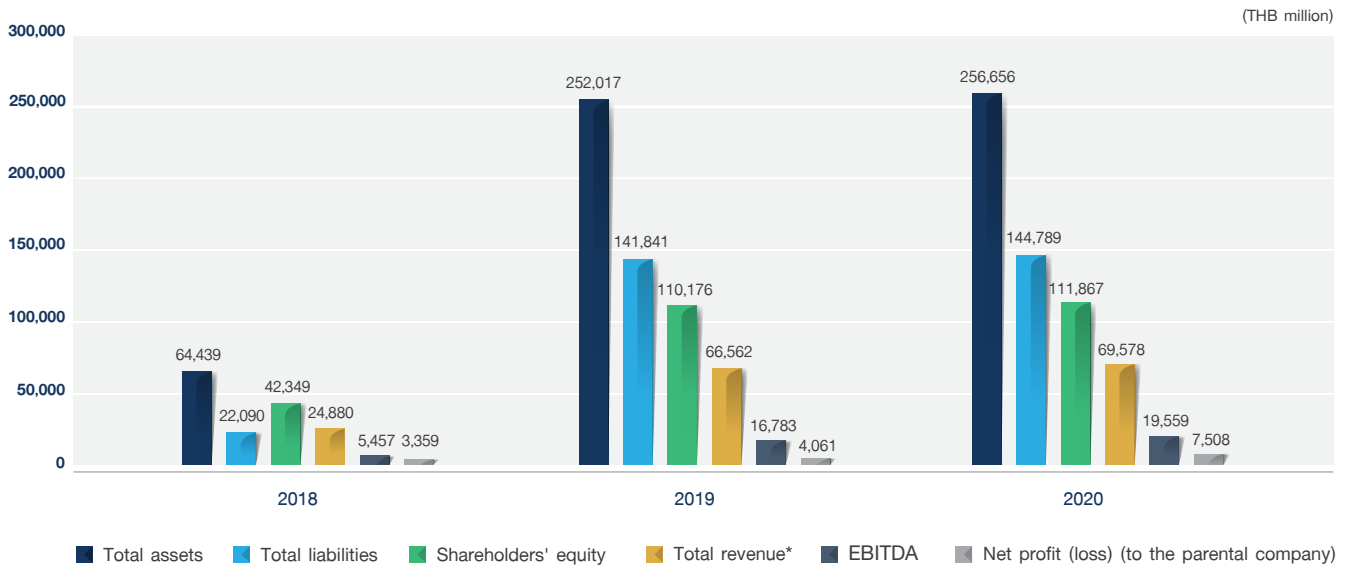
Mr. Pailin Chuchottaworn
Chairman



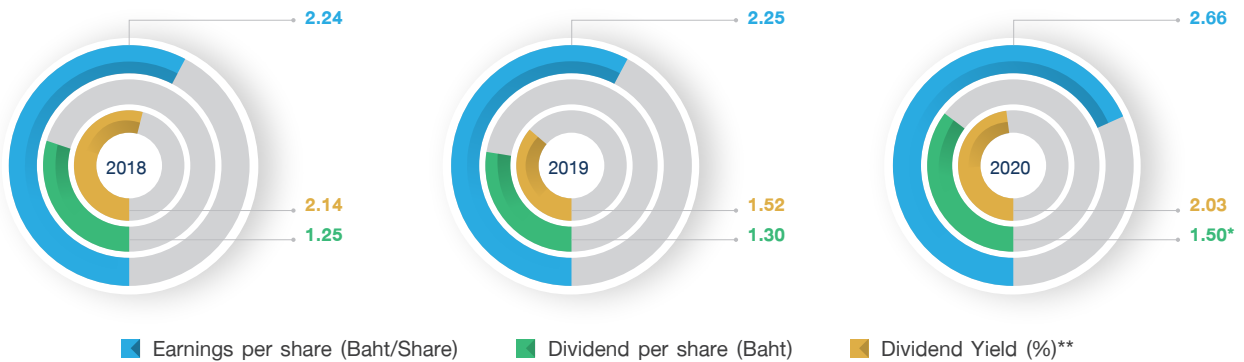
Mr. Worawat Pitayasiri
President & CEO



OPERATIONAL HIGHLIGHT



Remark : * Total revenue, including revenue from sales, services and financial lease



Remark : * Dividend payment from the 2020 operating results is divided into interim dividend for the first half of 2020 at THB 0.50 per share which was paid to shareholders. The remaining dividend for the second half operating results for 2020 will be paid at THB 1.00 per share. However, the right to receive dividend payment is subject to the approval of the 2021 Annual General Meeting of Shareholders.

** Calculated from GPSC's closing share price on period end



FINANCIAL RATIOS

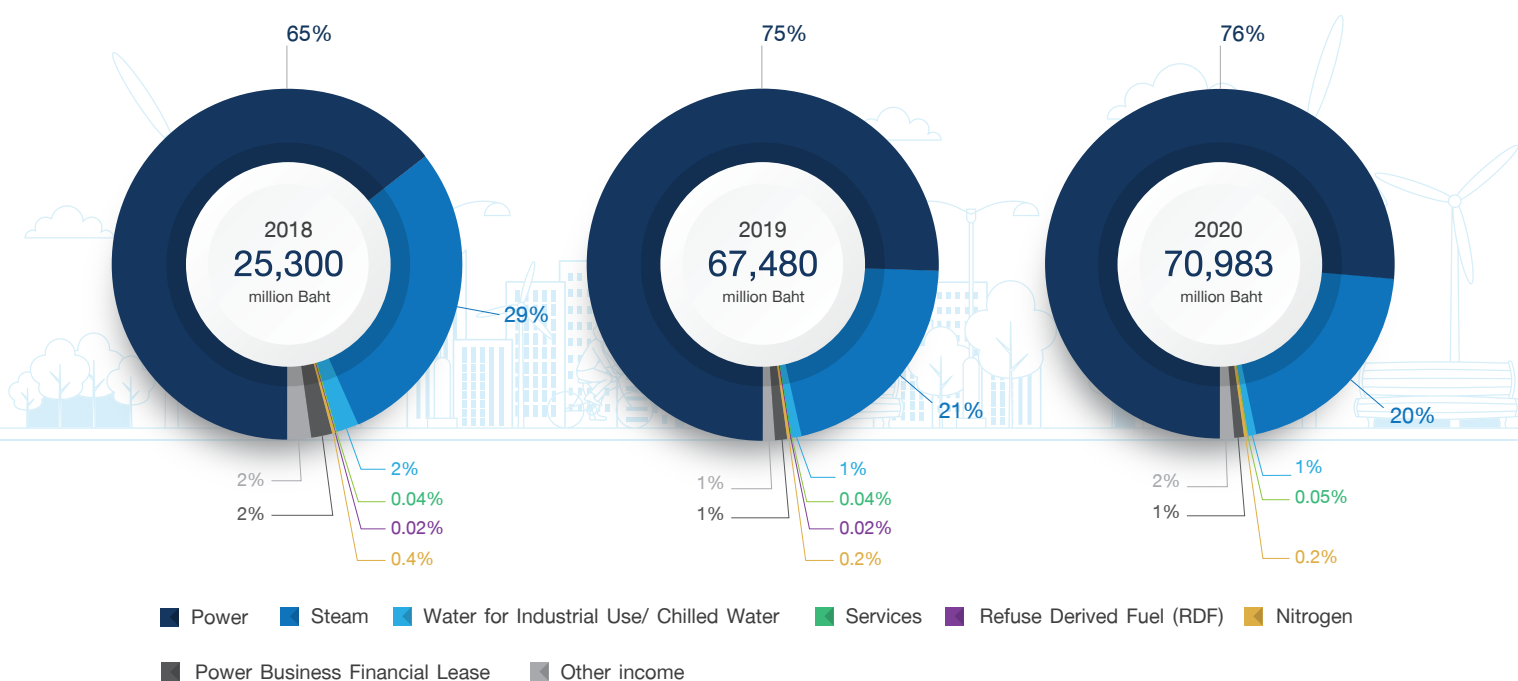
FINANCIAL RATIOS	2018	2019	2020
EBITDA to Revenue from Sale (%)	21.93	25.21	28.11
Interest Coverage Ratio (times)	7.11	1.86	2.78
Net Debt to Equity Ratio (times)	0.27	0.78	0.75
Return on Equity (%)	8.55	5.76	7.37
Return on Assets (%)	6.25	3.79	3.34

PRODUCTS



2020	19,684	13,871	27,847	15	18,500
2019	17,566	12,821	29,343	14	13,707
2018	5,412	6,572	27,266	5	4,491

TOTAL INCOME





AWARDS OF ACHIEVEMENTS 2020

1. Institutional Investor Corporate Awards
By : Alpha South East Asia
2. Low Emission Support Scheme (LESS) Award from the Zero Waste Village Project.
By : Thailand Greenhouse Gas Management Organization (Public Organization)
3. Low Emission Support Scheme (LESS) Award from Waste Separation for Recycling Project - Sriracha Power Plant.
By : Thailand Greenhouse Gas Management Organization (Public Organization)
4. Low Emission Support Scheme (LESS) Award from Fuel Reduction Project and Waste Separation for Recycling Project - Central Utility Plant 1
By : Thailand Greenhouse Gas Management Organization (Public Organization)
5. Low Emission Support Scheme (LESS) Award from Replace Spotlights from the Metal Halite Tubes and the Sodium Lamp to LED around AUX-Boiler, Transformer, and Other Areas Projects and Waste Separation for Recycling Project Central Utility Plant 2
By : Thailand Greenhouse Gas Management Organization (Public Organization)
6. Low Emission Support Scheme (LESS) Award from Replace Steam Trap at Leak Passing in Line CUP-3 to BPA Project and Waste Separation for Recycling Project Central Utility Plant 3
By : Thailand Greenhouse Gas Management Organization (Public Organization)
7. ECO FACTORY (Central Utility Plant 1)
By : Water and Environment Institute for Sustainability, The Federation of Thai Industries
8. ECO FACTORY (Central Utility Plant 2)
By : Water and Environment Institute for Sustainability, The Federation of Thai Industries
9. ECO FACTORY (Central Utility Plant 3)
By : Water and Environment Institute for Sustainability, The Federation of Thai Industries
10. ECO FACTORY (Sriracha Power Plant)
By : Water and Environment Institute for Sustainability, The Federation of Thai Industries
11. Low Carbon and Sustainable Business Index : LCSi
By : Thailand Greenhouse Gas Management Organization (Public Organization)
12. Greenhouse gas reduction voluntary sector to the standards of Thailand Project: Central Utility Plant 4 Phase 1
By : Thailand Greenhouse Gas Management Organization (Public Organization)



- 13. Asia's Best of CEO
By : Corporate Governance Asia
- 14. Asia's Best CFO
By : Corporate Governance Asia
- 15. Best Investor Relations Company
By : Corporate Governance Asia
- 16. Asia's Best CSR
By : Corporate Governance Asia
- 17. Sustainability Disclosure Award
By : Thaipat Institute
- 18. The Asset Country Awards 2020 : Best Deal-Global Power Synergy 5 billion Baht digital green debentures
By : The Asset
- 19. Best Deal of the Year
By : The Stock Exchange of Thailand and Money & Banking Magazine
- 20. Thailand Sustainability Investment (THSI)
By : The Stock Exchange of Thailand
- 21. ESG100
By : Thaipat Institute
- 22. The Standard on Prevention and Solution to Drug Problems in an Establishment of Central Utility Plant 1
By : Department of Labour Protection and Welfare, Rayong Province
- 23. The Standard on Prevention and Solution to Drug Problems in an Establishment of Central Utility Plant 2
By : Department of Labour Protection and Welfare, Rayong Province
- 24. The Standard on Prevention and Solution to Drug Problems in an Establishment of Central Utility Plant 3
By : Department of Labour Protection and Welfare, Rayong Province
- 25. The Standard on Prevention and Solution to Drug Problems in an Establishment of Central Utility Plant 4
By : Department of Labour Protection and Welfare, Rayong Province
- 26. ASEAN Renewable Energy Projects Award 2020
First Runner - up in Off-Grid Power Category Solar Power System on Koh Kham : Clean Energy for a Marine National Park on the Island
By : ASEAN Energy Center

Business and Operation Results



DATA 845

DATA 10

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DATA 188969061733938000

DATA 13

1. Business and Operation Results

Structure and Operation of Global Power Synergy Plc (GPSC Group)

Overview of business structure of GPSC or GPSC Group, including the company, subsidiaries and The existing or the future joint venture companies

GPSC engages primarily in the production and distribution of electricity, steam, industrial water, and public utilities. As of December 31, 2020, its equity capacities were 5,055 megawatts of power generation, 2,946 tons per hour of steam, 7,372 cubic meters per hour of industrial water, and 15,400 refrigerated tons of chilled water, as detailed below:

Product ⁽¹⁾ as of December 31, 2020	Total Capacity ⁽²⁾	
	Total	Commercial Operation
Electricity (MW)	5,055	4,752
Steam (T/h)	2,946	2,771
Industrial Water (cu.m/h)	7,372	7,372
Chilled Water (RT)	15,400	15,400

Remarks:

- ⁽¹⁾ Units of power in megawatts (MW), steam in tons per hour (T/h), industrial water in cubic meters per hour (cu.m./h), and chilled water in refrigerated tons (RT).
- ⁽²⁾ Production capacity per shareholding as of December 2020, including 1.) 99.83% of shareholding of Glow Energy Public Company Limited (GLOW), 2.) Energy Recovery Unit Co., Ltd. (ERU). 3.) Investment in a solar power plant in Taiwan through Global Renewable Power One Co., Ltd. (GRP), and 4.) GPSC restructured its equities in Global Renewable Power Co., Ltd. (GRP), by selling 50% shares to a subsidiary company of PTT PCL. The transaction was completed in January 4, 2021.

BUSINESS OVERVIEW



1 Xayaburi, LAO PDR



Natee Synergy Company Limited (NSC)
Xayaburi Power Company Limited (XPCL)



2 Vientienne, LAO PDR



Nam Lik 1 Power Company Limited (NL1PC)



3 Houay Ho, LAO PDR



Houay Ho Power Company Limited (HHPC)



4 SUPHAN BURI

Thai Solar Renewable Company Limited (TSR)



Siam Solar Energy 1 Company Limited (SSE1)



Global Renewable Power Company Limited (GRP)
N.P.S. Stargroup Company Limited (NPS2)



5 KANCHANABURI

Thai Solar Renewable Company Limited (TSR)



Siam Solar Energy 1 Company Limited (SSE1)



6 AYUTTHAYA



Bang Pa-In Cogeneration Company Limited (BIC-1, BIC-2)



7 RATCHABURI



Ratchaburi Power Company Limited (RPCL)



8 PATHUM THANI



Nava Nakorn Electricity Generating Company Limited (NNEG)



9 BANGKOK



Combined Heat and Power Producing Company Limited (CHPP)



10 SARABURI



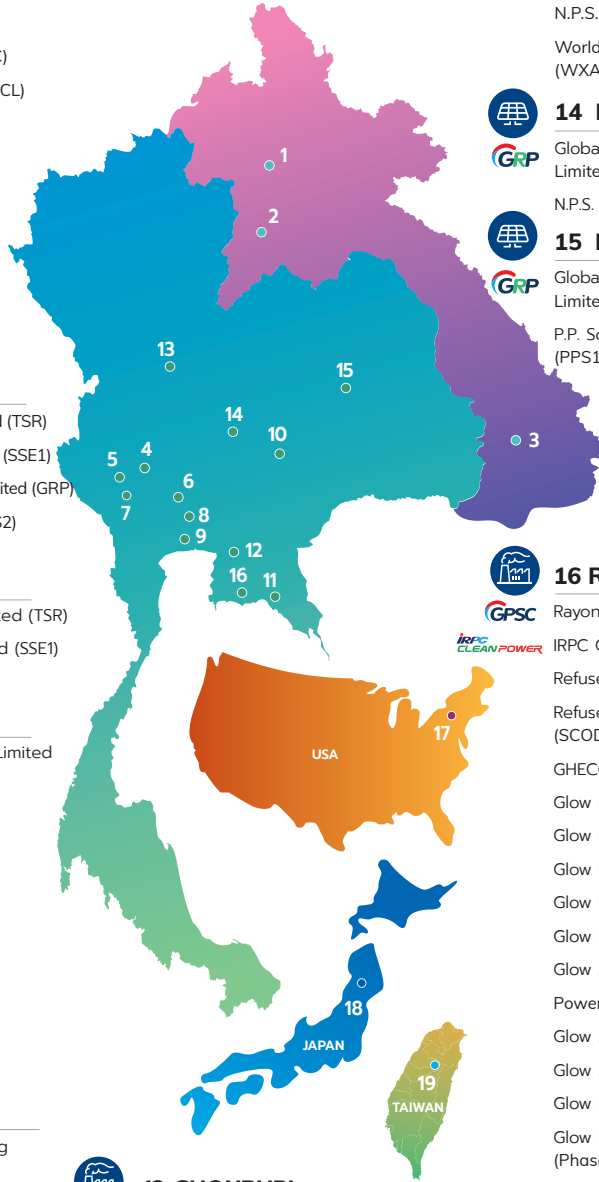
Glow Energy Solar PV Rooftop (Phase 1)



11 CHANTHABURI



Combined Heat and Power Producing Company Limited (Solar1)



12 CHONBURI



Sriracha Power Plant



Glow IPP Power Plant



Chonburi Clean Energy Company Limited



Electricity Generating Unit (ERU) (SCOD: 2023)



17 USA

24M Technologies, Inc. (24M)



13 PHICHIT



Global Renewable Power Company Limited (GRP)

N.P.S. Stargroup Company Limited (NPS1)

World X Change Asia Company Limited (WXA1, WXA2, WXA3)



14 LOP BURI



Global Renewable Power Company Limited (GRP)

N.P.S. Stargroup Company Limited (NPS3)



15 KHON KAEN



Global Renewable Power Company Limited (GRP)

P.P. Solar Company Limited (PPS1, PPS2, PPS3)



16 RAYONG



Rayong Central Utility Plant (CUP 1, 2, 3 & 4)



IRPC Clean Power Company Limited (IRPC-CP)

Refuse Derived Fuel Power Plant (RDF)

Refuse Derived Fuel (RDF) power plant (SCOD: 2021)

GHECO-One Power Plant

Glow Energy Phase 1 Plant

Glow Energy Phase 2 Power Plant

Glow Energy Phase 4 Power Plant

Glow Energy Phase 5 Power Plant

Glow Energy CFB3 Power Plant

Glow SPP2 / Glow SPP3

Power Plant (Phase 3)

Glow SPP 11 Phase 1 & Phase 3 Power Plant

Glow SPP 11 Phase 2 Power Plant

Glow Energy Solar Plant

Glow Energy Solar PV Rooftop (Phase 2)



18 JAPAN



Ichinoseki Solar Power 1GK (ISP1)



19 Taiwan



Global Renewable Power 1 Company Limited (GRP1)



GAS-FIRED POWER PLANT



COAL-FIRED POWER PLANT



HYDRO-POWER PLANT



SOLAR FARM



ENERGY STORAGE

• Under construction

Other investment and joint ventures in the power and other businesses of GPSC appear below:

- 1) GPSC-operated natural gas-fired power plants are already commercially generating and distributing electricity and/or other utilities such as steam, industrial water:
 - Gas-fired Power Plants:
 - Sriracha combined-cycle power plant located in Si Racha district, Chonburi province;
 - Co-generation power plants and steam production units: Central Utility Plants (CUP 1-4) located in WHA Eastern Industrial Estate (Map Ta Phut), R.I.L. Industrial Estate, and Asia Industrial Estate, Rayong province.
- 2) GPSC invested in power plants through Glow Energy Public Company Limited, with power, steam and utilities generation from other energy forms as detailed below:
 - Natural Gas-fired and Coal-fired Power Plants:
 - Glow IPP, located in WHA Chonburi Industrial Estate
 - GHECO-One, located in Map Ta Phut Industrial Estate 1
 - Glow Energy (Phase 1 and 2), located in Map Ta Phut Industrial Estate
 - Glow Energy (Phase 4), located in Map Ta Phut Industrial Estate
 - Glow Energy (Phase 5), located in Map Ta Phut Industrial Estate
 - Glow Energy CFB 3, located in Map Ta Phut Industrial Estate
 - Glow SPP 2/Glow SPP 3, located in Map Ta Phut Industrial Estate
 - Glow SPP 11 Phase 1, located in Siam Eastern Industrial Park
 - Glow SPP 11 Phase 2, located in Siam Eastern Industrial Park
 - Glow SPP 11 Phase 3, located in Siam Eastern Industrial Park
 - Renewable Energy Power Plants:
 - Glow Energy Solar, located in Asia Industrial Estate
 - Glow Energy Solar, under a private power purchase agreement (PPPA)
 - Chonburi Clean Energy, fueled by industrial waste, located in WHA Chonburi Industrial Estate 1
- 3) Power plants invested through Global Renewable Power Company Limited (GRP), engaging in renewable power generation and distribution, consisting of:
 - Hydro-Power Plants:
 - Houay Ho power plant, located in Attapeu province, LAO PDR
 - N.P.S. Stargroup Company Limited (NPS) (ground-mounted solar energy power plant with a total capacity of 18 MW)
 - World X Change Asia Company Limited (WXA) (ground-mounted solar energy power plant with a total capacity of 17.9 MW)
 - P.P. Solar Company Limited (PPS) (ground-mounted solar energy power plant with a total capacity of 3.6 MW)
 - Global Renewable Power Operating Company Limited (GRPO), carrying operation and maintenance of solar farms
 - Global Renewable Power One Company Limited (GRP1), subsidiary company prepared for an investment arm in renewable energy overseas, including the People's in Taiwan, currently under 90% shares acquisition in Sheng Yang Energy Company Limited from Tatung Forever Energy Company Limited. The process is not complete due to some unfulfilled prerequisite. Today GRP1 is in the process of fulfilling condition precedent terms, after which payment of 90% shares will be made to Sheng Yang Energy Co., Ltd. from Tatung Forever Energy Co., Ltd. Completion is expected by the second quarter of 2021.
- 4) Domestic and overseas joint-venture power plants engaging in power generation and distribution, based on energy forms, consisting of:
 - Natural Gas-fueled Power Plants:
 - Ratchaburi Power Company Limited

Remarks: GPSC restructured its equities in Global Renewable Power Co., Ltd. (GRP) by selling 50% shares to a subsidiary company of PTT PCL. The transaction was completed in January 4, 2021.

- IRPC Clean Power Company Limited
 - Nava Nakorn Electricity Generating Company Limited
 - Bang Pa-In Cogeneration Company Limited
 - Combined Heat and Power Producing Company Limited
 - Renewable Energy Power Plants:
 - Ichinoseki Solar Power 1 GK Company
 - Thai Solar Renewable Company Limited, which holds shares in Siam Solar Energy 1 Company Limited
 - Combined Heat and Power Producing Company Limited (ground-mounted solar energy power plant in collaboration with Chanthaburi's Shrimp Farmers Cooperative Limited)
 - Hydro Power Plants:
 - Natee Synergy Company Limited, which holds shares in Xayaburi Power Company Limited
 - Nam Lik 1 Power Company Limited
- 5) Power plants under GPSC's ongoing investment or construction, as detailed below:
- Rayong Waste to Energy (WTE) management project, consisting of two subprojects located in Rayong province. Refuse-Derived Fuel (RDF) has seen its construction completed. The power plant from RDF, with a capacity of 9.8 megawatts, is under construction; commercial distribution of power is scheduled for the second quarter of 2021.
 - Energy Recovery Unit (ERU), designed to serve as a public utility support unit for processes under Thairoil (TOP)'s Clean Fuel Project (CFP), with 250 megawatts. ERU's main fuel is the oily liquid by product of CFP's distillation. GPSC or a subsidiary will be taking transfer of the ERU project when the construction is completed and win a Provisional Acceptance Certificate (PAC). Completion of the transfer is expected in the third quarter of 2023.
 - Glow Energy's SPP Replacement project will replace expiring Firm-SPP cogeneration power plants between 2019 and 2025 according to the Energy Regulatory Commission (ERC). The Electricity Generating Authority of Thailand (EGAT) approved six power purchase agreements (PPAs) under Glow's 3 projects.
 - GLOW Phase 2, with a capacity of 192 MW and 300 tons/hour of steam under two PPAs with EGAT for 60 MW COD in 2022.
 - GLOW SPP2⁽¹⁾, with a capacity of 192 MW and 300 tons/hour of steam under two PPAs with EGAT for 60 MW COD in 2024.
 - GLOW SPP3⁽¹⁾, with a capacity of 120 MW and 168 tons/hour of steam under two PPAs with EGAT for 90 MW COD in 2024 and 2025.
 - The Energy Storage Unit plant is battery production factory using semi-solid technology of 24M Technologies, Inc. (24M). This is the first of its kind in Thailand with ESU capacity is 30 MWh per year, located on 12 rai, in Map Ta Phut Industrial Estate, Rayong province. The under-construction plant is scheduled for the start of regular production in the second quarter of 2021.
- 6) Other business, totaling six companies
- GPSC International Holdings Limited in Hong Kong SAR, People's Republic of China, to accommodate overseas investment.
 - 24M Technologies, Inc. in USA, a company engaging in research and development of batteries for energy storage for the industrial sector, especially power generation systems, transmission systems, and distribution systems for the enhanced security of power users. The research and development of batteries is also expanded for electric vehicles.
 - Business Services Alliance Company Limited, a joint-venture company among PTT Group, engaging in service and administration of human resources for PTT Group's outsourcing.
 - Sarn Palang Social Enterprise Company Limited (SPSE), formed to support PTT's and PTT Group's social enterprises striving to join in the efficient resolution of problems facing communities, society, and the environment while advocating hiring of local labor on the basis of sustainability.
 - GPSC Treasury Center (GPSCTC) Co. Ltd., a subsidiary company engaging in managing Treasure Center (TC) and International Business Center (IBC) for the Group's financial efficiency and the Group's future investment in foreign currencies and liquidity.
- Remark ⁽¹⁾ Under a detailed investment feasibility study.

- Eastern Fluid Transport Company Limited (EFT), in which Glow Energy Company Limited holds 15% shares, engaging in pipeline administration and services in transmitting products through pipeline in Map Ta Phut Industrial Estate for maximum efficiency and safety, which also include the future expansion for demand in the growing industries in Map Ta Phut Industrial Estate and its vicinity in Rayong province.

1.1 Policy and Business Overview

Global Power Synergy Public Company Limited (GPSC) is the power flagship of PTT Group, committed to establishing energy and public utility security in support of domestic industrial growth, a crucial foundation of national growth and sustainable national development. GPSC also pursues opportunities for investment in power projects in domestic and international markets to grow sustainably while developing energy storage technology to become a leading global power company in innovation and sustainability with the following Vision and Mission Statements.

1.1.1 Vision, Mission, Objective, and Strategy

Vision

The Global leading innovative and sustainable power company

Mission

- Be a leader of power business of PTT Group
- Generate long-term value addition for shareholders together with steady profit growth
- Deliver to customers reliable power and utilities through operational excellence
- Conduct business with community, social, an environmental responsibility
- Seek innovation in power and utility efficiency management through smart power

Goal

To become one of the top three power generation companies in Southeast Asia by 2025.

Business Strategies

GPSC has adopted three main strategies to strive for its goals of 2025.

1) **S1: SYNERGY & INTEGRATION** Generate additional value and manage the Group's assets with integration and create synergy within the Group and among customers. Three major plans consist of:

- ▶ **Synergy Capture** Operate value-addition plans from the acquisition of Glow Energy Public Company Limited, including network system integration, transmission system integration, steam network interconnection, integrated demand and supply optimization, integrated system efficiency and procurement planning, management of maintenance service agreements, and overinvestment saving for new power plants. Moreover, GPSC emphasizes uplifting of the reliability and security of power generation and distribution for industrial estates competitiveness in Map Ta Phut Industrial Estate and the vicinity.
- ▶ **Customer Centric** Value customers by analyzing, researching, proposing, and delivering value to each customer for long-term relationship and retention of market shares in Map Ta Phut Industrial Estate and nearby industrial estates.
- ▶ **Portfolio Management** Invest efficiently to maximize returns on investments to shareholders by underlining improved performance of asset management as well as customized portfolio and business expansion to optimize total returns on investment.

2) **S2: SELECTIVE GROWTH** Expand businesses and increase power generating capacities in Thailand and overseas through investments aligned with business strategies, risks and investment decision criteria under the following four major investment schemes:

- ▶ **Thailand Business Development** Expand local businesses to be the leader of the utilities supply in the Eastern Economic Corridor (EEC) and expand the cogeneration business to distribute power and steam to industrial customers in the industrial estates

while negotiating with minor customers for long-term agreements under the Solar Private Power Purchase Agreement.

- ▶ **International Business Development** Seek investment opportunities for power projects in target countries such as Taiwan, Socialist Republic of Vietnam, and Republic of the Union of Myanmar. GPSC plans for local human resource development in target countries to prepare for new investment opportunities by nurturing relationships with the government sector and local customers.
 - ▶ **Co-Investment with PTT Group** Seek investment opportunities for power projects along with PTT Group for both fossil fuel and renewable energy. GPSC will co-invest with PTT for renewable-energy power plants overseas, which PTT expect to increase to 8,000 megawatts by 2030, through Global Renewable Power Company Limited (GRP); and for fossil-fueled power plants, also with PTT, will focus on business value chain, for example, gas to power.
 - ▶ **New Business** Develop new business, including desalination plants, community power plants, and energy management.
- 3) **S3: NEW S-CURVE** Investment in innovation to generate revenue from new business models of developed New S-Curve businesses to cope with energy transformation in the future through three new business development initiatives:
- ▶ **Battery Manufacturer with Own R&D** Build a prototype battery factory with a capacity of 30 megawatt-hours (MWh) per year. GPSC is preparing for factory management, capability development, and its own knowhow of the battery process, battery R&D in the aspects of process, materials and chemicals, and application. Commercial production is expected by the second quarter of 2021.
 - ▶ **System Integrator** Develop System Integrator competencies for GPSC and/or its group of companies to provide services to customers from project study, development, to installation of energy storage systems.

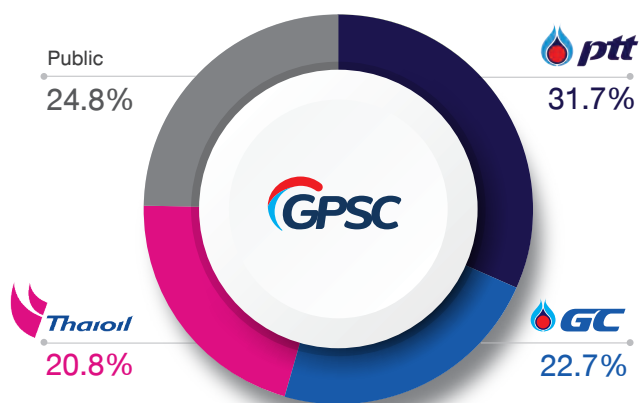
- ▶ **Digital Energy** Conduct studies and develop smart energy management of battery application for value addition while evaluating business model suitable for each application before market commercialization.

1.1.2 Milestones

GPSC registered on SET on May 18, 2015, with a registered capital of THB 14,983,008,000, comprising 1,498,300,800 shares at THB 10 per share.

On October 9, 2019, GPSC completed allocating newly-issued ordinary shares and completed the registration of the increase in paid-up capital to THB 28,197,293,670, representing 2,819,729,367 shares at THB 10 per share. The shareholding structure after the increase in paid-up capital is PTT Public Company Limited, 22.81%, PTT Global Chemical Public Company Limited, 22.73%, Thailoil Public Company Limited, 8.91%, Thailoil Power Company Limited, 20.78%, and other shareholders, 24.77%.

PTT's Board of Directors approved on August 20, 2020, the acquisition of 8.9% shares in GPSC from Thailoil Public Company Limited and to restructure for PTT's power business agility. The transaction was completed on December 3, 2020, giving PTT 31.7% shares in GPSC. Thailoil Public Company Limited will hold remaining shares amounting to 20.8%. The power business restructuring process is expected in 2021 as shown below:



Remarks: After restructured Shareholders of PTT & TOP which had been done since February 1, 2021

SUMMARY OF GPSC MILESTONES

Date	Milestones
2013	
January 2013	
January 10	GPSC was established through the amalgamation of PTT Utility Company Limited (PTTUT) and Independent Power (Thailand) Company Limited (IPT) with a paid-up capital of THB 8,630 million.
December 2013	
December 17	GPSC purchased 51% shares in IRPC Clean Power Company Limited (IRPC-CP) from IRPC Public Company Limited, which owned a new gas-fired cogeneration plant. This plant was under construction, located in IRPC Industrial Estate in Rayong province.
December 24	GPSC acquired shares in Combined Heat and Power Producing Company Limited (CHPP), Bang Pa-In Cogeneration Company Limited (BIC), and Thai Solar Renewable Company Limited (TSR) from PTT at 100%, 25%, and 40% respectively. CHPP operates combined heat and power with a district cooling power plant which produces electricity and chilled water for the Government Complex. BIC operates a gas-fired cogeneration power plant, located in Bang Pa-In Industrial Estate, Ayutthaya province. TSR invests in a solar farm project operated by Siam Solar Energy Company Limited (SSE1), located in Kanchanaburi and Suphan Buri provinces.
December 25	GPSC purchased 100% shares of Natee Synergy Company Limited (NSC) from PTT Energy Resources Company Limited (PTTER). NSC is a juristic person incorporated under the laws of Thailand and invests 25% in Xayaburi Power Company Limited (XPCL), a juristic person incorporated under the laws of Lao PDR for the operation of the Xayaburi hydroelectric power plant project.

Date	Milestones
2014	
<u>February 2014</u>	
February 7	GPSC purchased 30% shares in Nava Nakorn Electricity Generating Company Limited (NNEG) from PTT. NNEG operates a natural gas-fired cogeneration plant in Nava Nakorn Industrial Promotion Zone, Pathum Thani province.
<u>June 25</u>	
June 25	GPSC acquired 15% shares in Ratchaburi Power Company Limited (RPCL)'s shares from PTT. RPCL operates a gas-fired combined-cycle power plant in Ratchaburi province.
<u>July 2014</u>	
July 25	GPSC purchased 16.7% shares in 24M Technologies Inc. (24M)'s round B preferred shares. 24M is a juristic person incorporated under the law of the USA for research and development of battery technology, lithium-ion type, using new production technology (semi-solid), which will reduce time and cost for battery production. The target is to develop backup power storage for industrial users and strengthen the security of power distribution and electricity network system, which is GPSC's related business in the energy sector. The product is also expected to be used for Battery Electric Vehicle (BEV) which is forecast to grow steadily in the future. GPSC purchased more preferred shares of 24M in 2016, 2019, and 2020 under round C, D, and E respectively. Each round of capital increase will be used for further research, development, and operation. As of December 31, 2020, GPSC held 26.02% shares in 24M.
<u>November 2014</u>	
November 27	The Company registered as a public company limited and was renamed Global Power Synergy Public Company Limited (GPSC).
<u>December 2014</u>	
December 5	GPSC acquired 40% shares in Nam Lik 1 Power Company Limited (NL1PC) from PTT International Holding Company Limited (PTTIH). NL1PC is a juristic person incorporated under the laws of Lao PDR for the hydroelectric power business.
2015	
<u>March 2015</u>	
March 23	GPSC approved an investment for 99% shares in Ichinoseki Solar Power 1 GK Project (ISPI) in Japan. The power is distributed to infrastructure companies in Japan.
<u>May 2015</u>	
May 18	GPSC was listed on SET and started trading. The actual allocated portions were 374,575,200 shares (365,856,600 offered to the public and 8,718,600 offered to directors, executives and employees of the company).

Date	Milestones
<u>August 2015</u>	
August 13	The Board of Directors approved investment in the 4 th Central Utilities Plant (CUP-4), which are cogeneration facilities, with a capacity of 45 megawatts and 70 tons per hour of steam. The target was to increase capacity and support growth of PTT Group in Asia Industrial Estate and industrial customers in the vicinity, and to support generation and distribution network among CUPs as a whole.
<u>November 2015</u>	
November 18	IRPC Clean Power Company Limited (IRPC-CP) Phase 1 started commercial operation from gas turbine generator (GTGs) with an installed capacity of 45 megawatts, heat recovery steam generators (HRSGs) with a steam capacity of 70 tons per hour, and auxiliary boilers with an installed capacity of 100 tons per hour.
2016	
<u>April 2016</u>	
April 21	Combined Heat and Power Producing Company Limited granted support to the agricultural cooperative through a ground-mounted solar power generation project located on a plot of land of Chanthaburi's Shrimp Farmers' Cooperative Limited, Chanthaburi province. The project had been selected by the Energy Regulatory Commission (ERC) on April 21, 2016. It has an installed capacity of 5 megawatts with power purchase under the feed-in-tariff (FiT)
<u>June 2016</u>	
June 3	Nava Nakorn Electricity Generating Company Limited started commercial operation, categorized as Firm SPP, under a 25-year contract with the Electricity Generating Authority of Thailand (EGAT). It has a capacity of 125 megawatts and 30 tons per hour of steam, using natural gas as fuel.
<u>July 2016</u>	
July 1	Nava Nakorn Electricity Generating Company Limited started commercial operation, categorized as Firm SPP, under a 25-year contract with the Electricity Generating Authority of Thailand (EGAT). It has a capacity of 125 megawatts and 30 tons per hour of steam, using natural gas as fuel.
<u>November 2016</u>	
November 18	GPSC, the National Science and Technology Development Agency (NSTDA), and 24M Technologies Inc. entered into an MOU on research and development of lithium-ion batteries with a higher storage capacity, essential to GPSC's power and utility business development.
<u>December 2016</u>	
December 9	GPSC established GPSC International Holdings Limited, a Hong Kong-based subsidiary, with a registered capital of US\$50,000 to support future overseas investment.

Date	Milestones
December 28	GPSC signed a contract with Rayong Provincial Administration Organization to run an integrated waste management project to produce refuse-derived fuel (RDF) in Rayong province. The contract represented a joint effort for developing a waste-to-energy plant to produce clean energy while solving the problem of soaring waste in the province.
December 30	The project to generate power from a ground-mounted solar farm on land belonging to Chanthaburi's Shrimp Farmers' Cooperative Limited, which is run by Combined Heat and Power Producing Company Limited (CHPP), started commercial operation with power distribution to PEA's grid.
2017	
<u>June 2017</u>	
June 29	Bang Pa-In Cogeneration Company Limited, in which GPSC held 25% shares, started commercial operation on June 29 as an Firm SPP under a 25-year contract with the Electricity Generating Authority of Thailand (EGAT). The plant produces 117 megawatts and 20 tons per hour of steam, using natural gas as fuel.
<u>September 2017</u>	
September 21	Combined Heat and Power Producing Company Limited (CHPP), a wholly owned subsidiary of GPSC, signed an MOU with PTT Retail Management Company Limited (PTTRM), a company in charge of the management of PTT retail outlets and Jiffy convenience stores. The MOU involved cooperation in the installation of solar panels on the premises of service stations managed by PTTRM.
September 28	<ul style="list-style-type: none"> ● GPSC signed an agreement to hold 10% shares in Sam Palang Social Enterprise Company Limited (PTTSE) as a channel for supporting activities concerning social enterprises under PTT and affiliates in PTT Group. ● GPSC signed an agreement with Bank of Ayudhaya Public Company Limited and Siam Commercial Bank Public Company Limited to appoint both banks as the underwriters of GPSC's THB 5,000 million debentures offered to institutional and major investors. The debentures won an A+ rating from Fitch Ratings (Thailand) Limited.
<u>November 2017</u>	
November 15	● IRPC Clean Power Company Limited, in which GPSC held 51% shares, started its phase 2 commercial power generation as an Firm SPP. Under a 25-year contract with the Electricity Generating Authority of Thailand (EGAT), the 195 megawatts produced in phase 2 would raise the capacity to 240 megawatts and steam capacity to 180-300 tons per hour.
<u>December 2017</u>	
December 15	● GPSC signed an MOU with Nava Nakorn Company Limited (NNCL) on the development of a solar power plant and a smart grid in Nava Nakorn Industrial Promotion Zone.

Date	Milestones
	<ul style="list-style-type: none"> • Ichinoseki Solar Power 1GK, whose 99% shares were owned by GPSC, started commercial solar power generation with Tohoku Electric Power Company, covering a 20-year term and a capacity of 20.8 megawatts.
2018	
<u>January 2018</u>	
January 17	GPSC signed an MOU with the Federation of Thai Industries (FTI) as advisor of Thailand Greenhouse Gas Management Organization (Public Organization) to expand the promotion of carbon footprint reduction. GPSC was selected as a pilot company that joined the carbon footprint reduction in the industrial sector project, phase 7, 2018.
<u>February 2018</u>	
February 7	GPSC signed an MOU with the Department of Industrial Works on a project to manage industrial waste in the Eastern Economic Corridor (EEC).
<u>April 2018</u>	
April 2	GPSC signed an MOU with Chiang Mai University on the Smart City Development Project at Chiang Mai University. The purpose was to support knowledge management of energy storage systems in the power management demonstration project of the smart city. At the initial stage, 17 kilowatts hour of the energy storage system was installed as a sample and prototype for study visits. The project also supported the Energy 4.0 Policy of the government to develop future Thailand.
<u>May 2018</u>	
May 25	Nava Nakorn Electricity Generating Company Limited (NNEG), 30% owned by GPSC, would increase its capacity by 60 megawatts of power and by 10 tons per hour of steam with an investment fund of THB 3,105 million. The expansion was expected to commence in the third quarter of 2018.
<u>June 2018</u>	
June 20	GPSC publicized a resolution of the Board Meeting about the acquisition of Glow Energy Company Limited's total shares with two prerequisites: approval of the Energy Regulatory Commission (ERC) and of the shareholders. Extraordinary General Meeting No. 1/2018 was held on August 24, 2018.
<u>August 2018</u>	
August 24	GPSC held an Extraordinary General Meeting No. 1/2018 to approve the direct and indirect acquisition of shares in Glow Energy Public Company Limited and the issuance of the debentures, both domestic and abroad, for THB 68,500 million or equivalent in other currencies.

Date	Milestones
November 2018	
November 26	GPSC signed an MOU with the Provincial Electricity Authority (PEA) on a hybrid energy storage system for off-grid electric power dispatch solution for remote areas and island areas. The cooperation aims to establish a prototype of energy storage systems and energy management systems as effective off-grid electric power dispatch solutions in remote areas. The model was expected to be used by several remote areas in the future.
December 2018	
December 7	GPSC entered into an agreement with Brookfield Renewable Partners to acquire shares, directly and through its subsidiary. The investment in the solar power plant business with a total capacity of 39.5 megawatts consisted of (1) N.P.S. Stargroup Company Limited (“N.P.S.”), (2) World X Change Asia Company Limited (“World X Change Asia”), (3) P.P. Solar Company Limited (“P.P. Solar”) (4) TerraForm Global Operating (Thailand) Company Limited, TerraForm Global Operating (Thailand) Co., Ltd., which engages in maintenance operation of solar power plants; it was renamed Global Renewable Power Operating Co., Ltd. (GRPO). The total investment fund was THB 3,070 million, including the transfer of rights under the loan agreements from the original shareholders.
December 21	GPSC established Global Renewable Power Company Limited (GRP), a subsidiary to support future investment in renewable power plants
2019	
March 2019	
March 14	GPSC acquired 1,010,976,033 shares (direct and indirect) in Glow Energy Public Company Limited (GLOW), representing 69.11%. It was obliged to make a tender offer for the remaining 451,889,002 shares, representing 30.89% of the total issued shares. GPSC made a mandatory tender offer for all of GLOW’s shares on May 22, 2019, and acquired more shares amounting to 26.14% of all sold shares.
April 2019	
April 1	GPSC purchased the Energy Recovery Unit (ERU), part of Clean Fuel Project (CFP) of Thairoil Company Limited for the rights over ERU. ERU was under construction and expected to win a Provisional Acceptance Certificate (PAC) in the third quarter of 2023.
July 2019	
July 1	NL1PC, in which GPSC holds 40% equity of the installed capacity of 65 megawatts, operates a hydroelectric run-of-river power plant located in Lao PDR and has already commenced commercial operation with a 25-year PPA of 64.5 megawatts with Electricite du Lao (EDL).

Date	Milestones
August 2019	
August 28	GPSC held Extraordinary General Meeting of Shareholders No. 1/2019 to request an approval to increase the registered capital of THB 13,214,285,710, made up of new registered capital of THB 28,197,293,710 for common shares of up to 1,321,428,571 shares with a par value of THB 10 per share, totaling THB 13,214,285,710 in rights offering for existing shareholders. Each shareholder can subscribe to the newly issued shares over his/her rights at a ratio of one existing common share to 0.8819 new shares for an offered price of THB 56 per share.
September 2019	
September 12	Central Utility Plant (CUP-4), an extended unit of cogeneration and steam production unit fueled with natural gas in the Asia Industrial Estate, Rayong province, commenced commercial operation with a total capacity of 49 megawatts of electricity and 140 tons per hour of steam.
October 2019	
October 9	GPSC completed its capital increase plan for existing shareholders by THB 74,000 million on October 9, 2019. It allotted 1,321,428,567 common shares at THB 56 per share, resulting in a current total of 2,819,729,367 common shares, thus boosting its registered capital to THB 28,197,293,710.
October 29	Xayaburi Power Company Limited (XPCL), a hydro power plant located in Xayaburi province, Lao PDR, with an installed capacity of 1,285 megawatts, distributed 1,220 megawatts to the Electricity Generating Authority of Thailand (EGAT) and 60 megawatts to a Lao electricity state enterprise. GPSC holds 25% shares, equivalent to 321 megawatts. It has commenced commercial operation under a 29-year power purchase agreement with EGAT
November 2019	
November 7	Chonburi Clean Energy Company Limited (CCE), operator of a power plant fueled by industrial waste in the WHA Chonburi Industrial Estate 1 a gross capacity of 8.6 megawatts, started commercial operation. CCE is a joint venture between Glow IPP 3 Company Limited, WHA Energy, and Suez (South East Asia). GIPP3 holds 33% shares, equivalent to about 2.8 megawatts of installed capacity.
November 8	GPSC issued six sets of debentures totaling THB 35,000 million to institutional investors and major investors at an average interest rate of 2.80 per annum. The rating given by TRIS Rating Company Limited (TRIS) of the debentures was AA-. The funds received, according to GPSC's financial restructuring plan, will repay short-term loans for the acquisition of GLOW.
December 2019	
December 2	GPSC made an offer of all the outstanding securities of GLOW on December 2, and successfully delisted the securities from SET on December 13, 2019. As of December 31, 2019, GPSC therefore held a total of 1,460,360,024 shares acquired from GLOW, or 99.83% of the total issued and sold shares.
December 13	SET officially delisted GLOW's common shares, effective from December 13, 2019 onward.

Date	Milestones
2020	
<u>January 2020</u>	
January 18	GPSC, with the cooperation of PTT Global Chemical Public Company Limited (GC), started operating a smart energy storage system (ESS) with the capacity of 1.5 MWh. This storage is the largest system in the industrial sector of Thailand. It boosted security and stability of the power network system distributed to GC’s Science & Technology Center building in Rayong province.
January 31	GPSC Treasury Center Company Limited (GPSCCTC) was registered with the Ministry of Commerce with an initial paid-up capital of THB 20 million. GPSC held 100% shares in GPSCCTC.
<u>March 2020</u>	
March 11	GPSC started construction of a prototype battery factory using semi-solid technology, the first ever in Thailand, located on 12 rai in Map Ta Phut Industrial Estate, Rayong province. The project value exceeded THB 1,100 million.
March 26	GPSC successfully acquired 100% shares, through Global Renewable Power Company Limited (GRP), in four companies including N.P.S. Stargroup Company Limited (“N.P.S.”), World X Change Asia Company Limited (“World X Change Asia”), P.P. Solar Company Limited (“P.P. Solar”), and TerraForm Global Operating (Thailand) Company Limited. Nine solar farm projects were developed by these companies with a total capacity of 39.5 megawatts.
<u>April 2020</u>	
April 1	GPSC commenced its new organization structure following GLOW’s acquisition under sole management to strive for business management integration, operating systems and assets management with maximum efficiency
<u>June 2020</u>	
June 1	Glow Hemaraj Wind Co., Ltd., in which GPSC held shares through Eastern Seaboard Clean Energy Co., Ltd., completed its liquidation.
<u>July 2020</u>	
July 14	Rayong Clean Energy Co., Ltd., in which GPSC held shares through Eastern Seaboard Clean Energy Co., Ltd., completed its liquidation.
<u>August 2020</u>	
August 7	GPSC offered environmental conservation debentures (Green Bond), which are unsubordinated and unsecured debentures with specified debenture holders, to institutional investors and major shareholders for a total of THB 5,000 million. The funds received will be used in renewable-energy projects, including the solar power plant and waste to energy projects. The offers were warmly received by investors with a total booking of debentures more than THB 30,000 million or 6 times oversubscribed.

Date	Milestones
<u>September 2020</u>	
September 25	GPSC signed an MOU with Electric Vehicles (Thailand) Public Company Limited (EVT) to develop and experiment in prototype electric buses using semi-solid technology battery in order to examine the efficiency of batteries when using on these buses.
September 28	GPSC, through Combined Heat and Power Producing Company Limited (CHPP), entered into an MOU with Suranaree University of Technology to build a solar power plant with a total capacity of about 6 megawatts at a budget of THB 150 million. The project aimed to create a low-carbon university which would reduce utilities costs of the university through a Private Power Purchase Agreement. It is also intended to be a smart energy center of the northeast for the public. Generation and distribution of power is expected from 2022 onward.
<u>October 2020</u>	
October 31	NNEG, 30% owned by GPSC, started commercial operation of the expansion unit, increasing its capacity by 60 megawatts and 10 tons per hour of steam. As a result, the net capacity of NNEG increased to 185 megawatts of power and 40 tons per hour of steam.
<u>November 2020</u>	
November 13	GPSC established Global Renewable Power One Co., Ltd. (GRP1) to accommodate its investment growth plan in a solar power generation plant in Taiwan with an installed capacity of about 55.8 megawatts.
November 19	The Board of Directors of PTT Public Company Limited (PTT) approved purchase of 4.655 million shares, amounting to 50% of the paid-up capital of Global Renewable Power Company Limited (GRP) (a subsidiary wholly owned by GPSC) from GPSC. The transaction was made through PTT's subsidiary, PTT Global Management Company Limited (PTTGM), at a total value of approximately THB 693 million. The joint venture is another step to improve collaboration with PTT Group's stakeholders, which forms part of Powering Thailand's Transformation strategy for being a leader in the renewable energy or clean power business. PTT Group's target is to achieve 8,000 megawatts capacity from renewable energy by 2030.
<u>December 2020</u>	
December 25	GPSC launched G-Cell batteries using semi-solid technology, products of Energy Storage Unit, Rayong province. The start of regular production is in the second quarter of 2021.

1.1.3 Report on spending objectives of mobilized capital

1) Funds from debentures

GPSC spent money received from issuance of environmental conservation debentures according to the objectives described in the prospectus offered on August 7, 2020, for unsubordinated and unsecured debentures with specified debenture holders, to institutional investors and major shareholders at a total of THB 5,000 million. The objectives were to use the fund from debentures for environmental conservation project for investment and/or refinancing some parts or all of the new or existing projects of GPSC and its subsidiaries as detailed below:

Expenditure	Approx. Spending as of Dec. 31, 2020 (Unit: million THB)	Period	Description
1. For purchase of assets or investment in any activities related to existing business	3,084	1 month	Invest in a 39.5-MW solar power plant of GRP, located in Thailand. ⁽¹⁾
2. For investment or refinancing	1,916	4 months	Invest in waste-to-energy (WTE) management project in Thailand, namely two subprojects : Refuse-Derived Fuel (RDF) and RDF power plant.
Total	5,000		

Remarks:

⁽¹⁾ GPSC sold 50% of its shares held in GRP to PTTGM, a subsidiary company of PTT, on January 4, 2021.



2) Laws governing debt instruments

Debentures are enforced under Thai law.

1.1.4 Obligations shown in the prospectus and/or conditions of the office (if any) and/or condition of securities receivable of the Stock Exchange of Thailand (if any).

None.

1.1.5 Company Information

COMPANY NAME	:	Global Power Synergy Public Company Limited
SECURITY NAME	:	GPSC
HEAD OFFICE ADDRESS	:	555/2 Energy Complex Building B, 5 th Floor, Vibhavadi Rangsit Road, Chatuchak Sub-District, Chatuchak District, Bangkok 10900
TYPE OF BUSINESS	:	Company operates as a power, steam, and utilities producer and distributor. In addition, the company invests in other companies that generate and distribute power, steam, and utilities, including related businesses, both domestically and overseas.
BUSINESS REGISTRATION NUMBER	:	0107557000411
TELEPHONE	:	+66 (0) 2140 4600
FAX	:	+66 (0) 2140 4601
WEBSITE	:	www.gpscgroup.com
REGISTERED CAPITAL	:	THB 28,197,293,710 as of December 31, 2020, comprising 2,819,729,367 common shares, with a par value of THB 10 per share, paid-up capital at THB 28,197,293,670.



1.2 Nature of Business Operations

The Company currently operates its core businesses in generating and distributing electricity, steam, and industrial water, as well as other utilities; both operated by the Company itself and via investment in other companies. As of December 31, 2020, the Company's attributable production capacity is; electricity of 5,055 MW, steam of 2,946 tons per hour, industrial water of 7,372 cubic meters per hour and chilled water of 15,400 tons of refrigeration, as detailed below:

1.2.1 The Company's Revenue Structure

The Company's major sources of revenue are comprised of revenue from sales of electricity, steam, industrial water, revenue from financial lease, and dividend income from Ratchaburi Power Co., Ltd., which can be detailed as follows:

Products & Services	Operated by	For the Period Ending December 31, 2020					
		2018		2019		2020	
		Revenue (Million Baht)	%	Revenue (Million Baht)	%	Revenue (Million Baht)	%
Sales Revenue from Products and Services							
Electricity	IPP Group	3,241	13%	14,940	22%	15,092	21%
	SPP Group	12,771	51%	35,627	53%	38,100	54%
	VSPP Group	321	1%	348	1%	615	1%
	Total	16,333	65%	50,915	75%	53,807	76%
Steam	SPP Group	7,297	29%	13,835	21%	13,906	20%
	Total	7,297	29%	13,835	21%	13,906	20%
Industrial Water/Chilled Water	IPP Group	6	0%	56	0.1%	20	0.1%
	SPP Group	309	1%	631	0.9%	676	1%
	VSPP Group	187	1%	203	0.3%	193	0%
	Total	502	2%	890	1%	889	1%
Services	VSPP Group	97	0.4%	30	0.04%	37	0.05%
	Total	97	0.04%	30	0.04%	37	0.05%
RDF Waste Fuel	RDF	4	0.02%	16	0.02%	6	0.0%
	Total	4	0.02%	16	0.02%	6	0.0%
Nitrogen	GPSC	103	0.4%	103	0.2%	112	0.2%
	Total	103	0.4%	103	0.2%	112	0.2%
Total Sales Revenue from Products and Services		24,233	96%	65,789	97%	68,757	97%
Revenue from Financial Lease							
Power Business Financial Lease	IPP Group	543	2%	773	1%	821	1%
Total Revenue from Financial Lease		543	2%	773	1%	821	1%
Other Income							
Dividend	GPSC	135	1%	185	0.3%	396	1%
Other Income	GPSC	286	1%	733	1.1%	1,009	1%
Total other income		421	2%	918	1%	1,405	2%
Total Revenue		25,300	100%	67,480	100%	70,983	100%

1.2.2 Product Information

1) Characteristics of Products, Services and Innovation Development

Characteristics of Core Products

- **Electricity** is a form of energy that is transformed to generate other types of energy, for instance, heat energy, mechanical energy, energy for industrial processes in manufacturing, commerce and utility. Electricity is distributed to different locations via transmission lines, which serve as conductors in bringing the electricity to customers. There are different voltage levels, i.e. 230 kV, 115 kV and 22 kV, etc.
- **Steam** is a kind of heat energy, using the residual heat from electricity generation to produce steam. Direct fuel combustion is sometimes used in steam production. In this regard, steam distributed to customers is of various voltage levels and temperature, depending on customers' requirements.
- **Chilled water** is the water used as a medium in exchanging cooling energy in the air-conditioning system or in the production processes.
- **Industrial water** is the processed water according to required standards, for instance, clarified water or demineralized water. Both types of water are part of electricity generation process and distributed to customers for use in manufacturing processes.
- **Nitrogen** is inert gas, with the chemical formula 'N₂', and has a liquid state at the temperature of -196 degrees celcius. In this regard, the Company procures and distributes nitrogen to industrial customers via the transmission lines.

Innovation Development

In 2020, the Company had been determined in continuously operating and developing the business using advanced technology and new energy alternatives, gearing towards the New S-Curve, to accommodate changes in operating the energy and electricity businesses in the future (Energy Transformation) as follows:

- **Energy Storage Business:** The Energy Storage System (ESS) installation of 1.5 MWh for PTT Global Chemical PCL ("GC") at GC office in Rayong, to facilitate manufacturing management and co-utilize electricity with the gas engine to enhance effectiveness and reduce electricity expense.
- **Battery Manufacturing:** The Company invested in the construction of a pilot plant to produce lithium ion batteries, using the semi-solid technology, whereby the Company obtained a manufacturing license from 24M Technologies Inc. (24M), with the initial production capacity of 30 MWh/Year,

which can potentially be expanded to 100 MWh/Year. The pilot plant is located in Map Tha Phut Industrial Estate, Rayong. It was expected that the construction would be completed and batteries will be distributed in the market by the second quarter of 2021. In this regard, since the Company is aware of the importance of research and development in battery production technology, therefore has recruited research personnel and formed collaborations within PTT Group and with external parties to jointly develop research projects to enhance business potential in manufacturing process improvement and product development.

- **New Energy:** CHPP, in which the Company holds 100% stakes, has entered into a power purchase agreement with Suranaree University of Technology, Nakhon Ratchasima, to install the solar rooftop, floating solar panels and ESS to distribute electricity in the university premises, as well as install the energy management software to simulate peer-to-peer power purchase scenarios, which are the same technology and usage as the pilot model at Vidyasirimedhi Institute of Science (VISTEC); PTT Group's sandbox, to further develop into an electricity business model of the future. The installation has been scheduled to complete and operate in 2021.

Investment Privileges

The Company and subsidiaries are granted investment promotion privileges according to the Investment Promotion Act (B.E.2520), upon approval of the Board of Investment Office, under certain conditions. The said privileges are comprised of the following:

- A) A permission to take ownership in the land to operate the promoted business as the Board of Investment deems appropriate.
- B) An exemption on import duty for machinery, raw materials or necessary materials imported to produce goods for domestic distribution as the Board of Investment deems appropriate
- C) An exemption on corporate income tax on net profit from the commencement of revenue recognition. In the event that an entity incurs a loss during the said period, the amount can be deducted from the net profit incurred for no less than 5 years after the passing of such time limit.
- C)* An exemption on corporate income tax for the net profit generated from operating promoted businesses for the proportion of 50% of the investment capital to improve production efficiency, not including land and 3-year working capital, from the commencement of revenue generation after obtaining the promotion certificate.

- In case an entity incurs a loss during the said period, the amount can be deducted from the net profit incurred for no less than 5 years after the passing of such time limit.
- D) An exemption on using the dividend received from the promoted business to calculate for the income tax during the period that the corporate income tax exemption takes effect.
- E) An exemption on corporate income tax for the net profit of 50% of the normal rate for 5 years after the passing of the corporate income tax exemption period as stated in C
- F) A permission to deduct 2 times of the transportation costs, electricity and water expenses for a period of 10 years, from commencement of revenue recognition in such business.
- G) A permission to deduct 25% of the investment capital in the installation or construction of facilities, apart from the depreciation expense as usual.
- H) An exemption on import duty for goods imported for re-export, or production for export for a period of 1 year from the first import.

Companies that receive the privileges from investment are as follows:

Company	Permit Grant Date	Commencement of Revenue Recognition	Number of Years for Income Tax Exemption	Privilege Eligibility
Global Power Synergy PCL				
Central Utility Plant - 1 Phase 1-2	February 2005	June 2006	8	B) to G)
Central Utility Plant - 1 Phase 3	October 2006	June 2007	8	B) to G)
Central Utility Plant - 1 Phase 4	January 2008	May 2008	8	B) to G)
Central Utility Plant - 1 Phase 5	September 2008	July 2009	8	B) to G)
Central Utility Plant - 1 Phase 6	January 2009	December 2009	8	B) to G)
Central Utility Plant - 2	September 2007	May 2008	8	B) to D)
Central Utility Plant - 3	January 2009	July 2009	8	B) to G)
Central Utility Plant - 4	August 2018	September 2019	4	B) to D)
Waste Fuel Production Plant	October 2017	May 2018	8	B) to E)
Waste Power Plant	June 2019	Not yet redeemed	8	B) to E)
Sri Racha Power Plant	December 2010	February 2011	8	B) to D)
Battery Plant	August 2018	Not yet redeemed	8	B) to E), H)
Solar Rooftop Project - GC Glycol	September 2020	Not yet redeemed	8	B) to D)
Solar Rooftop Project - GIPP	January 2020	Not yet redeemed	3	B), C)*, D)
Remark Promotion Certificate No. 1525/2542 was terminated. Promotion Certificate No.63-0111-1-04-1-0 is to be used instead				
Combined Heat & Power Producing Co.,Ltd.				
Solar Farm Project	September 2016	December 2016	8	B) to D)
Solar Rooftop Project – Thai Oil	December 2019	Not yet redeemed	8	B) to D)
Solar Rooftop Project – VISTEC	December 2019	May 2020	8	B) to D)
Solar Rooftop Project and Floating Solar – VISTEC	May 2020	Not yet redeemed	8	B) to D)
IRPC Clean Power Co., Ltd.				
	April 2014	June 2015	8	B) to G)
Glow Energy PCL				
Phase 1 Project	July1994	May 1995	8	A) to G)
Phase 2 Project	June 1995	January 1996	8	A) to G)
Extended Project Phase 1	March 2004	July2004	8	A) to G)

Company	Permit Grant Date	Commencement of Revenue Recognition	Number of Years for Income Tax Exemption	Privilege Eligibility
Extended Project Phase 2	August 2004	September 2005	8	A) to G)
CFB 3	June 2007	November 2010	8	A) to G)
Phase 1 Project	November 2007	-	-	A) to B)
Phase 5 Project	February 2009	March 2011	8	A) to G)
Glow Solar	August 2012	August 2012	8	B) to G)
Glow Solar Rooftop – Michelin	May 2018	November 2018	8	B) to D)
Glow Solar Rooftop - Continental	May 2018	February 2019	8	B) to D)
Glow Solar Rooftop - Holiday Inn	June 2020	Not yet redeemed	8	B) to D)
Glow Solar Rooftop - Indorama	June 2020	Not yet redeemed	8	B) to D)
Glow Solar Rooftop - NSP	June 2020	Not yet redeemed	8	B) to D)
Glow Solar Rooftop - Suez	June 2020	Not yet redeemed	8	B) to D)
Glow Co., Ltd.	September 2003	-	-	A)
Glow SPP2 Co., Ltd.	November 1996	August 1997	8	A) to G)
Glow SPP3 Co., Ltd.	August 1997	August 1999	8	A) to G)
Glow IPP Co., Ltd.	November 1999	January 2003	8	A) to D)
GHECO-1 Co., Ltd.	July 2008	November 2011	8	B) to G)
Glow SPP11 Co., Ltd.				
Phase 1	March 1999	September 2000	8	A) to G)
Phase 2	July 2013	November 2012	8	B) to G)
Phase 3	July 2013	October 2006	8	B) to G)
Phase 3 (Expansion)	September 2014	April 2015	8	B) to G)

2) Market and Competition

Distribution and Target Customers

Distribution

Electricity and steam are the Company's core products, which have to be distributed immediately to customers, so the product distribution system is highly important. The system must be equipped with readiness and high reliability for distribution, and because the Company realizes the significance of this matter, the electricity transmission system has been designed separately for each customer, in order to control usage and safety system for each customer separately, for electricity distribution from the generators with the same standard voltage level as regulated by the Electricity Generating Authority of Thailand (EGAT), the Provincial Electricity Authority (PEA) and the Metropolitan Electricity Authority (MEA), with the transformers at substations. The electric current will

then be transmitted through transmission lines via trading meters to the electric current systems of EGAT, PEA, MEA and industrial customers. Furthermore, the locations of the Company's power plants are also critical to the product distribution system since they have to be located in the industrial estate areas, where customers' plants are located and where steam, chilled water and industrial water are in demand in production processes. The Company hereby distributes the products via the pipeline system that has been designed with extra insulation to minimize energy loss to the outside environment.

The Company's key customers are categorized into 2 main groups, based on product utilization as follows:

1. Distribution to EGAT, PEA and MEA.

With reference to Thailand's electricity system structure,

EGAT is the accountable party in generating, procuring and distributing electricity to PEA and MEA, to distribute electricity to the industrial sector and the general public. With that, the 3 entities need to ensure sufficient procurement to accommodate the nationwide demand. Electricity generation by EGAT alone is not sufficient, so the aforementioned entities need to purchase electricity from private power producers, via these 3 types of power purchase agreement:

- Independent Power Producer: IPP
- Small Power Producer: SPP
- Very Small Power Producer: VSPP

In this regard, the Company and the investment companies do sell electricity to EGAT, PEA and MEA via 3 types of power purchase agreements. Selling electric current to EGAT has also granted the Company with additional electricity via the backup power purchase agreement, which serves to strengthen the reliability of the power generation system for power plants.

2. Direct Distribution to Industrial Customers

Apart from distributing electricity to EGAT, the Company also distributes electricity to industrial customers as the producer of fundamental utilities; electricity, steam, chilled water and industrial water. The Company takes great emphasis in the stability and continuity in distribution, as well as determining the standard pricing that can be benchmarked against other producers in the market. In this regard, the majority of the Company's industrial customers are in the petrochemical sector. Besides, the Company distributes nitrogen to companies in PTT Group as a fully-integrated service provider as well.

Electricity Pricing

The Energy Policy and Planning Committee has specified the electricity pricing structure for Thailand to reflect costs at different times of the day, whereby the power purchase rate is in accordance with the electricity rate structure, categorized by different types of power producers as follows:

1 Electricity Pricing of Independent Power Producer: IPP

The power purchase agreement of an independent power producer (IPP) is generally governed by 2 parts of the pricing structure as follows:

The first part is the availability payment (AP), which is a premium that EGAT pays power plants on a monthly basis to maintain the availability level, regardless of the actual electricity units purchased by EGAT. The AP is comprised of the following:

- APR1: The compensation that EGAT pays the

Company for the construction cost, as well as the debt burden and capacity cost.

- APR2: The compensation that EGAT pays the Company for fixed costs in machine operations and maintenance (Fixed O&M)

The second part is the energy payment (EP) that independent power producers determine the pricing by taking variable production costs into account.

2 Electricity Pricing of Small Power Producer: SPP

The electricity pricing for small power producers (SPP) depends on the types of fuel and agreement, as follows:

2.1) Firm Agreement Pricing: The firm agreement is the power purchase agreement that specifies the amount of electricity capacity to supply to EGAT throughout the entire contract period, which is 5 years or more. The pricing structure of this agreement is comprised of:

- Capacity Payment: CP, which is considered based upon the investment cost for power plants that EGAT can potentially avoid in the future (Long Run Avoided Capacity Cost) by purchasing the capacity.
- Energy Payment: EP, considered based upon the fuel cost used in electricity generation that EGAT can potentially avoid in the future. (Long Run Avoided Energy Cost)
- Fuel Saving; this revenue will be granted when fuel gets used less than the standard amount regulated by EGAT.

Moreover, EGAT will purchase the electricity in the quantity specified in the power purchase agreement, whereas fines will be applicable if SPPs cannot generate electricity as agreed

2.2) Non-firm Agreement Pricing: The non-firm agreement is the power purchase agreement that is valid for less than 5 years. This type of agreement will not be entitled to a capacity payment (CP), only the energy payment (EP), which is determined based upon the fuel cost used in electricity generation, operating cost and power plant maintenance cost that EGAT can potentially avoid in the short-term period (Short Run Avoided Energy Cost), which is different in different seasons. Hence, the pricing in the non-firm agreement, specifically the EP, will be multiplied by the K factor as announced by EGAT. Overall, the pricing of the non-firm agreement is generally lower than that of the firm agreement. In this regard, if purchasing electricity from renewable energy power plant or in case of the FiT power purchase, an adder will be applied, according to the announcement of PEA or MEA.

3. Electricity Pricing of Very Small Power Producer: VSPP

Very small power producers (VSPP) are electricity producers who supply no more than 10 MW of electricity to PEA or MEA per agreement, whereby the power purchase rate is equivalent to the cost of wholesale electricity structure at the voltage that VSPPs connect to the electricity system, combined with the electricity cost according to the average wholesale Ft rate. In this regard, if purchasing electricity from renewable energy power plant, or in case of the FIT power purchase, an adder will be applied, according to the announcement of the Energy Regulatory Commission (ERC)'s announcement.

Power Purchase Rate of Industrial Customer

The majority of industrial customers are industrial plants, whereby the Company has entered into a long-term power purchase agreement with each customer, with reference to the selling price based on PEA's rate. The Ft rate is usually adjusted in line with fuel costs, while for some customers, it has been agreed that the the electricity expense is subject to fuel cost such as natural gas, etc.

Pricing of Steam and Industrial Water

The selling prices of steam and industrial water to industrial customers are determined based upon the energy raw materials used in production, as well as other production costs, with the margin added on top (cost plus), to serve as the pricing formula that uses a cost variable that is subject to change in order to reflect the actual production cost, including investment, variable cost, operation and maintenance cost. Regarding the investment in the distribution system that has been arranged for each customer dedicatedly, the energy loss in the distribution system will be calculated separately since there are differences in terms of the quantity distributed and customers' locations, which are going to yield different outcomes in the investment capital required for the system. For the general pricing conditions, the Company's Board of Directors have identified the criteria and principles for standard products' selling prices to order to ensure fairness and transparency in distributing products both for inter-related customers and other customers to operate in the same standard.

Competitive Landscape

In the past, the Company has never encountered severe competitions in operating its core business, given the direct electricity and steam transmission network to customers' premises, long-term power and steam purchase agreements, reliability guarantee in terms of electricity and steam

distribution, coupled with the fact that the Company utilizes the co-generation system in electricity and steam distribution, which has lower operating cost compared to other systems. With these supporting factors, the Company's cost is lower compared to if each customer invests in their own utility system. However, the Company has started to spot competitors offering electricity and steam sales for certain customers in the area, especially for projects that the agreements are nearly due or customers' upcoming projects.

Nevertheless, the Company believes that with the operating performance of power plants in the past, expertise and experiences in electricity and steam production using different types of fuels, reliability and electricity generation network, operational skills and expertise with high stability, financial position and the ability to raise capital, as well as the sustainable growth policy using innovation, these will equip the Company with the potential to compete with other energy business operators in an appropriate manner.

Procurement of Products and Services

The Company has the production and distribution procedures for products and services, categorized by each subsidiary as follows:

Fossil Fuel Power Plants (Conventional Power Plant)

Commercially Operated Power Plants

1) Global Power Synergy PCL (The Company)

The Company generates and distributes electricity to EGAT and industrial customers, with the total attributable capacity of 1,983 MW. The Company also provides utility services; producing and distributing steam and industrial water to industrial customers in the nearby areas, with the total steam production capacity of approximately 1,655 tons per hour and the industrial water production capacity of 2,080 cubic meters per hour. The Company's power plants and Central Utility Plants are as follows:

1. Sri Racha Power Plant

Sri Racha Power Plant is a power plant under the power purchase project from a major independent power producer (IPP), with the total capacity of 700 MW. It is located in Thung Sukhala sub-district, Sri Racha district, Chonburi. The total amount of electricity generated is sold to EGAT under the 25-year power purchase agreement, starting from its commercial operation on August 15, 2000. The agreement will be due in 2025, whereby the electricity generation for distribution is in accordance with the conditions and production commands of EGAT.

Production Procedures

Sri Racha Power Plant is a combined-cycle power plant using natural gas as the main fuel and diesel as secondary fuel, comprising of 2 sets of gas turbine generators (GTG) of 235 MW and 2 sets of heat recovery steam generators (HRSG) and 1 set of steam turbine (ST) to drive 1 set of steam turbine generator (STG) of 240 MW.

Raw Material Sourcing

Sri Racha Power Plant uses natural gas as the main fuel in electricity generation. It entered into a 25-year natural gas purchase agreement with PTT PCL (PTT), ending in 2025 for an IPP gas price, and a diesel purchase agreement with Thai Oil PCL (TOP) to use as secondary fuel, as well as a 25-year raw water purchase agreement with Eastern Water Resource Development and Management PCL (EW), ending in 2025. Besides, Sri Racha also entered into a power purchase agreement with EGAT for 10 MW on an annual basis, and a 25-year backup power purchase agreement with Thai Oil Power PCL (TP) for 1 MW, ending in 2025 to use as a reserve during maintenance.

Distribution

Sri Racha Power Plant generates and distributes the entire amount of electricity to EGAT under the IPP-power purchase agreement. In this regard, with reference to conditions of the said PPA, it is EGAT's right to determine the amount of electricity purchased through a long-term power purchase plan on an annual and a monthly basis, and a short-term power purchase plan on a daily basis. Sri Racha Power Plant has to notify the availability in electricity generation to EGAT both on a long-term and short-term basis, whereby the availability payment (AP) is the compensation that EGAT pays Sri Racha Power Plant for maintaining electricity generation availability regardless of the amount of electricity distributed to EGAT. The availability payment is comprised of:

- APR1: The compensation that EGAT pays the Company for the plant construction costs, debt burden and capacity cost.
- APR2: The compensation that EGAT pays the Company for fixed costs in machine operations and maintenance (Fixed O&M)

In this regard, Sri Racha Power Plant will receive the AP revenue based upon the availability notified by the power plant itself and in accordance with the power purchase conditions. Besides, Sri Racha Power Plant is also eligible for the energy payment (EP) from the actual electricity generation based on EGAT's dispatch instruction, whereby EGAT has the contractual right to call for a termination of electricity generation or not to produce at full capacity, while EGAT is still required to pay AP to Sri Racha Power Plant based on the availability.

2. Rayong Central Utility Plant: CUP

Rayong Central Utility Plant is the producer of electricity, steam and industrial water for industrial customers within PTT Group and industrial customers in general. It also distributes electricity to EGAT to maintain its balancing load between electricity and steam generation in case of industrial customers' high demand for steam, leading to the ramp up of electricity generation to yield sufficient amount of steam to accommodate such demand. The excessive electricity will then be distributed to EGAT under the non-firm SPP power purchase agreement. In this regard, distributing a portion of electricity to EGAT not only serves to enhance business operations' effectiveness, it also increases reliability for industrial customers and facilitates their business expansion in the future. Currently, there are 4 Central Utility Plants in Rayong, as follows:

2.1 Central Utility Plant 1: CUP-1

CUP-1 has the electricity generating capacity of approximately 226 MW, steam generating capacity of 890 tons per hour and industrial water production capacity of 720 cubic meters per hour. It is located in WHA Eastern Industrial Estate (Map Ta Phut) in Rayong. It distributes electricity, steam and industrial water to industrial customers and EGAT, and it has commenced commercial operations since 2006. CUP-1 has entered into a Demineralized Water Purchase Agreement with WHA Eastern Industrial Estate (Map Ta Phut) No.1 in 2019, and No.2 in 2020 to enhance the potential and water resource reliability for the Company.

Production Procedures

CUP-1 is a cogeneration power plant, using natural gas as the fuel, comprising of 6 gas turbine generators (GTG) of 37.6 MW and 6 heat recovery

steam generators (HRSG) of 70 tons per hour. Each set of the equipment also has the supplementary burner that can produce steam of 70 tons per hour and an auxiliary boiler with the capacity of 50 tons per hour.

Raw Material Sourcing

CUP-1 uses natural gas as the production fuel, with a 15-year natural gas purchase agreement with PTT, ending in 2021. The negotiation with PTT on the renewal of the long-term agreement is now in progress, with the right to use water according to the land purchase agreement with WHA Eastern Industrial Estate (Map Ta Phut). Furthermore, CUP-1 also entered into a 1-year backup power purchase agreement of 95 MW with EGAT, with an automatic renewal, if the contract is not terminated otherwise.

2.2 Central Utility Plant 2: CUP-2

CUP-2 is located near to Rayong Industrial Land (RIL), Rayong province, with the total electricity generating capacity of approximately 113 MW, steam generating capacity of 170 tons per hour and industrial water production capacity of about 510 cubic meters per hour. It distributes electricity, steam and industrial water mainly to industrial customers and distributes excessive electricity to EGAT under the non-firm SPP power purchase agreement. CUP-2 has commenced commercial operations since 2008.

Production Procedures

CUP-2 is a cogeneration power plant using natural gas as the fuel, comprising of 2 gas turbine generators (GTG) of 37.6 MW and 2 heat recovery steam generators of 70 tons per hour. Each set of the equipment also has the supplementary burner that can produce additional steam of 70 tons per hour, which will be distributed to industrial customers. The remaining steam will be passed through the steam turbine to drive the steam turbine generator (STG) of 38 MW to reduce the steam pressure to medium level before distributing to customers. Also, steam is produced from an auxiliary boiler of 50 tons per hour too.

Raw Material Sourcing

CUP-2 uses natural gas as electricity generating fuel, with a 15-year natural gas purchase agreement

with PTT, ending in 2022, and a 15-year raw water purchase agreement with RIL Industrial Estate, ending in 2022. Moreover, the Company also entered into a 1-year backup power purchase agreement of 37.5 MW with EGAT, with an automatic renewal, if the contract is not terminated otherwise.

2.3 Central Utility Plant 3: CUP-3

CUP-3 is located WHA Eastern Industrial Estate (Map Ta Phut), Rayong province, with the steam generating capacity of 280 tons per hour and industrial water production capacity of about 770 cubic meters per hour. The main equipment is comprised of 2 auxiliary boilers of 70 tons per hour and 1 auxiliary boiler of 140 tons per hour, together with the demineralized water production system. CUP-3 has commenced commercial operations since 2009, with the installation of a steam turbine generator (STG) of 15 MW in 2019 in order to maintain steam and electricity generating reliability to allow for maximum production optimization.

Raw Material Sourcing

CUP-3 uses natural gas as steam generating fuel, with a 15-year natural gas purchase agreement with PTT, ending in 2023, and a 15-year industrial water purchase agreement with WHA Eastern Industrial Estate (Map Ta Phut), ending in 2023.

2.4 Central Utility Plant 4: CUP-4

CUP-4 is located in Asia Industrial Estate (AIE), Rayong province. It is an investment endeavor that aligns with the Company's strategy in expanding its production capacity, to accommodate industrial growth within Asia Industrial Estate and nearby industrial estates for now and in the future. The investment also serves to strengthen the potential of the production system and distribution network among all the CUPs as a whole

Production Procedures

CUP-4 is a cogeneration power plant that uses natural gas as a fuel, comprising of a gas turbine generator (GTG) of 49 MW and a heat recovery steam generator of 70 tons per hour, with a supplementary burner that can produce an additional steam of 70 tons per hour. CUP-4 has a network that connects electricity and steam distribution to customers and also connects with CUP-1.

Raw Material Sourcing

CUP-4 entered into a 15-year natural gas purchase agreement with PTT, ending in 2034 and a 15-year clarified water purchase agreement with GC Estate, ending in 2034.

Distribution for CUP-1, CUP-3 and CUP-4

The Company has entered into electricity, steam and industrial water purchase agreement with industrial customers in WHA Eastern Industrial Estate (Map Ta Phut), Asia Industrial Estate (AIE) and nearby industrial estates, with the contract period of 10-15 years, which can be renewed for 5 years for each renewal. Besides, it also entered into a non-firm SPP power purchase agreement with EGAT of 40 MW, with the contract period of 5 years, with an automatic renewal, from the date that the Company started generating electricity to EGAT's system.

In this regard, the electricity and steam distribution systems for CUP-1, CUP-3 and CUP-4 have been designed to connect with one another (Power and Steam Distribution Tie-up) to enhance production effectiveness, maintain balance and backup capacity for one another. CUP-4 has commenced commercial operations since the third quarter of 2019, enabling the Company's electricity and steam network to be more reliable, leading to a more effective plant optimization.

2) Glow Energy PCL (GLOW)

GLOW operates as a major independent power producer (IPP) and a small power producer (SPP). Its core business is electricity generation to EGAT, as well as production of steam, processed water and chilled water to supply to industrial customers in Map Ta Phut Industrial Estate, nearby industrial estates and Siam Eastern Industrial Park in Pluakdaeng, Rayong, and others. The total attributable electricity generating capacity is approximately 3,091 MW, steam generating capacity of 1,116 tons per hour, chilled water production capacity of approximately 3,400 tons of refrigeration and processed water production capacity of about 5,292 cubic meters per hour. In this regard, industrial customers usually have utility purchase agreements with

the contract period of 10-20 years, whereas the power purchase agreement with EGAT is usually valid for 21-30 years. GLOW's power plants both in Thailand and overseas are as follows:

1. Glow IPP Power Plant

Glow IPP Power Plant is a combined cycle power plant, using natural gas as a principal fuel, and diesel as secondary fuel. It has the same electricity generating procedures as that of Sri Racha Power Plant, and it has commenced commercial operations since January 2003. It operates as a major independent power producer (IPP), generating and distributing the entire production to EGAT, with the electricity generating capacity of 713 MW.

Raw Material Sourcing

Glow IPP Power Plant entered into a natural gas purchase agreement for IPP with EGAT for a period of 25 years, ending in 2028.

2. Glow Energy Steam and Processed Water Production Plant Phase 1

Glow Energy Steam and Processed Water Production Plant Phase 1 is a natural gas-fired D type steam generation plant, with one unit of processed water machine. It has commenced commercial operations in July 1994, located in Map Ta Phut Industrial Estate. It has the steam generating capacity of 250 tons per hour, clarified water production capacity of 1,110 cubic meters per hour, and demineralized water production capacity of 230 cubic meters per hour. Because the steam generating machine used at this facility is of lower efficiency than those used at GLOW's other facilities, GLOW did not enter into a long-term steam purchase agreement for this plant, but will instead supply its production to serve short-term demand during the initial period of operations, as well as to enhance the overall production system to have more reliability. Industrial water produced from this plant is mostly distributed to industrial customers in Map Ta Phut Industrial Estate.

Raw Material Sourcing

Glow Energy Steam and Processed Water Production Plant Phase 1 entered into a 15-year natural gas purchase agreement with PTT, ending in 2021.

3. Glow Energy Power Plant Phase 2

Glow Energy Power Plant Phase 2 is a combined cycle natural gas-fired cogeneration power plant. It has commenced commercial operations in April 1996, with the electricity generating capacity of 281 MW and steam generating capacity of 300 tons per hour. The electricity of 120 MW is distributed to EGAT, while the remaining capacity is distributed to industrial customers in Map Ta Phut Industrial Estate. Furthermore, this plant also has a wastewater treatment facility that can produce clarified water of 900 cubic meters per hour, and demineralized water of 280 cubic meters per hour to supply to Glow Energy Power Plant Phase 1 and to customers in Map Ta Phut Industrial Estate and nearby industrial estates.

Raw Material Sourcing

Glow Energy Power Plant Phase 2 entered into a natural gas purchase agreement for SPP with PTT, ending in 2022.

4. Glow Energy Power Plant Phase 4

Glow Energy Power Plant Phase 4 is a natural gas-fired cogeneration power plant, located in Map Ta Phut Industrial Estate. It has commenced commercial operations in January 2005, with the electricity generating capacity of 77 MW and steam generating capacity of 137 tons per hour, clarified water and demineralized water production capacity of 1,500 and 550 cubic meters per hour respectively. The entire electricity is distributed to EGAT, while steam, clarified water and demineralized water are distributed to industrial customers in Map Ta Phut Industrial Estate and nearby industrial estates.

Raw Material Sourcing

Glow Energy Power Plant Phase 4 entered into a 25-year natural gas purchase agreement for SPP with PTT, ending in 2037.

5. Glow Energy Power Plant Phase 5

Glow Energy Power Plant Phase 5 is located in the same premise as Glow SPP 3 Power Plant in Map Ta Phut Industrial Estate. This power plant is equipped with a gas turbine, heat recovery steam generator and a steam turbine, with maximum electricity generating capacity of 328 MW. The electricity and steam generated are distributed through GLOW's existing transmission lines. This plant is considered a large combined cycle and

steam power plant compared to GLOW's other combined cycle and steam power plants. Given the scale and effectiveness of Glow Energy Power Plant Phase 5, this plant can operate its base load unit while other smaller combined cycle and steam power plants operate only to generate electricity to EGAT, subsequently enabling balance in terms of the amount of electricity and steam distributed to industrial customers. This power plant has commenced commercial operations in September 2011.

Raw Material Sourcing

Glow Energy Power Plant Phase 5 entered into a 10-year natural gas purchase agreement for a combined cycle and steam power plant with PTT, ending in 2021. Currently, the negotiation with PTT regarding the renewal of a natural gas purchase agreement is in progress.

6. GHECO-ONE Power Plant

GHECO-ONE Power Plant is located in Map Ta Phut Industrial Estate. It is a coal-fired power plant, with the total production capacity of 660 MW.

Production Procedures

GHECO-ONE Power Plant has been designed and operated following the international standard, using bituminous coal, which is a high quality coal with low sulfur content as the project's principal fuel. The coal is imported from Indonesia and will be conveyed from coal pile yard using the closed-system conveyor in order to temporarily store them before finely pulverizing, and then injecting to combine with air in the pulverized coal-fired boiler (PC boiler) that generates steam with the temperature of 566 degrees celcius and the pressure of 242 bars. The coal will then be transmitted into the steam turbine generator to generate electric current.

Distribution

GHECO-ONE Power Plant operates as an IPP, generating and distributing electricity to EGAT. It has commenced commercial operations in July 2012.

Raw Material Sourcing

GHECO-ONE Power Plant's coal purchase agreement will end in 2021, and the Company is now in the process of procuring a replacement for the aforementioned contract.

7. Houay Ho Power Plant (HHPC)

Houay Ho Power Plant is a hydro power plant, having

commenced commercial operations on September 3, 1999. It is located in Attapeu province in the south of Lao People's Democratic Republic. It has the installed capacity of 152 MW, operating as an IPP, generating and distributing electricity of 126 MW to EGAT and 2 MW to electricity du Laos (EDL).

8. Glow Energy CFB3 Power Plant

Glow Energy CFB3 Power Plant is a coal-fired power plant that has commenced commercial operations in November 2010. It is equipped with a circulating fluidized bed boiler and a steam turbine generator. It is located in the same premise as Glow SPP3 Power Plant in Map Ta Phut Industrial Estate. This power plant has been designed to accommodate the electricity generating capacity of 85 MW, steam generating capacity of 79 tons per hour, or the electricity generating capacity of 115 MW (without steam generation). Electricity and steam are distributed to industrial customers in Map Ta Phut Industrial Estate.

Raw Material Sourcing

Glow Energy CFB3 Power Plant entered into a coal purchase agreement with Glow SPP3 Power Plant, who procures coal mainly from Indonesia.

9. Glow SPP2 / Glow SPP3 Power Plant (Phase 3)

Glow SPP2 and Glow SPP3 Power Plants are the hybrid natural gas and coal-fired combined cycle cogeneration facility, located in Map Ta Phut Industrial Estate. They have commenced commercial operations in March 1999. Glow SPP2 and Glow SPP3 Power Plants are considered the same facility.

Production Procedures

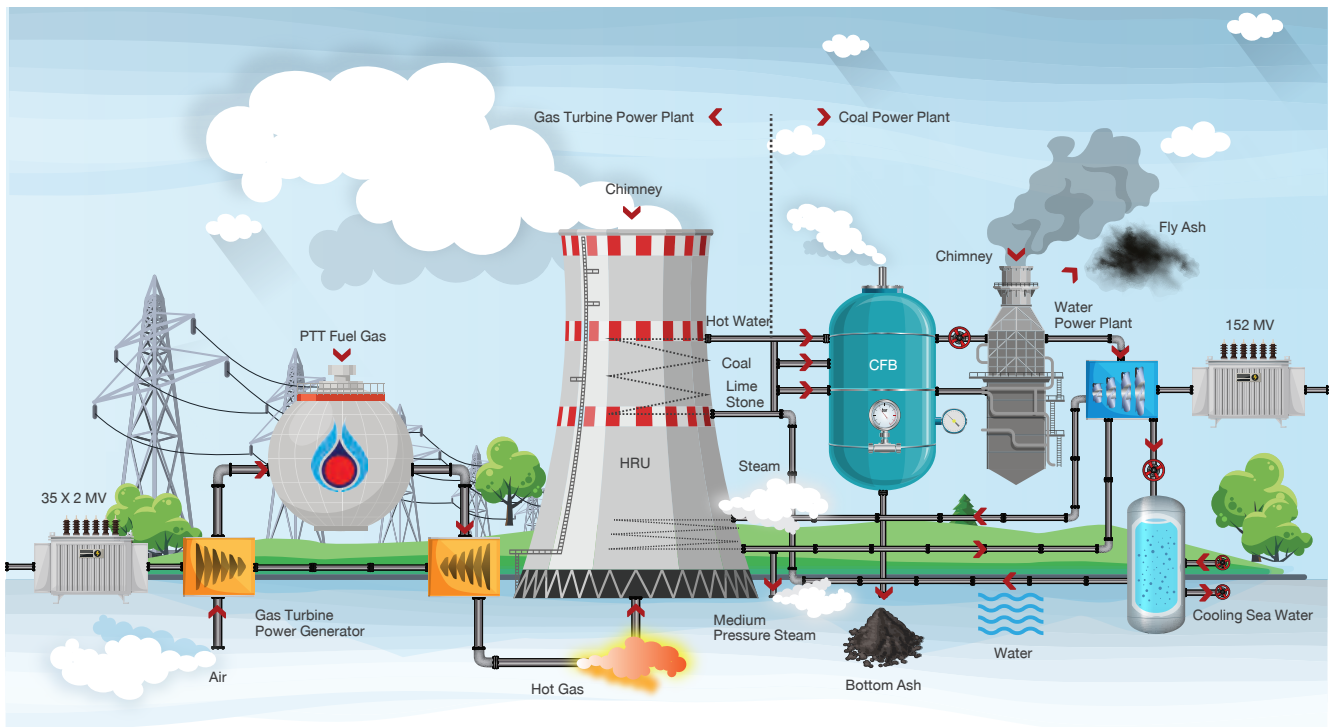
Glow SPP2 and Glow SPP3 Power Plants are separated into 2 parts (1) Glow SPP2 Co., Ltd.; with 2 gas turbines and the production capacity of approximately 35 MW and 2 heat steam generating units and (2) Glow SPP3 Co., Ltd.; a coal-fired power plant, with 2 units of combined cycle natural gas and coal-fired generators (hybrid cycle unit) of 222 MW. Each unit is comprised of a steam turbine, 2 gas turbines with the production capacity of about 35 MW, 2 heat recovery units and a circulating fluidized bed boiler. Glow SPP2 and Glow SPP3 Power

Plants have a combined electricity generating capacity of 513 MW, steam generating capacity of 190 tons per hour and demineralized water production capacity of 150 cubic meters per hour.

Glow SPP2 and Glow SPP3 Power Plants are combined cycle natural gas and coal-fired power plants (hybrid cycle cogeneration). They use gas turbine and steam turbine in generating electricity and use a CFB boiler (Circulating Fluidized Bed Boiler) to generate steam, which is different from the Company's other power plants that mainly use natural gas. Instead, Glow SPP2 / Glow SPP3 Power Plants use both coal and natural gas as power generating fuels. Even though the electricity generating cycle at these power plants is different from general power plants, the machinery and equipment used are of international standards for the leading electricity generating industry. The Company has incorporated the hybrid facility technology to increase the use of coal fuel, which is less costly and to reduce the use of natural gas as the principal fuel in production.



The following diagram illustrates the combined cycle natural gas and coal-fired electricity generation (Hybrid Electricity Generation Process) of Glow SPP2 / Glow SPP3 Power Plants.



Distribution

The electricity generated from Glow SPP2 / Glow SPP3 Power Plants are distributed to EGAT and industrial customers in Map Ta Phut Industrial Estate, while steam and processed water are also distributed to industrial customers in Map Tap Phut Industrial Estates and nearby industrial estates.

Raw Material Sourcing

Glow SPP2 Power Plants entered into a natural gas purchase agreement for SPP with PTT (including the expansion agreement), ending in 2024, while Glow SPP3 Power Plant entered into coal purchase agreements with several suppliers, with different contract termination periods in order to manage procurement risks.

10. Glow SPP11 Power Plant Project 1

Glow SPP11 Power Plant Project 1 is a natural gas-fired cogeneration power plant, located in Siam Eastern Industrial Park. It has commenced commercial operations in October 2000.

Production Procedures

This power plant is equipped with 2 gas turbines, 1

steam turbine, 1 absorption chiller and 1 backup electric chiller, with the electricity generating capacity of 120 MW and chilled water production capacity of 2,200 tons of refrigeration.

Distribution

The electricity generated from this power plant is distributed to EGAT, while the electricity and chilled water are distributed to industrial customers in Siam Eastern Industrial Park via the Company's transmission lines and chilled water pipeline network.

Raw Material Sourcing

Glow SPP11 Power Plant Project 1 entered into a natural gas purchase agreement for SPP with PTT, ending in 2021, and the negotiation on contract renewal with PTT is now in progress.

11. Glow SPP11 Power Plant Project 2

Glow SPP11 Power Plant Project 2 is a natural gas-fired cogeneration power plant, located in Siam Eastern Industrial Pak. The power plant has commenced commercial operations in December 2012.

Production Procedures

This power plant is equipped with 2 gas turbines, 1 absorption chiller and 1 electric chiller to enhance production capacity and increase effectiveness of the gas turbine. The power plant's electricity generating capacity is 110 MW, with the chilled water production capacity of 1,200 tons of refrigeration.

Distribution

The power plant distributes the electricity to EGAT and the remaining capacity (both electricity and chilled water) to industrial customers in Siam Eastern Industrial Park via the power transmission lines and chilled water pipelines respectively.

Raw Material Sourcing

Glow SPP11 Power Plant Project 2 entered into a natural gas purchase agreement for SPP with PTT, which will end in 2037.

12. Glow SPP11 Power Plant Project 3

Glow SPP11 Power Plant Project 3 is equipped with 4 natural gas-fired engines that use natural gas as fuels. It is located near to Glow SPP11 Power Plant, with the total production capacity of 23 MW. The 4 generators were installed and the power plant has commenced commercial operations in October 2006.

Raw Material Sourcing

Glow SPP11 Power Plant Project 3 entered into a natural gas purchase agreement with PTT, ending in 2021, and the negotiation on contract renewal with PTT is now in progress.

13. Glow SPP11 Power Plant Project 3 (Extension)

Glow SPP11 Power Plant Project 3 (Extension) is equipped with 2 natural gas-fired engines using natural gas as production fuel. It is located near to Glow SPP11 Power Plant, with the total production capacity of 19 MW. The two generators were installed and the power plant has commenced commercial operations since April 2015.

Raw Material Sourcing

Glow SPP11 Power Plant Project 3 (Extension) entered into a natural gas purchase agreement with PTT, ending in 2021. The negotiation on contract renewal is now in progress.

GLOW's Raw Material Sourcing

Key raw materials for electricity and steam generation for GLOW are natural gas and coal, except for Houay Ho Power Plant that is a hydro power plant, solar power plant in Asia Industrial Estate and Chonburi Clean Energy Power Plant, which is an industrial waste power plant.

Natural Gas

GLOW has entered into 9 natural gas purchase agreements with PTT, which can be classified into 4 major categories as follows

- Natural gas purchase agreement for an independent power producer
- Natural gas purchase agreement for a small power producer
- Natural gas purchase agreement for a cogeneration power plant
- Natural gas purchase agreement for an industrial customer

Coal

Coal is used as production fuel for CFB1, CFB2 Power Plants of Glow SPP3 Co., Ltd CFB3 Power Plant and GHECO-ONE Power Plant, with the total coal purchase volume (measured by total mass) of 3,364,722 tons, 3,181,637 tons, and 3,581,168 tons in 2018, 2019 and 2020 respectively. In 2021, the Company purchases coal through a medium-term and long-term coal purchase agreements both with domestic and international coal suppliers.

Coal is priced in US Dollars, comprising of the coal price (FOB) and freight rate. In this regard, the coal cost for GHECO-ONE Power Plant will be passed on to EGAT at the agreed heat rate. However, for cogeneration power plants, GLOW's product prices may not thoroughly reflect the coal cost, so changes in coal price will affect GLOW's profitability, coupled with the fact that GLOW cannot push freight cost burden to other parties under the power purchase agreement with EGAT.

Diesel

Diesel is a secondary fuel for gas turbine generators in generating electricity for an IPP. GLOW does not have any issues in procuring diesel because GLOW's power plants are located near to Rayong Refinery and Star Refinery, which is located in the industrial estate zone, as well as near to PTT's oil depot, located in Sri Racha district, Chonburi. In this regard, according to a power purchase agreement with an IPP, Glow IPP Co., Ltd. is required to allocate sufficient diesel reserve for electricity generation for 3 days as specified in the agreement. For GHECO-ONE Power Plant, diesel is used only to get the machine up and running, so GLOW does not need to arrange for diesel reserve as required of an IPP. Over

the past, there has not been any issue of severe natural gas shortage, so there was no need to use diesel to fire the generators, except for special cases, which are for machine testing or commissioning.

Raw Water and Other Utilities

GHECO-ONE Power Plant, Glow Energy Power Plant and Glow SPP2/Glow SPP3 Power Plants are located in Map Ta Phut Industrial Estate, owned and operated by the Industrial Estate Authority of Thailand (IEAT). The IEAT is the state enterprise under the control and supervision of the Ministry of Industry and was established upon the Industrial Estate Authority of Thailand Act B.E.2522. The IEAT as a government institution is responsible for acquiring infrastructure and utilities (i.e. raw water and waste treatment system, etc.) for entrepreneurs in Map Ta Phut Industrial Estate. With this, the IEAT is responsible for procuring water and utilities for GLOW's power plants.

Seawater that is used as cooling water is transported via underground pipelines from the port to the condenser to use in the process before getting transported back to the sea via the drainage canal. Meanwhile, clean and demineralized water used in production are produced by GLOW's water treatment plant.

Glow IPP Power Plant is located in an industrial estate, owned and operated by WHA, who is responsible for procuring key utilities such as raw water, waste treatment system, telephone system, and other central utilities for GLOW's power plants. Apart from the utility expenses, GLOW also pays WHA monthly fees for central utility management and maintenance within the industrial estate, which gets adjusted occasionally.

Glow SPP11 Power Plant Project 2 and Project 3 are located in Siam Eastern Industrial Park, which has its own wastewater treatment system and other utilities, with Eastern Water Resources Development and Management PCL as the procurer of raw water.

Other Raw Materials

GLOW uses a small amount of limestone in coal power plants (sourced domestically) and uses different types of chemicals in conditioning raw water to become clean and demineralized water. These chemicals are, for instance, aluminium sulphate, sodium hydroxide, sodium

hydro chloride, saline and trisodium phosphate.

3) Ratchaburi Power Co., Ltd. (RPCL)

RPCL is an independent power producer (IPP), with the total electricity generating capacity of 1,400 MW, with 2 production units of 700-MW capacity each. It is located in Dumnern Saduak district, Ratchaburi. It distributes the entire production to EGAT under the 25-year power purchase agreement counting from the date that the power plant has commenced generating electricity to EGAT's system; March 1, 2008 for Unit 1 and June 1, 2008 for Unit 2. The agreement will remain valid until 2033, whereby the electricity generation is in accordance with EGAT's conditions and operations orders.

Production Procedures

RPCL is a combined cycle power plant using natural gas as a principal fuel and diesel as a secondary fuel. It employs the same electricity generation procedures as Sri Racha Power Plant's. RPCL has 2 sets of gas turbine generators of 245 MW for each production unit, heat recovery steam generator and 1 set of steam turbine generator of 275 MW for each production unit.

Raw Material Sourcing

RPCL uses natural gas as electricity generating fuel, with a 25-year power purchase agreement with PTT, ending in 2033 for an IPP gas price, whereby RPCL can pass on the energy payment to EGAT. In case PTT is unable to supply natural gas as agreed, and EGAT orders RPCL to operate with the secondary fuel, EGAT will compensate for the increase in fuel cost for RPCL. In this regard, RPCL has entered into a high speed diesel purchase agreement with SUSCO and PTT (Secondary Fuel Agreement: SFA) to use as secondary fuel in case that the natural gas is not available. Both agreements are valid for 5 years, ending in 2021.

Distribution

RPCL generates and distributes the entire production to EGAT under the power purchase agreement for an IPP. In this regard, the agreement empowers EGAT to determine the power purchase volume via the long-term (annual and monthly) power purchase plan and the short-term (daily) power purchase plan, whereby RPCL has to notify its availability to EGAT both on the long-term and short-term bases. The AP is the compensation that EGAT pays RPCL for maintaining the electricity generating availability regardless of

the amount of electricity distributed to EGAT. In the meantime, RPCL will receive the AP revenue based on its availability notified and in accordance with the power purchase agreement. Besides, RPCL will receive the EP revenue from the actual amount of electricity generated as commanded by EGAT, though EGAT is contractually entitled to order a termination of electricity generation or withholding maximum capacity, while EGAT is still required to pay AP to RPCL based on its availability.

4) Combined Heat and Power Producing Co., Ltd. (CHPP)

CHPP is a very small power producer (VSPP), with the installed capacity of approximately 5 MW and the chilled water production capacity of about 12,000 tons of refrigeration. It is located at Chaengwattana Government Complex, Bangkok (The Government Complex). It has a non-firm power purchase agreement with the Metropolitan Electricity Authority and distributes the cooling energy for the air conditioning system for the Government Complex buildings.

Production Procedures

CHPP is a combined heat and power with district cooling power plant. It has commenced commercial operations in 2009. CHPP's chilled water production procedures can be categorized into 2 systems as follows:

1. Chilled water production from heat obtained from electricity generation, with 2 units of absorption chiller of 1,500 tons of refrigeration. They have not commenced commercial operations because machinery maintenance is in progress.
2. Chilled water production with electricity, with 3 units of electric chillers of 2,000 tons of refrigeration and 3 units of electric chillers of 1,000 tons of refrigeration.

Raw Material Sourcing

CHPP uses natural gas as electricity generating fuel, with a 10-year natural gas purchase agreement with PTT.

Distribution

CHPP distributes electricity to the Metropolitan Electricity Authority, and it entered into a 5-year non-firm power purchase agreement on April 23, 2009. The agreement is renewed automatically every 5 years until the agreement is terminated. The remaining electricity will be used to generate the cooling energy to distribute to the Government Complex for its air conditioning system. The Company entered into a 30-year cooling energy purchase agreement with Dhanarak Asset Development Co., Ltd., ending in 2038.

5) Bang Pa-In Cogeneration Co., Ltd. Project 1 (BIC-1)

BIC-1 is a small power producer (SPP), with the electricity generating capacity of about 117 MW and steam generating capacity of about 20 tons per hour. It is located in Bang Pa-In Industrial Estate, Bang Pa-In district, Phra Nakhon Sri Ayutthaya. It distributes electricity under the firm-SPP power purchase agreement mainly to EGAT for 90 MW and distributes a portion of electricity and steam to industrial customers in Bang Pa-In Industrial Estate.

Production Procedures

BIC-1 is a cogeneration power plant using natural gas as the production fuel. It is equipped with 2 sets of gas turbine generators to run the generator, whereby the exhaust from the gas turbine will be used to transfer heat to the water in order to generate steam with 2 sets of heat recovery steam generator. It will then pass through the steam turbine and run the steam turbine generator. The remaining steam will then be distributed to industrial customers.

Raw Material Sourcing

BIC-1 uses natural gas as the production fuel. It has entered into a 25-year natural gas purchase agreement with PTT, ending in 2038

Distribution

BIC-1 distributes electricity to EGAT under a 25-year Firm-SPP power purchase agreement for 90 MW, counting from the commencement of electricity generation into EGAT's system in 2013. The agreement will remain valid until 2038 and the remaining electricity will be distributed to industrial customers in Bang Pa-In Industrial Estate on long-term power purchase agreements, with the contract period of about 15 years. The Company also entered into steam and processed water purchase agreements with industrial customers in Bang Pa-In Industrial Estate as well.

6) Bang Pa-In Cogeneration Co., Ltd. Project 2 (BIC-2)

BIC-2 is a small power producer (SPP) with the electricity generating capacity of 117 MW and steam generating capacity of about 20 tons per hour. It is located in Bang Pa-In Industrial Estate, Bang Pa-In, Phra Nakhon Sri Ayutthaya. It distributes electricity under the firm-SPP power purchase agreement mainly to EGAT for 90 MW, and a portion of electricity and steam to industrial customers in Bang Pa-In Industrial Estate.

Production Procedures

BIC-2 is a cogeneration power plant using natural gas

as production fuel. It is equipped with 2 sets of gas turbine generators to run the generator, whereby the exhaust from the gas turbine will be used to transfer heat to the water in order to generate steam with 2 sets of heat recovery steam generator. It will then pass through the steam turbine and run the steam turbine generator. The remaining steam will then be distributed to industrial customers.

Raw Material Sourcing

BIC-2 uses natural gas as the production fuel. It has entered into a 25-year natural gas purchase agreement with PTT, ending in 2042.

Distribution

BIC-2 distributes electricity to EGAT under a 25-year firm-SPP power purchase agreement for 90 MW, counting from the commencement of electricity generation into EGAT's system in 2017. The agreement will remain valid until 2042 and the remaining electricity will be distributed to industrial customers in Bang Pa-In Industrial Estate on long-term power purchase agreements, with the contract period of about 15 years. The Company also entered into steam and processed water purchase agreement with industrial customers in Bang Pa-In Industrial Estate as well.

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

NNEG is a small power producer (SPP) with the electricity generating capacity of 185 MW and steam generating capacity of about 40 tons per hour. The investment can be separated into 2 phases. The first phase has the electricity generating capacity of 125 MW and steam generating capacity of 30 tons per hour. The second phase has the electricity generating capacity of 60 MW and steam generating capacity of 10 tons per hour. It is located in Nava Nakorn Industrial Promotion Zone, Pathumthani. It distributes electricity under the firm-SPP power purchase agreement to EGAT for 90 MW, and the remaining capacity to industrial customers in Nava Nakorn Industrial Promotion Zone.

Production Procedures

NNEG is a cogeneration power plant using natural gas as production fuel. It is equipped with 2 sets of 45-MW gas turbine generators and 1 set of 46-MW gas turbine generator, 3 sets of heat recovery steam generator (HRSG) and 1 set of 35-MW steam turbine generator (STG) and 1 set of 14-MW steam turbine generator. Furthermore, the inlet air cooling system by using electric

chiller has been designed and installed to increase the electricity generation capacity at different time periods.

Raw Material Sourcing

NNEG uses natural gas as the production fuel. It has entered into a 25-year natural gas purchase agreement with PTT, ending in 2041.

Distribution

NNEG entered into a firm-SPP power purchase agreement with EGAT for 90 MW, as well as power purchase agreements and steam purchase agreements with industrial customers in Nava Nakorn Industrial Promotion Zone.

8) IRPC Clean Power Co., Ltd. (IRPC-CP)

IRPC-CP is a small power producer (SPP) with the electricity generating capacity of 120 MW for each of its production unit, totaling 240 MW, and steam generating capacity of about 180-300 tons per hour (180 tons per hour for on-peak period and 300 tons per hour for off-peak period). It is located in IRPC Industrial Zone, Rayong. It distributes electricity under 2 firm-SPP power purchase agreements to EGAT; each for 90 MW, totaling 180 MW. The agreements are valid for 25 years and the remaining electricity and steam capacity is distributed to IRPC.

Production Procedures

IRPC-CP is a cogeneration power plant using natural gas as production fuel. It is equipped with 2 sets of gas turbine generators (GTG) for each production unit, 2 sets of heat recovery steam generator (HRSG) for each production unit and 1 set of steam turbine generator (STG) for each production unit. Furthermore, steam is also generated via an auxiliary boiler and the inlet air cooling system by using electric chiller has been designed and installed to increase the electricity generation capacity at different time periods.

Raw Material Sourcing

IRPC-CP uses natural gas as the production fuel. It has entered into a 27-year natural gas purchase agreement with PTT, counting from the commencement of commercial operations for Phase 1.

Distribution

IRPC-CP entered into 2 firm-SPP power purchase agreements to EGAT for 90 MW each, totaling 180 MW on January 6, 2012. The agreements are valid for 25 years, counting from the date that the Company started generating electricity into EGAT's system. Besides,

IRPC-CP also entered into a power purchase agreement for the remaining capacity of 60 MW, and a steam purchase agreement of 180-300 tons per hour depending on the time periods with IRPC on December 16, 2013, which will end in 2042 or at the same time as that of the PPA with EGAT, depending on whichever takes place later. The remaining electricity and steam capacity is distributed to IRPC.

Renewable Energy Power Plants in Thailand

Commercially Operated Power Plants

1) Thai Solar Renewable Co., Ltd. (TSR)

TSR operates an investment business, investing by 100% in Siam Solar Energy 1 Co., Ltd. (SSE1) with the objective of developing solar power plants. SSE1 is a very small power producer (VSPP) that uses a photovoltaic system or on-ground solar cells in electricity generation (solar farm PV power plant). There are 10 projects, each with the installed capacity of 8 MW, equivalent to the contractual capacity of 80 MW. The entire capacity will be distributed into the Provincial Electricity Authority's system.

Project	Location		Proposed Production Capacity (MW)	Commencement of Commercial Operations
	District	Province		
SSE1-PV01	Bo Ploy	Kanchanaburi	8.0	September 4, 2013
SSE1-PV02	Don Chedi	Suphanburi	8.0	July 17, 2013
SSE1-PV03	Nong Yasai	Suphanburi	8.0	October 28, 2013
SSE1-PV04	Doem Bang Nang Buat	Suphanburi	8.0	November 21, 2013
SSE1-PV05	Doem Bang Nang Buat	Suphanburi	8.0	November 21, 2013
SSE1-PV06	Dan Makham Tia	Kanchanaburi	8.0	June 6, 2014
SSE1-PV07	Tha Muang	Kanchanaburi	8.0	March 20, 2014
SSE1-PV08	Phanom Tuan	Kanchanaburi	8.0	June 6, 2014
SSE1-PV09	U Thong	Suphanburi	8.0	April 4, 2014
SSE1-PV10	Sam Chuk	Suphanburi	8.0	May 30, 2014

SSE1 entered into a 10-year operation and maintenance agreement with Conergy (Thailand) Co., Ltd. and Ensyst Co., Ltd. The contract period started from the commencement of commercial operations for 5 projects, with the guaranteed minimum electricity generation (output performance guarantee) for a period of 10 years, counting from the commencement of commercial operations. In this regard, SSE1's missing revenue will be compensated for if the minimum capacity guarantee is not met as agreed. Meanwhile, the other 5 projects will be managed and maintained by SSE1.

Raw Material Sourcing

The key raw material used in solar power plants is sunlight, which depends largely on the location, topography and climatic condition. The Company has studied the sunlight intensity prior to making a decision on the location for its solar power plants.

Distribution

SSE1 distributes the entire electricity generated to the Provincial Electricity Authority's system, based on 10 power purchase agreements for a VSPP, dated April 11, 2012 for SSE1-PV01 to SSE1-PV05 projects, and July 25, 2012 for SSE1-PV06 to SSE1-PV10 projects. The power purchase capacity for each agreement is 8 MW, which is valid for 5 years. The agreement is automatically renewed for 5 years in each renewal. In this regard, the adder is applied in these power purchase agreements, whereby the revenue can be categorized into 2 parts; 1) the revenue according to the capacity payment wholesaled to the Provincial Electricity Authority, which is subject to change based on the changes in fuel cost and the maximum power purchase not exceeding the capacity specified in the power purchase agreement and 2) the adder, whereby SSE1-PV01 to SSE1-PV10 projects are eligible for an adder of 6.5 Baht per kWh. They will be supported for 10 years, from the commencement of commercial operations.

2) Combined Heat and Power Producing Co., Ltd. (CHPP); the Sponsored by On-Ground Solar Power Plant Project for Chantaburi Shrimp Farmer Cooperative Limited

CHPP has taken part as the sponsor of the on-ground solar power plant project for selected agricultural cooperatives, to generate and distribute electricity, in accordance with the announcement of the Office of Energy Regulatory commission on purchasing electricity from on-ground solar power plants for government institutes and agricultural cooperatives B.E.2558, dated September 17, 2015. The project is located at the premise of members of Chantaburi Shrimp Farmer Cooperative Limited, Na Yai Am district, Chantaburi, with the space of approximately 75 rais, and the production capacity of 5 MW. The electricity will be distributed to the Provincial Electricity Authority since December 30, 2016, throughout the entire contract period of 25 years.

Raw Material Sourcing

The key raw material used in solar power plants is the sunlight, which depends largely on the location, topography and climatic condition.

Distribution

Solar 1 distributes the electricity to the Provincial Electricity Authority for 5 MW over a 25-year PPA, counting from the commencement of electricity distribution on December

30, 2016. The feed-in tariff (FIT) rate of 5.66 Baht per kWh is applied throughout the entire contract period.

3) Engineering, Procurement and Construction (EPC) Business for Solar Power Generation by Combined Heat and Power Producing Co., Ltd. (CHPP)

CHPP has commenced its operations in the engineering, procurement and construction (EPC) business for solar power plants, specifically the solar rooftop project development, for companies in PTT Group, for instance, the solar panels installed on the roofs of oil dispensers within PTT Oil and Retail PCL (PTTOR)'s service stations, solar panels installed on the roofs of GC Logistics Solutions Co., Ltd. (GCL)'s distribution center, located in Map Ta Phut Industrial Estate, Rayong, with the installed capacity of 2 MW. Besides, the energy storage system of 625 KW has also been installed on the building roof of PTT Tank Terminal Co., Ltd. (PTT Tank), located in Map Ta Phut Industrial Estate, Rayong, with the installed capacity of 0.1 MW.

4) Glow Energy Solar Power Plant under Glow Energy PCL (GLOW)

Glow Energy Solar Power Plant (Solar Farm) uses a photovoltaic technology. It is located in Asia Industrial Estate and has commenced commercial operations since August 2012. Glow Energy Solar Power Plant has the installed capacity of 1.55 MW, whereby the electricity generated is distributed to the Provincial Electricity Authority.

5) Private PPA Solar Power Generation and Distribution Project under the Group Company

The Group Company has further developed its renewable energy business operations by seeking for the investment projects in solar farm or solar rooftop projects with government bodies and private companies, in order to invest and share benefits from electricity generation using solar power (Private Power Purchase Agreement: PPPA). Currently, the Company's subsidiaries; GPSC, GLOW, CHPP and IRPC-CP have entered into PPPAs with companies within and outside of PTT Group, with the combined installed capacity of 21.09 MW.

6) Solar Power Plant Projects in Thailand via Global Renewable Power Co., Ltd. (GRP)

GRP has invested by 100% in 4 companies; Global Renewable Power Operating Co., Ltd. N.P.S. Star Group Co., Ltd., World Exchange Asia Co., Ltd. and P.P. Solar Co., Ltd., which operate the solar farm management and

maintenance business (Operation and Maintenance), together with 9 solar farm projects, with the total production capacity of 39.5 MW, located in 4 provinces; Lopburi, Suphanburi, Pichit and Khonkaen. Currently, the electricity generated is distributed into PEA's system over a 25-year PPA. The PPA can be classified into an adder-type, at the rate of 8 Baht per unit (for the first 10 years of the agreement) for 3.6 MW, and the feed-in tariff (FIT)-type at the rate of 5.66 Baht per unit for 35.9 MW. All of the power plants have commenced commercial operations since 2014-2015.

Project	Location		Proposed Production Capacity (MW)	Commencement of Commercial Operations
	District	Province		
NPS1	Saklek	Pichit	6	December 29, 2015
NPS2	Danchang	Suphaburi	6	December 29, 2015
NPS3	Ban Mhee	Lopburi	6	December 30, 2015
WXA1	Taphanhin	Pichit	6	December 29, 2015
WXA2	Saklek	Pichit	6	December 29, 2015
WXA3	Taphanhin	Pichit	6	December 29, 2015
PPSolar1	Kranuan	Khonkaen	1.2	March 26, 2014
PPSolar2	Kranuan	Khonkaen	1.2	March 21, 2014
PPSolar3	Kranuan	Khonkaen	1.2	March 13, 2015

7) Chonburi Clean Energy Power Plant (CCE)

CCE is a non-hazardous industrial waste power plant, with the installed electricity generation capacity of 8.63 MW. It is a joint-investment among GIPP3, WHA Energy and Suez (Southeast Asia).

Production Procedures

Chonburi Clean Energy Power Plant can accommodate non-hazardous industrial waste management of not exceeding 100,000 tons per year. In sourcing industrial waste, Chonburi Clean Energy Power Plant has signed an industrial waste procurement agreement with the company that operates waste storage, treatment and disposal, to source industrial waste from different industrial estates in Chonburi and nearby provinces. The power plant will transfer the industrial waste to the combustion room to generate electricity, using environment-friendly technology.

Distribution

This power plant distributes the electricity generated to the Provincial Electricity Authority's system for 6.9 MW, under

a 20-year power purchase agreement. It has commenced commercial operations since November 2019.

Overseas Power Plants

1) Ichinoseki Solar Power 1 GK Co., Ltd. (ISP1)

ISP1 is a solar power plant, located in Iwate province in the northern part of Honshu Island, Japan. It distributes electricity to the Japanese utility company, with the production capacity of 20.8 MW, using the polycrystalline type solar photovoltaic module.

Raw Material Sourcing

The key raw material used in generating electricity is sunlight, which depends large upon the locations, topography and climatic conditions. The Company has studied the sunlight intensity prior to making a decision on the location for its solar power plants.

Distribution

ISP1 got an approval to build a solar power plant of 20.8 MW with an alternating current and has entered into a power purchase agreement with Tohoku Electric Power Co., Ltd.; a Japanese utility company with

the FIT rate of 40 Japanese Yen per kWh (after tax). The agreement is valid for 20 years, counting from the commencement of electricity distribution into the system on December 15, 2017.

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

NL1PC is a company registered in Lao People's Democratic Republic, with the objective of developing Nam Lik1 Power Plant project. It is the run-of-river hydro power plant, with the capacity of 65 MW, located approximately 90 kilometers north of Vientiane. It is a concrete dam with 160 meters wide, blocking Nam Lik River, a tributary of Nam Nguem River in Laos PDR. The dam head is about 21.5 meters tall, and it uses the 2 sets of bulb turbines, with the capacity of 32.5 MW. NL1PC signed a concession agreement with the Government of Laos on February 6, 2013 in a Build-Operate and Transfer (BOT) scheme. The property will be transferred to the Government of Laos upon termination of the concession, which is valid for 30 years, counting from the day that the Government of Laos has entirely complied with the condition precedent of the concession. The power purchase agreement with EDL is also valid until the end of the concession, whereby the concession and the power purchase agreement will end in 2044.

Raw Material Sourcing

The key raw material used for generating electricity for a hydro power plant is the running water that flows naturally in the river and water from a dike built for electricity generation instead of building a reservoir. Even the water is derived from natural sources with no cost, the amount of water at different time periods is uncertain and unpredictable, depending on the climate and season at different time periods. In this regard, the Company has studied the sufficiency of the water and taken such factors into consideration when designing a power plant.

Distribution

NL1PC distributes the entire capacity to EDL under the long-term power purchase agreement, which is valid for 25 years. Nam Lik1 Power Plant has formally commenced commercial operations since July 1, 2019.

3) Natee Synergy Co., Ltd. (NSC)

NSC is an investment entity, holding 25% stakes in Xayaburi Power Co., Ltd. (XPCL); a developer of XPCL hydro power plant; a company registered in Laos PDR. It has the objective of developing Xayaburi Hydro Power Plant; a run-of-river hydro power plant of 1,285 MW, located on Mekhong River; about 100 kilometers away from Southern Luang Phrabang. The project uses a Kaplan turbine technology that operates together with 7 generators of 175 MW and 1 generator of 60 MW. It has commenced commercial operations since October 29, 2019.

XPCL entered into a concession agreement with the Government of Laos on October 29, 2010, whereby the distribution systems are in a Build-Operate and Transfer (BOT) scheme. The concession will end at the same time as the 29-year power purchase agreement. In this regard, XPCL has been granted a concession renewal for another 2 years, making the total concession period of 31 years, counting from the commencement of commercial operations.

Raw Material Sourcing

The key raw material used for generating electricity for a hydro power plant is the running water that flows naturally in the river and water from a dike built for electricity generation instead of building a reservoir. Even though the water is derived from natural sources with no cost, the amount of water at different time periods is uncertain and unpredictable, depending on the climatic condition and season at different time periods. In this regard, XPCL has studied the sufficiency of the water and taken seasonality factor into consideration when designing a power plant.

Distribution

XPCL distributes the electricity of 1,220 MW to EGAT under the long-term power purchase agreement for a period of 29 years, counting from the commencement of commercial operations and 60 MW to Electricite Du Laos (EDL), under a long-term power purchase agreement for a period of 31 years, from the commencement of commercial operations.

Installed Capacity / Maximum Capacity

As of December 31, 2020, the Company's and subsidiaries' electricity generation and other utilities' production capacity, categorized by the type energy (having commenced commercial operations and under construction) as follows:

Company	Project/Location	Production Capacity						Type of Power Plant	Fuel	Power Purchase Agreement	Commencement of Commercial Operations		
		Electricity (MW)		Steam (Tons/Hour)		Chilled Water (Tons of Refrigeration)						Processed Water (Cubic Meters/Hour)	
		Maximum Installed Capacity	Equity Capacity	Maximum Capacity	Equity Capacity	Maximum Capacity	Equity Capacity					Maximum Capacity	Equity Capacity
Combined Cycle Power Plant / Cogeneration Power Plant / Thermal Power Plant													
GPSC	Sri Racha Power Plant	700	700	-	-	-	-	80	80	IPP	Natural Gas/ 25-year agreement/due in 2025	EGAT / 25-year agreement, due in 2025	2000
GPSC	CUP-1 WHA Eastern Industrial Estate (Map Ta Phut), Rayong	226	226	890	890	-	-	720	720	SPP (Non-firm)	Natural Gas/ 15-year agreement/ due in 2021	<ul style="list-style-type: none"> • EGAT / 40 MW / 5-year agreement / renewable for 5 years / due in 2025 • Industrial customers / 10-15 year-agreement / due in 2017-2026 / renewable for 5 years 	2006
GPSC	CUP-2 Near to RIL Industrial Estate, Rayong	113	113	170	170	-	-	510	510	SPP (Non-firm)	Natural Gas/ 15-year agreement/ due in 2022	<ul style="list-style-type: none"> • EGAT / 60 MW / 5-year agreement / renewable for 5 years / due in 2025 • EGAT / 60 MW / 5-year agreement / renewable for 5 years / due in 2025 	2008
GPSC	CUP-3 WHA Eastern Industrial Estate (Map Ta Phut), Rayong	15	15	280	280	-	-	770	770	Co-generation	Natural Gas/ 15-year agreement/ due in 2023	Industrial customers / 15-year agreement / due in 2024-2027 / renewable for 5 years	2009

Company	Project/Location	Production Capacity										Type of Power Plant	Fuel	Power Purchase Agreement	Commencement of Commercial Operations
		Electricity (MW)		Steam (Tons/Hour)		Chilled Water (Tons of Refrigeration)		Processed Water (Cubic Meters/Hour)		Maximum Installed Capacity	Equity Capacity				
		Maximum Installed Capacity	Equity Capacity	Maximum Capacity	Equity Capacity	Maximum Capacity	Equity Capacity	Equity Capacity	Equity Capacity						
GPSC	CUP-4 Phase 1 Asia Industrial Estate (AIE), Rayong	49	49	140	140	-	-	-	-	-	-	Cogeneration	Natural Gas/ 15-year agreement/ due in 2034	Industrial customers / 10-15-year agreement / renewable for 5 years	Q3/2019
GLOW	Glow IPP, WHA Chonburi Industrial Estate 1, Chonburi	713	677	-	-	-	-	-	-	-	-	IPP	Natural Gas/ 25-year agreement/ due in 2028	EGAT / 25-year agreement / ending 2028	2003
GLOW	GHECO-1, Map Ta Phut Industrial Estate, Rayong	660	429	-	-	-	-	-	-	-	-	IPP	Coal / Due in 2021	EGAT / 25-year agreement / due in 2037	2012
GLOW	Glow Energy Phase 1, Map Ta Phut Industrial Estate, Rayong	-	-	250	250	-	-	1,340	1,340	-	-	Steam power plant	Natural Gas/ 15-year agreement/ due in 2021	-	1994
GLOW	Glow Energy Phase 2, Map Ta Phut Industrial Estate, Rayong	281	281	300	300	-	-	1,180	1,180	-	-	SPP (Firm)	Natural Gas/ 25-year agreement/ due in 2022	• EGAT / 21-year agreement / due in 2017 / renewed until 2021 • Industrial customers / 10-20- year agreement	1996
GLOW	Glow Energy Phase 4, Map Ta Phut Industrial Estate, Rayong	77	77	137	137	-	-	2,050	2,050	-	-	SPP (Firm)	Natural Gas/ 25-year agreement/ due in 2037	EGAT / 25-year agreement / due in 2030	2005
GLOW	Glow Energy Phase 5, Map Ta Phut Industrial Estate, Rayong	328	328	160	160	-	-	-	-	-	-	SPP Cogeneration	Natural Gas/ 10-year agreement/ due in 2021	Industrial customers / 10-20-year agreement	2011
GLOW	Glow Energy CFB3, Map Ta Phut Industrial Estate, Rayong	85	85	79	79	-	-	-	-	-	-	Cogeneration	Coal	Industrial customers / 10-20-year agreement	2010

Company	Project/Location	Production Capacity								Type of Power Plant	Fuel	Power Purchase Agreement	Commencement of Commercial Operations
		Electricity (MW)		Steam (Tons/Hour)		Chilled Water (Tons of Refrigeration)		Processed Water (Cubic Meters/Hour)					
		Maximum Installed Capacity	Equity Capacity	Maximum Capacity	Equity Capacity	Maximum Capacity	Equity Capacity	Maximum Capacity	Equity Capacity				
GLOW	Glow SPP2 /Glow SPP3 (Phase 3), Map Ta Phut Industrial Estate, Rayong	513	513	190	190	-	-	150	150	SPP (Firm)	Glow SPP2 / Glow SPP3 (Phase 3) Map Ta Phut Industrial Estate, Rayong	<ul style="list-style-type: none"> EGAT / 25-year agreement / due in 2024 Industrial customers / 10-20- year agreement 	1999
GLOW	Glow SPP11 Project 1 Siam Eastern Industrial Park, Rayong	120	120	-	-	2,200	2,200	360	360	SPP (Firm)	Natural Gas/ due in 2021	<ul style="list-style-type: none"> EGAT / 25-year agreement / due in 2025 Industrial customers / 10-20- year agreement 	2000
GLOW	Glow SPP11 Project 2 Siam Eastern Industrial Park, Rayong	110	110	-	-	1,200	1,200	212	212	SPP (Firm)	Natural Gas/ 25-year agreement/ due in 2037	<ul style="list-style-type: none"> EGAT / 25-year agreement / due in 2037 Industrial customers / 10-20- year agreement 	2012
GLOW	Glow SPP11 Project 3 Siam Eastern Industrial Park, Rayong	23	23	-	-	-	-	-	-	SPP (Firm)	Natural Gas / due in 2021	Industrial customers / 10-20- year agreement	2006
GLOW	Glow SPP11 Project 3 (Extension), Siam Eastern Industrial Park, Rayong	19	19	-	-	-	-	-	-	SPP (Firm)	Natural Gas / due in 2021	Industrial customers / 10-20- year agreement	2015
RPCL	Ratchaburi	1,400	210	-	-	-	-	-	-	IPP	Natural Gas/ 25-year agreement/ due in 2033	EGAT / 1,400 MW / 25-year agreement due in 2033	2008
CHPP	Chaengwattana Government Complex, Bangkok	5	5	-	-	12,000	12,000	-	-	VSPP	Natural Gas/ 10-year agreement	<ul style="list-style-type: none"> MEA / 6.4 MW / 5-year agreement / automatic renewal every 5 years / due in 2025 	2009

Company	Project/Location	Production Capacity								Type of Power Plant	Fuel	Power Purchase Agreement	Commencement of Commercial Operations
		Electricity (MW)		Steam (Tons/Hour)		Chilled Water (Tons of Refrigeration)		Processed Water (Cubic Meters/Hour)					
		Maximum Installed Capacity	Equity Capacity	Maximum Capacity	Equity Capacity	Maximum Capacity	Equity Capacity	Equity Capacity	Equity Capacity				
BIC	Bang Pa-In Industrial Estate Project 2, Ayutthaya	117	29	20	5	-	-	-	-	SPP (Firm)	Natural Gas/25-year agreement / due in 2042	<ul style="list-style-type: none"> EGAT / 90 MW / 25-year agreement / due in 2042 Industrial customers / 15- year agreement / due in 2032 	2013
BIC	Nava Nakorn Industrial Promotion Zone, Pathumthani	117	29	20	5	-	-	-	-	SPP (Firm)	Natural Gas/25-year agreement / due in 2041	<ul style="list-style-type: none"> EGAT / 90 MW / 25-year agreement / due in 2041 Industrial customers / 15- year agreement / due in 2032 	2017
NNEG	Nava Nakorn Industrial Promotion Zone, Pathumthani	125	38	30	9	-	-	-	-	SPP (Firm)	Natural Gas/25-year agreement / due in 2041	<ul style="list-style-type: none"> EGAT / 90 MW / 25-year agreement / due in 2041 Industrial customers / 10-15- year agreement / due in 2041 	2016
NNEG	Nava Nakorn Industrial Promotion Zone (Extension), Pathumthani	60	18	10	3	-	-	-	-	Cogeneration	Natural gas	Industrial customers	2020
IRPC-CP	IRPC Industrial Zone, Rayong	240	122	300	153	-	-	-	-	SPP (Firm)	Natural Gas/27-year agreement / due in 2042	<ul style="list-style-type: none"> EGAT / 180 MW / 25-year agreement / due in 2042 Industrial customers / due in 2042 	2015 for Phase 1 / 2017 for Phase 2

Company	Project/Location	Production Capacity								Type of Power Plant	Fuel	Power Purchase Agreement	Commencement of Commercial Operations
		Electricity (MW)		Steam (Tons/Hour)		Chilled Water (Tons of Refrigeration)		Processed Water (Cubic Meters/Hour)					
		Maximum Installed Capacity	Equity Capacity	Maximum Capacity	Equity Capacity	Maximum Capacity	Equity Capacity	Maximum Capacity	Equity Capacity				
ERU	Energy Recovery Unit, Chonburi	250	250	175	175	-	-	-	-	Cogeneration	Oil residue; by-product of CFP's refining process	Thai Oil PCL ("TOP") 220 MW 25-year agreement / due in 2048	2013
Total		6,346	4,467	3,151	2,946	15,400	15,400	7,372	7,372				
Solar Power Plants													
GLOW	Glow Energy Solar, Asia Industrial Estate	1.55	1.55	-	-	-	-	-	-	VSPP	Sunlight	PEA	2012
TSR1/SSE1	Kanchanaburi and Suphanburi	80	32	-	-	-	-	-	-	VSPP	Sunlight	EGAT / 80 MW / 5-year agreement / automatic renewal every 5 years	2013-2014
ISP1/SSE1	Japan	20.8	20.6	-	-	-	-	-	-	Solar power plant	Sunlight	Tohoku Electric Power / 20.8 MW / 20-year agreement / due in 2037	2017
CHPP	Solar1 Premise of Chanthaburi Shrimp Farmer Cooperative Limited's Member	5	5	-	-	-	-	-	-	VSPP	Sunlight	Solar1 Premise of Chanthaburi Shrimp Farmer Cooperative Limited's Member	2016
GPSC/GLOW/CHPP/IRPCCP	Solar Power Project	21.9	21.9	-	-	-	-	-	-	-	Sunlight	PPPA	2018-2021
GRP	Solar Power Plants in Pichit, Suphanburi, Lopburi and Khonkaen	39.5	19.75	-	-	-	-	-	-	VSPP	Sunlight	PEA / 25-year agreement	2018-2021

Company	Project/Location	Production Capacity								Type of Power Plant	Fuel	Power Purchase Agreement	Commencement of Commercial Operations	
		Electricity (MW)		Steam (Tons/Hour)		Chilled Water (Tons of Refrigeration)		Processed Water (Cubic Meters/Hour)						
		Maximum Installed Capacity	Equity Capacity	Maximum Capacity	Equity Capacity	Maximum Capacity	Equity Capacity	Equity Capacity	Equity Capacity					
GRP1	Taiwan	55.8	25.11	-	-	-	-	-	-	-	Sunlight	Taiwan Power Company	2018-2021	
Hydro Power Plants														
GLOW	Houay Ho Power Plant, Attapue, Laos PDR	152	102	-	-	-	-	-	-	-	Water	EGAT / 126 MW / EDL / 2 MW / 30-year agreement / due in 2029	1999	
XPCL	Laos PDR	1,285	321	-	-	-	-	-	-	-	Water	EGAT / 1,220 MW / EDL / 60 MW / 25-year agreement / due in 2044	2019	
NL1PC	Laos PDR	65	26	-	-	-	-	-	-	-	Water	EDL / 60 MW / 25-year agreement / due in 2043	2019	
Waste Power Plant														
GLOW	WHA Industrial Estate Chonburi 1, Chonburi	8.6	2.9	-	-	-	-	-	-	-	Industrial Waste	PEA / 8 MW / 20-year agreement / due in 2039	2019	
GPSC	RDF Power Plant, Rayong	9.8	9.8	-	-	-	-	-	-	-	Community Waste	PEA / 8 MW / 20-year agreement / due in 2041	2021	
Total		1,745	588	-	-	-	-	-	-	-				
Grand Total		8,091	5,055	3,151	2,946	15,400	15,400	7,372	7,372	7,372				

Business Assets

1. Fixed Assets

The Company's main businesses are production and distribution of electricity, steam, and utilities and investments through shareholding in other companies engaging in the same and related businesses in both domestic and international markets. The table below shows the fixed assets of the Company and of its subsidiaries with net book values after deduction of accumulated depreciation and other reserve for impairment as stated in GPSC's consolidated financial statements as of December 31, 2019 and December 31, 2020 of Baht 101,272 million and Baht 99,978 million.

Property, Plant and Equipment

No.	Item	Book Value (Baht Million)		Obligation
		December 31, 2019	December 31, 2020	
1	Land	1,838	1,844	Some portion of land of GPSC's subsidiaries were pledged as collateral for long-term loans between subsidiaries and financial institutions.
2	Buildings and building improvement	1,695	1,782	Building and building improvement of GPSC's subsidiaries were pledged as collateral for long-term loans between subsidiaries and financial institutions.
3	Power plants, water plants, machinery, tools and equipment	95,686	90,814	Some main machinery and equipment and portion of power and water plants of GPSC's subsidiaries were pledged as collateral for long-term loans between subsidiaries and financial institutions.
4	Furniture, fixtures and office equipment	125	125	Some furniture, fixtures and office equipment of GPSC's subsidiaries were pledged as collateral for long-term loans between subsidiaries and financial institutions.
5	Motor vehicles	11	13	Some motor vehicles of GPSC's subsidiaries were pledged as collateral for long-term loans between subsidiaries and financial institutions.
6	Construction in progress	1,917	5,400	Some machinery and equipment of GPSC's subsidiaries used in the construction were pledged as collateral for long-term loans between subsidiaries and financial institutions.
Total		101,272	99,978	

These fixed assets of the Company and its subsidiaries are divided by type of assets and the companies as follows:

- Land

As of December 31, 2019, and December 31, 2020, the book values of assets under the consolidated financial statements of the Company and its subsidiaries were as follows:

Company	Book Value (Baht Million)		Ownership	Obligation Value (Baht Million)
	December 31, 2019	December 31, 2020		
GPSC	575	581	GPSC	-
IRPC-CP	614	614	IRPC-CP	614
GLOW	649	649	GLOW Group	-
Total	1,838	1,844		

- Buildings and Building Improvement

As of December 31, 2019, and December 31, 2020, the book values of buildings and building improvement under the consolidated financial statements of the Company and its subsidiaries were as follows:

Company	Book Value (Baht Million)		Ownership	Obligation Value (Baht Million)
	December 31, 2019	December 31, 2020		
GPSC	454	586	Some buildings and building improvement are owned by GPSC, and some of them were constructed on sub-leased land to be used as power plant. Upon the expiration of the sub-lease agreement, these buildings and building improvement will be devolved to the sublessor.	-
CHPP	161	152	CHPP constructed buildings on the sub-leased land to be used as power plant. Upon the expiration of the sub-lease agreement, these buildings and building improvement will be devolved to the sublessor	29
IRPC-CP	846	826	IRPC-CP owned the building to be used as power plant in Rayong.	826
GLOW	234	218	GLOW Group owned the building to be used as power plant	11
Total	1,695	1,782		

- Power plants, water plants, machinery, tools and equipment

As of December 31, 2019, and December 31, 2020, the book values of power plants, water plants, machinery, tools and equipment under the consolidated financial statements of the Company and its subsidiaries were as follows:

Company	Book Value (Baht Million)		Ownership	Obligation Value (Baht Million)
	December 31, 2019	December 31, 2020		
GPSC	14,597	13,728	GPSC, to use them as and in the power plant and utility plant.	-
CHPP	344	289	CHPP, to use them as and in the power plant.	123
IRPC-CP	8,279	7,829	IRPC-CP, to use them as and in the power plant.	7,829
ISP1	1,729	1,713	ISP1, to use them as and in the power plant.	1,713
GLOW	70,737	67,255	GLOW Group, to use them as and in the power plant.	30,030
Total	95,686	90,814		

- Furniture, fixtures and office equipment

As of December 31, 2019, and December 31, 2020, the book values of furniture, fixtures and office equipment under the consolidated financial statements of the Company and its subsidiaries were as follows:

Company	Book Value (Baht Million)		Ownership	Obligation Value (Baht Million)
	December 31, 2019	December 31, 2020		
GPSC	55	54	GPSC	-
CHPP	-	1	CHPP	-
IRPC-CP	14	16	IRPC-CP	11
GLOW	56	54	GLOW Group	-
Total	125	125		

- Motor vehicles

As of December 31, 2019, and December 31, 2020, the book values of motor vehicles under the consolidated financial statements of the Company and its subsidiaries were as follows:

Company	Book Value (Baht Million)		Ownership	Obligation Value (Baht Million)
	December 31, 2019	December 31, 2020		
GPSC	9	6	GPSC was in the process of entering into a financial lease agreement	-
GLOW	2	7	GLOW Group	7
Total	11	13		

- Construction in Progress

As of December 31, 2019, and December 31, 2020, the book values of construction in progress under the consolidated financial statements of the Company and its subsidiaries were as follows:

Company	Book Value (Baht Million)		Ownership	Obligation Value (Baht Million)
	December 31, 2019	December 31, 2020		
GPSC	1,453	2,898	GPSC	-
CHPP	18	30	CHPP	-
IRPC-CP	5	42	IRPC-CP	51
GLOW	441	2,430	GLOW Group	73
Total	1,917	5,400		

2. Intangible assets

As of December 31, 2019, and December 31, 2020, the book values of intangible assets and rights to use under the consolidated financial statements of the Company and its subsidiaries were as follows:

Company	Description	Book Value (Baht Million)	
		December 31, 2019	December 31, 2020
GPSC	Cost of computer software copyright and system improvement for the Company's power plant	75	92
	Deferred cost of the right-of-use of assets	138	112
CHPP	Cost of computer software copyright and system improvement	9	9
IRPC-CP	Cost of the right to use natural gas distribution system	514	491
	Deferred cost of the right to use assets	959	918
	Cost of computer software copyright and system improvement	5	10
ISP1	Deferred cost of fair value from business purchase	294	293
	Cost of license fees for the connection of power transmission line system and right to operate power business in Japan	71	72
	Deferred cost of the right to use assets	69	68
GLOW	Deferred cost of fair value from business purchase	43,194	41,286
	Cost of computer software copyright and system improvement	65	55
	Deferred cost of the right to use assets	669	578
Total		46,062	43,984

3. Non-operating Asset

As of December 31, 2019, GPSC and its subsidiaries had some machinery and equipment which were not operating and under the amortization process, and had therefore booked them as non-operating assets. As of December 31, 2019, and December 31, 2020, the book values of non-operating assets under the consolidated financial statements of the Company and its subsidiaries were as follows:

Company	Book Value (Baht Million)		Ownership
	December 31, 2019	December 31, 2020	
CHPP	64	104	Non-operating assets and under amortization process
Total	64	104	

4. Business Agreement

- Long-term Lease Agreement

As of December 31, 2020, the Company and its subsidiaries' significant agreements for the business operation of each company can be summarised as follows:

Lessor	Lessee/ Sub-lessee	Agreement	Purpose	Term of Agreement
GPSC	TOP	Land sublease agreement	To be used as the location for GPSC's IPP power plant in Chon Buri. The right under the sublease agreement was being pledged as collateral for long-term loans from financial institutions.	25 years, 9 months
	GCEC	Service area agreement for the installation of underground electric transmission lines	For the installation of underground high-voltage transmission lines under GPSC CUP-4 project (to CUP-1)	15 years
	GCEC	Service area agreement for the installation of drainage water system	For the installation of drainage water pipes under GPSC CUP-4 project (to AIE)	15 years
	GCEC	Service area agreement for the installation of underground electric transmission lines	For the installation of underground high-voltage transmission lines under GPSC CUP-4 project (to client)	15 years
	GCEC	Service area agreement for installation of underground electric transmission lines	For the installation of underground high-voltage transmission lines under GPSC CUP-4 project (to PTTMCC)	15 years
	GCEC	Service area agreement for bridge construction to support transmission pipeline	For the construction of the bridge to support GPSC's transmission pipeline under GPSC CUP-4 project	15 years
	PTT	Land lease agreement	For the development, design, construction, possession and management of ground-mounted solar electricity-generating system or other generating systems for commercial distribution and R&D (research and development).	25 years, 5 months

Lessor	Lessee/ Sub-lessee	Agreement	Purpose	Term of Agreement
	Enco	Office space lease agreement	To be used as office and workplace	3 years
	PTTEP	Office space lease agreement	To be used as office and workplace	3 years
	WHA Industrial Development Public Company Limited (WHA)	Service area agreement for the installation of underground electric transmission system	For the installation of underground electric transmission system. (CUP-1 To VCX)	15 years
	WHA	Service area agreement for the installation of underground electric transmission system	For the installation of underground electric transmission system (CUP-1 to PTTAC & MTPSC)	15 years
	WHA	Service area agreement for the installation of underground electric transmission system	For the installation of underground electric transmission system (CUP-1 to MIGP & Phenol & TOCGC & TOL) (CUP-1 to CUP-3)	15 years
	WHA	Service area agreement for the installation of underground electric transmission system	For the installation of underground electric transmission system (CUP-1 to CUP-4)	15 years
	WHA	Service area agreement for the installation of underground electric transmission system	For the installation of underground electric transmission system (CUP-3)	15 years
	Asia Industrial Estate Co., Ltd. (AIE)	Land lease agreement for the installation of drainage water system	For the installation of drainage water pipelines (CUP-4)	15 years
	AIE	Service area agreement for the installation of underground electric transmission system	For the installation of underground electric transmission system (CUP4)	6 years
	Industrial Estate Authority of Thailand (IEAT)	Service area agreement for other useful business operation or related operations	For the construction of a structure for the installation of raw material and product transmission pipelines (Agreement No. Nor Phor 005/2005)	30 years
	IEAT	Land lease agreement for industrial use	For the operation of energy storage unit production and other related activities (Flash Project)	30 years
	SRT	Land lease agreement for the installation of above ground or underground pipeline	For the installation of water and steam pipelines over railway crossing, and of underground electrical conduit under railway crossing	3 years
	RIL Industrial Estate (RIL)	Agreement to use structure for pipe installation	For the installation of a utility pipeline (CUP-2)	15 years
	RIL	Land right agreement for the construction of underground electrical conduit	For the construction of underground electrical conduit (CUP-2)	15 years
CHPP	State property with Dhanarak Asset Development Co., Ltd. as Sub-lessor	Sublease agreement of State property	For the operation under a chilled energy purchase agreement, Government Complex project number: 35/3551	31 years, 4 months

Lessor	Lessee/ Sub-lessee	Agreement	Purpose	Term of Agreement
	Private land of natural person	Land lease agreement	For the construction of building on the lease land for use as solar power plant. Upon expiration of the agreement, the land, building, and construction will be devolved to the lessor	25 years
IRPC-CP	IRPC	Land lease agreement	To be used as the location for high-voltage power transmission towers to support overhead power line from lessee's area to high voltage power station (Agreement number: AL. 0221/ 2017)	3 years
ISP1	Yugen Kaisha Earth Ichinoseki Farm	Land lease agreement	To be used as the location of a solar power plant	20 years
GLOW	IEAT	Land sublease agreement in Map Ta Phut Industrial Estate (port)	For the construction of a factory building and operating of electricity and steam generation (Agreement number: 4/1996-Nor Phor.)	28 years
	IEAT	Land lease agreement for industrial use, Map Ta Phut Industrial Estate	For the operation of electricity, steam and water generation for industrial use, parcel no.I-17/1.2.1, I-17/1.2.2, Agreement dated July 17, 2020 (Agreement number: 8/2020-Nor Phor.)	20 years
	IEAT	Service area agreement for other business operations which are useful or related to business operations in Map Ta Phut Industrial Estate (underground power transmission lines)	For the operation of product and power transmission pipelines (Agreement number: 2/2007-Nor Phor.)	28 years with 20-year renewable term
	IEAT	Land lease agreement for industrial use, Map Ta Phut Industrial Estate (parking lot project 2)	To be used as a parking lot (Agreement number: 1/2019- Nor Phor.)	3 years and renewable
	IEAT	Land allocation agreement in Map Ta Phut Industrial Estate (coal stockpiling)	For the operation of electricity, steam and water generation for industrial use, (reserve space for business expansion) (Agreement number: 2/2007 Nor Phor.)	30 years with with 20-year renewable term
	IEAT	ervice area agreement to operate other businesses that are beneficial or related to business operations in Map Ta Phut Industrial Estate (underground electric transmission line to RIL)	For the installation of underground electrical conduit, parcel no. PR-02 to PR-09, PR-11 to PR-12 (Agreement number: 3/2008-Nor Or Lor)	Agreement terminated as agreed by the parties

Lessor	Lessee/ Sub-lessee	Agreement	Purpose	Term of Agreement
	IEAT	Service area agreement for other business operations which are useful or related to business operations in Map Ta Phut Industrial Estate (underground power transmission line to RIL)	For the installation of underground electrical conduit, parcel no. PR-13 (Agreement number: 4/2008- Nor Or Lor)	Agreement terminated as agreed by the parties
	IEAT	Service area agreement for other business operations which are useful or related to business operations in Map Ta Phut Industrial Estate (underground power transmission line to RIL)	For the installation of underground electrical conduit, parcel no. G-05, PR-14 (Agreement number: 5/2008- Nor Or Lor)	Agreement terminated as agreed by the parties
	IEAT	Service area agreement for other business operations which are useful or related to business operations in Map Ta Phut Industrial Estate (underground power transmission line to RIL)	For the installation of underground electrical conduit, parcel no. P-20/1 (Agreement number: 6/2008- Nor Or Lor)	Agreement terminated as agreed by the parties
	IEAT	Service area agreement for other business operations which are useful or related to business operations in Map Ta Phut Industrial Estate (underground power transmission line to RIL)	For the installation of underground electrical conduit, parcel no. P-12/1 (Agreement number: 7/2008- Nor Or Lor.)	Agreement terminated as agreed by the parties
	AIE	Memorandum of Agreement on land allocation (underground power transmission line in Asia Industrial Estate)	For the installation of underground power transmission and distribution lines to supply to consumers (Agreement dated August 1, 2005)	15 years
	AIE	Service area agreement for the installation of an underground power transmission system	For the installation of underground electrical conduit and manhole in part of the area In parcel no. 3761 (Agreement dated December 31, 2019)	January 1, 2020 – December 31, 2025
	IEAT	Service area agreement for other business operations which are useful or related to business operations in Map Ta Phut Industrial Estate (a bridge to support steam and product transmission system I-6 Project 3)	For the construction of the bridge to support the product and steam transmission pipelines to be distributed to industrial consumers (Agreement number: Nor Phor 033/2019)	3 years and renewable
	IEAT	Service area agreement for other business operations which are useful or related to business operations in Map Ta Phut Industrial Estate (steam and product transmission system I-2)	For the construction of a structure to support the product, water and steam transmission pipelines to be distributed to industrial consumers and a steam and water gauging station (Agreement number: 12/2014- Nor Phor.)	14 years

Lessor	Lessee/ Sub-lessee	Agreement	Purpose	Term of Agreement
	IEAT	Service area agreement for other business operations which are useful or related to business operations in Map Ta Phut Industrial Estate (underground power transmission line)	For the installation of a product transmission pipeline and electrical transmission line (Agreement number: 3/2011- Nor Phor)	13 years
	IEAT	Service area agreement for other business operations which are useful or related to business operations in Map Ta Phut Industrial Estate (a bridge to support the steam and product transmission pipelines)	For the construction of the bridge to support the product and steam transmission pipelines (Agreement number: 13/2014- Nor Phor.)	14 years
	IEAT	Service area agreement for other business operations which are useful or related to business operations in Map Ta Phut Industrial Estate (underground power transmission line)	For the installation of a product transmission pipeline and electrical transmission lines (Agreement number: 3/2013- Nor Phor)	11 years
	IEAT	Service area agreement for other business operations which are useful or related to business operations in Map Ta Phut Industrial Estate (raw water pipeline) (Project 2)	For the installation of raw water intake pipeline, parcel number: G-84 Agreement dated July 18, 2019 (Agreement number: Nor Phor. 032/2019)	3 years and renewable
	IEAT	Service area agreement for other business operations which are useful or related to business operations in Map Ta Phut Industrial Estate (underground power transmission line)	For the installation of a product transmission pipeline and electrical transmission lines (Agreement number: 6/2014- Nor Phor.)	10 years
	IEAT	Service area agreement for other business operations which are useful or related to business operations in Map Ta Phut Industrial Estate (steam transmission pipeline)	For the installation of a medium-pressure steam transmission pipeline (Agreement number: 4/2015- Nor Phor.)	30 years
	IEAT	Service area agreement for industrial use in Map Ta Phut Industrial Estate	To maintain seawater-intake point for a cooling system, parcel no. S-3, Agreement dated May 13, 2019 (Agreement number: 006/2019-Sor Thor Ror.)	3 years and renewable

Lessor	Lessee/ Sub-lessee	Agreement	Purpose	Term of Agreement
	IEAT	Service area agreement for industrial use in the Map Ta Phut Industrial Port (between Glow Energy Public Co., Ltd. and IEAT)	To be used as a temporary location for the installation of a Reverse Osmosis System (RO) from seawater to address the drought crisis, Agreement dated September 23, 2020 (Agreement number: 008/2020 - Sor Thor Ror.)	1 year and renewed from September 1, 2020 - August 31, 2021
	IEAT	Land lease agreement for industrial use in in Map Ta Phut Industrial Estate (between Glow SPP 2 Co., Ltd. and IEAT)	For the operation of electricity, steam and water generation for industrial use, parcel no. S-53 and S-54, Agreement dated December 20, 2020 (Agreement number: Nor Phor.043/2019)	30 years from December 20, 2019 – December 19, 2049
	B. Grimm Power Public Company Limited (BGRIM)	Land lease agreement between B. Grim Power (AIE-MTP) Co., Ltd. (lessor) and Glow Energy Public Co., Ltd. (lessee) for the location of a high-voltage power station, underground power transmission lines and steam boiler control system. Certification dated February 21, 2019	To operate the power supply system business	30 Years
	BGRIM	Rights-of-use agreement between B. Grim Power (AIE-MTP) Co., Ltd. (lessor) and Glow Energy Public Co., Ltd. (lessee)	For the rental of an area to set up BGIM's duct bank in GLOW's property (in SPP1 area) under the lease agreement dated February 1, 2017	30 Years
	GCEC	Service area agreement for the installation of underground power transmission lines between GC Estate Co., Ltd. (service provider) and Glow SPP 3 Co., Ltd. (user)	For the installation of underground power transmission lines 800 meters long, Agreement dated February 20, 2020 (Agreement number: GCEC-34-3420-001)	1 January 2020 – 31 December 2034
	WHA	Supplementary Memorandum of Agreement No.1 to the service area agreement for the installation of underground power transmission lines in WHA Eastern Industrial Estate (Map Ta Phut). formerly Hemaraj Land and Development Plc (Map Ta Phut), (Agreement No. EIE 001/2017 dated Janaury 1, 2017) between WHA (developer) and Glow SPP 1 Co., Ltd. and Glow Energy Public Co., Ltd. (user)	To amend the agreement on the installation of an underground power transmission system in WHA Eastern Industrial Estate (Map Ta Phut) and terminate Glow SPP 1 Co., Ltd. and revised the condition on the transfer of property from that company to Glow Energy Public Co., Ltd., Agreement number: EIE 001/2017, dated January 1, 2017	19 Years (1 January 2017-31 December 2035)

Investment Capital in Power Plants under Construction

The Company's investment capital in power plant projects under construction as of December 31, 2020 can be summarized as follows:

Project	Shareholding Proportion (Percent)	Commencement of Commercial Operations/ Production	Estimated Investment Budget Required until Commercial Operations Date (Million Baht)
WTE	100	2021	368
ERU ⁽¹⁾	100	2023	20,782
SPP Replacement (Glow Energy Phase 2) ⁽²⁾	100	2022	4,998
Energy Storage Unit	100	2021	577
Total			26,725

Remark:

- ⁽¹⁾ The ERU project's total investment budget stood at approximately 757 million USD according to the asset purchase agreement with TOP. The remaining investment budget for the period of 2021-2023 was reported at about 688 million USD; equivalent to about 20,782 million Baht, at the exchange rate of 30.2068 Baht / 1 USD, with reference to the average selling price of the Bank of Thailand as of December 30, 2020. In this regard, the actual transaction in the Baht currency on the transaction date or payment date as stated in the contract is subject to increase or decrease depending on the exchange rate stated in the contract.
- ⁽²⁾ The investment budget for the SPP Replacement (Glow Energy Phase 2) stood at about 194 million USD, whereby 28 million USD has already been invested, with pending investment capital in 2021-2022 amounting to about 165.45 million USD or approximately 4,998 million Baht, at the exchange rate of 30.2068 Baht / 1 USD, with reference to the average selling price of the Bank of Thailand as of December 30, 2020.

1.3 Shareholding Structure of GPSC Group

1.3.1 Shareholding Structure of GPSC Group



Remark: GPSC Group's Shareholding Structure and Percentage of Shareholding (as of December 31, 2020). GPSC has sold 50% of its shares in Global Renewable Power Co., Ltd. (GRP) to PTT, with effect from January 4, 2021.

General information on GPSC-invested companies

As of December 31, 2020

Company	Type of Business	Registered Capital	Type of Share	Paid-up Capital	Share Value	GPSC's Share holding
SUBSIDIARIES						
Combined Heat and Power Producing Company Limited (CHPP) 555/2 Energy Complex, Building B, 5 th Floor, Vibhavadi Rangsit Rd., Chatuchak, Bangkok 10900, Thailand Tel: +66 2143 9644 Fax: +66 2143 9645	A very small power producer firm (VSPP) operating a combined heat and power with district cooling power plant to generate and supply electricity to EGAT and chilled water to Bangkok Government Complex	Baht 500,000,000	Common share	THB 371,730,000	THB 10/share	100%
Natee Synergy Company Limited (NSC) 555/2 Energy Complex, Building B, 5 th Floor, Vibhavadi Rangsit Rd., Chatuchak, Bangkok 10900, Thailand Tel: +66 2140 4658	Investment in power businesses	Baht 6,826,500,000	Common share	THB 6,826,500,000	THB 100/ share	100%
Indirect Associate						
Xayaburi Power Company Limited (XPCL) 215 Lanexang Avenue, Ban Siang Yuen, Chantaburi District, Vientiane, Lao PDR Tel: +856 2125 1718 Fax: +856 2121 5500	A hydropower firm generating and supplying power to EGAT and Electricite du Laos (EDL)	Baht 26,861,000,000	Common share	26,861,000,000 THB	10 THB/ Share	25% (Through NSC)

Company	Type of Business	Registered Capital	Type of Share	Paid-up Capital	Share Value	GPSC's Share holding
Ichinoseki Solar Power 1 GK Company (ISP1) 5F, Hanai Building, 1-2-9, Shibakoen Minato-ku, Tokyo 105 - 0011 Tel: +813 5362 7035 Fax: +813 5362 7036	A solar power firm generating and supplying solar electricity to a Japanese utility company	Yen 10,000	Common share	Yen 10,000	-	99%
IRPC Clean Power Company Limited (IRPC-CP) 299 Moo 5, Sukhumvit Rd., Choeng Noen Sub-district, Muang District, Rayong 21000. Tel: +66 3861 1333, +66 3861 3571-80 Fax: +66 3861 2812-3	A small power producer (SPP) operating a cogeneration plant to generate and supply electricity to EGAT and the surplus and steam to industrial customers in IRPC Industrial Zone	THB 3,362,300,000	Common share	THB 3,362,300,000	THB 10/share	51%
GPSC International Holdings Limited (GPSCIH) Level 54, Hopewell Centre, 183 Queen's Road East, Hong Kong Tel: +852 2980 1888 Fax: +852 2956 2192	To support future overseas investment	USD 100,000	Common share	USD 98,000	-	100%
Global Renewable Power Company Limited (GRP) 555/2 Energy Complex, Building B, 5 th Floor, Vibhavadi Rangsit Rd., Chatuchak, Bangkok 10900, Thailand Tel: +66 2140 4600	To accommodate future renewable energy investment	THB 931,000,000	Common share	THB 931,000,000	THB 100/ share	100% ⁽¹⁾
Global Renewable Power One Company Limited (GRP1) 555/2 Energy Complex, Building B, 5 th Floor, Vibhavadi Rangsit Rd., Chatuchak, Bangkok 10900, Thailand Tel : +66 2140 4600	To accommodate future renewable energy investment in Taiwan	THB 1,000,000	Common share	THB 250,000	THB 100/ share	100% (through GRP)

Remark:

- ⁽¹⁾ As of December 31, 2020. Note that GPSC has since restructured its shareholding in Global Renewable Power Co., Ltd. (GRP), by selling 50% of GRP's shares to a PTT Plc subsidiary on January 4, 2021

Company	Type of Business	Registered Capital	Type of Share	Paid-up Capital	Share Value	GPSC's Share holding
Global Renewable Power Operating Company Limited (GRPO) 555/2 Energy Complex, Building B, 5 th Floor, Vibhavadi Rangsit Rd., Chatuchak, Bangkok 10900, Thailand Tel: +66 2140 4600	Provide management and maintenance and operation service for solar power plants	THB 3,000,000	Common share	THB 3,000,000	THB 100/share	100% (through GRP)
N.P.S Star Group Company Limited (NPS) 555/2 Energy Complex, Building B, 5 th Floor, Vibhavadi Rangsit Rd., Chatuchak, Bangkok 10900, Thailand Tel: +66 2140 4600	A very small power producer (VSPP) generating solar electricity	THB 293,700,000	1,174,800 and 1,762,200 preferred shares	THB 293,700,000	THB100/share	100% (through GRP)
World Exchange Asia Company Limited (WXA) 555/2 Energy Complex, Building B, 5 th Floor, Vibhavadi Rangsit Rd., Chatuchak, Bangkok 10900, Thailand Tel: +66 2140 4600	A very small power producer (VSPP) generating solar electricity	THB 293,700,000	1,174,800 and 1,762,200 preferred shares	THB 293,700,000	THB 100/share	100% (through GRP)
P.P Solar Company Limited (PPS) 555/2 Energy Complex, Building B, 5 th Floor, Vibhavadi Rangsit Rd., Chatuchak, Bangkok 10900, Thailand Tel: +66 2140 4600	A very small power producer (VSPP) generating solar electricity	THB 82,000,000	Common share	THB 82,000,000	THB 100/share	100% (through GRP)
GPSC Holding (Thailand) Company Limited (GHT) (formerly ENGIE Holding (Thailand) Co., Ltd.) 555/2 Energy Complex, Building B, 5 th Floor, Vibhavadi Rangsit Rd., Chatuchak, Bangkok 10900, Thailand Tel: +66 2140 4600	Investment through shareholding in power generation businesses of Glow Energy Public Company Limited	THB 7,804,100,000	Common share	THB 7,804,100,000	THB 10/share	100%

Company	Type of Business	Registered Capital	Type of Share	Paid-up Capital	Share Value	GPSC's Share holding
Glow Energy Public Company Limited (GLOW) 1 Empire Tower, 38 th Floor-Park Wing, South Sathorn Rd., Yannawa, Sathorn, Bangkok 10120 Tel: +66 2670 1500-33 Fax: +66 2670 1548-9	Generating and supplying electricity, steam and water to users in the industrial sector, and distributing electricity to EGAT	THB 14,628,650,350	Common share	THB 14,628,650,350	THB 10/share	45.67% direct shareholding, and 54.16% through GHT
GPSC Treasury Center Company Limited (GPSCCTC) 555/2 Energy Complex, Building B, 5 th Floor, Vibhavadi Rangsit Rd., Chatuchak, Bangkok 10900, Thailand Tel: +66 2140 4600	Provide financial management services to companies in the Group.	THB 20,000,000	Common share	THB 20,000,000	THB 10/share	100%
Energy Recovery Unit Company Limited (ERU) 555/2 Energy Complex, Building B, 5 th Floor, Vibhavadi Rangsit Rd., Chatuchak, Bangkok 10900, Thailand Tel: +66 2140 4600	A power plant generating and supplying electricity and steam as feedstock of processes to TOP's.	THB 4,658,000,000	Common share	THB 2,350,088,000	THB 10/share	100%
INDIRECT SUBSIDIARIES						
Glow Company Limited (GCO) 1 Empire Tower, 38 th Floor-Park Wing, South Sathorn Rd., Yannawa, Sathorn, Bangkok 10120 Tel: +66 2670 1500-33 Fax: +66 2670 1548-9	Providing management services, consultancy services and management advisory for related companies	THB 4,964,924,770	Common share	THB 4,401,668,111	THB 10/share	100%

Company	Type of Business	Registered Capital	Type of Share	Paid-up Capital	Share Value	GPSC's Share holding
Glow IPP Company Limited (GIPP) 1 Empire Tower, 38 th Floor-Park Wing, South Sathorn Rd., Yannawa, Sathorn, Bangkok 10120 Tel: +66 2670 1500-33 Fax: +66 2670 1548-9 42 Moo 8, CIE-8 Rd., WHA Chonburi Industrial Estate 1, Sriracha District, Chonburi 20230 Tel: +66 3834 5900-5 Fax: +66 3834 5906	Generating and supplying electricity to EGAT	THB 2,850,000,000	Common share	THB 2,850,000,000	THB 10/share	95% (through GCO)
Glow SPP2 Company Limited (GSPP2) 1 Empire Tower, 38 th Floor-Park Wing, South Sathorn Rd., Yannawa, Sathorn, Bangkok 10120 Tel: +66 2670 1500-33 Fax: +66 2670 1548-9 11, I-5 Rd., Map Ta Phut Industrial Estate, Map Ta Phut, Muang District, Rayong 21150 Tel: +66 3869 8400-10 Fax: +66 3868 4789	Generating and supplying electricity and steam for industrial use	THB 4,941,534,880	Common share	THB 4,941,534,880	THB 10/share	100%
Glow SPP 3 Company Limited (GSPP3) 1 Empire Tower, 38 th Floor-Park Wing, South Sathorn Rd., Yannawa, Sathorn, Bangkok 10120 Tel: +66 2670 1500-33 Fax: +66 2670 1548-9 11, I-5 Rd., Map Ta Phut Industrial Estate, Map Ta Phut, Muang District, Rayong 21150 Tel: +66 3869 8400-10 Fax: +66 3868 4789	Generating and supplying electricity, steam and water for industrial use	THB 7,565,000,000	Common share	THB 7,565,000,000	THB 10/share	100%

Company	Type of Business	Registered Capital	Type of Share	Paid-up Capital	Share Value	GPSC's Share holding
Glow IPP 2 Holding Company Limited (GIPP2) 1 Empire Tower, 38 th Floor- Park Wing, South Sathorn Rd., Yannawa, Sathorn, Bangkok 10120 Tel: +66 2670 1500-33 Fax: +66 2670 1548-9	Investment in other companies	THB 7,565,000,000	Common share	THB 7,565,000,000	THB 100/ share	100%
GHECO – One Company Limited (GHECO ONE) 11, I-5 Rd., Map Ta Phut Industrial Estate, Map Ta Phut, Muang District, Rayong 21150 Tel: +66 3869 8400-10 Fax: +66 3868 4789	Generating and supplying electricity to EGAT	THB 11,624,000,000	Common share	THB 11,624,000,000	THB 10/share	65% (through GIPP2)
Glow IPP 3 Company Limited (GIPP3) 1 Empire Tower, 38 th Floor- Park Wing, South Sathorn Rd., Yannawa, Sathorn, Bangkok 10120 Tel: +66 2670 1500-33 Fax: +66 2670 1548-9	Development of power generation projects	THB 380,000,000	Common share	THB 245,000,000	THB 10/share	100% (through GIPP2)
Glow SPP 11 Company Limited (GSPP11) 60/19 Moo 3, Siam Eastern Industrial Park, Mabyangporn, Pluak Daeng, Rayong 21140 Tel: +66 3889 1324-8 Fax: +66 3889 1330	Generating and supplying electricity and water for industrial use, and supplying electricity to EGAT	THB 1,520,000,000	Common share	THB 1,520,000,000	THB 10/share	100%

Company	Type of Business	Registered Capital	Type of Share	Paid-up Capital	Share Value	GPSC's Share holding
Houay Ho Thai Company Limited (HHTC) 1 Empire Tower, 38 th Floor- Park Wing, South Sathorn Rd., Yannawa, Sathorn, Bangkok 10120 Tel: +66 2670 1500-33 Fax: +66 2670 1548-9	Investment (shareholding) in other companies	THB 422,152,000	Common share	THB 422,152,000	THB 8/share	49% (through GCO)
Houay Ho Power Company Limited (HHPC) (Established in Laos) Vieng Vang Tower, (Unit 15), 5 th Floor, No. 502A, Boulichan Rd., Dongpalan Thong Village, Sittasanak District, Vientiane Capital, Lao PDR Tel: +856 3621 1720-1 P.O. Box 661 Pakse, Lao PDR Tel: +856 3621 1720-1 Fax: +856 3621 1719	Producer and seller of hydro power to EGAT and EDL	USD 40,000,000	Common share	USD 40,000,000	USD 80/share	67.25% (through GCO and HHPC)
Glow Energy Myanmar Company Limited (GE Myanmar) (Established in Myanmar) No. 337, 1 st Floor, Motle Lat Saung Gone(South) Quarter, Sanchaung Township, Yangon, Maanmar.	Provision of technical and consultancy services for the power sector	USD 650,000	Common share	USD 650,000	USD 1/share	100% (through GCO)
JOINT VENTURES						
Thai Solar Renewable Company Limited (TSR) 725 Metropolis Building, 19th Floor, Sukhumvit Rd., Klongton Nua, Wattana, Bangkok 10110 Tel: +66 2258 4530 Fax: +66 2258 4534	Investment in power generation businesses	THB 583,333,400	Common share	THB 583,333,400	USD 10/share	40%

Company	Type of Business	Registered Capital	Type of Share	Paid-up Capital	Share Value	GPSC's Share holding
Indirect Joint Ventures						
Siam Solar Energy 1 Company Limited (SSE1) 725 Metropolis Building, 19 th Floor, Sukhumvit Rd., Klongton Nua, Wattana, Bangkok 10110 Tel: +66 2258 4530 Fax: +66 2258 4534	A very small power producer generating solar electricity	THB 1,800,000,000	Common share	THB 1,800,000,000	THB 100/ share	40% (through TSR)
Nam Lik 1 Power Company Limited (NL1PC) 402B of 4 th Floor, ViengVang Tower, Unit 15, Boulchan Road, Dongpalan Thong Village, Sisattanak District, P.O Box 3684, Vientiane Capital, Lao PDR	A run-of-river hydroelectric company, generating and supplying electricity to Electricite du Laos (EDL)	USD 37,200,000	Common share	USD 37,200,000	USD 10/share	40%
Nava Nakorn Electricity Generating Company Limited (NNEG) 111 Moo 20 Phahonyothin Rd., Khlung 1, Khlung Luang District, Pathum Thani 12120 Tel: +66 2978 5283, +66 2978 5291	A very small power producer operating a cogeneration plant to generate and supply electricity to EGAT and surplus and steam to industrial users in Nava Nakorn Industrial Promotion Zone	THB 1,550,000,000	Common share	THB 1,550,000,000	THB 10/share	30%
ASSOCIATE						
Bangpa-In Cogeneration Company Limited (BIC) 587 Viriyathavorn Building, Sutthisan Rd., Din Daeng, Bangkok 10400 Tel: +66 2691 9720 Fax: +66 2691 9723	A small power producer operating a cogeneration plant to generate and supply electricity to EGAT and surplus electricity and steam to industrial users in Bang Pa-In Industrial Estate	THB 2,705,000,000	Common share	THB 2,705,000,000	THB 10/share	25%
Eastern Seaboard Clean Energy Company Limited (ESCE) 1 Empire Tower, 38 th Floor- Park Wing, South Sathorn Rd., Yannawa, Sathorn, Bangkok 10120 Tel: +66 2670 1500-33 Fax: +66 2670 1548-9	Investment (shareholding) in other companies	THB 1,039,000,000	Common share	THB 1,017,810,005	THB 10/share	33% (through GIPP3)

Company	Type of Business	Registered Capital	Type of Share	Paid-up Capital	Share Value	GPSC's Share holding
Chonburi Clean Energy No. 1 Company Limited (CCE) 1 Empire Tower, 38 th Floor- Park Wing, South Sathorn Rd., Yannawa, Sathorn, Bangkok 10120 Tel: +66 2670 1500-33 Fax: +66 2670 1548-9	Development of a waste-to-energy power plant project	THB 989,000,000	Common share	THB 989,000,000	THB 10/share	100% (through ESCE)
LONG - TERM INVESTMENT						
Business Services Alliance Company Limited (BSA) 555 PTT Office, Phra Khanong Oil Depot, Art - Narong Road, Khlong Toei, Bangkok 10260 Tel: +66 2239 7328 Fax: +66 2239 7326	Manage human resource outsourcing for PTT Group	THB 2,000,00	Preferred share	THB 2,000,00	THB 10/share	25%
Indirect Long-term Investment						
Sport Services Alliance Company Limited (SSA) 199/7 Moo 1, Tambon Choeng Noen, Muang District, Rayong 21000 Tel: +66 3894 8138 Fax: +66 3894 8139	Management of a football club for PTT Group	THB 5,000,000	Common share	THB 5,000,000	THB 10/share	25% (through BSA)
24M Technologies, Inc. (24M) 130 Brookline St, Cambridge, MA 02139, U.S.A. Tel: +161 7553 1012	Research and development of lithium-ion batteries for energy storage in the industrial sector and for enhancement of power distribution and power network security	USD 152,731,158	Preferred share	USD 113,480,250	USD 0.001/share	26.02%
Ratchaburi Power Company Limited (RPCL) 1828 Sukhumvit Road, Bangchak Sub - district, Phra Khanong District, Bangkok 10260 Tel: +66 2311 5111-9 Fax: +66 2332 3882	Independent Power Producer (IPP) operating a combined-cycle power plant to generate and supply electricity to EGAT	THB 7,325,000,000	Preferred share	THB 7,325,000,000	THB 100/share	15%

Company	Type of Business	Registered Capital	Type of Share	Paid-up Capital	Share Value	GPSC's Share holding
Sarn Palung Social Enterprise Company Limited (SPSE) 555/1 Energy Complex, Building A,10 th Floor, Vibhavadi Rangsit Rd., Chatuchak, Bangkok 10900	Production and sale of goods and services for the benefit of society, communities, and the environment	THB 10,000,000	Common share	THB 10,000,000	THB 10/share	10%
Eastern Fluid Transport Company Limited (EFT) 2 , 6 Rd., Map Ta Phut Muang Mai, Huai Pong Subdistrict, Muang District, Rayong 21150 Tel : +66 3868-7513-4 Fax : +66 3868-7512	Operating interconnecting pipeline system installation for fluid transportation of raw materials and refined products in Map Ta Phut Industrial Estate and in the vicinity of Rayong	THB 10,000,000	Common share	THB 10,000,000	THB 10/share	15% (through Glow)



1.3.2 Relationship with major shareholders' business group

PTT Group is GPSC's major shareholders of its paid-up capital, namely (1) PTT Plc (31.72%), (2) PTT Global Chemical Plc (22.7%), and (3) Thailoil Plc (20.8%). GPSC's business relations and transactions with these major shareholders are considered normal business practices, such as the sale of electricity and steam to PTT Group and GPSC's purchase of natural gas from PTT. GPSC also formulated business strategies to grow and expand the business together with PTT Group.

Remarks: Shareholding of the major shareholders is under restructuring. The shareholding restructuring process is expected to be completed in 2021, after which the shares held by Thai Oil Plc will be 20.8%. This restructuring was completed on February 1, 2021.

1.3.3 Shareholders

GPSC's top ten shareholders as of the book closing date (XO) on December 28, 2020, are:

No.	Name	Number of Shares	%
1	PTT Public Company Limited	894,351,484	31.72
2	PTT Global Chemical Public Company Limited	640,909,693	22.73
3	Thailoil Power Company Limited	586,071,567	20.78
4	Thai NDVR Company Limited	98,345,414	3.49
5	Social Security Office	63,208,495	2.24
6	South East Asia UK (Type C) Nominees Limited	20,840,239	0.74
7	State Street Europe Limited	13,264,707	0.47
8	SCB Dividend Stock 70/30 Long Term Equity Fund	11,059,468	0.39
9	Krungsri Dividend Stock LTF	10,473,000	0.37
10	Mr. Sompop Tingthananukul	9,000,000	0.32

Remark:



1. The data on the Company's majority shareholders above was recorded at the book closing date on December 28, 2020, and was the latest data available when this report was compiled.
2. The data on the Company's majority shareholders above might differ from other sources, as PTT is in the process of buying GPSC's shares from Thai Oil and Thai Oil's group will restructure its shareholding in GPSC. After completion of both transactions, expected in 2021, GPSC's shares to be held by PTT and Thai Oil will be 31.7% and 20.8%, respectively. This restructuring was completed on February 1, 2021.

Limitations of Share Transfers

There is no limitation except for transfers of shares to foreign investors that cause such foreign investors to own more than 49% of the total shares of GPSC.

1.4 Issuance of Other Securities

GPSC has issued debentures (bonds) by GPSC's bonds are unsubordinated and non-guaranteed. As of December 31, 2020, its bonds not yet mature for redemption were as follows:

Bond number	Amount (Baht million)	Annual interest rate	Age / maturity	Credit rating
GPSC219A	3,500	2.21%, interest paid every six months	4 years September 29, 2021	A+(tha) by Fitch (TH)
GPSC249A	1,500	2.82%, interest paid every six months	7 years September 29, 2024	A+(tha) by Fitch (TH)
GPSC22NA	2,000	1.97%, interest paid every six months	3 years November 8, 2022	AA- By TRIS
GPSC24NA	5,000	2.24%, interest paid every six months	5 years November 8, 2024	AA- By TRIS
GPSC26NA	6,000	2.52%, interest paid every six months	7 years November 8, 2026	AA- By TRIS
GPSC29NA	8,000	2.86%, interest paid every six months	10 years November 8, 2029	AA- By TRIS
GPSC31NA	7,500	3.15%, interest paid every six months	12 years November 8, 2031	AA- By TRIS
GPSC34NA	6,500	3.25%, interest paid every six months	15 years November 8, 2034	AA- By TRIS
 GPSC258A	1,500	2.11%, interest paid every six months	5 years August 7, 2025	AA- By TRIS
 GPSC308A	1,000	2.94%, interest paid every six months	10 years August 7, 2030	AA- By TRIS
 GPSC358A	2,500	3.24%, interest paid every six months	15 years August 7, 2035	AA- By TRIS

Remarks:  Green Debenture

1.5 Dividend policy

1.5.1 GPSC

GPSC pays out as dividends no less than 30% of its net income under financial statements after deducting all provisional reserves required by law and obligations under the terms of loan contracts. Dividend payment is subject to future investment plans, necessities, and other suitability. Once the Board has decided on annual dividend payment, it must seek approval from the shareholders' meeting. An exception is for interim dividend payment, which the Board can approve and report to the next shareholders' meeting.

Dividend payment (Baht/share) since SET listing

Year	Dividend paid (Baht/share)			Dividend : net profit (%)
	First half	Second half	Full year	
2015	0.35	0.60	0.95	75
2016	0.45	0.70	1.15	64
2017	0.45	0.80	1.25	59
2018	0.45	0.80	1.25	56
2019	0.50	0.80	1.30	74
2020	0.50	1.00	1.50	56

Remarks: *Board Meeting No. 2/2021 of February 11, 2021 endorsed a dividend payment proposal for approval by the 2021 AGM for the performance of GPSC and subsidiaries for the year 2020 at Baht 1.50 per share, or about 56% of the net profit under the consolidated financial statements of 2020. This breaks down into interim payment for the first half of the year (January to June) at Baht 0.50 per share, which was paid on September 14, 2021. As a result, dividend payment for the second half of the year (July to December) equals Baht 1.00 per share. The rights to receive these dividends are subject to approval by the 2021 AGM.

1.5.2 Subsidiaries

With the endorsement of the board of each subsidiary, this matter may be raised for the shareholders' meeting to approve for each given year. Dividend payment must take into account essential investment plans and other suitability, including the subsidiary's cash flow after legal provisions.

Definitions

Unless defined otherwise in this document, the following terms carry these meanings.

Affiliate	Meaning	Shareholding and management authority
Subsidiary	Company under the control of the major shareholder who controls direct or indirect voting to dictate financial and operating policies for benefit from the company's activities. A subsidiary's financial statements form part of the consolidated financial statements from the control date to the last date of the control.	Controlled subsidiaries tend to have over 50% shareholding by the major shareholder.
Associate	Company where GPSC Group exert significant influence with participating in decision-making authority in financial and operating policies but not to the extent of controlling or joint controlling such policies.	Uncontrolled associates tend to have less than 20%-50% shareholding by GPSC.
Joint venture	Investment in a joint venture or jointly controlled company leads to joint control over economic activities by GPSC Group under an agreement. Such company appears in the consolidated financial statements by equity summation, which is how GPSC Group divide its assets, liabilities, revenue, expenditure, and cash flow in each item of such financial statements from the joint-control date to the end of such joint control.	Joint ventures feature comparable shareholding along with comparable control.
Others	GPSC Group classifies investment capital apart from investment in subsidiaries, associates, and joint ventures as investment for possible sale and general investment.	These uncontrolled companies tend to have lower than 20% shareholding by GPSC Group.

2. Risk Management

2.1 Risk Management Policy and Plan

Realizing its importance, GPSC has adopted international standard risk management to control, assess, monitor, and track all internal and external changes which might impact our businesses, stakeholders, local communities, society in general, the environment, and our shareholders. Our risk management system has been adapted from principles laid down by COSO ERM 2017 (the Committee of Sponsoring Organizations of the Treadway Commission - Enterprise Risk Management 2017) and has been unanimously accepted at all corporate and operations levels. It covers all aspects of risk management including organizational structure, management and administration, and policy formulation and implementation to ensure that all business activities under our preplanned strategy are conducted successfully with the highest efficiency generating optimum value for all stakeholders.

GPSC's risk management receives the full cooperation of all management committees – both in periodic corporate and operations meetings. The Risk Management Committee (RMC) appointed by the Board of Directors is responsible for corporate risk management by defining corporate policy and a risk management framework, supervising and issuing guidelines for the executive team to execute programs and activities aligned with our approved business strategy and business plan under changing environments. The Risk Management and Internal Control Committee (RMCC) is responsible for executing, assessing, and monitoring all risk management activities approved by the RMC.

In addition, GPSC has designated additional subcommittees to enhance risk management efficiency with specific risk exposures including

- The Operation Management Committee in charge of studying, scrutinizing, and executing risk activities, and
- The Strategic Investment Committee in charge of studying, scrutinizing, monitoring, and reviewing all investment project risk exposure.

Beyond the risk management focus on efficiency, the Audit Committee also assures the adequacy of GPSC's risk management and the efficacy of the risk management committees' performance.

2.2 Risk Management Culture

We strictly adhere to the philosophy that all business problems and obstacles can be managed and controlled by effective risk management and good governance, with management focusing on value creation for all stakeholders. This can only be achieved by establishing and nurturing a corporate culture with a strong foundation for systematic risk management to successfully manage the company both short- and long-term. The system calls for clearly defined corporate risk management policy, risk appetites or levels of acceptable risks, risk management roles and responsibilities for each and every employee, procedures and guidelines executing and monitoring risk mitigation, training and development programs using E-Learning, organizing workshops, and risk management assessment using indicators to be further evaluated to measure the performance of senior executives. These indicators are also used to motivate continuous improvements for maximum corporate performance.

2.3 Risk Factors Affecting GPSC Businesses

An overview of the major risk factors affecting the operations of the Company contains details as follows:

2.3.1 Risk Factors Affecting GPSC Businesses

Strategic Risk

(1) Organizational Capability

To support business growth particularly after the merger with Glow Energy Public Co., Ltd. (GLOW) the need to optimize organizational capability specifically for human resources and organizational structure to support managing the combined networks for the generation and distribution units of both entities was obvious. GPSC has focused on continuously building our capability to enhance workforce competence to carry out our corporate business strategy along with operational synergy between the power generation

and distribution networks of both entities. This new organizational capability directly improves our competitiveness with increased efficiency, availability, and reliability for power and steam transmission as reflected by our increasing asset value of more than Baht 700 million in 2020 and the success of expanding ACT SPIRIT cultural value to all employees of the combined entities.

(2) Investment and Business Growth

As GPSC strives to be a leader in the power industry, our business strategy calls for expanded power-generating capacity from both conventional fossil fuels and renewable energy sources as well as from New S-Curve businesses. The currently adopted strategy is to leverage benefit from cooperating with PTT Group to either merge or develop additional joint ventures with business partners who have outstanding skills and expertise in targeted businesses along with developing a highly skilled workforce to cope with rapidly changing consumer and producer behavior under the moving platforms of digital technology and digital energy.

In 2020 we invested in developing a new solar power generation project which included introducing blockchain technology to enhance the management system. Artificial intelligence with an algorithm to automatically control and assess system performance in real time greatly improved the efficiency of the power generation project. This pilot project will become a template for future projects. Additionally, we successfully expanded our foothold in a solar power plant in Taiwan⁽¹⁾, targeted as a second home for us.

(3) Changed Rules and Regulations

Rules and regulations directly affecting investment policy and strategy are critical to executing our corporate strategy and subsequent expenditures especially when the national power reserves are high. Certain current policies on power generation and distribution such as increased power generation quotas for renewables, the community power plant program, the SPP replacement scheme, and the power development plan revision 1 (PEP 2018) could create concerns regarding our investments.

⁽¹⁾ Republic of China (ROC or Taiwan), targeted as a second home for us.

Thus we monitor changes in these policies, rules, and regulations closely to effectively manage risk management, including studies of possible impacts. Detailed considerations to identify impacts on the investment are continuously managed in exchange of other investments with incentives from the government, for instance. A dedicated business division was established and is tasked with developing and updating a database of rules and regulations to track changes affecting our operations and businesses. This group is charged with collecting relevant updated data, providing analyses particularly on impacts to the company, and ensuring full regulatory compliance by consistently reviewing our corporate practices. Employees are also responsible for promoting and nurturing the culture and corporate values of compliance and good governance as we strive to become a good corporate citizen with responsibility to the community, society, the environment, and all stakeholders.

(4) Climate Change

GPSC is committed to setting clear policy and standards for our operations to fully comply with regulations on greenhouse gas emissions and to support the national policy on climate change and emission control. To this end, we've increased our portfolio of power from renewable sources and increased process efficiency helping us save costs and reduce greenhouse gas emissions. As part of these efforts, we voluntarily participated in the Thailand Voluntary Emission Reduction Program (T-VER).

Operational Risk

(1) Power Business Stability

Mitigating risks to the stability of our power business and power plants is our top priority. The stability and reliability of quality power supply delivered to customers are key factors in protecting our customers from damage to their business operations. One 2020 risk management highlight was the GPSC-GLOW power and steam network integration to ensure synergy between two distinct power-generating systems, boosting combined production and delivery of steam to customers. Not only has this project added significant value for GPSC, but it has also enhanced our credibility and our customers' confidence in the stability and reliability of their power supply.

Maintaining and continuously upgrading the operation of power plants to meet international standards are essential to effectively manage operational risks. Standards awarded to us include ISO 9001:2015 on quality management; ISO 14001:2015 on environmental management; and ISO 45001:2018 on safety and occupational health management under the Integrated Management System (IMS R-100 certified by the Management System Certification Institute (Thailand)). We've also adopted the PTT OEMS (PTT Operational Excellence Management System) and TPM (Total Productive Maintenance) to consistently improve our overall operations and to perform maintenance programs with participation by all relevant employees. These programs have resulted in successful operations in many ways including achieving a 10-million-hour lost-time accident-free milestone; increasing power generation efficiency; and reducing operational costs. Moreover, to cope with operational risks in case of emergency we've initiated the ISO 22301 management system, ensuring business continuity to avoid any possible operational interruptions.

(2) Quality, Security, Safety, Health, and Environment

GPSC is fully committed to operating under a Quality, Security, Safety, Health, and Environmental Policy to prevent loss of life, injury, and illness to our employees and contractors as well as business loss from disruption and discontinuity of operations. Beyond this commitment we've instilled a "WE SAFE" organizational culture for all our people with attitudes of "Work safely, Care for all, Think before acting, and Stop if it's not safe". We promote a safe operations organizational culture to employees and contractors in these ways:

- Establish and announce a Quality, Security, Safety, Health, and Environmental Policy
- Establish a Safety, Health, and Environmental Committee at all operating areas
- Implement Contractor Safety Management
- Implement Health Risk Assessment
- Implement Industrial Hygiene and Fit-to-Work programs
- Prepare safety manuals for all employees and contractors
- Consistently promote a "WE SAFE" operating culture
- Set strategic short-term and long-term operational targets for safety and health

- Mandate routine reporting on substandard actions and conditions, incident and investigation programs, and suggestions
- Implement operational ISO 45001:2018 and TIS 18001 :2554 standards on health and safety.
- Enforce environmental management at all operating sites, and Prepare a business continuity management plan under the ISO 22301 standard.

As a result of the Covid-19 pandemic, all operating units are determined to protect and support employees, contractors, and communities with close monitoring of the changing situation, proper adjustments of countermeasures, and all necessary measures to prevent the spread of Covid-19 at all operating areas. With full cooperation among all employees and proactive measures we've achieved both of our key objectives: employees have received timely, accurate information with proper guidance on personal Covid-19 protection, resulting in zero infections; and the entire operation has been uninterrupted and met all the planned targets with optimum reliability.

(3) Management of Projects under Construction

To prevent any negative impact on the reliable delivery of power and steam to customers and achieve financial performance aligned with our budget plan for projects under construction, we carefully monitor and supervise all project stages through completion to meet deadlines and stay within the budget.

Typical risks on projects under construction generally involve construction work, instruments, and equipment off specifications; overbudgeted expenditures; engineering complications; and environmental constraints that could harm communities and stakeholders. To manage these risks appropriately, we select credible contractors with specific skills, use turnkey contracts for construction work, and pursue direct and indirect communication and engagement with adjacent communities and stakeholders for good understanding and perception of the project. Additional third-party technical work and project management consultants are recruited to supervise and inspect work in progress and project specifications.

Nevertheless, the Covid-19 pandemic has created unforeseeable obstacles for all the projects under construction, mainly due to imported equipment and machinery delays as well as a travel ban on foreign experts and extra time needed for foreign specialists to perform their work. These have caused some delays and additional costs for ongoing projects, but we continuously engage with all stakeholders to properly mitigate these risks and optimize stakeholder value.

Four projects are currently under construction:

- (1) A refuse-derived fuel project, a subproject of a fully integrated waste-to-energy project located in Rayong. The project, under our management, was initiated to positively respond to the state policy on Rayong municipal solid waste disposal by turning waste into electrical power, thus creating financial returns and demonstrating social responsibility.
- (2) Construction and installation of an energy recovery unit, a subproject of Thai Oil Plc's Clean Fuel Project, located within their refinery in Chon Buri. The project initiative was to recover oil residue from the oil distillation unit in the refinery and turn it into power generation and steam as energy to operate various distillation units.
- (3) Construction of an energy storage unit designed to manufacture semisolid batteries, with the first project phase located in the Map Ta Phut Industrial Estate and production capacity of 30 MWh. per year The project was intended to support stationary (industrial) application, such as energy storage systems and electrical power backup systems, and mobility application, such as compact electric cars and electric buses.
- (4) Construction of the 'firm' small power producer (Firm VSPP) cogeneration under the recently acquired project from Glow Energy, known as Glow Energy Phase 2 (the SPP Replacement Program).

(4) Imbalanced Fuel Supply Portfolio

Natural gas and coal are primary energy sources for power and steam generation in Thailand, thus managing fuel supply risks is critical to maintain stability and reliability of the business. Over-reliance on any fuel supply often creates fuel supply portfolio imbalances. GPSC manages these risks by securing long-term natural gas supply contracts

with PTT Public Company Limited. Owing to the proximity of our facilities to PTT's fuel storage depots and main gas pipeline, the risk to fuel supplies has become very low. We also mitigate coal supply risk with various short-term and long-term contracts and supply sources, depending on market conditions. Contingent supplies of spot-market coal can be arranged in any emergency situation.

Financial Risk

(1) Over-reliance on Industrial Customer Income

Most of GPSC's power generation and distribution facilities are located in industrial estates in Rayong, with 50 to 60 percent of our income from these industrial users, including petrochemical plants, chemical production facilities, the automotive industry, and steel complexes. The demand for power and steam for industrial use in 2020 plummeted with the sluggish global economy, the Covid-19 pandemic, and severe drought. In close cooperation with our business partners and suppliers, we closely monitored the situation and performed periodic stress tests to help analyze the impacts and fluctuating demand of power and steam under various scenarios. The analyses helped us prepare for cash flow liquidity and operational synergy, generate value from possible cost reduction, and improve management efficiency leading to optimal performance to meet our overall business objectives.

Recognizing other factors affecting revenue sources such as more pronounced renewables and new business or S-curve toward business sustainability, GPSC has carefully developed a strategy for domestic and international renewable power plants. The strategy calls for increased power generated from renewable sources from the current 11 percent to approximately 30 percent of total output in 2025, with a more rapid expansion and revenue increases from new S-curve innovations, such as from the pilot batter plant, and the energy storage and system integration. This strategy is designed to cope with the change of the power business platform in the near future as well as to better balance the income portfolio for the long term.

(2) Price Volatility Referenced to Power Generation and Distribution

For power plants under the IPP and SPP schemes, GPSC can transfer fuel supply costs from natural gas and coal to the Electricity Generating Authority of Thailand (EGAT) under a power purchasing agreement (PPA). The same cost transfer isn't possible for power and steam generation and distribution for our industrial users, creating some fuel supply price volatility. Gas prices fluctuate all the time with a referenced price posted monthly. A certain portion of gas costs is transferred to customers under price formulas stipulated in agreements. However, the retail power rate is strictly controlled by the Energy Regulatory Commission (ERC) and priced partially under an automatic adjustment mechanism or Ft. This retail power rate doesn't reflect fuel supply costs at all times, but periodically. This has created a certain level of risk to our income occasionally especially when the price of natural gas spikes rapidly.

Nevertheless, natural gas and coal prices during 2020 were down as were retail power rates, resulting in very limited volatility of referenced fuel supply prices for us. Furthermore, under the state policy on Ft subsidies to minimize the impact from Covid-19, the impact on our fuel supply costs was substantially reduced. The remaining risk was successfully mitigated and managed through effective cost control and process efficiency improvement.

(3) Capital Management for Business Expansion

The nature of domestic and international power generation and growth and related businesses demands continuous growth with subsequent demands for capital investment. Various financial options are considered thoroughly, depending on the economic outlook, financial market conditions, project investors' financial structures, and financial ratios appropriate for their credit ratings at the time.

We launched our first Baht 5,000 million environmental conservation debenture in 2020 the Green Debenture. The proceeds from this fund-raising fits perfectly with our renewable growth strategy, including our fully integrated Rayong Waste-to-Energy Project as well as numerous solar power plant projects. This green bond issue provides

sufficient funds for business expansion, greater financial strength, and financial competitiveness comparable to our power industry rivals.

Intending to maintain GPSC's financial strength for both short-term and long-term continuous growth in our overseas businesses, we've formed a new entity, GPSC Treasury Center Company, as a treasury center for the group to facilitate fund-raising activities officially approved by the Ministry of Finance in June.

(4) Interest Rate Volatility

Loans from financial institutions are the most common financial option for any investment due to the nature of low volatility. Loans generally come in fixed and float rates. GPSC effectively manages proportion of fixed and float interest rates properly to the nature of its businesses.

(5) Exchange Rate Volatility

We plan our overseas project financing carefully especially when investments are in foreign currencies. Fluctuating exchange rates are closely monitored so that we can mitigate exchange rate volatility risks, including hedging instrument choices.

2.3.2 Shareholder Investment Risks

(1) Credit Risk

Generally, debenture holders willingly take a certain degree of risk to their principal and dividends when the debenture issuers' performance doesn't meet expectations and the collateral is less than overall debt. Investors are thus advised to consider the issuer's financial status and ability to redeem or refund debt stipulated in the debenture according to the prospectus, in conjunction with the issuer's credit risk assessment, and the credit rating reported by the credit rating agency before making these investment decisions. The credit rating helps indicate the risk level of the respective debenture and issuer. The return on investment reflects the credit risk: the higher the risk the higher the return. Investors can learn about debenture issuers and their credit ratings from SEC's website, credit rating agencies, and the Thai Bond Market Association.

(2) Price Risk

The net asset value of debentures can be volatile, depending on money market movements and interest rate changes, interest rate policy fixed by the Bank of Thailand, general economic conditions, inflation rates, remaining tenor, excessive demand, or debenture supply shortages in the market. Debenture holders may thus be affected by net asset value volatility when disposing of them before the due date.

(3) Liquidity Risk

Generally, debenture holders may not be able to dispose of debentures before maturity when there is no liquidity in the secondary or over-the-counter markets. But if the issuer didn't book their debentures for trade in the bond electronic exchange (BEX) facility, private debenture holders can exchange them at commercial banks, securities companies, and other entities holding securities and debenture trading licenses.

Another obstacle for debenture holders is SEC regulatory controls including:

*SEC announcement Kor Jor 5/2552 dated March 13, 2009 and subsequent relevant announcements on definitions of terms used in the issuance and public offering of all debentures (debentures, bonds, mortgage-backed securities, debt securities, fixed income securities, etc.), and *SEC announcement Kor Jor 4/2560 dated February 8, 2017 and subsequent related announcements on definitions of institutional investors, special big investors and other big investors with the exception of inheritance transfers.

Under these announcements, debenture holders can't sell or transfer their subscribed debentures to anyone publicly, except to institutional investors and big investors. Because of the condition stipulated in the issuance public offer that the issuer registered with the SEC before the public offering strictly controlling the disposal and transfer be made among institutional and big investors, the subscribers who later become debenture holders endorsed and agreed to adhere to prior to the actual subscription.

(4) Default Risk

Historical records of default either on principal or interest for debentures, mortgages, or loans from commercial banks, finance and securities firms, credit fonciers, and specialized financial institutions (SFIs).

- none -

Historical records of default during 2017-2020

- none -

2.3.3 Foreign Securities Investment Risks

- none -

2.3.4 Emerging Risk**(1) Covid-19 Pandemic**

The Covid-19 pandemic has hurt the global society and economy including GPSC, its joint ventures, and customers. Further constraints on power generation and the overall business outlook have become unavoidable. We've launched several measures to cope with the pandemic, including close monitoring of the situation, a business continuity plan (BCP), safe houses for employees in charge of power generation and reliability and critical utility supply, stress tests on our financial system, and current cash flow provisions to ensure proper liquidity in case of emergencies affecting business operations.

(2) Drought Crisis

As water is a critical component of our power generation business, drought and water shortages are a threat to GPSC's operation. A drought crisis became more severe in 2020, causing water shortages for manufacturing bases of many firms in Thailand and for hydropower generation from hydroelectric dams in neighboring countries. At the same time, Thai industrial power users relied more on their power supply to avoid any interruptions in their production processes. To address these problems, we instituted several measures to cope with possible water supply shortages and to ensure uninterrupted power generation and distribution, including close monitoring of the national water supply and networks, and participating with other organizations and state agencies in the Committee on Water Resource Management, a public-private cooperation in charge of monitoring and managing water resources at all storage facilities. With these measures combined with our 3Rs program,

reducing water usage by up to 10 percent, installing a mobile wastewater RO unit and a seawater reverse osmosis system, and joint efforts with customers to cut water usage we achieved our business targets as planned.

(3) Threats and Cybersecurity

Digital technologies that improve efficiency and create value have become much more widely used—particularly in the power generation business. Every facet of operations at plant facilities and our offices rely heavily on digital technologies and the internet. Thus cybersecurity becomes more important and IT threats using internet connections have become unwelcome risks.

To become better prepared for IT threats and comply with the Cybersecurity Act B.E. 2563 and standards international cybersecurity practices, GPSC has implemented these reactive and proactive measures:

- Clearly defining cybersecurity policy for the company and its subsidiaries and forming dedicated working committees in charge of short-term and long-term management
- Actively educating the entire workforce on various IT threat patterns and related procedures for protecting against and handling each threat at site to prevent escalating damage to the company
- Periodically testing the system with self-instructed decoys and organizing lessons learned to nurture awareness for all employees on the use of information technology
- Regularly organizing workforce drills to respond to IT threats and cyber-attacks for office support functions
- Regularly perform information system tests and system recovery drills in case of emergency threats to the power generation operating areas.

(4) Innovation and Technology Transformation

Disruptive technology has been rapidly driving energy technology changes, leading to changing consumer behavior for industrial and public users. These uncertainties are unavoidable, and so GPSC has developed guidelines to cope with them:

- Aggressively continue with the new S-curve business model beyond the existing power-generating business model to support future business growth. This new model includes storage battery manufacturing; power storage system development and related businesses; and research and development investment in new energy technologies to maintain our competitive advantages and realize our vision to become a leading innovative energy company.
- Actively develop a system integrator, integrating energy production and consumption patterns to better respond to the needs of both such as Micro Grid and Smart Grid.
- Consistently develop a new Energy Trade Platform to cope with new behaviors of industrial and public users, simultaneously reducing impacts to our power generation and distribution operations currently and in the future.

3. Driving Business for Sustainability

3.1 Policy and goals for sustainability management

Policy and goals for sustainability management

Committed to its role as the Power Flagship of PTT Group, GPSC Group defines a policy and goals for sustainability management following the guidelines for sustainability management. It strives to foster confidence among stakeholders, abide by work excellence, demonstrate business transparency, constantly develop assorted innovations, and look after community society and the environment in a responsible way. To this end, GPSC Group commands practices underlined by PTT Group's approach to sustainability management, national strategies, and internationally accepted sustainability practices together with the United Nations Sustainable Development Goals (SDGs). This policy applies to all units across GPSC's supply chain. All executives and employees must support, drive, and comply with the defined policy and management scope. For details of the policy and SD goals, please log on to https://www.gpscgroup.com/Uploads/eIFinder/sustainability/gpsc_sustainability/sustainability_management_policy_en.pdf.

Goal-setting and business operation supporting UN SDGs

GPSC Group is committed to developing and growing in a sustainable way to be part of the drive toward SDGs. The Group's activities address SDGs appropriately and agree with the vision, mission, nature of business, strategic plans, and critical issues concerning sustainability and stakeholders' expectations. As a result, GPSC Group has selected seven out of 17 SDGs: SDG 7 (access by all to clean energy), SDG 8 (productive employment and economic growth), SDG 9 (industry, innovation, infrastructure), SDG 11 (cities and sustainable human settlements), SDG 12 (sustainable consumption and production patterns), SDG 13 (action to combat climate change), and SDG 15 (peaceful societies, justice for all, and inclusive societies). These SDGs shape GPSC Group's sustainable development management approach for the benefit of all stakeholders. For details of the plans, please log on to <https://www.gpscgroup.com/en/sustainability/gpsc>.

3.2 Issue management in the business value chain

3.2.1 Value Chain

Primary Activities

1. Inbound Logistics

Various types of fuel are used for power production in GPSC Group, including fossil fuels for natural gas- and coal-fueled plants, renewable energy, and hydro power. Fuel diversification reduces GPSC's dependence on one particular type of fuel for its many power plants located both in Thailand and abroad. To achieve efficient fuel procurement, the group completed an agreement with PTT Plc on long-term gas supply in both volumes and prices. Medium-term and short-term contracts were also made for coal supply with a number of business partners domestically and abroad. In addition, the group entered into power purchase agreements (PPAs) to supply power reserves for government agencies and raw water supply agreements with the industrial estates where its power plants are located for consumption in the power generation process.

2. Operations

GPSC's cogeneration power plants that use fossil fuels to transform natural gas into mechanical energy to drive power generators with support of some other key equipment, such as compressors and gas turbines. As for the combined-cycle power plants, the production process is similar to the cogeneration plant, except that the generators are driven by steam produced by steam turbines. Coal-fired power plants run on two types of water boiler: one is the circulating fluidized bed boiler (CFB) and the other is the supercritical pressure boiler. Steam produced from boilers is used to drive electricity generators. For the photovoltaic system or solar cell, solar power is turned into electricity. As for the run-of-river power plant, the water by the volume of natural water flow and the different water levels over and below the dam is channeled towards the turbines that connect to the axle shaft of power generators.

3. Outbound Logistics

GPSC Group currently produces electricity, steam, industrial water, and chilled water, which require well-prepared and stable supply systems. A delivery method equipped with a safe protection system has therefore been separately designed for each customer. It is important that the GPSC's power plant be situated in the industrial site where the product is needed to ensure safe delivery. GPSC Group also has the Electricity Generating Authority of Thailand (EGAT), Provincial Electricity Authority (PEA), Metropolitan Electricity Authority (MEA) as industrial customers in the government sector. As much as 230 kilo-volts, 115 kilo-volts, and 22 kilo-volts of electricity are sent to these customers respectively through transmission lines. As for steam supply, GPSC provides steam of different pressures and temperatures as demanded by customers. Steam, industrial water, and chilled water are delivered to customers through product pipelines.

4. Marketing and Sales

GPSC Group produces electricity for sale to government agencies, i.e. the Electricity Generating Authority of Thailand (EGAT), Provincial Electricity Authority (PEA), Metropolitan Electricity Authority (MEA), under PPAs classified by type of producer, namely Independent Power Producer (IPP Small), Power Producer (SPP), Very Small Power Producer (VSPP). GPSC Group also produces electricity, steam, industrial water, and chilled water for sale to industrial customers. For electricity, long-term PPAs are made using the price of electricity sold to PEA as reference, of which the Ft rate varies with the fuel cost. Regarding steam, industrial water, and chilled water, their prices are dictated by energy cost and other production costs. GPSC also invests in renewable energy to produce electricity, which is sold under private power purchase agreements (Private PPAs).

5. Customer Services

GPSC Group values good relationships with customers to develop satisfaction and long-term bonds. Customer relations management has been strengthened through various processes, including communication channels via website, e-mail, phone calls, and letters, and customer relations activities are continuously organized. EnergyLens

Application was launched to keep records of customers and products required using an online system. Customer services also include customer satisfaction surveys, from which data is analyzed to assist in issue management, providing knowledge about the electricity business, and helping customers in their sustainability management.

Support Activities

In addition to the four core businesses, GPSC Group has expanded its investment into innovation not just to increase revenue but to gain competitive edge. The power storage and battery business has been expanded from the existing power production and sale business, following research and development of lithium-ion battery production for use in the industrial sector. This will strengthen the power transmission and connection systems in addition to applicability to electric vehicles.

Business value chain is presented in the Business Value Co-creation Chapter in the 2020 Annual Report <https://www.gpscgroup.com/th/sustainability/reporting>

3.2.2 Stakeholder analysis in the business value chain


Recognizing stakeholder engagement, GPSC Group believes that good relationships built on trust, along with suggestions and recommendations from stakeholders, are a vital asset driving the organization towards goal attainment and sustainable growth. Equally important is stakeholder management, the ability to respond to their needs, the ability to minimize risk that may harm the business image and may cause business disruption, and the ability to create maximum benefit for stakeholders. GPSC Group keeps regular contact with stakeholders to ensure correct understanding of all issues of interest. Stakeholders' opinions have been integrated into the decision-making process and business plan.

In 2020, GPSC joined Glow Energy Public Company Limited in reviewing stakeholder engagement operations, in which stakeholder prioritization was completely undertaken and covered most parts of the business chain. Efficient and appropriate ways to respond to stakeholder expectations and issues of interest were also sought, the findings of which will be useful for improving stakeholder engagement


operations. GPSC Group divides its stakeholders into eight groups:



- 1) shareholders,
- 2) investors,
- 3) government agencies and related organizations,
- 4) employees,
- 5) suppliers and contractors,
- 6) partners,
- 7) customers, and
- 8) communities and society.


Methods of communication and engagement vary according to each particular group of stakeholders, as are detailed below:


Stakeholder group	Engagement channel	Issue of interest	Response
 <p>1. Shareholders (Major and minor shareholders)</p>	<ul style="list-style-type: none"> ● Annual General Meeting ● Various communication channels, e.g. website, e-mail, phone calls, and letters ● Annual GPSC site visit ● Visits to businesses related to GPSC, both within and outside Thailand ● Interviews with representatives of shareholders ● Shareholder relations activities ● Equal opportunity for all shareholders to join Annual General Meeting with equal voting rights and questioning opportunities ● Roadshows and various investor relations activities ● Annual Report 	<ul style="list-style-type: none"> ● Good performance with share price and dividends at high level ● Constant business growth ● Transparency and corporate governance ● Risk management for joint investment and development ● Innovation that will raise operation efficiency ● Investment in renewable energy ● Equal opportunities and equal rights for all shareholders to join Annual General Meeting ● Equal access to information 	<ul style="list-style-type: none"> ● Risk management ● Business ethics ● Development and investment in renewable energy and battery projects. ● Innovation management ● Operational stability and availability


Stakeholder group	Engagement channel	Issue of interest	Response
 <p>2. Investors (Banks, financial institutions / debenture (bond) holders / credit rating agencies / analysts)</p>	<ul style="list-style-type: none"> ● Annual General Meeting ● Quarterly analyst meetings ● Disclosure of investment information through roadshows, Opportunity Day, and investor relations activities ● Annual GPSC site visit ● Shareholder relations activities ● Other communication channels, such as website, e-mail, phone calls and letters ● Interviews with representatives of investors ● Providing financial services or giving support for financial services ● Answering ESG assessment form ● Meeting with executives to follow up projects and situations ● Disclosure of information through Annual Report, Sustainability Report, Financial Statements 	<ul style="list-style-type: none"> ● Good performance with share price and dividends at high level ● Constant business growth ● Transparency and corporate governance ● Business operation with environmental, social, and governance (ESG) management ● Innovation that will raise operation efficiency ● Disclosure of company's operating results, covering financial as well as environmental, social and governance (ESG) aspects ● Disclosure of complete information, adequate for business results forecast ● Correctness of data used for reporting quarterly business results ● Financial stability, including debt to income ratio 	<ul style="list-style-type: none"> ● Risk management ● Business ethics ● Ongoing development and investment in various projects ● Innovation management ● Operational stability and availability

Stakeholder group	Engagement channel	Issue of interest	Response
 <p>3. Government agencies and related organizations (Government agencies /state enterprises / local administrative organizations / agencies with licensing authority)</p>	<ul style="list-style-type: none"> ● Operating results submitted to related government agencies at required intervals ● Constant participation in government projects and activities ● Engaging with committees dealing with issues with which the government requests cooperation ● PTT Group's government affairs seminars ● Interviews with representatives of government agencies and related organizations ● Being a learning site in both operation and management aspects ● Keeping up with policies and regulations of overseeing agencies ● Making complete operating reports as required by law ● Support for government policies and activities ● Communication channels, such as website, e-mail, phone calls, letters ● Membership in trade organizations and the like who are involved in the power production business as a channel to raise concerns to government agencies 	<ul style="list-style-type: none"> ● Acting in compliance with rules, regulations, and policies concerning good governance, and disclosure of correct information ● Alignment of investment ratio with the country development plan, including investment in renewable energy ● Social and environmental responsibility ● Sustainable coexistence with communities ● Good safety and environment management ● Collaboration with government agencies on various projects ● Actions taken to reduce climate change impacts ● Cooperation and support for government activities ● Compliance with laws and regulations ● Paying taxes and fees, including permit fees 	<ul style="list-style-type: none"> ● Risk management ● Business ethics ● Business opportunities ● Environmental management, including gas emission control, water and wastewater management, and biodiversity management ● Clean energy for the future and climate change response ● Sustainable coexistence with communities and social responsibility ● Strict compliance with laws and regulations and fee payment requirements

Stakeholder group	Engagement channel	Issue of interest	Response
 <p>4. Employees (Executives / employees)</p>	<ul style="list-style-type: none"> ● Annual Employee Engagement Survey ● Records of complaints via different channels ● Staff engagement through CEO Town Hall Meetings ● Internal communication through various channels ● Interviews with staff representatives ● Welfare committee 	<ul style="list-style-type: none"> ● Employees' competency development in line with business strategies and directions ● Employee well-being, occupational health, and safety at work ● Good remuneration and welfare as well as career opportunities and progress ● Fair performance assessment ● Income stability ● Equal treatment ● Leadership development ● Talent retention 	<ul style="list-style-type: none"> ● Human resource development through training, diversity enhancement, equality, and staff well-being both physically and mentally ● Human rights ● Occupational health and safety at work
 <p>5. Suppliers and contractors (Contractors / delivery agents)</p>	<ul style="list-style-type: none"> ● Annual Supplier Day ● Interviews with representatives of suppliers and contractors ● Annual supplier assessment with feedback provided for suppliers ● Communication channels, via e-mail, phone calls, letters, etc. ● Supplier relations activities to encourage participation, such as CSR activities 	<ul style="list-style-type: none"> ● Fair competition ● Relationships and cooperation to grow together ● Fair, well-defined, transparent, and auditable procurement system ● Supplier development (including contractors and delivery agents) to mutually achieve best practices and sustainable growth ● Fair, well-defined, transparent, and auditable procurement policy? ● Compliance with agreed conditions without supplier manipulation ● Uncomplicated procurement rules and regulations 	<ul style="list-style-type: none"> ● Risk management ● Corporate governance ● Supply chain management ● Transparent and auditable procurement system

Stakeholder group	Engagement channel	Issue of interest	Response
 <p>6.</p> <p>Partners</p>	<ul style="list-style-type: none"> ● Communication channels via meetings, discussions, website, e-mail, phone calls, etc. ● Interviews with representatives of partners ● Memoranda of understanding ● Invitations to company activities involving each particular partner ● Activities co-organized with partners 	<ul style="list-style-type: none"> ● Values jointly created along the value chain, creation of trust, good relationships, and collaboration to achieve higher potential and efficiency that benefit long-term business deals ● Higher competitive edge with higher and sustainable business value ● Business deals based on fairness ● Joint innovation and creation of businesses that create values for new investments, and joint human resource development particularly for the power production operations 	<ul style="list-style-type: none"> ● Business opportunities ● Innovation management ● Co-creation of business value

Stakeholder group	Engagement channel	Issue of interest	Response
 <p>7. Customers (Long-term and short-term customers)</p>	<ul style="list-style-type: none"> ● Annual customer satisfaction survey ● Monthly, quarterly and annual customer relations activities, such as annual golf competition, seminars ● Monthly or quarterly meetings to follow up and report demand plan, preparedness plan, and maintenance plan, as well as monitoring problem solving progress ● Customer complaint and communication channels, such as website, e-mail, phone calls, letters, etc. ● EnergyLens application to facilitate real-time monitoring of energy and steam consumption with record tracking, as well as other functions, including monthly expense report and communication manual ● Occasional visits or appointments with customers, e.g. meals ● Interviews with customer representatives 	<ul style="list-style-type: none"> ● Delivery of products and services meeting agreed conditions and regulations at fair prices ● Reliable power production and distribution system ● Contractual availability of power distribution ● Prompt response to customer needs, supported by capable problem-solving team ● Non-discriminatory treatment of all groups of customers under relevant laws ● Customer communication channels that are convenient and fast with easy access ● Technology development for environmental impact reduction ● Joint search for new business opportunities 	<ul style="list-style-type: none"> ● Customer relations management ● Maintaining production availability and stability

Stakeholder group	Engagement channel	Issue of interest	Response
 <p>8. Communities and society (Communities surrounding new project sites / communities surrounding power plants / local administrative organizations / NGOs / local associations / media, both regional and local)</p>	<ul style="list-style-type: none"> • Annual community satisfaction survey • Regular community relations activities / visits to communities and people with possible direct and indirect impact, as well as social contributions in cash and kind • Power plant visits by local community people (Open House) • Public hearings to solicit people's opinions on Environmental Impact Assessment (EIA) report and Code of Practice (CoP) • Various channels for communication and complaints, including website, e-mail, phone calls, letters, and local media • Interviews with representatives of communities and the society, including monthly meetings with provincial and local government agencies (administrative agencies, private organizations, local communities) to seek views 	<ul style="list-style-type: none"> • Social and environmental impact reduction management • Business operations with concern for safety and the environment • Local people's understanding of business operations • Job creation, income generation, and expense reduction for community people • Support for activities with community participation • Local employment opportunities • Application of the company's skills and knowledge for community development • Optimum use of resources • Concern for people's water consumption • Business development along with sustainable growth of communities, the society, and the environment 	<ul style="list-style-type: none"> • Risk management • Business ethics • Water and wastewater management • Sustainable co-existence with communities and social responsibility

3.3 Managing the Environmental Aspect of Sustainability

3.3.1 Environmental Policy and Guidelines

Natural resources and the environment are crucial elements in power generation processes. Absence of appropriate control may cause pollution that affects the environment and society. GPSC therefore focuses on monitoring and controlling pollution from point sources along with efficient resource consumption based on the Circular Economy Principle to co-create values for business, society, and the environment to meet its mission in conducting business with social and environmental responsibility by establishing policies and guidelines for environmental responsibility as follows.

GPSC Group's Quality, Security, Occupational Health, and Environment Policy

GPSC Group recognizes that production of power and steam may affect the health of people in the community and the environment unless appropriate control measures are in place. It has therefore formalized a Quality, Safety, Health, and Environment Policy. Furthermore, it is committed to effective, continual improvement for excellence so that it may be recognized by stakeholders and consequently bring sustainability to the power and utility business (For more information, please log on to <https://www.gpscgroup.com/Uploads/elfinder/sustainability/documents/20200415-gpsc-quality-security-health-and-environment-policy-th.pdf>).

Climate Change Policy

GPSC Group establishes a Climate Change Policy for all units throughout its supply chain to apply to their operations from planning, design, execution, to the end of operation (For more information <https://www.gpscgroup.com/Uploads/elfinder/sustainability/documents/20200415-gpsc-climate-change-policy-th.pdf>).

Environmental Management Guidelines

Air pollution

GPSC Group values investment in technology to improve the efficiency of production processes. It developed an action plan to continuously reduce air pollutants, such as oxides

of nitrogen (NO_x), sulfur oxides (SO_x), and total suspended particles (TSPs). It focuses on strict control, surveillance, and monitoring of the quantity of air pollutants from sources in accordance with the control measure recommendations described in the environmental impact assessment (EIA) report and environmental and health impact assessment (EHIA) report with strict actions as follows.

- Used low-nitrogen oxide burners to reduce nitrogen oxide emission from both combustion chambers of the gas turbine. The company goes further by installing Selective Catalytic Reduction (SCR) to reduce nitrogen oxides in its exhaust gas. Through the oxidation process, SCR will catalyze the ammonium hydroxide solution, thus converting nitrogen oxides into nitrogen gas and water.
- At GPSC Group's coal-fired power plants, we use quality bituminous coal with less than 1% sulfur. In addition, the limestone spraying technology using circulating fluidized bed (CFB) was installed to reduce the sulfur oxide gas in coal-fired boilers. An ammonia solution is sprayed to capture the exhaust gas from the CFB system. In addition, successful efforts were made to install a seawater flue gas desulfurization system (FGD) to eliminate sulfur dioxide
- Installed scrubbers, cyclones and bag filter to collect TSPs and impurities such as mercury
- Installed wet scrubbers to remove sulfur dioxide generated from combustion
- Installed Continuous Emission Monitoring Systems (CEMs) at chimneys to continuously monitor air emissions. Real-time air quality data are displayed in front of power plants, such as GLOW and surrounding communities, as required by EIA and EHIA reports
- Measure workplace air quality, both indoor and outdoor, to ensure compliance with regulatory requirements
- Conduct air quality monitoring every six months to ensure the effectiveness of environmental impact prevention and mitigation measures
- Create a tree buffer line (protection strip) around the sites to confine the dispersion of air pollutants to the external environment.

Waste and surplus materials

GPSC Group is committed to minimizing the waste generated from processes because it denotes production efficiency, mitigation of environmental impacts, and could reduce waste treatment costs. For these reasons, GPSC Group adheres to the principle of 3Rs (Reduce, Reuse, and Recycle) by minimizing waste from various sources as a top priority. When waste is generated, GPSC Group will first reuse or recycle it. This results in so much continuous waste reduction to landfill that GPSC has achieved the goal of zero waste disposal to landfill since 2019. At present, waste generated from production, maintenance, and other activities is managed effectively in compliance with international standards to prevent potential impacts on the environment and surrounding communities.

In addition, GPSC Group regularly enforces, monitors, and audits the waste management of all power plants, starting from collection, storage, and transport of waste, treatment, to disposal to ensure compliance with procedures and industrial waste management regulations to prevent environmental impacts. GPSC Group has also raised environmental awareness among contractors, partners, and customers by implementing the “Industrial Waste Management Process” at all power plants. Contractors must hold valid licenses from relevant authorities prior to the transport of all types of waste and surplus materials from the power plants. GPSC implements procedures to evaluate and approve the disposal facilities for both toxic and non-toxic waste before it leaves the power plants every time as well as complying with the Factory Act and the

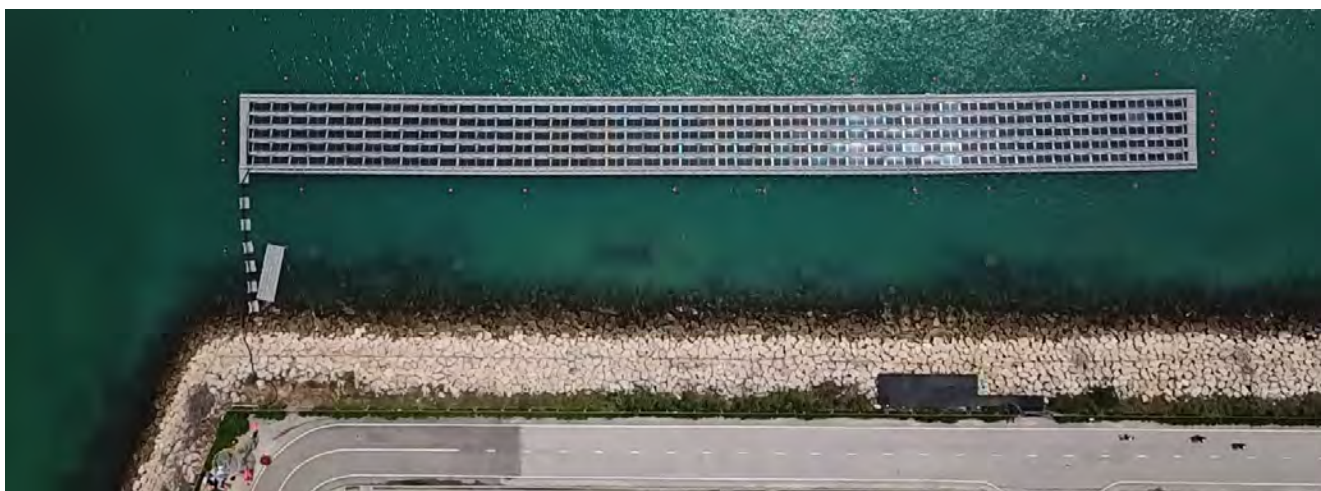
Hazardous Substance Act under the Ministry of Industry. In addition, through regular hazardous waste manifest audit of the waste disposal contractors, GPSC ensures all waste is accounted for without any unauthorized treatment and disposal, including the preparation of the Form Sor Kor 3, which is the annual report summarizing the amount of waste that GPSC Group ships and disposes of every year to confirm compliance with relevant regulations.



Water management

- **Water management outside GPSC Group**

GPSC manages external water by actively participating in the PTT Group Water Management Task Force, which holds monthly meetings. Each meeting addresses the water situation report from the survey and analysis of the water situation model, consequently formulating a water management plan, guidelines for monitoring water management targets, risk reduction, assessing impacts of water use in all operating areas, and finally communicating to responsible business units for efficient implementation of plans.



The PTT Group Water Management Task Force also participates in the Water Management Working Group of the Eastern Region of Rayong Province. The working group, made up of governmental agencies, East Water Plc, and representatives from the private sector, monitors, assesses, analyzes the water situation, and determines measures to reduce risks and impacts promptly.

GPSC also uses the Aqueduct Water Risk Atlas under World Resources Institute (WRI) to identify water stress areas and determine guidelines for the management of water sources outside all areas.



- Water management within GPSC Group**

GPSC Group clearly expresses its intention in internal water management to maximize the benefit of water usage with the community. By following the 3Rs (Reduce, Reuse, Recycle), GPSC manages internal water usage efficiently by reducing usage in power generation, recycling water from the cooling system for further use with wastewater from boilers and reuse of condensed water in steam production processes.

In addition, GPSC continues to regularly monitor the quality of water discharged into the environment to ensure that the water that leaves the operation of GPSC Group is safe for the communities and complies with legal standards.

Since GPSC does not draw water directly from natural sources, there is no impact from the operation. However, it continues monitoring waters in all surrounding areas. GPSC also continues monitoring the water quality before discharging it into the industrial estate's central water treatment system and natural waterways to ensure that the quality of effluents from the processes meets the standards required by law and local authorities. Based on the data, it was concluded the quality of effluents was better than applicable standards in every facilities.

3.3.2 Environmental Performance

Energy management

GPSC Group implements an efficient energy management system, resulting in power consumption reduction by 1.03 million megawatts-hour (MW-hour). In 2021, GPSC plans to install a solar rooftop at GLOW IPP with a capacity of 636.8 KW for internal use.

Air quality

GPSC continues improving process efficiency to reduce air emissions resulting from the use of natural gas for power generation. This year the emission of oxides of nitrogen (NOx) is 5,674.89 tons.

Water management

In 2020, GPSC Group used 1,142 million cubic meters in processes, a drop of 10.59% from that of last year with no water drawn directly from public water sources, hence no sources of water were affected by the operation. In addition, process water is recycled and reused, totaling 302,899.80 cubic meters, together with efficient wastewater management.

Waste Management

GPSC Group strives to achieve its goal of reducing hazardous waste landfill to zero

Greenhouse Gas Management

GPSC focuses on efficient resource utilization and sustainability under the Eco-Efficiency Economy through improving the efficiency of power and steam production. In 2020, GPSC Group implemented projects recommended by Thailand Greenhouse Gas Management Organization (Public Organization) (TGO) to reduce emissions of greenhouse gases, such as Thailand Voluntary Emission Reduction Program (T-VER) and the Low Emission Support Scheme (LESS). GPSC's carbon footprint has been assessed and

certified under the Carbon Footprint Organization (CFO) category, Carbon Footprint Product (CFP) category, and Carbon Footprint Reduction (CFR) category. In addition, the database of carbon dioxide emissions, both direct (Scope 1), indirect (Scope 2) and other indirect (Scope 3), showed 2.82% reduction from those of last year. (For more information regarding Climate Change Management, please log on to the 2020 Integrated Sustainability Development Report and <https://www.gpscgroup.com/th/sustainability/environmental/climate-change-management>).



GPSC participated in the Carbon Disclosure Project (CDP) assessment, the most recognized global institution for the assessment of environmental impact management, natural resources, and climate change. By disclosing information on climate change for the fourth consecutive year, the company received a B grade for 2020.



In 2020, GPSC Group was registered by TGO for GLOW Energy CFB 3, GLOW Energy Phase 4 and 5, GLOW SPP 2 and GLOW SPP 3, and GHECO-One power plants with a total of 9,538,693.43 tons of carbon dioxide equivalent.*

* Data from the report on greenhouse gas emission and sequestration of the organization for verification and certification by TGO. Monitored data of Jan. 1 – Dec. 31, 2019.



In 2020, GPSC Group was registered by TGO for its Carbon Footprint of Product (CFP) for Glow Energy Phase 1 and 2 for four products.

PRODUCT	CARBON FOOTPRINT
Power	583 gCO ₂ e
Steam	52.9 kgCO ₂ e
Clean water	343 gCO ₂ e
Demineralized water	909 gCO ₂ e



In 2020, GPSC Group was registered for its Carbon Footprint Reduction (CFR) for reducing carbon dioxide emissions arising from the Steam and Clarified Water generation of Glow Energy Phase 1 and Phases 2 Power Plant.



In 2020, GPSC Group participated in the master model of T-VER by developing a new system of cogeneration in CUP 4 Phase 1, which is expected to reduce greenhouse gas emissions by 134,505 tons of carbon dioxide equivalent per year.



In 2020, GPSC Group received a certificate of honor from TGO under the Low Emission Support Scheme (LESS) category, implemented at the CUP 1, 2, and 3, Sriracha power plant (SRC), and the Zero Waste Village. This resulted in a total greenhouse gas emission reduction of 16,615,787 tons of carbon dioxide equivalent.

3.4 Managing the Social Aspect of Sustainability

3.4.1 Policies and Social Guidelines

Policies and Guidelines on Human Rights

GPSC Group is committed to management of human rights throughout the value chain by formalizing its Human Rights Policy in accordance with the principles of the UN Guiding Principles on Business and Human Rights (UNGP) to avoid, prevent and mitigate human rights risks and violations throughout the value chain. GPSC Group relentlessly implements Human Rights Due Diligence processes, which include identification of human rights risks, identification of affected groups, and implementation of preventive and corrective plans to include measures to mitigate damage and follow up to ensure that its business operations are founded on strict protection of human rights.

GPSC Group has developed, formalized and announced throughout the organization the Human Rights Policy under the provisions of Thai and international laws, including various criteria of the United Nations Global Compact (UNGC) and the Declaration on the Principles and Fundamental rights of the International Labour Organization (ILO) for managerial staff and employees to strictly follow (For more detail, please log on to <https://www.gpscgroup.com/th/sustainability/social/human-rights>)

Human Resources Management Policy

GPSC values employees as an essential mechanism driving business growth toward goals. It is therefore committed to managing human resources in line with the strategic directions of the group. It stipulates a human resources policy to set the direction for efficient and fair human resource management in line with the strategy and goals of the GPSC Group under the ever-changing global economy, society and environment along with creating motivation and corporate engagement with employees. The human resource management policy will bring mutual success and sustainable progress between employees and the organization. To this end, the 2020 target for the succession plan has been established to achieve 100%.

Strategy for Success

1. A Succession Plan for the executive level has been developed to ensure business continuity
2. The Spark Accelerator will prepare high-potential employees to support business growth
3. Engagement and unity of GPSC Group will be achieved through ACT SPIRIT activities
4. Employer Branding is to foster corporate image among external parties.

(For more detail <https://www.gpscgroup.com/th/sustainability/social/our-employees>)

Corporate Social and Communities Responsibility Strategy and Policy

GPSC Group strives to be the leader of PTT Group's power business innovation with a clear intention to conduct its business with social responsibility for internal and external stakeholders. This includes responsibility for community and environmental sustainability by conducting its business in peaceful harmony with communities and society as well as fostering appropriate participation processes with stakeholders. GPSC Group has established a policy of social and environmental responsibility to be observed as follows:

- Conduct its business with transparency, fairness and auditability. Focus on the growth of GPSC Group along with the improvement of the quality of life of employees, communities, society and the environment. Meet stakeholder's interests in accordance with the vision and mission set by GPSC Group
- Maximize the benefit of resource utilization with the least impacts on stakeholders, society, community and the environment
- Be committed to continuous social and environmental responsibility with all stakeholders to create mutual social and environmental sustainability
- Encourage and enable stakeholders to participate in projects or activities for society and the environment by leveraging the capability and resources of GPSC Group to achieve goals and objectives effectively
- Communicate and publicize projects or activities for society and the environment to communities, society and stakeholders.

GPSC Group has implemented many social and community development programs under the sustainability framework in line with the strategy and direction of the business of the group. The sustainability framework comprises Power Accessibility, Quality of Life, Eco System and Sustainable Innovation. GPSC Group's strategy of social responsibility is founded on three important principles as follows:

- 1) It is an activity that is linked between the mission of the organization and business operations
- 2) It harnesses expertise, core skills and competencies of the organization to transfer knowledge and continue to

develop into communities

- 3) It takes into account the needs and expectations of communities and society

3.4.2 Social Performance

Human Rights Management

GPSC Group values human rights. It therefore organized human rights training and knowledge sharing sessions for employees. In addition, it has completed human rights risk assessment for all business units to identify, prevent and mitigate the impacts of human rights risks in GPSC's operations throughout the value chain. This assessment encompasses activities at the national level, industrial level, and operational level in areas which GPSC Group operates. The scope includes impact assessment in vulnerable groups such as indigenous children and foreign workers and assessing potential impacts at the national, operational and individual levels. The human rights risk assessment was conducted based on two factors (potential and consequential), covering six human rights areas (Labor Rights, Community Rights, Supply Chains, Security, Safety, Environment and Consumer Rights). In 2020, there was no complaint or malpractice filed regarding human rights laws and violations in all areas (For more detail <https://www.gpscgroup.com/th/sustainability/social/human-rights>)

Human Resource Management

1. Workforce Planning

In 2020, GPSC Group managed a strategy manpower planning and improved the organizational structure and processes arising from mergers and acquisitions to support its rapid growth. It improved the personnel selection process to ensure alignment with business plans. GPSC Group completed 100% succession planning of key positions.

2. Employee Development

GPSC Group developed an employee development program in line with job positions at each level so that employees may be able to support domestic and international business growth, including new business development plans to pursue the vision to become a leading power generation company in innovation and sustainability at the international level.

3. Embed Corporate Culture and Increase employee engagement

GPSC Group focuses on strengthening employee engagement through sharing and organizing activities to promote employee awareness of GPSC Group's values, leading to a culture and behavior of efficient collaboration. In 2020 the engagement level is 62%, which exceeds industry average.

4. Diversity and Equal Opportunity

GPSC Group is a diverse organization in race, gender and age. Diversity allows it to meet the different needs of stakeholders and constructively respond to business changes. It established qualifications in recruiting staff and human resource development to prepare employees for equal career growth. In 2020, GPSC Group had 24.44% female executives.

5. Employee Well-being

GPSC Group's welfare board is the venue for nominated employee representatives to express their views equally. Currently, there are 25 employee representatives on this board.

(For more details regarding the achievement of employee development and welfare, please read the 2020 Sustainability Report <https://www.gpscgroup.com/th/sustainability/reporting> and <https://www.gpscgroup.com/th/sustainability/social/our-employees>).

Safety, Occupational Health and Work Environment

GPSC Group continuously develops and improves the efficiency of safety operations to reduce the risk of illness, injury or fatality and to take proper care of the quality of life of employees and contractors by the following important action items:

- Compliance with applicable occupational health and safety laws
- Occupational safety and health supervision
- Process safety
- Occupational health risk assessment and preventive process
- Personal safety
- Occupational health and safety training

- GPSC web-accident reporting program
- Occupational health and good health of employees
- Promoting and cultivating a safety culture.

In 2020, there was no lost workday accident-related case. (For more details regarding safety, occupational health and environment, please read the 2020 Sustainability Report <https://www.gpscgroup.com/th/sustainability/reporting> and <https://www.gpscgroup.com/th/sustainability/social/occupational-health-and-safety>).

Corporate Social Responsibility

GPSC Group has established long-term goals for social responsibility and sustainable coexistence with the community as follows:

- 1) GPSC Group has reduced charitable donations to up to 30% and increased community, community investment and commercial initiatives, for example, the Social Enterprise (SE) or projects that create shared values (CSV)
- 2) A score of **75%** on community satisfaction survey results
- 3) Evaluation of social return on investment (SROI) in CSR activities covering **six activities**.

In the past year, GPSC's donations for charitable purposes fell to 23.31%, community satisfaction with GPSC was **74.6%**, and the SROIs in six activities were **0.41-6.53**, detailed as follows:

1. Zero Waste Village Project: Ban Phai Community Waste Management Learning Center, Tambon Nong Taphan, Amphoe Ban Khai, Rayong
2. Installing solar rooftops for three schools in Amphoe Wang Chan, Rayong
3. Improving electrical systems of two schools in Rayong, namely Ban Nong Saphan School and Wat Noen Kraprok School by technical college graduates of the "Mor Fai Fah" (Electricity Doctors) training course and GPSC volunteer staff
4. Training and improvement of school electrical systems under the "Mor Fai Fah" (Electricity Doctors) training activity
5. Improving electrical systems and installing solar power systems in remote areas for the Tambon Health Promotion Hospital Ban Mae Long Luang Hospital, Amphoe Omkoi, Chiang Mai

6. Improving electrical systems and installing solar power systems in remote areas for the Tambon Health Promotion Hospital Baan Thung Ton Ngiu Hospital, Amphoe Omkoi, Chiang Mai.

As a result of the overall achievement of this year, GPSC Group has achieved more progress against the annual goals. It remains committed to achieving the overall goals by 2022 in support of GPSC Group’s vision of becoming the leading sustainable innovation organization in regional and global power businesses.

As Thailand has pledged in the Kyoto Protocol to reduce greenhouse gas emissions through the implementation of Clean Development Mechanisms (CDM), GPSC Group also plans to add one goal on social responsibility and environmental project. It plans to install and deliver electricity, renewable energy and/or energy storage systems to more communities that constantly meet GPSC Group’s criteria.

3.4.3 Projects and Activities in 2020

The implementation of GPSC Group’s CSR activities is divided into Community Relations and Corporate CSR. In 2020, GPSC Group implemented both areas simultaneously. The work can be summarized as follows.

1. Community Relations

With regard to the implementation of community relations, GPSC Group mostly joined forces with PTT Rayong Group and the Friends of Community Association. However, there were activities that GPSC carried out on its own. Its community relations activities are divided into education, quality of life promotion, environment, and public participation.

Education

A finding from 2020 Community Satisfaction Survey indicates that one well-known and highly appreciated CSR activity is the scholarship program. This undergraduate scholarship program has been offered for 13 consecutive years. There are three scholarships offered annually to eligible Mathayom 6 (Grade 12) students who live in Rayong and Chon Buri. The scholarship of Baht 400,000 per student is for

public university tuition fees and other education-related expenses including monthly allowance covering all four years of education.



Furthermore, GPSC Group offered a community scholarship program, granted for 13 consecutive years since 2007, to provide educational opportunities for exemplary youths with insufficient financial support. GPSC Group has allocated funds to children of communities around the plants. This program eases the burdens of parents, and inspire and foster pride of youths themselves.

Promoting Quality of Life

GPSC Group has implemented projects to promote career advancement and hiring opportunities for community members. This includes active participation in applying clean energy innovation to production processes, promoting distribution channels, repair and maintenance as well as supporting local products and community enterprises such as cloth bags, batik cloth, fermented rice milk, Riceberry rice, food and drinks as gifts presented in the activities and meetings organized by GPSC Group.

In addition, GPSC Group partnered with the Friends of Community Association in product development, packaging and distribution channels for community enterprises in the area by following the Thammasat Model project. This partnership program has been carried out for the fifth year. In 2020 GPSC Group supported the Corn Juice Community Enterprise Group, Hua Namtok Patthana Community, Map Ta Phut Municipality. As a result, the community enterprise has increased their income by 34%.



Environment

● **Reforestation, Check Dam (Weirs) and Aquatic Species Release Project**

GPSC Group values its business along with mitigating challenges from climate change by increasing green areas and preserving the environment and ecosystems to increase biodiversity. GPSC Group has implemented a reforestation project from 2013 to 2020 with a total of 18,250 trees planted in six areas. Apart from reforestation,





GPSC Group signed a memorandum of understanding with government agencies and communities to continue taking care of it for five years before handing it over to the community.

Apart from ongoing reforestation activities, GPSC Group has implemented a project to build check dams (weirs) to maintain moisture in the forest, thus reducing soil erosion as well as being a habitat for aquatic and small wildlife. From 2015 to 2020, a total of 132 dams were built. GPSC Group remains committed to building them to restore a complete ecosystem. In addition, GPSC Group has been

working with network partners in a project on releasing aquatic animals for 18 consecutive years, striving to preserve the marine environment in order to increase the number of aquatic lives, balancing marine and coastal ecosystems and increasing revenue for fishermen. In 2020, the release of local aquatic species included 70,300 sweet shellfish, 15,040 white seabass, 2,950,000 giant tiger prawns, 9,000,000 baby blue crabs, 300,000 banana shrimps and 779 mature male & female blue crabs. The released total exceeded 12 million.

Participation with Public Sectors

Over time, GPSC Group has invited the public and government agencies to participate in monitoring the GPSC’s operations through various venues and committees, for example, a tripartite supervision, protection, mitigation and monitoring of environmental impacts, a working group for the monitoring of the implementation of environmental measures, a working group to visit and audit industrial plants in Map Ta Phut Industrial Estate (the white flag - green star), an EIA monitoring committee as well as an open forum to hear opinions for transparency and auditability for suggestions to improve operations.



● **Khiang Ba Khiang Lai (Side by Side) Project**

GPSC Group regularly visits and engages in dialogues with the communities surrounding the company to maintain a good community under “Khiang Ba Khiang Lai (Side by Side)”. In 2020, GPSC Group engaged in dialogues by using a pattern that presented an overview of the different aspects of GPSC Group and the sharing of knowledge on environmental matters, including subjects that benefit communities, such as knowledge of chemical safety or community safety, common laws for average people, drugs and Covid-19 prevention.

2. Corporate CSR

The implementation of corporate CSR primarily aims to enhance the overall corporate image. The activities included joint projects with PTT Group or partners and GPSC Group projects in both local areas and others. The focus is mainly focused on projects aligned with the corporate vision, core missions, or expertise.

Education projects and activities

- **PTT Group’s ONE Model School project**

GPSC Group recognizes the value and necessity of education as the fundamental foundation of national development. Therefore, it has supported PTT Group’s ONE Model School Project, formerly known as CONNEXT ED. It aims to build and strengthen a network of young leaders who will drive Thai education sustainably by sharing knowledge and planning school development with school administrators. This project could serve three aspects of national needs: to reduce inequality, enhance people quality, and increase competitiveness. That is because these three areas were related to citizen capacity building. Furthermore, this activity was aligned with the United Nations Sustainable Development Goals (SDGs).

GPSC group joined this project in 2016, with personnel from GPSC Group’s CSR function acting as school partner overseeing and coordinating with the schools. It currently has 17 schools under supervision, six in Chachoengsao, namely Ban Wang Takian School, Wat Koh School, Ban Won Tha Krang School, Wat Ban Na School, Prakob Ratbamrung School, and Wat Sukharam School; eight in Rayong, namely Wat Phla School, Wat Thap Ma Community School, Wat Koh School (Krim Kampon), Ban Phayoon School, Ban Map Toei School, Ban Mapyangphon School, Ban Huay Prap School, and Mapyangphon Wittayakhom School; and three in Chon Buri, namely Ban Bo Win School, Ban Khao Hin School, and Ban Phan Sadet Nai School. Over the past three years, GPSC group together with the school administrators and teachers has overseen these schools as a school partner. It took part in creating thinking and learning processes to make a difference in teaching and learning. It focused on enhancing teachers’ facilitating skills in designing sustainable educational development projects in the school context. GPSC Group felt proud and stay committed to supporting the instructor development in Thailand to ensure sustainable progress.

Due to the crisis of the Covid-19 pandemic since 2020, GPSC Group together with PTT Group adjusted the

guidelines for school supervision and support, such as employing teaching assistants in science, math, English, and administrative work. In addition to distributing income to communities, this effort helped new graduates learn the job and drive integrated education in schools under GPSC Group’s supervision. With the emphasis on STEM (Science Technology Engineering and Mathematics Education) development, GPSC Group initiated courses on a new way of learning that highlighted the integration of diverse subjects. The courses will be ready for schools under the project by 2021.

- **New Normal Program in New Normal School Project**

The New Normal Program in New Normal School Project was initiated due to the Covid-19 outbreak at the beginning of the 2020 academic year, causing schools to be closed and start online classes from March to June 2020. After the launch of online teaching in the first semester of the 2020 academic year, schools faced many obstacles. For



example, some students did not have access to online learning resources, and teachers could not teach all subjects as designated, among other things. As a result, GPSC Group brought in experts to design the novel, integrated curriculum that helped teachers incorporate different subjects. Students could learn and earn scores without taking written examinations, and teachers could simultaneously organize activities in many classes. The project, focusing on science and mathematics, started in four pilot schools, namely Wat Takuan School and Ban Nong Saphan School in Rayong, Wat Ko School in Chachoengsao, and Ban Phan Sadet Nok School in Chon Buri. Since the performance met the objectives, GPSC Group planned to build on the project in 2021 as a teacher development program that promotes a new way of learning. Teachers should be able to implement integrated activities, turn teaching into the activity-based format, and design a result measurement method that replaces in-class written examinations. The project aims to operate in 17 schools under GPSC Group's care.



- **GPSC Group Young Social Innovator project**

GPSC Group values sustainable social, economic, and environmental development. It also applies the guidelines of SDGs to the corporate intent. Its main goals were geared toward the development of energy, natural resources, and the environment. Therefore, GPSC Group organized the third GPSC Group Young Social Innovator contest to offer high-school and vocational students or equivalent an opportunity to present ideas, projects, products, methods, or processes that solved social, economic, natural resource problems sustainably. These efforts were applied in areas that truly faced issues. Furthermore, they could be developed into a social enterprise products or services to be launched in the market. All of these would lead to the organization's and communities' participation and drive Thailand's sustainable development. In 2020, the project raised the contest and award standard by offering royal trophies of HRH Princess Maha Chakri Sirindhorn. It also provided contestants with funds to develop work, scholarships, and a chance to compete globally. As a result, educational institutions and youths from across the country submitted 303 entries, project work, and inventions under the "Sustainable Energy, Natural resource and Environment" concept. In the first round, 30 projects were selected, one from the North, 13 from the central region, six from the Northeast, four from the East, and six from the South. The following entries passed the final round:

1. YOUNG SCIENCE SR 2 Team from Saharat Rangsarit School, Nakhon Phanom, introduced foot odor spray called 'Thao Hom'.



GPSC provided local experts who went to the field and advised the contestants to develop their entries for the final round in February 2021. The winners would receive trophies and cash prizes, support for patent or petty patent application, opportunities to compete in the global innovation arena, and support for scaling up the entries into a social enterprise products in the future.

In the qualifier, GPSC Group found fascinating entries that could be further developed to benefit society and communities. Therefore, it granted a fund to develop four following entries, which could be implemented on trial in the communities:

2. YOUNG SCIENCE SR Team from Saharat Rangarit School, Nakhon Phanom, introduced acid from pickled fish mixed with zinc oxide to get rid of odor, fight fungus, and increase rubber weight.
3. Young's Box team from Khiri Mat Pittayakom School, Sukhothai, introduced a box that extended fruit shelf-life.
4. The SPT Magic Project Team from Satri Phatthalung School, Phatthalung, introduced a shock-absorption and ripening-decelerating innovation made from banana leaf fibers.
5. KKW NANO-Z Team from Khon Kaen Wittayayon School, Khon Kaen, introduced an innovation to get rid of oil stain from the household. It was made from rubber sponges mixed with cat-tail plant and nano-carbon black. The oil stain would then be converted into charcoal briquette made from durian shell mixed with cat-tail and nano-carbon black.

1. The Saint Fin-nich team from St Nicolas School, Phitsanulok, introduced an innovative device that measures fruit ripeness and sweetness levels.
2. WARISA TEAM from Nawaminthrachinuthit Satri Wittaya School, Phutthamonthon, Bangkok, introduced a cleaning sheet made from corn leaves, with extracts of betel leaves and guava leaves to enhance its efficiency.
3. Life's a Wave Team, from Chulabhorn Science School, Pathumthani, Pathum Thani, introduced an electromagnetic wave-absorbing phone bag made from natural rubber mixed with nickel-coated carbon fiber.
4. Sua Saming Team from Chulabhorn Rajavidyalaya Science School, Lopburi, introduced a heating device to form a broomstick pattern.





GPSC Group assigned experts and employees to develop these pieces of work with the youths and experiment on them in communities throughout 2020.

In addition, GPSC Group continued to support and build on the second generation of work in 2019. In 2020, it organized a workshop on a patent application for three contestants. As of now, three pieces have successfully applied for patents/petty patents.

Furthermore, GPSC Group submitted three entries to the World Invention Innovation Contest in the Republic of Korea, an online competition due to the Covid-19 situation. The results of the contest were below:

1. The Modification of Li-S Battery with Irradiated Activated Carbon Derived from Sticky Rice by Kamnoetvidya School, Rayong, received a gold medal and a special award from the Asia Invention Association (AIA).
2. Wrapping Material for Fruit Protection Made by Imitation of Caterpillar Casing of Bagworm by Phanom Sarakham “Phanom Adulwithhaya” School, Chachoengsao, received a gold medal and a special award from Korea Invention News (KINEWS).
3. Ground Water Holding Capsule for Plants Project by Prachin Kalayanee School, Prachin Buri, received a silver medal and a special award from Korea Invention Academy (KIA).

Furthermore, GPSC Group submitted Modification of Li-S Battery with Irradiated Activated Carbon Derived from Sticky Rice by Kamnoetvidya School, Rayong province,

to International British Innovation (IBIX 2020), which was also an online contest. The entry received a gold award and The Innovation Excellence Award.

- **Supporting Kamnoetvidya School and Vidyasirimedhi Institute of Science and Technology (VISTEC)**

GPSC Group and affiliates of PTT Group co-established schools and higher education institutes focusing on science, technology, and research. Being of the same quality as the world’s leading institutes, these institutes aimed to foster science and technology excellence among the youth. These people would further serve as a key force in developing Thailand exponentially to be on a par with leading countries in Asia. The main objectives were to produce researchers, build knowledge, create top innovation, and create the power of learning. Eventually, the country would be at the same level as other developed countries. The companies felt most grateful for HRH Princess Maha Chakri Sirindhorn’s boundless kindness when she graciously named them “Kamnoetvidya School” and “Vidyasirimedhi Institute of Science and Technology”. Both institutions are located on an over 900-rai plot of land in Tombon Pa Yub Nai, Amphoe Wang Chan, Rayong. GPSC Group has provided budget support to establish and manage Kamnoetvidya School and VISTEC in phase 1 from 2017 to 2021. In 2019, GPSC Group resolved to support Kamnoetvidya School and VISTEC in phase 2 for ten years, from 2022 to 2031. In addition to the budget mentioned above support, in 2020, GPSC Group offered a four-year GPSC Group Vidyasirimedhi scholarship to a Kamnoetvidya School student.

Projects and activities to improve quality of life

● **Light for a Better Life project**

Light for a Better Life is a community support project that deployed the expertise and specialized skills of GPSC Group and its employees to take care of the community’s electricity system. The effort reflected PTT Group’s leadership in electrical power innovation. In this project, the employees used their expertise to care for people of the planet in four main areas: safety, saving, energy security, and socio-economy.

1. Safety: The project upgraded and repaired electrical systems for local schools, temples, and healthcare facilities to minimize risks to life and properties



resulting from fire and electric shock. In 2020, it implemented activities in two schools: Wat Noen Kraprok School and Ban Nong Saphan School, Rayong.

2. Saving: The project replaced highly energy-consuming electrical devices and appliances with energy-efficient ones or switched to alternative energy to reduce costs. It then spent the money saved on other helpful activities. In 2020, GPSC Group installed a rooftop solar system for schools around Wang Chan Valley, namely Wat Nong Muang School, Wat Pa Yup Nai School, and Thairath Wittaya 43 School in Rayong. It also installed an 18-kilowatt floating solar system for agricultural learning purposes at the

Innovative Agriculture Learning Center, Chitralada Technology Institute, in Amphoe Wang Chan, Rayong. Furthermore, the project installed solar pumps for the Thanyaburi Women’s Shelter.

3. Security: The project installed alternative power systems in remote areas to strengthen energy security, reduce life obstacles, and improve the quality of life of people in communities. In 2020, GPSC Group installed a solar system and energy storage at Health Promotion Hospital in Tambon Mae Long Luang and Tambon Thung Ton Ngiu in Amphoe Omkoi, Chiang Mai, Ban Kluai School in Suphan Buri, and the Sea Turtle Conservation Center (Koh Mun Nai) in Rayong.



4. Socio-Economic: The project promoted the career of “Electricity Doctor” to generate income for people in the community. It equipped them with professional skills so that they became electricians with basic knowledge. They could then take care of their households and communities, earn extra income, or make it a primary source of income. GPSC Group also recruited “Electricity Doctor” trainees to work in the Light for a Better Life project under the topic of Safety and earn appropriate compensation.

● **A project exploring land potential for sustainable communitybased tourism development in Amphoe Bo Kluea, Nan**

This project was built on the installation of a greenhouse solar dryer or Parabolic Dome for the community in Amphoe Bo Kluea, Nan. It continued to improve the community’s quality of life so that the local people could

be sustainably self-sufficient. GPSC Group conducted the potential surface analysis for community-based tourism development. It is alternative tourism managed by the community so that the benefit from tourism goes to community members. Community-based tourism comprises ten principles as follows:

- 1) Owned by the community
- 2) Involving villagers in direction-setting and decision-making
- 3) Promoting self-esteem
- 4) Improving the quality of life
- 5) Being environmentally sustainable
- 6) Maintaining local identity and culture
- 7) Encouraging learning among people of different cultures
- 8) Respecting diverse cultures and human dignity
- 9) Providing the local people with fair compensation
- 10) Distributing income to communities’ public benefit.

In this project, GPSC Group formulated the first area development plan in 2021, consisting of two locations in Amphoe Bo Kluea, namely:

1. Ban Huai Khab development guidelines: tourism and coffee routes
 - To organize training sessions on coffee recipes and product processing
 - To come up with a “coffee route” to build on coffee drinking activities
 - To renovate the greenhouse solar dryer and the community’s meeting room of the NFE (non-formal education) Center
2. Ban Sawa School development guidelines: tourism and community products
 - To renovate a coffee shop
 - To change the layout and rearrange the seating zones
 - To implement gentrification and build a parking lot
 - To build separate male and female restrooms (separate from the school)
 - To encourage students to attend a Junior Tour Leader or Local Communicator training session
 - To host training sessions on coffee recipes and product processing
 - To design the school’s coffee products and logo (SAWA Coffee).

Environmental projects and activities

● **Zero Waste Village**

Zero Waste Village project aimed to foster environmental consciousness and encourage community members to implement waste sorting themselves properly. As a result, the project created value for waste and garbage. It also minimized environmental issues and preserved natural resources for communities. This project improved people’s quality of life while saving the environment. Potentially evolving into a social enterprise, it would generate income for the community and ensure society’s and community’s self-sustainability by executing the following activities:



Plan/Activity	Execution
1) Waste Bank	The project carried out activities under “Ban Phai Community Waste Management Learning Center” in Tambon Nong Taphan, Amphoe Ban Khai, Rayong, and neighboring communities. Open for trading once a month, the center encouraged the members who bought or sold waste to save their money and benefit from savings. The waste bank has traded 15.5 tons of recycled waste throughout the year and reduced carbon dioxide emission by 11.106 tons of carbon dioxide equivalent (tCo2e) (LESS-TGO, July 2, 2020).
2) Receiving recycled waste donations for public benefit	It was open for plastic straw donations through the “Straw Recycling” (Tor Ayu Lord) project, operated by the Power for Sustainable Future Foundation under PTT Group’s support. The project received the donated used plastic straws from PTT employees and the public. These straws were then turned into pillows to ease pressure ulcers in bed-ridden patients in several healthcare facilities. However, due to the Covid-19 situation, the project could not use straws as pillows’ raw material because some were not sterilized properly. As a result, the Power for Sustainable Future Foundation, in cooperation with the GPSC Group, has processed straws into refuse-derived fuel (RDF) and completely turned waste into treasure.
3) Training activities to nurture awareness of waste and give direction on household waste management	<p>The Learning Center opened a training course on waste management at a reasonable fee to the public. The trainers consisted of the Center Committee and community members.</p> <ul style="list-style-type: none"> ● Basic household waste sorting ● Organic household waste management with Green Cones ● Recycled waste management through a waste bank ● Recycled waste processing
4) Recycled waste processing and sales	The Learning Center trained its members to turn recycled waste into products, such as plastic straw cushions, bags made of water-bottle caps or canvas waste, and artificial flowers from cloth remnants. They could then earn income from selling those products. The Learning Center served as the distribution center for its members (order-taking and product delivery) via its Facebook and other channels, such as OTOP markets.



● **OUR Khung Bang Kachao project (a river bend area in south Bangkok)**

The ‘OUR Khung Bang Kachao’ project was conceived as a collaboration among more than 34 leading organizations in Thailand (as of September 2018) with an emphasis on integrated community involvement. The project endeavors to revive Khung BangKachao’s biodiversity and improve the quality of life and economic growth based on the “King’s Principles” and the Philosophy of Sufficiency Economy of the late HM King Bhumibol the Great.

The key to project implementation was the model of social collaboration with collective impact. Community involvement results in community-centric development based on their shared goals for collective impact. Each organization member brings to the table its expertise, knowledge, innovation, and technology. The integration of all these different elements leads to maximum efficiency. The project is managed by seven teams, each of which is like a piece of a jigsaw puzzle, working from upstream to downstream towards common community-centric goals:

- Green development
- Youth, education, and cultural development
- Water management and erosion control



- Waste management
- Occupation promotion
- Tourism
- Backbone and communication.

GPSC Group participated in the project by assigning three social enterprise employees as members of the Waste Management team to conduct activities and meet the team’s goals. Also supporting the Green Development team, it organized an activity to develop a 12.24-rai green area in Tambon Bang Krasop, Amphoe Phra Pradaeng, Samut Prakan. Furthermore, it represented the Waste Management team in the administration and communication operations.



In addition to the projects mentioned earlier, GPSC collaborated with the government in 2020 to strengthen the local economy, severely impacted by the Covid-19 pandemic. It implemented the “GPSC Group Stays United to Save the Nation” (GPSC Group Ruam Jai Ruam Chart Chuay Chart) project, which consisted of three main activities as seen below

- 1) **Hired new graduates to fill 100 positions**, 50 of whom are assigned to the battery plant project and RDF (power plant and waste disposal plant) programs of GPSC Group and the other 50 to support community relations and social responsibility, including tasks requested by other divisions
- 2) **Supported local products and services** by offering local products of Rayong communities and other areas as New Year gifts for 2021.
- 3) **Promoted local and domestic tourism to boost the economy of the primary and secondary cities.** In addition to organizing seminars on tour in those cities, GPSC Group selected SME hotels as the accommodation of employees and board members under the condition that these hotels must meet the Amazing Thailand Safety and Health Administration (SHA) standard of the Tourism Authority of Thailand (TAT). It also subsidized accommodation fees for a portion of its employees to support SME hotels.



The total budget of “GPSC Group Stays United to Save the Nation” project was Baht 14.95 million.

(Further details on GPSC Group’s sustainability performance in accordance with the GRI Standards are available at <https://www.gpscgroup.com/th/sustainability/reporting>.)

4. Management Discussion and Analysis (MD&A)

Overview

(1) Overview performance of 2020

In 2020, the Company's net profit was THB 7,508 million, increased by THB 3,447 million or 85% from 2019 mainly from full year recognition of results from GLOW in 2020, while in 2019, the recognition was from revenue incurred during 19 March – 31 December 2019, lower average natural gas and coal price, and lower financing costs from capital restructuring and debt restructuring. Besides, the Company's non-operating income increased from dividend received and shares of profit of associates and joint ventures. The Company also recognized synergy value from the merger of GLOW amounting THB 701 million which mainly from electricity and steam network integration.

Significant event in 2020

The Details of significant events in 2020 to present are as follows;

- According to COVID-19 pandemic from early of 2020 to present, GPSC has been closely monitoring impacts of COVID-19 pandemic on our industrial customers' operational plans and there is no significant impact to electricity and steam sales. For the second half of 2020, the number of industrial customers demand has increased to its normal level. However, we have adopted measures to ensure stability and continuity of our electricity and utilities supply system in accordance with COVID-19 pandemic.
- GPSC had started construction of energy storage unit production with the initial production capacity of 30 megawatts-hour plant in Thailand, produced with semi-solid technology since February 2020. The project investment is approximately THB 1,100 million, located at Map Ta Phut Industrial Estate, Rayong Province. Currently, the first semi-solid battery cells in Thailand or "G-Cell" has been launched. The energy storage unit production plant is expected to start regular production by the second quarter of 2021. At the initial production phase, the battery cells will be used for mobility and stationary purposes and supplied to industrial plants, charging stations and transportation businesses such as EV Tuk Tuks, EV buses and other applications.
- GPSC had a significant success in issuing Green Debentures worth THB 5,000 million to institutional and/or high net worth investors with subscriptions of over 6 times oversubscription. The debentures are senior unsecured green bonds. The proceeds will be used to support financing of Rayong Waste to Energy (WTE) project and solar power plant projects as parts of GPSC's plan to scale up our renewable businesses.
- GPSC has determined the Global Renewable Power Co., Ltd. (GRP), a wholly-owned subsidiary of GPSC, to set up Global Renewable Power 1 Co., Ltd. (GRP1) to acquire 90% shares in Sheng Yang Energy Co., Ltd. The total value of the transaction is approximately NTD 2,521 million. Sheng Yang Energy Co., Ltd.'s solar power plants have a total installed capacity of 55.8 MW. The transfer of shares will be completed in the first quarter of 2021.
- Afterward, GPSC sell 4.655 million GRP shares out of the total or approximately 50% to PTT Global Management (PTTGM), a subsidiary of PTT Public Company Limited (PTT). The total transaction value is approximately THB 693 million. This is another step in promoting greater cooperation under the stakeholder-centric Powering Thailand's Transformation initiative and building an operational network among the PTT group of companies. This is in keeping with PTT Group's strategy in being the leader in the renewable energy or clean energy business, enabling the group's business and investment expansion, increasing competitive advantage in the renewable energy business and supporting PTT Group's goal in reaching the renewable power generation capacity of 8,000 MW by 2030. The Share Purchase Agreement has been completed on 4 January 2021.

Synergy from Acquisition of GLOW

In 2020, the Company recognized synergy value from the merger of approximately over THB 701 million, higher than initially planned. The synergy value was mainly from the management of power and steam network integration, operation and maintenance to achieve highest efficiency and reduce operating costs. Besides, the Company is also focusing on (i) improvement of procurement process via active and inventory cost control in order to achieve economies or scales and implementation of E-Auction system to increase our negotiation power in coal procurement process; and (ii) other cost management such as financing costs, insurance costs, working capital management, and organizational cost control.

GPSC evaluates that the synergy value will gradually increase to reach THB 1,600 million in 2024.

(2) Economic Factors in 2020 Thailand economic situation:

the Bank of Thailand revised down the 2021 economic expansion forecast to 3.2% as merchandise exports would improve in tandem with trading partner economies' growth. Meanwhile, exports of services would contract more sharply and recover more slowly than previously assessed, as the admission of foreign tourists to Thailand would likely be limited by the prolonged and severe COVID-19 situation abroad. With regard to domestic demand, new waves of infections would remain a main drag on private consumption while public expenditure would remain a key economic driver.

Ft adjustment: the Energy Regulatory Commission (ERC) announced the decrease of the fuel adjustment charge (Ft) for the collection of 1 January – 30 April 2021 of 2.89 Satang/unit resulting in the Ft of -15.32 Satang/unit, lower than previous Ft of -12.43 Satang/unit. This results in a slightly decrease in average electricity price. The main reason for this Ft adjustment is to reflect low natural gas costs in 2020 while taking into consideration expectation of higher gas price in 2021. This newly adjusted Ft, then, is considered to well represent average gas price of 2020 and 2021 which is expected to be maintained throughout 2021.

2021 electricity consumption forecast Energy Policy and Planning Office (EPPO) forecasted the electricity

consumption would be 191,029 gigawatt-hours in 2021, increased by 2% along with economy expansion and government economic stimulus policy. However, factors including international and domestic COVID-19 situation, global oil prices and economic expansion are to be closely monitored to forecast electricity consumption.

(3) Strategic Direction

In terms of business expansion, GPSC focuses on expansion of investment in innovation to create new business revenues or new S-Curve corresponding to the fast-moving environment of energy and electricity generation sectors and become an energy solution service provider of PTT Group through three new business development initiatives as follows:

- 1. Battery Business:** investment in a pilot plant of a battery manufacturing facility using Semi Solid Lithium-ion technology. Capacity of the first phase is 30 MWh which the first battery cell is expected to be completed in December this year. GPSC is coordinating with several parties to introduce the prototype for mobility and stationary purposes such as EV bus, Charging stations and other applications. After this, we will consider the investment expansion in next phase.
- 2. Energy Storage & System Integration:** develop to become a provider of Smart Energy Storage System: ESS. Currently, GPSC has developed and implemented various projects e.g. Cooperation project with PTT Global Chemical Public Company Limited (GC), co-developed a 1.5 MWh ESS to store excess electricity to be used during peak demands in order to help optimize and stabilize power system at the Science & Innovation Centre of GC, Rayong and “Smart city” pilot project for Vidyasirimedhi Institute of Science and Technology (VISTEC) to develop new innovations or innovation platform to support new S-curve business, etc.
- 3. Smart Energy Management:** conduct studies and select technologies compatible with New Energy Market to shape new business opportunities.

(4) The effect of new accounting standards announcement (Effective in 2020)

The Thai Financial Reporting Standard has been effective in 2020, in which the significant changes includes the Financial Instrument (TAS 32 and TFRS 9) and the Lease Agreement (TFRS 16). In this instance, the company has assessed the impact in application of the new financial reporting standards by summarizing the impact against the retained earnings as follows:

(Unit : Million Baht)

Component	As of 31 December 2019	Impact			As of 1 January 2020
		TAS 32 and TFRS 9	TFRS 16	Total 31 December 2019	
Asset	252,017	(548)	2,233	1,685	253,510
Liability	141,841	1,312	2,514	3,826	145,475
Equity	110,176	(1,860)	(281)	(2,141)	108,035

(5) Non-recurring items

In 2020, there are non-recurring items as follows;

- 1. Land eviction fee:** In Q2020/2, there was land eviction fee amounting THB 223 million which is paid by EGAT as a compensation for electric power transmission rights of way.
- 2. Gain on bargain purchase:** During Q2020/3, the company recognized the gain of bargain purchase amounting THB 125 million after the assessment of the fair value of net assets from the acquisition of 9 solar power generation plants via Global Renewable Power Company Limited (GRP).



Result of Operations

(Unit : Million Baht)

The Company's and Subsidiaries' Operating Performance	2018	2019	2020	Change +/-
Revenue from Operations	24,880	66,562	69,578	5%
Cost of Sales (Exclusive of Depreciation and Amortization) ¹	(18,524)	(47,900)	(48,249)	1%
Gross Profit¹	6,356	18,662	21,329	14%
Selling & Administrative Expenses	(909)	(1,896)	(1,790)	(6%)
Other Revenue from Operations	10	17	20	19%
EBITDA	5,457	16,783	19,559	17%
Depreciation & Amortization	(1,802)	(7,207)	(8,287)	15%
EBIT	3,655	9,576	11,272	18%
Financial Cost	(514)	(5,140)	(4,024)	(22%)
Other Revenue and Expenses	277	472	915	94%
Dividend Received & Share of Profits from Associates & Joint Ventures	729	1,022	1,320	29%
Income Tax Expense	(243)	(247)	(992)	301%
Profit before FX and Extraordinary Items	3,904	5,684	8,491	49%
Net Profit (Loss) from Foreign Exchange ²	(15)	317	(1)	(100%)
Net Profit	3,889	6,001	8,490	41%
Non-Controlling Interests	(530)	(1,940)	(982)	(49%)
Net Profit – Parent Company	3,359	4,061	7,508	85%
Parent Company's Net Profit Excluding Amortization (Adjusted Net Income)³	3,359	5,177	8,962	73%
Gross Margin (%)	26%	28%	31%	3%
Net Profit Margin (%)	14%	6%	11%	5%
Adjusted Net Income Margin (%)	14%	8%	13%	5%

Remarks : 1. Since Q1/2020, outage amortization of GHECO-One has been reclassified to maintenance cost. This, partly, has been a contributing factor of increased maintenance cost reported in Q1/2020 onwards.

2. Since Q1/2020, net foreign exchange gain (loss) has taken into account fair value valuation of derivatives in accordance with TFRS9.

3. Adjusted Net Income is net profit attributed to the Company excluding "fair value of intangible assets from the acquisition of GLOW"

(2) Yearly Comparison of Company's Performance (2020 VS 2019)

1. Revenue from Operations

Revenue from operations in 2020 was reported at 69,578 million Baht, increasing by 3,016 million Baht or 5% from 2019, mainly due to the following factors:

- **Revenue from Independent Power Producer (IPP)** increased by 165 million Baht or 1% from 2019 due to the following:
 - **Revenue from GLOW** increased by 592 million Baht, mainly contributed from GLOW's revenue recognition in full in 2020, whereas in 2019, the revenue was realized for 18 days in the first quarter, and in full in the second, third and fourth quarters.
 - **Revenue from Sri Racha Power Plant** decreased by 299 million Baht, mainly due to lower revenue from energy payment (EP) in line with lower electricity sales volume to the EGAT, despite the increase in the USD-linked AP from the depreciation of Thai Baht, and higher revenue from the financial lease interest restructuring (TFRIC 4).
- **Revenue from Small Power Producer (SPP)** increased by 2,598 million Baht or 5%, mainly contributed from GLOW's revenue recognition in full in 2020, whereas in 2019, the revenue was realized for 18 days in the first quarter, and in full in the second, third and fourth quarters. If considering only the total revenue of GPSC's SPPs, the total revenue decreased by 870 million Baht, mainly because of lower electricity and steam selling prices per unit, despite the increase in electricity and steam sales volume.
- **Revenue from Very Small Power Producer (VSPP) and Others** increased by 254 million Baht or 43% from 2019, from electricity sales revenue recognition of Global Renewable Power Co., Ltd. upon completion of business acquisition on March 26, 2020 together with revenue from the EPC contract and higher revenue from solar panel installation service of Combined and Power Producing Co., Ltd. (CHPP).

2. Cost of Sales and Service Provision (Excluding Depreciation and Amortization) Cost of sales and service provision in 2020 stood at 48,249 million Baht, increasing by 349 million

Baht or 1% from 2019, mainly due to the following factors:

- **Cost of sales and service provision for Independent Power Producer (IPP)** increased by 576 million Baht or 6% from 2019, from the recognition of cost of sales and service in full in 2020, whereas in 2019, the cost of sales and service provision was realized for 18 days in the first quarter, and in full in the second, third and fourth quarters.
- **Cost of sales and service provision for Small Power Producer (SPP)** decreased by 253 million Baht or 1%, mainly from 10% decrease in natural gas price and 18% decrease in coal price, despite the fact that cost of sales and service provision for GLOW was realized in full in 2020, whereas in 2019, the cost of sales and service provision was realized for 18 days in the first quarter, and in full in the second, third and fourth quarters.
- **Cost of sales and service provision for Very Small Power Producer (VSPP) and Others** increased by 26 million Baht or 12% from 2019, mainly from recognition of raw material costs and operating costs for Global Renewable Power Co., Ltd. upon completion of business acquisition on March 26, 2020 coupled with recognition of other costs from the EPC projects and the solar panel installation service of Combined and Power Producing Co., Ltd. (CHPP).

3. Gross profit

Gross profit in 2020 was THB 21,329 million, increased by THB 2,667 million or 14% from 2019 due to the following:

- Gross profit of IPP business in 2020 was THB 5,358 million, decreased by 411 million from previous year mainly due to outage amortization of GHECO-One has been reclassified to maintenance cost resulting in increased maintenance cost reported in Q1/2020 onwards.
- Gross profit of SPP business in 2020 was THB 15,362 million, increased by THB 2,852 million from previous year mainly from full-year recognition of results from GLOW in 2020, while in 2019, the recognition was from the period of 19 March – 31 December 2019. Additionally, electricity and steam sales volume of SPP also increased and average prices of natural gas and coal also dropped. In 2019, average natural gas price was

281 THB/MMBTU and average coal price was 89.1 USD/Ton JPU. While In 2020, average natural gas price was 252 THB/MMBTU and average coal price was at 73.4 USD/Ton JPU. Such drops in average natural gas and coal price contributed to higher margin from electricity sold to industrial customers despite adjustment of Ft charge in September 2020 down to 12.43 Satang/unit from 11.60 Satang/unit in 2019 as well as an unplanned outage Glow Energy phase 5 plant during 4 June – 18 October and 6 December 2020 to present.

- Gross profit of VSPP and other businesses in 2020 was THB 610 million, increased by THB 227 million from 2019 mainly from recognition of revenue from Global Renewable Power Co., Ltd. (GRP) after an acquisition completion on 26 March 2020 together with the increase in revenue of EPC service and solar cells implementation from Combine Heat and Power Producing Company Limited (CHPP).

4. Selling and administrative expenses (SG&A)

Selling and administrative expenses in 2020 was THB 1,790 million, decreased by THB 105 million mainly due to last year's provisions for employee benefits corresponding to revision of the Labour Protection Act (effective on 5 April 2019) amounting THB 116 million.

5. Depreciation

The depreciation and amortization in 2020 stood at 8,287 million Baht, increasing by 1,080 million Baht, mainly from higher total assets from the acquisition of GLOW and the Central Utility Plant 4 (CUP-4) in Rayong that commenced commercial operations in the fourth quarter of 2019.

6. Financial Cost

The financial cost in 2020 was reported at 4,024 million Baht, decreasing by 1,116 million Baht, mainly contributed from the short-term loan repayment restructuring for the acquisition of GLOW Energy PCL or GLOW in the fourth quarter of 2019.

7. Other Revenue and Expenses

Other revenue and expenses in 2020 stood at 915 million Baht, increasing by 442 million Baht, due to the following:

- In 2020/Q2 the Company recorded land royalties for GLOW IPP3 Co., Ltd. amounting to 223 million Baht, acquired from the EGAT to dispose of in the construction of the high voltage network system that lies across the area.
- The Company realized the profit from acquiring 9 solar power plant businesses valuing 125 million Baht, from the valuation of the asset's fair value via Global Renewable Power Co., Ltd.
- The Company received the income compensation from the fact that customers called for the products or services for less than the minimum quantity specified (Minimum Take or Pay).

8. Profit-Loss from Foreign Exchange

Foreign exchange loss in 2020 was THB 1 million mainly from a realized FX loss of THB 27 million net with unrealized FX gain which incurred from fair value adjustment of foreign currency loans, foreign currency portion of financial lease receivable and financial instruments.

9. Income Tax

The income tax expense in 2020 stood at 992 million Baht, increasing by 745 million Baht or 301% YoY, from the deprivation of rights for GLOW IPP3 Co., Ltd.'s land acquired in 2020, while GHECO-One Co., Ltd.'s tax obligation in 2020 was slightly higher than in 2019 since the 10% tax rate took effect since November 2019. Meanwhile, the deferred income tax expense increased from the TFRS16 on lease agreements and TFRS15 regarding the income from agreements made with customers.

10. Dividend Received and Share of Profits from Investment in Associates and Joint Ventures

The dividend received and share of profits from the investment in associates and joint ventures in 2020 stood at 1,320 million Baht, increasing by 298 million Baht, mainly from the dividend received from Ratchaburi Power Co., Ltd. of 213 million Baht, share of profits from Nava Nakhon Power Plant increasing by 50 million Baht, and Bang Pa-In Cogeneration Power Plant increasing by 30 million Baht, taking advantage of lower production cost resulting from the decrease in natural gas price

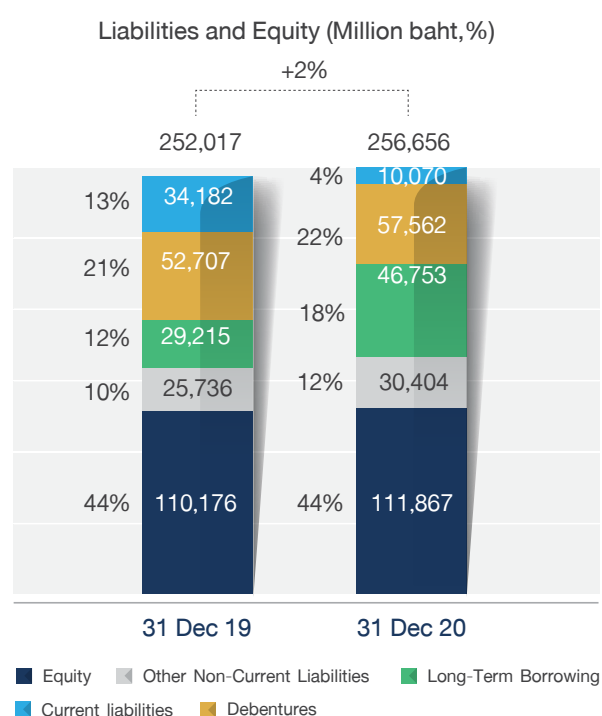
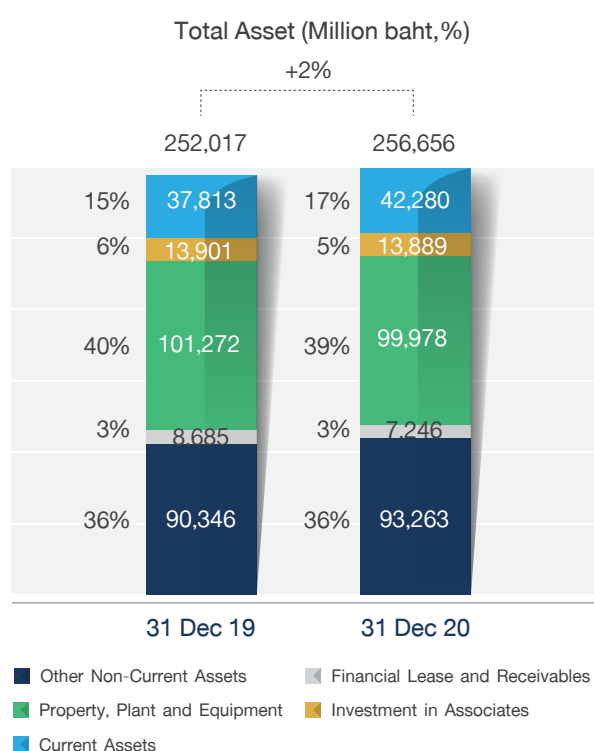
Share of Profits from Investment in Associates and Joint Ventures

(Unit : Million Baht)

Operating Performance	Shareholding Proportion	2018	2019	2020	Change +/-
Independent Power Producer (IPP)					
Xayaburi Power Co., Ltd. (XPCL)	25%	(25)	262	242	(8%)
Small Power Producer (SPP)					
Bang Pa-In Cogeneration Co., Ltd. (BIC)	25%	145	117	147	26%
Nava Nakorn Electricity Generating Co., Ltd. (NNEG)	30%	112	43	94	119%
Nam Lik 1 Power Co., Ltd. (NL1PC)	40%	54	65	69	6%
Very Small Power Producer (VSPP)					
Thai Solar Renewable Co., Ltd. (TSR)	40%	309	345	332	(4%)
Eastern Seaboard Clean Energy Co., Ltd. (ESCE)	33%	n/a	5	40	700%
Total Share of Profits (Loss) from Investment in Associates and Joint Ventures		595	837	924	10%

Total Assets

Statement of Financial Position



As of December 31, 2020, the parent company's and subsidiaries' total assets were reported at 256,656 million Baht, increasing by 4,639 million Baht or 2% from December 31, 2019, with the following key takeaways:

- **Current Assets** increased by THB 4,467 million or 12% mainly due to (i) the increase in cash and cash equivalent of THB 1,450 million fair value of financial asset increased by THB 2,273 million; and (ii) a decrease in trade accounts receivable of THB 1,000 million.
- **Other Non-Current Assets** increased by THB 2,917 million or 3% mainly due to an increase in right of use of assets totaling THB 2,796 million.
- **Financial Lease Receivables** decreased by 1,439 million Baht or 17%

Total Liabilities

As of 31 December 2020, total liabilities of the Company and its subsidiaries was at THB 144,789 million, increased by THB 2,948 million or 2% from 31 December 2019 which was primarily as a result of the following:

- **Current liabilities:** decreased by THB 24,112 million or 71% mainly from decreased short-term loans by THB 19,253 million, decreased account payable by THB 1,387 million, and decreased short-term loans from the

Company's subsidiaries by THB 4,913 million.

- **Long-term borrowings and debentures:** increased by THB 22,393 million or 27% mainly from long-term loans with financial institutions increased by THB 17,538 million and debentures increased by THB 4,855 million.
- **Other non-current liabilities:** increased by THB 4,668 million or 18% mainly from recognition of long-term lease liabilities of THB 2,720 million and from recognition of derivatives liabilities of THB 1,955 million.

Total Equity

As of 31 December 2020, total shareholders' equity of the Company and its subsidiaries was at THB 111,867 million, increased by THB 1,692 million or 2% from 31 December 2019 due to an unappropriated retained earnings increased by THB 2,974 million, other components of shareholders' equity decreased by THB 1,329 million and non-controlling interest decreased by THB 317 million.

Statement of Cash Flows

In 2020, the Company's and subsidiaries' net cash and cash equivalents increased by 1,451 million Baht, due to the following key takeaways:

(Unit : Million Baht)

Cash Flows	2020
Net cash from operating activities	20,857
Net cash disposed of in investing activities	(7,370)
Net cash disposed of in financing activities	(11,809)
Net Increase in Cash and Cash Equivalents (Before the Effect of Foreign Exchange)	1,678
Effect of Foreign Exchange on Cash and Cash Equivalents	29
Cash Related to Current Assets Held for Sale	(256)
Net Increase in Cash and Cash Equivalents	1,451
Cash and cash equivalents at the beginning of the period	18,838
Cash and cash equivalents at the end of the period	20,289

- **Cash Flows from Operations**

In 2020, the Company's and subsidiaries' net cash from operations stood at 20,857 million Baht, with cash flows generated from operating activities during the period amounting to 22,064 million Baht, and income tax payment of 1,207 million Baht.

- **Cash Flows from Investing Activities**

In 2020, the Company's and subsidiaries' net cash disposed of in investing activities amounted to 7,370 million Baht; investment in fixed assets of 6,874 million Baht, cash payment for investment of 1,612 million Baht, dividend income and others of 1,116 million Baht.

- **Cash Flows from Financing Activities**

In 2020, the Company's and subsidiaries' net cash from financing activities stood at 11,809 million Baht; cash received as loans from financial institutions and relevant businesses of 45,066 million Baht, loan repayment to financial institutions of 46,687 million Baht, short-term loan provision to current shareholders from the acquisition of a subsidiary of 1,125 million Baht, interest expense and fee payment for loan acquisition from financial institutions of 4,020 million Baht, dividend expense and others of 5,043 million Baht.

Key Financial Ratios

Key Financial Ratios	Unit	2018	2019	2020
Profitability Ratios				
Gross Profit Margin*	%	25.55	28.04	30.65
Net Profit Margin	%	13.50	6.10	10.79
Liabilities Ratios				
Interest Coverage Ratio	Time(s)	7.11	1.86	2.78
Net Debt to Equity Ratio (Net D/E)	Time(s)	0.27	0.78	0.75
Total Debt to Equity Ratio (Total D/E)	Time(s)	0.52	1.29	1.29
Liquidity Ratios				
Liquidity Ratio	Time(s)	2.57	1.06	1.97
Current Ratio	Time(s)	2.18	0.82	1.34

* Not including costs from depreciation and amortization

Financial Calculation Formulas

Total Debt to Equity Ratio	Total liabilities / Total shareholders' equity
Net Debt to Equity Ratio	(Interest-bearing debts – (Cash and cash equivalents + Deposits with withdrawal limitations + Temporary investment)) / Shareholders' equity
Interest Coverage Ratio	Profit before interest expense and income tax / Interest expense
Net Profit to Equity Ratio	Net profit attributable to parent company / Average shareholders' equity
Liquidity Ratio	Current assets / Current liabilities
Current Ratio	(Cash and cash equivalents + Deposits with withdrawal limitations + Temporary investment + Trade account receivables) / Current liabilities

5. General and Key Information

5.1 General Information, Name, Location, Telephone, Fax, and Other References

Company name	: Global Power Synergy Public Company Limited
Security name	: GPSC
Establishment date	: January 10, 2013
Registered as public company limited	: November 27, 2014
First day of trade on SET	: May 18, 2015
Company Registration Number	: 0107557000411
Registered capital	: THB 28,197,293,710 as of December 31, 2020, comprising 2,819,729,367 paid-up common shares, with a par value of THB 10 per share for paid-up capital of THB 28,197,293,670
Business	: GPSC operates as a power, steam, and utilities producer and distributor. In addition, the Company invests in other companies that generate and distribute power, steam, and utilities, including related businesses, both domestically and overseas
Type of business	: Energy and Utilities
Industry group	: Resources
Number of employees	: 813 ⁽¹⁾ (as of December 31, 2020)
Website	: www.gpscgroup.com

Contact information

Investor Relations

Telephone: +66 (0) 2140 4646, +66 (0) 2140 5318, +66 (0) 2140 4659 Fax: +66 (0) 2140 4601

E-mail: ir@gpscgroup.com

Company Secretary

Telephone: +66 (0) 2140 4632, +66 (0) 2140 5317, +66 (0) 2140 5301 Fax: +66 (0) 2140 4601

E-mail: company-secretary@gpscgroup.com

Remark ⁽¹⁾ Total employees: 813 including 18 PTT Group secondment to the company

Head office and branches

- **Head Office**

555/2 Energy Complex Building B, 5th Floor, Vibhavadi Rangsit Road, Chatuchak Subdistrict, Chatuchak District, Bangkok 10900, Thailand

Telephone: +66 (0) 2140 4600 Fax: +66 (0) 2140 4601

- **Location of Branch 1 Central Utility Plant 1 (CUP-1)**

24 Pakorn Songkro Rat Road, Huaipong Subdistrict, Muang Rayong District, Rayong 21150, Thailand

Telephone: +66 (0) 3897 4333 Fax: +66 (0) 3897 4500

- **Location of Branch 2 Central Utility Plant 2 (CUP-2)**

92/9 Rayong Highway No. 3191, Map Ta Phut Subdistrict, Muang Rayong District, Rayong 21150, Thailand

Telephone: +66 (0) 3897 4333 Fax: +66 (0) 3897 4500

- **Location of Branch 3 Central Utility Plant 3 (CUP-3)**

5/11 Pakorn Songkro Rat Road, Map Ta Phut Subdistrict, Muang Rayong District, Rayong 21150, Thailand

Telephone: +66 (0) 3897 4333 Fax: +66 (0) 3897 4500

- **Location of Branch 4 Sriracha Power Plant**

42/3, Moo 1, Sukhumvit Road, Thung Sukhla Subdistrict, Si Racha District, Chon Buri 20230, Thailand

Telephone: +66 (0) 3840 7407 Fax: +66 (0) 3840 7400

- **Location of Branch 5 Maintenance Center**

98/19 Rayong Highway No. 3191, Map Ta Phut Subdistrict, Muang Rayong District, Rayong 21150, Thailand

Telephone: +66 (0) 3897 4560

- **Location of Branch 6 RDF Plant**

94/4 Moo 3, Nam Khok Subdistrict, Muang District, Rayong 21000, Thailand

- **Location of Branch 7 Central Utility Plant 4 (CUP-4)**

1/2 Moo 2, Ban Chang Subdistrict, Ban Chang District, Rayong 21130, Thailand

- **Location of Branch 8 Branch office**

1 Empire Tower, 38th Floor - Park Wing, South Sathorn Road, Yannawa, Sathorn, Bangkok 10120, Thailand

Tel: +66 (0) 2670 1500 Fax: +66 (0) 2670 1548 9

References

Securities registrar

Thailand Securities Depository Company Limited (TSD)

Stock Exchange of Thailand Building (next to the Embassy of the People's Republic of China)

93 Ratchadaphisek Road, Dindaeng Subdistrict, Dindaeng District, Bangkok 10400, Thailand

Telephone: +66 (0) 2009 9999 Fax: +66 (0) 2009 9991

Bond holder representative**Bank of Ayudhya Public Company Limited, Head Office**

1222 Rama III Road, Bang Phongphang Subdistrict, Yan Nawa District, Bangkok 10120, Thailand

Telephone: +66 (0) 2296 3582 Fax: +66 (0) 2683 1298

Bond registrar**Bank of Ayudhya Public Company Limited, Head Office**

1222 Rama III Road, Bang Phongphang Subdistrict, Yan Nawa District, Bangkok 10120, Thailand

Telephone: +66 (0) 2296 3582 Fax: +66 (0) 2683 1298

Auditor**PricewaterhouseCoopers ABAS Limited**

179/74-80 Bangkok City Tower, South Sathorn Road, Thung Maha Mek Subdistrict, Sathorn District, Bangkok 10120, Thailand

Telephone: +66 (0) 2824 5000 Fax: +66 (0) 2286 0500

Legal consultant**Baker & Mckenzie Ltd.**

Abdulrahim Place, 990 Rama IV Road, Silom Subdistrict, Bang Rak District, Bangkok 10500, Thailand

Telephone: +66 (0) 2636 2000 Fax: +66 (0) 2636 2111

5.2 Other key information

- None -

5.3 Litigations

At present, GPSC and subsidiaries are involved in cases pending court trial and legal disputes that might significantly impact their business operation as follows.

1. Dispute with EGAT

Presently, Glow Power Public Company Limited (“Subsidiary”) had a legal dispute with the Electricity Generating Authority of Thailand (EGAT) on the different opinions of the contract termination date of the power purchase agreement (PPA) for the power plant of Glow Power Phase 2 Project 1 (90 MW). On February 6, 2018, the Subsidiary filed a claim to the Thai Arbitration Center. EGAT also filed a counter-claim to the center as objector on July 26, 2018. At present, it was under the consideration of the arbitrator. On November 20, 2018, the Thai Arbitration Center considered and determined the dispute, and together with the Subsidiary and EGAT, set dates as part of the trial procedures. The evidence was submitted to the center on February 28, 2019. A date was set for collecting evidence, admissibility of evidence, and dispute termination consideration on March 26, 2019. Both the claimant and the objector filed their closing arguments to the Thai Arbitration Center to conclude the court proceedings on May 17, 2019. The center passed its verdict on November 21, 2019, that the contract termination date was March 31, 2017, according to the request of the Subsidiary of February 18, 2020.

EGAT filed a suit to the Central Administrative Court to revoke the ruling of the Thai Arbitration Center, which was received for consideration. The Subsidiary then filed a testimony to the Administrative Court on September 25, 2020. At present, EGAT was in the process of preparing its counter-testimony for the Administrative Court.

2. Dispute with Stop Global Warming Association

The Stop Global Warming Association (“Plaintiff”) filed a suit to Rayong Administrative Court to bring legal action against government agencies, namely the Energy Regulatory Commission (ERC), Industrial Estate Authority of Thailand (IEAT), Expert Panel on Environmental Impact Assessment Reports for thermal power plants, Secretary-General of the Office of Natural Resources and Environmental Policy and Planning. The plaintiff accused the agencies of issuing a permit to GHECO-One Co., Ltd., for unlawful operation of the power plant in pollution-controlled area. The plaintiff requested the court to order relevant government agencies to revoke the permit given to GHECO-One and suspend its operation as well. Later, the court ordered the inclusion of GHECO-One as co-defendant, as it was the power plant owner and might be affected by the order and the judgment of the court. In October 2013, each defendant submitted a testimony to Rayong Administrative Court. The plaintiff submitted additional information statement to Rayong Administrative Court to counter the claim of GHECO-One Co., Ltd. The court received the statement and sent it to GHECO-One on June 5, 2014. GHECO-One submitted its counter-statement to Rayong Administrative Court on August 5, 2014.

On September 28, 2018, GHECO-One received a court order setting the date of the final clarification of facts on October 29, 2018. On the same day, GHECO-One filed a closing argument to conclude the court proceedings. It was expected that the Administrative Court would pass the judgment within one year after receiving the closing argument, which was expected to be around October 2019. GHECO-One requested a permit and properly received it as stipulated by law, and the operation of the power plant was in line with the criteria of the Environmental Health Impact Assessment (EHIA) and applicable permits. However, at present, the Administrative Court has not passed the judgment.

3. Dispute with Revenue Department

GHECO-One had a dispute with the Revenue Department on the tax burden of unbooked profit/loss from exchange rates during the construction of its power plant. This profit/loss was derived from the conversion of loans in a foreign currency into accounting valuation in baht. The Revenue Department argued that the unbooked profit from exchange rates during the construction must be included in the tax calculation, but the loss could not be included in the tax expenses, but was to be instead recorded as part of the costs of the power plant. GHECO-One disagreed with this argument. However, to reduce the risk of potential tax burden from the fine and surcharge during legal proceedings, GHECO-One filed a tax return to pay the tax calculated from the unbooked profit from exchange rates during the construction and surcharge for the period between 2008 to 2011 and reserved the right that such payment of tax and surcharge did not mean that the Subsidiary agreed with the argument of the Revenue Department. GHECO-One started its legal procedures to request the return of the paid amount of tax as follows.

3.1 Legal procedures of the 2008 and 2009 tax refunds

In December 2013, GHECO-One filed a lawsuit to the Central Tax Court for its tax and surcharge already paid for 2008 and 2009. The case was dismissed from the Central Tax Court on September 30, 2014. The court argued that during the time of lawsuit filing, the plaintiff (GHECO-One) had no right to file the lawsuit, as the dispute was pending the appeal of order sent to the Revenue Department.

On May 26, 2016, GHECO-One filed a lawsuit for 2008 and 2009 taxes to the Central Tax Court again. The Revenue Department submitted a counter statement to the court on September 19, 2016. The court set the date of the proceedings on January 16, 2017, and hearing of evidence between March 7 and 10, 2017. On May 29, 2017, the Central Tax Court ruled that GHECO-One was to receive all tax and surcharge from the Revenue Department with a total of THB 129.56 million plus interest on top of the amount. However, the Revenue Department appealed to the Court of Appeal for Specialized Cases on July 27, 2017. GHECO-One submitted a statement to the court on September 28, 2017. The Central Tax Court forwarded the case to the Court of Appeal for Specialized Cases on July 2, 2018, and the latter court upheld the judgment of the Central Tax Court, which ruled that the Revenue Department must return the corporate income tax and surcharge for a total of THB 129.56 million without interest. On August 30, 2018, GHECO-One filed the complaint to the Supreme Court to order the Revenue Department to make interest payment. On September 6, 2018, the Revenue Department lodged an appeal of the ruling of the Court of Appeal for Specialized Cases to the Supreme Court. On November 28, 2018, GHECO-One gave the testimony to counter the appeal of the Revenue Department. On August 26, 2019, the Supreme Court accepted the request for petition of both plaintiff and defendant. At present, the Supreme Court has set the hearing date on February 8, 2021.

3.2 Legal procedures of the 2011 tax refund

On July 22, 2016, GHECO-One filed a lawsuit to the Central Tax Court for the tax and surcharge already paid for 2011 (THB 41.475 million). The Revenue Department submitted its testimony to the court on November 10, 2016. The Central Tax Court set the date for the initial trial on November 28, 2016, the date of proceedings of the case on March 13, 2017, and the date of taking evidence between May 23 and 26, 2017. On July 20, 2017, the Central Tax Court ruled that GHECO-One would receive tax and surcharge refund from the Revenue Department for a total of THB 31.15 million plus interest on top of the amount. However, the Revenue Department appealed to the Court of Appeal for Specialized Cases on October 19, 2017. GHECO-One submitted a testimony to the court on December 27, 2017. On November 19, 2018, the Court of Appeal for Specialized Cases passed a judgment upholding the judgment of the Central Tax Court by ordering the Revenue Department to return the corporate income tax and surcharge for a total of THB 32.15 million without interest.

The Revenue Department submitted its petition and the statement of claim to the Supreme Court on December 18, 2018. GHECO-One filed an objection against the petition and the counter-petition on March 18, 2019. As for the interest that the Court of Appeal for Specialized Cases reversed the judgment for GHECO-One on December 16, 2019, the Supreme Court passed an order permitting both litigants to petition and received the petitions from both litigants. At present, the case was under the consideration of the Supreme Court.

4. Dispute with Energy Regulatory Commission (ERC)

Glow SPP 11 Co., Ltd., filed a lawsuit against ERC and the ERC Office to the Central Administrative Court on July 30, 2019, to request judgment or order to cancel or revoke (1) Item 5 (2) of the ERC notification on the invitation of power purchase from SPPs for the firm category with cogeneration systems with contract expiring in 2019-2025 (construction of new power plants) B.E. 2562 (2019), dated May 2, 2019. It stipulated that “Construction of new power plants in an old area or adjacent area and sell electricity to industrial customers in industrial estates or industrial parks only” and (2) ERC resolution according to the order of the ERC Office dated May 15, 2019, specifying that Glow SPP 11 was not qualified according to item 5 of the ERC notification because it was not located in an industrial estate or industrial park, as well as order and any action executed by ERC and its office who considered that Glow SPP 11 was not qualified as an SPP applicant according to the notification, which was the source of litigation. Later, ERC and its office submitted

a testimony to the Central Administrative Court on December 18, 2019. Glow SPP 11 submitted a counter-testimony to the court on June 8, 2020. Later, the ERC submitted an additional testimony to the Central Administrative Court on June 8, 2020. At present, the case was under the consideration of the court.

5.4 Secondary market

GPSC is not listed on the stock exchange of any other country

5.5 Financial institutions with regular contacts (only in the cases of bonds)

(1) Bangkok Bank Public Company Limited

333 Silom Road, Bang Rak Subdistrict, Bang Rak District, Bangkok 10500, Thailand

Telephone: +66 (0) 2230 2295, +66 (0) 2230 2328, +66 (0) 2626 3646, and +66 (0) 2353 5421

(2) Bank of Ayudhya Public Company Limited

Head Office

1222 Rama III Road, Bang Phongphang Subdistrict, Yan Nawa District, Bangkok 10120, Thailand

Contact Address

550 Ploenchit Road, Lumpini Subdistrict, Pathumwan District, Bangkok 10330, Thailand

Telephone: +66 (0) 2296 3999 and +66 (0) 2296 4776

(3) Standard Chartered Bank (Thai) PCL

100 North Sathorn Road, Silom Subdistrict, Bang Rak District, Bangkok 10500, Thailand

Telephone: +66 (0) 2267 7228

Corporate Governance



6. Corporate Governance Policy

Global Power Synergy Public Company Limited (GPSC) has operated in adherence to principles of good corporate governance and code of business conduct to ensure that in its advancement towards success and business growth, its business is still characterized by good governance, transparency, and responsibility towards all groups of stakeholders.

Effective from 2020, the Board of Directors approved the Revised Corporate Governance and Code of Conduct Manual to guide its employees at all levels in their operation towards efficiency, effectiveness, management excellence, transparency, and accountability, as well as confidence among all stakeholders that GPSC is a leading listed company that adheres to corporate good governance, and sustainable growth.

6.1 Overview of Corporate Governance Policy and Guidelines

6.1.1 Corporate Governance Policy and Guidelines relevant to the Directors

The Board of Directors is committed to promoting GPSC as an efficient and effective organization, with good corporate governance and management excellence to benefit shareholders, employees, customers, stakeholders, and all relevant parties with business ethics, and that the executives and employees operate with transparency and accountability. The Corporate Governance Policy has therefore been formulated as guidance for the Board of the Directors, executives, and employees in carrying out their duties, as detailed below:

1. To uphold good corporate governance, the Board of Directors, executives, and employees of GPSC shall adhere to the six following principles in fulfilling their duties:
 - **Accountability:** Responsibility towards one's decisions and actions and the ability to account for such decisions
 - **Responsibility:** Responsibility towards fulfilling one's duties with competency and efficiency
 - **Equitable Treatment of Stakeholders:** Treating stakeholders equally with fairness and reasons
 - **Transparency:** Openness and accountability in business operations and information disclosure
 - **Vision to Create Long-Term Value:** Vision for the creation of long-term added value for GPSC
 - **Ethics:** Integrity and ethical principles in business operations.
2. The Board of Directors shall fulfill its duties with dedication, responsibility, and independence and shall clearly separate the roles and responsibilities between the Chairman of the Board and the President and CEO.
3. The Board of Directors and executives shall play a significant role in determining GPSC's vision, strategies, policies, and key plans while taking into consideration risk factors and preparing appropriate management of such risks and ensure the reliability of the accounting system, financial statements, and the auditing.
4. The Board of Directors and executives shall serve as role models of integrity and adherence to GPSC's good corporate governance policy as well as overseeing the management of conflicts of interest and connected
5. The Board of Directors may appoint Sub-Committees as deemed appropriate to review significant matters. The Board of Directors shall perform self-assessment and cross-assessment annually to serve as a framework for examining the performance of the Board of Directors.
6. The Board of Directors and executives shall define GPSC's code of conduct to be adopted as guidelines by the Board of Directors, executives, and all employees in tandem with GPSC's rules and regulations.
7. The Board of Directors and executives shall oversee sufficient, reliable, and timely disclosure of information on financial and non-financial matters to ensure equal access to GPSC's information among shareholders and stakeholders as well as putting in place public relations and investor relations divisions to be responsible for information disclosure for investors and the public.
8. GPSC's shareholders shall receive equitable treatment,

- have access to IT information, and be able to communicate with GPSC through appropriate channels.
9. The Board of Directors and executives shall oversee an appropriate, transparent, and fair talent acquisition and selection system to recruit personnel for all executive positions.
 10. The Board of Directors and executives shall implement an effective anti-corruption system to ensure that the management gives precedence to anti-corruption and adhere to anti-corruption measures.
 11. The Board of Directors and executives shall implement an effective anti-corruption system to ensure that the management gives precedence to anti-corruption and adhere to anti-corruption measures.

Apart from the above policy, the Board has determined other guidelines based on GPSC's good corporate Governance as follows:

Guidelines for Serving in Other Companies, Organizations, and Juristic Persons of the President and Chief Executive Officer, Senior Management and Employees

- (1) If any of GPSC's senior management is appointed under an applicable law or by the Cabinet under its authority to assume a position in the government sector or a position for other public interest, apart from performing the Company's duties, management must report such matter to the Board for acknowledgement.
- (2) If GPSC's top executive is appointed by a governmental agency, state enterprise, other state organization, independent organization, or governmental educational institution as a director, subcommittee member, working group, expert, qualified person, advisor or to any position for government services or for other public interest apart from performing the Company's duties, management must report such matter to the Board for acknowledgement and comments before the top executive takes up the duties under the new position appointed.
- (3) If any of the Company's senior management is taking up the duty as a director, subcommittee member, working group, expert, qualified person, advisor or any position in other companies or juristic persons besides those mentioned in (2) or besides performing the Company's

duties, that person must submit such matter to the Board for approval before taking up the position.

- (4) Other executives and employees who are not senior management but fall under (1), or (2) or (3) above must submit such matter to the Management Committee (MC) meeting for acknowledgement or approval, as applicable, before taking up the position.

6.1.2 Corporate Governance Policy and Guidelines relevant to Shareholders and Stakeholders

GPSC respects the rights of shareholders with equitable treatment of all shareholders. The Company's operation in 2020 was as follows:

1. Rights of the Shareholders and Equitable Treatment

The 2020 Annual General Meeting of Shareholders (AGM) was held on June 4, 2020 at Main Conference Hall, 2nd Floor, Building 1, Head Office of PTT Public Company Limited. GPSC provided the shareholders convenience in attending the AGM as follows:

Pre-Meeting

- GPSC shareholder(s), which can be either one shareholder or combined shareholders, holding not less than one percent of the total voting rights of GPSC, were invited to propose agenda items and nominate director candidates from October 1 to December 31, 2020 (at least three months before the date of the AGM). The selection criteria and processes were published on GPSC's website.
- The resolutions of the Board of Directors on the AGM date and agenda items as well as the record date to determine the shareholders entitled to attend and vote in the AGM and receive the dividend (Record Date) were published through the SET's Digital Disclosure System as soon as the resolutions were reached on April 29, 2020.
- The invitation notice, in Thai and English, meeting documents, and proxy forms were made available on GPSC's website on May 14, 2020 (21 days before the AGM) and delivered to shareholders via post on May 27, 2020 (7 days before the AGM) to allow sufficient time for shareholders to study the information for the AGM. Foreign shareholders were given the English version of the documents.

- Shareholders unable to attend the meeting were invited to appoint a proxy or grant proxy to independent directors to attend the meeting and vote in their lieu. Proxy Form B (in which shareholders could cast their votes) is encouraged and was enclosed with the invitation notice sent via post to every shareholder.
- Shareholders were invited to submit inquiries about AGM attendance and the agenda before the meeting. The channels for inquiries were disclosed in the invitation notice.
- For institutional investors, GPSC contacted their representatives to provide information for institutional investors on the preparation of accurate and complete documents before the meeting.

Meeting

- The AGM was held at Head office of PTT Public Company Limited, which was accessible via various public transport and spacious enough to accommodate all attending shareholders.
- Sufficient staff were stationed at the venue to welcome and assist shareholders with the registration and document examination. In addition, revenue stamps were prepared to ensure convenience for proxies during the document examination process.
- An IT System (Shareholder Meeting System) was employed for registration, vote counting, and result displaying processes. The technology expedited the meeting as well as ensuring accuracy.
- The rules and regulations of the meeting as well as the voting procedure were announced before the meeting commenced.
- Voting tickets were employed for every agenda item. For director election, the shareholders were eligible to vote each director separately.
- Independent legal counselors and shareholder representatives were invited to witness the vote counting. After the meeting was concluded, no dispute over the vote counting was lodged.
- The Chairman of the meeting encouraged and invited inquiries and free expression of opinions of shareholders as well as oversaw that all inquiries were addressed.
- The meeting was conducted in accordance with the

agenda detailed in the invitation notice, and no agenda item was added.

Post-Meeting

- The resolutions of the AGM were published at PTT Head Office Building, along with the results and the numbers of votes (approval, disapproval, and abstention) for each resolution.
- The minutes, which identified the list of directors and top executives attending the meeting, the information presented by the directors, inquiries and answers, and the voting result of the shareholders for each resolution, were submitted to SET and published on GPSC's website within 14 days from the date of the AGM.

2. Roles of Stakeholders

GPSC takes most seriously the roles of stakeholders, from shareholders, investors, customers, associated government agencies and other relevant agencies, employees, business partners, suppliers, contractors, to society and communities. To this end, GPSC has defined its policy on the roles of stakeholders in its 2020 Corporate Governance Manual and Code of Business Conduct. GPSC has stipulated that the employees of GPSC Group shall submit their annual reports of conflicts of interest, as well as any transaction during the year, to their supervisors. In 2020, the Company sought cooperation with its business partners, in the cases where business partners entered into relation with procurement officers, employees, and executives, to prepare their reports of conflicts of interest, to ensure transparency and accountability, as part of the internal control measures to fight fraud and corruption, in compliance with the Company's anti-fraud and anti-corruption policy.

3. Conflicts of Interest by Directors and Executives

GPSC has stipulated that its directors and executives shall declare any vested interests of their own and their related persons so that the Board of Directors may consider transactions potentially involving conflicts of interest and make decisions in the interest of GPSC. Any directors and executives with conflicts of interest in such transactions of GPSC shall take no part in any decision-making for those transactions. The Board of Directors approved the

reports of conflicts of interest of the directors, executives, and related persons, and the criteria of interest reporting which comprised first report, report in changes of interest, and yearly report.

6.2 Code of Business Conduct

The Board of Directors has formulated GPSC's Code of Business Conduct, describing standards of behavior and conduct that GPSC's personnel at all levels should adopt in carrying out business operations and performing their duties. In 2020, GPSC's code was improved, real-life situations and case studies were added to set clearer guidelines for the Company's personnel.

GPSC's Code of Business Conduct comprises 15 categories as follows:

1. Compliance with laws and human rights
2. Political rights and political neutrality
3. Conflicts of interest
4. Confidentiality and use of inside information
5. Treatment of customers and consumers
6. Treatment of business competitors
7. Procurement and treatment of business partners
8. Communities, social, and environmental responsibility
9. Treatment of employees
10. Treatment of creditors
11. Internal control and internal audit
12. Receiving and offering of gifts and other benefits
13. Safety, health, and environment
14. Intellectual properties and the use of ICT
15. Prevention of money laundering.

The details and guidelines of the principles of GPSC's good corporate governance and code of business conduct are available in the Corporate Governance and Code of Conduct Manual 2020 which is publicized on GPSC's website, accessible to the general public.

6.3 Highlights of Changes and Development of Corporate Governance Policies, Guidelines, and System

6.3.1 Highlights of Changes and Development of the Review of Corporate Governance Policies, Guidelines, and System, or the Directors' Charters in 2020 consisting of the following:

1. Corporate Governance

- 1) GPSC determined and reviewed policies and guidelines in 2020 as follows:
 - Policies formulated on compliance with relevant laws and regulations as follows:
 - Anti-fraud and anti-corruption policy
 - Guidelines on the policy of anti-fraud and anti-corruption, receiving and offering of gifts, receptions, or other benefits
 - Policy on complaints and protection of whistleblowers.
 - Dissemination of the revised CG & Code of Conduct Manual. The improvement of the CG & Code of Conduct was in line with SEC Principles of Good Corporate Governance for Listed Companies 2017 (CG Code), and in line with the guidelines of PTT Group, the topic and contents of which were updated.
- 2) Implementation of the PTT Way of Conduct, providing advice and verifying documents in the capacity of Policy Owner related to the GPSC Way of Conduct
- 3) Production of the hard copy of the GPSC Group Way of conduct, communicating, and monitoring the practice of the PTT Group Way of Conduct
- 4) Encouragement of the employees to comply with the guidelines of Corporate Governance
 - Reports of conflicts of interest by directors, executives, and employees
 - Directors, executives, and employees signed their names acknowledging the 2020 CG Manual
 - Communication to employees to ensure compliance with the anti-corruption policy, concerning the handling of complaints and protection so that they may be aware of such procedure, investigation, and penalty as well as confidentiality and protection of the whistleblowers and informants

- 5) GPSC set guidelines for its personnel to decline receiving/giving gifts of all groups of stakeholders. The Company also provided the channel for received objects to be donated to foundations as appropriate, as well as followed up the implementation of the measure.
- 6) Awareness raised for GPSC personnel to respect the code of business conduct, good internal control, and compliance with law and organization's regulations through the training course on "Corporate Governance and Code of Conduct" and test conducted via E-Learning. The personnel signed their names and received the CG & Code of Conduct Manual online as well. The participating number was 100%.
- 7) Supported compliance with CG principles of directors and executives
 - Orientation of new directors and director training
 - Non-management Directors' meeting
 - Meeting of the independent directors
 - Prevention of using inside information (directors and executives were reminded to submit their reports on the changes in securities and derivatives holding (Form 59-2) and of the Black-Out Period, during which the disclosure of important information might impact the Company's stock prices before the information reached the general public)
 - Directors and executives were reminded to submit their reports of conflicts of interest in compliance with the policy of the Board of Directors
 - Review of the charters of the Board and the Subcommittees in 2020 with no changes in their charters
 - Self-assessment and cross-assessment of the Board
 - Reporting of the implementation of SET's CG Code
- 8) Training to provide knowledge to employees during GPSC QSHE and KM Day 2020
- 9) Participation in PTT Group CG Day 2020 : Futuristic CG World
- 10) Conclusion and report to the executives and directors on the 2020 report of conflicts of interest of directors, executives, and employees
- 11) Awareness raised of the public and treatment of rights of stakeholders
 - Treatment of rights of stakeholders (minor shareholders)
 - AGM was held following good corporate governance principles
 - Shareholders were invited to propose agenda items and nominate director candidates in the AGM
 - Due to the spread of Covid-19, GPSC cancelled the 2020 program of shareholders' site visits
 - Awareness raised of the public through information disclosure
 - Preparation of the information disclosure on GPSC's CG Compliance and Internal Control in the Company's Annual Report, Form 56-1, and Sustainability Report
 - Preparation of GPSC's performance data on CG and Compliance with evaluation by an external auditor to improve Dow Jones Sustainability Indices (DJSI) indicators
 - GPSC's information was evaluated by external agencies as follows:
 - According to the findings of the survey of Corporate Governance Report of Thai Listed Companies 2020 (CGR), GPSC was ranked at the level of excellence (five stars) with an overall average score equal to 2019 or 96%
 - Award won of ASEAN CG Scorecard at the level of ASEAN Asset Class Award, with the scores evaluated by The ASEAN Capital Markets Forum (ACMF) at the level of over 97.5 in score
 - GPSC's certified member of Thailand's Private Sector Collective Action Coalition against Corruption (CAC) was extended in 2020 for the duration of three years after the date of certification.

2. Compliance with the Laws and the Organization's Regulations

- 1) Compilation of the laws and organization's regulations relevant to GPSC by following/compiling laws or other regulations, including new or amended ones, for



registration of the laws in the system, and establishing the database on laws to enter the Compliance Management System (CMS)

- 2) Meetings with relevant agencies for new laws (monthly) and follow up of the operation of the coordinators
- 3) The 2020 report on compliance with laws
- 4) Formulation of policies on compliance with relevant laws and regulations such as:
 - Asset management, confidentiality, and proper use of the Company's information
 - Anti-money laundering and anti-terrorist financing
 - Intellectual property protection
 - Support of fair competition and anti-monopolistic trade
 - Policy on privacy to accommodate the enforcement of the Personal Data Protection Act of 2019, with training provided for executives and communication to employees via Email for their acknowledgment. Implementation was also planned with other relevant agencies to manage the personal data for GPSC.
- 5) Knowledge provided to employees via Email
- 6) Improvement of the Compliance Monitoring System

(CMS) and coordination with relevant units to migrate the data of the former Glow Energy Plc (GLOW), now a subsidiary, with CMS, including post-migration system testing to ensure readiness for use (Test run script).

6.3.2 Application of SET Principles of Good Corporate Governance for Listed Companies 2017 (CG Code)

“The Board of Directors considered and assigned the administration to apply SEC Principles of Good Corporate Governance for Listed Companies 2017 (CG Code) in the context of GPSC’s business and monitored the performance of the CG Code. In 2020, the Company appropriately applied the CG Code in accordance with the context of its business.

6.3.3 Other tasks based on Corporate Governance

- 1) Preparation of the Table of Authority: Improvement of the new structure following the merger with GLOW announced on April 1, 2020, as well as advice on the use of the Table of Authority twice improved, and announced on June 16, 2020, and August 31, 2020 respectively.
- 2) Dealing with one case of complaint on violation of the code of business conduct involving corruption between January 1-September 30, 2020, of which the Company proceeded with the acknowledgment of the complaint.
- 3) CGR assessment of listed companies in Thailand in June 2020, under which GPSC had submitted assessment data and its CGR Checklist 2020 to Thai IOD: It was found that GPSC was assessed as “Excellent” this year.
- 4) ASEAN CG Scorecard: In 2019, GPSC had submitted data to IOD as a representative of Thailand in joint development and upgrading of the ASEAN CG Scorecard. It was found that GPSC won the ASEAN Asset Class PLCs with a score over 97.50 from a field of 130 companies.
- 5) AGM assessment with the AGM Checklist by the Thai Investors Association in an attempt for Thai listed companies to achieve international-standard AGM organization against assessment criteria for various meeting stages. It was found that GPSC achieved a perfect score of 100.

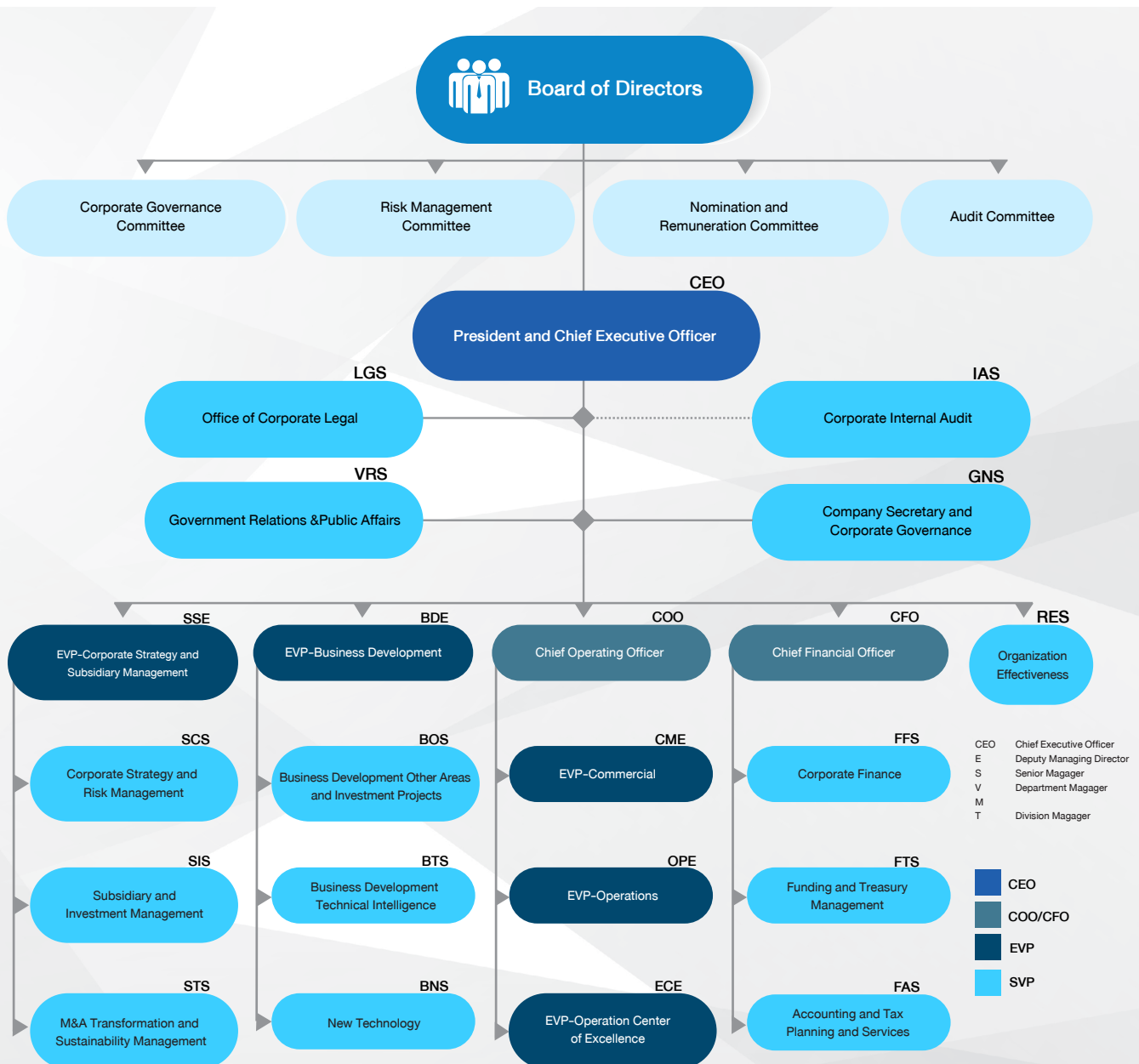


7. Corporate Governance Structure and Key Information about the Board of Directors, Subcommittees, Management, Employees, and Others

7.1 Structure of Corporate Governance

As of December 31, 2020, GPSC Plc’s management structure consists of the Board of Directors and four subcommittees (Corporate Governance Committee, Risk Management Committee, Nomination and Remuneration Committee, and Audit Committee), with a management team led by the President & Chief Executive Officer.

GPSC Organization Structure (Senior Vice President upward)



7.2 Board Of Directors

7.2.1 Composition Of The Board

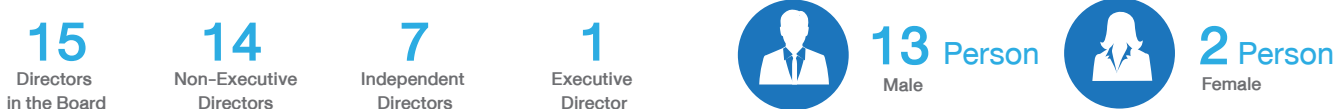
As of December 31, 2020, GPSC's Board of Directors consisted of 15 directors, 14 of whom were non-executive directors, seven are independent directors, and one executive director, namely the President and Chief Executive Officer. The composition above is in line with GPSC's Articles of Association, which prescribe that the Board must comprise at least five but not exceeding 15 directors, no less than half of whom must reside in Thailand.

GPSC's Board consists of qualified directors who possess an appropriate mix of skills, expertise, and experiences suitable for overseeing GPSC's business operations to the attainment of the objectives and goals. The Board set the Board Skill Matrix by classifying it into 12 subject matters under two categories:

- 1) Core Skills/Experience: Basic expertise which is necessary for directorship position, namely policy development, business judgment, strategic planning, human resource and organization development, finance and accounting, internal audit, law, risk management and internal control, and corporate governance and corporate social responsibility (CSR).
- 2) Specific Skills/Experience: Expertise which is useful for directors to govern GPSC, namely power industry expertise, international business, and innovation management.

Composition of the Board of Directors

As of December 31, 2020



Name-Surname	Director Pool	Skill / Expertise												
		Core Skills										Specific Skills		
		Policy Development	Business Judgment	Strategic Planning	Finance & Accounting	Internal Audit	Law	Corporate Governance & CSR	Risk Management & Internal Control	HR & Organization Development	Power Industry Expertise	International Business	Innovation Management	
1 Mr. Pailin Chuchottaworn	√	√	√	√	√	√	√	√	√	√	√	√	√	√
2 Mr. Kurujit Nakornthap	√	√	√	√		√	√	√	√	√	√	√	√	
3 Mr. Payungsak Chatsutipol	√	√	√	√		√		√	√	√	√	√		√
4 MG. Chaowalek Chayansupap		√	√	√		√		√		√	√			
5 Mrs. Nicha Hiranburana Thuvatham		√		√				√	√	√				
6 Mrs. Saowanee Kamolbutr		√	√	√	√	√		√	√	√				
7 Mr. Somchai Meesen		√	√	√				√	√					
8 Mr. Wittawat Svasti-Xuto		√	√	√					√	√	√	√	√	√
9 Mr. Wuttikom Stithit		√	√	√	√				√	√	√	√		
10 Mr. Atikom Terbsiri	√	√	√	√	√			√	√	√	√	√	√	
11 Mr. Wirat Uanarumit		√	√	√	√				√			√		
12 Mr. Kongkrapan Intarajang		√	√	√	√			√	√	√		√	√	√
13 Mr. Bandhit Thamprajamchit		√	√	√				√	√	√	√	√		√
14 Mr. Boonchai Chunhawksit		√	√	√							√			
15 Mr. Worarat Pitayasiri		√	√	√	√				√	√	√	√	√	√
Total	4	15	14	15	7	5	2	10	13	12	10	7	6	

BOARD OF DIRECTORS



01 MR. PAILIN CHUCHOTTAWORN
Chairman of the Board / Independent Director (Non-Executive Director)

02 MR. KURUJIT NAKORNTHAP
Independent Director / Chairman of the Corporate Governance Committee / Member of the Audit Committee (Non-Executive Director)

03 MR. PAYUNGSAK CHARTSUTIPOL
Independent Director / Chairman of the Risk Management Committee / Chairman of the Nomination and Remuneration Committee (Non-Executive Director)



04 MAJ.GEN. CHAOWALEK CHAYANSUPAP
Independent Director / Member of the Audit Committee (Non-Executive Director)

05 MRS. NICH AHIRANBURANA THUVATHAM
Independent Director / Member of the Corporate Governance Committee (Non-Executive Director)



06 MRS. SAOWANEE KAMOLBUTR
Independent Director / Chairman of the Audit Committee (Non-Executive Director)

07 MR. SOMCHAI MEESEN
Independent Director / Member of the Corporate Governance Committee (Non-Executive Director)



08



09



10



11

08 MR. WITTAWAT SVASTI-XUTO

Director / Member of the Nomination and Remuneration Committee / Member of the Risk Management Committee (Non-Executive Director)

09 MR. WUTTIKORN STITHIT

Director (Non-Executive Director)

10 MR. ATIKOM TERBSIRI

Director / Member of the Nomination and Remuneration Committee (Non-Executive Director)

11 MR. WIRAT UANARUMIT

Director / Member of the Risk Management Committee (Non-Executive Director)



12



15



13



14

12 MR. KONGKRAPAN INTARAJANG

Director / Member of the Risk Management Committee (Non-Executive Director)

13 MR. BANDHIT THAMPRAJAMCHIT

Director / Member of the Corporate Governance Committee (Non-Executive Director)

14 MR. BOONCHAI CHUNHAWIKSIT

Director (Non-Executive Director)

15 MR. WORAWAT PITAYASIRI

Director / Secretary to the Board / Member of the Risk Management Committee / President and Chief Executive Officer (Executive Director)

7.2.2 Board of Directors

As of December 31, 2020, the Board comprised 15 directors as follows.

No.	Name	Position	Appointed Date
1.	Mr. Pailin Chuchottaworn	Independent Director Chairman of the Board	September 1, 2019 September 18, 2019
2.	Mr. Kurujit Nakornthap ⁽¹⁾	Independent Director Chairman of the Corporate Governance Committee / Member of the Audit Committee	June 4, 2020 (re-elected) June 18, 2020 June 18, 2020
3.	Mr. Payungsak Chartsutipol	Independent Director Chairman of the Enterprise Risk Management Committee / Chairman of the Remuneration and Nomination Committee	April 3, 2018 (re-elected) April 25, 2018 December 1, 2019
4.	Maj.Gen. Chaowalek Chayansupap	Independent Director Member of the Audit Committee	April 1, 2019 (re-elected) April 24, 2019
5.	Mrs. Nicha Hiranburana Thuvatham	Independent Director Member of the Corporate Governance Committee	April 3, 2018 April 25, 2018
6.	Mrs. Saowanee Kamolbutr ⁽²⁾	Independent Director Chairman of the Audit Committee	June 4, 2020 June 18, 2020
7.	Mr. Somchai Meesen ⁽³⁾	Independent Director Member of the Corporate Governance Committee	June 4, 2020 June 18, 2020
8.	Mr. Wittawat Svasti-Xuto	Director Member of the Risk Management Committee Member of the Nomination and Remuneration Committee	April 1, 2019 (re-elected) April 24, 2019 July 26, 2019
9.	Mr. Atikom Terbsiri ⁽⁴⁾	Director Member of the Nomination and Remuneration Committee	June 4, 2020 (re-elected) June 18, 2020
10.	Mr. Wuttikorn Stithit	Director	April 1, 2019
11.	Mr. Kongkrapan Intarajang	Director Member of the Risk Management Committee	April 1, 2019 (re-elected) April 24, 2019
12.	Mr. Boonchai Chunhawiksit ⁽⁵⁾	Director	June 4, 2020 (re-elected)

No.	Name	Position	Appointed Date
13.	Mr. Wirat Uanarumit ⁽⁶⁾	Director Member of the Risk Management Committee	June 4, 2020 (re-elected) June 18, 2020
14.	Mr. Bandhit Thamprajamchit	Director Member of the Corporate Governance Committee	April 3, 2018 April 25, 2018
15.	Mr. Worawat Pitayasiri ⁽⁷⁾	Director and Secretary to the Board Member of the Risk Management Committee/ President & CEO	December 1, 2020 December 1, 2020

Remarks:

- ⁽¹⁾ Mr. Kurujit Nakornthap, at the 2020 Annual General Meeting of Shareholders (AGM), convened on June 4, 2020, was re – appointed as an independent director, with effect from June 4, 2020, and at the Board’s Meeting No. 7/2020 of June 17, 2020, was re-appointed as a Member of the Corporate Governance Committee and the Audit Committee, with effect from June 18, 2020.
- ⁽²⁾ Mrs. Saowanee Kamolbutr, at the 2020 AGM on June 4, 2020, was elected as an independent director, with effect from June 4, 2020, and at the Board’s Meeting No. 7/2020 of June 17, 2020, was re - appointed as Chairman of the Audit Committee, with effect from June 18, 2020.
- ⁽³⁾ Mr. Somchai Meesen, at the 2020 AGM on June 4, 2020, was elected as an independent director, with effect from June 4, 2020, and at the Board’s Meeting No. 7/2020 of June 17, 2020, was re - appointed as a Member of the Corporate Governance Committee, with effect from June 18, 2020.
- ⁽⁴⁾ Mr. Atikom Terbsiri, at the Board’s Meeting No. 11/2019 of November 19, 2019, was appointed as a director and Member of the Corporate Governance Committee, replacing Ms. Peangpanor Boonklum, who resigned, with effect from January 1, 2020, and at the 2020 AGM on June 4, 2020, was re-appointed as an independent director, with effect from June 4, 2020, and at the Board’s Meeting No. 7/2020 of June 17, 2020, was re-appointed as a Member of the Nomination and Remuneration Committee, with effect from June 18, 2020.
- ⁽⁵⁾ Mr. Boonchai Chunhawiksit, at the 2020 AGM of June 4, 2020, was re-appointed as a director, with effect from June 4, 2020 and resigned as director, with effect from January 1, 2021. Mr. Todsaporn Boonyapipat, at the Board’s Meeting No. 15/2020 of December 16, 2020, was appointed as a director, replacing Mr. Boonchai Chunhawiksit, with effect from January 1, 2021.
- ⁽⁶⁾ Mr. Wirat Uanarumit, at the 2020 AGM of June 4, 2020, was re-appointed as a director, with effect from June 4, 2020, and at the Board’s Meeting No. 7/2020 of June 17, 2020, was re-appointed as a Member of the Risk Management Committee, with effect from June 18, 2020.
- ⁽⁷⁾ Mr. Worawat Pitayasiri, at the Board’s Meeting No. 13/2020 of November 6, 2020, was elected as a director and secretary to the Board, a Member of the Risk Management Committee, and President & CEO, replacing Mr. Chawalit Tippawanich with effect from December 1, 2020.



Directors Who Resigned And Completed Terms In 2020

No.	Name-Surname	Position	Reason
1.	Ms. Peangpanor Boonklum	Director / Member of the Corporate Governance Committee	Resigned with effect from January 1, 2020
2.	Mr. Chawalit Tippawanich	Director and Secretary to the Board / Member of the Risk Management Committee / President & CEO)	Resigned with effect from December 1, 2020

Authorized Directors

As of December 31, 2020, the directors authorized to act on behalf of GPSC as stated in GPSC affidavit are “Mr. Worawat Pitayasiri, President and Chief Executive Officer (with his signature and the corporate seal affixed) or Mr. Boonchai Chunhawiksit, or Mr. Wirat Uanarumit, or Mr. Wittawat Svasti-Xuto, or Mr. Kongkrapan Intarajang, or Mr. Bandhit Thamprajamchit, or Mr. Wuttikorn Stithit (with signatures of any two and the corporate seal affixed).”

7.2.3 Roles And Responsibilities Of The Board

The roles and responsibilities of the Board are to oversee GPSC’s operations to ensure compliance with laws, regulations, resolutions of shareholders’ meetings, and GPSC’s articles of association as well as strict adherence to corporate governance principles and the code of conduct for directors of listed companies to safeguard GPSC’s and its shareholders’ interests. The roles and responsibilities of the Board can be summarized as follows.

1. Devote themselves to the determination of GPSC’s vision, mission, directions, and strategies by expressing their opinions fully and seeking relevant information useful for the prescription of GPSC’s directions.
2. Review and approve GPSC’s key strategies, policies, objectives, action plans, and financial goals as well as regularly overseeing and monitoring management so that such plans are carried out in accordance with the prescribed directions and strategies to ensure effective and efficient implementation of GPSC’s vision, directions, and strategies.
3. Define corporate governance policies and a code of business conduct comprising appropriate guidelines and

best practices for directors, executives, and employees to foster a sense of professional responsibility and understanding, which are to be strictly complied with along with the rules and regulations of GPSC to ensure equity among all stakeholders.

4. Approve expenditures for investments, borrowing or application for credits from financial institutions, lending, and being a guarantor as part of GPSC’s regular operations without budget limits in accordance with the rules and regulations of GPSC and pertinent regulations and laws stipulated by the Stock Exchange Market of Thailand and the Securities and Exchange Commission.
5. Consider risk factors, formulate comprehensive risk management guidelines, ensure that executives operate with efficient risk management systems and processes in place, and predict possible risks that may arise from new business opportunities.
6. Ensure sufficient and effective internal control as well as regular assessment of the suitability of internal control systems.
7. Monitor and remedy issues related to potential conflicts of interest and related transactions, prioritizing major transactions that will result in maximum benefits for shareholders and stakeholders.
8. Consider and approve the appointment of qualified candidates with no prohibited characteristics under the Public Limited Companies Act B.E. 2535 (1992) (including additional amendments) and the Securities and Exchange Act B.E. 2535 (1992) (including additional amendments), as well as laws, notifications, regulations, and/or other relevant rules as new directors upon vacancies

- of directorships, either as a result of an expiration of terms of office or for other reasons, and upon the rise of such necessity, as well as determining remuneration to propose at shareholders' meetings for approval.
9. Determine and amend the list of authorized directors.
 10. Appoint the Audit Committee or another subcommittee as well as defining their roles and responsibilities to assist and support the Board in their operation.
 11. Implement an appropriate and transparent talent acquisition and selection system to fulfill key management positions.
 12. Appoint GPSC's executives with qualifications as defined by the Securities and Exchange Commission or the Capital Market Advisory Board, appoint a Company Secretary, as well as determining the remuneration of the executives and the Company Secretary.
 13. Put in place a remuneration determination system or mechanism for GPSC's top executives to ensure appropriateness and consistency with GPSC's performance to create short-term and long-term motivation
 14. Conduct regular self-performance appraisals and the President and Chief Executive Officer's performance appraisals on a regular basis.
 15. Ensure reliable accounting systems, financial reports, and audit systems as well as an efficient and effective internal auditing system.
 16. Oversee the completion of GPSC's financial statements at the end of each accounting year and counter-sign to approve such statements, to be proposed for approval at annual general meetings of shareholders.
 17. Consider and approve the selection and appointment of auditors as well as determining the appropriateness of the remuneration submitted by the Audit Committee before proposing it for approval at annual general meetings of shareholders.
 18. Value social and environmental responsibilities in GPSC's business operations for a better and sustainable quality of life in society.
 19. Assess GPSC's performance under its corporate governance policies and code of business conduct at least once a year.
 20. Provide each shareholder group with appropriate communication channels and ensure that information disclosure is complete, clear, transparent, reliable, and of highest standards.
 21. Encourage GPSC's directors and executives to attend courses and seminars hosted by the Thai Institute of Directors (IOD), especially those relevant to their roles and responsibilities.
 22. Convene internal meetings between non-executive directors and independent directors as called for by necessity or when deemed appropriate to discuss various management issues of current interest in the absence of management and submit the summaries of such meetings to the President and Chief Executive Officer.
 23. Formulate policies and perform supervisory roles to ensure that GPSC has an efficient anti-corruption system in place so as to ensure that management recognizes the significance of anti-corruption practices and cultivate them into a corporate culture.
 24. Comply with anti-corruption measures, with penalties imposed for non-compliance.
- The Board may authorize and/or designate individuals to perform specific tasks on its behalf. The appointment of attorneys or sub-attorneys shall conform to the scope defined in the letter of authorization and/or in compliance with the rules, regulations, or orders prescribed by the Board and/or GPSC. The authorization of the roles and responsibilities of the Board shall not be in such a manner that enables the Board or the appointed attorneys, through the attorneys or sub-attorneys, to approve transactions that may benefit themselves or others who may have conflicts of interest (as defined in the notifications of the Securities and Exchange Commission or the Capital Market Supervisory Board) in any manner or create conflicts of interest with GPSC or GPSC's subsidiaries, except transactions that are in accordance with the policies and criteria approved by shareholders' meetings or by the Board.
- In addition, the businesses of the Board that require approval from shareholders' meetings are as follows.
- Cases in which GPSC or GPSC's subsidiaries, as defined by the laws on securities and exchange, enter into a related transaction, or acquire or sell major assets of GPSC in accordance with the classification of the laws

on securities and exchange, in which GPSC shall comply with the prescribed criteria and processes.

- Selling or transferring GPSC’s business, either in its entirety or partially, to another party.
- The drawing up, amendment, or revocation of contracts related to a full or partial lease of GPSC’s business, the appointment of a proxy to act on behalf of GPSC, or the merging of the business with another party to share profits.
- Amendment of the memorandum of association or articles of association.
- Increasing or decreasing GPSC’s authorized capital.
- Company dissolution or a merger with another company.
- Debenture issuance.

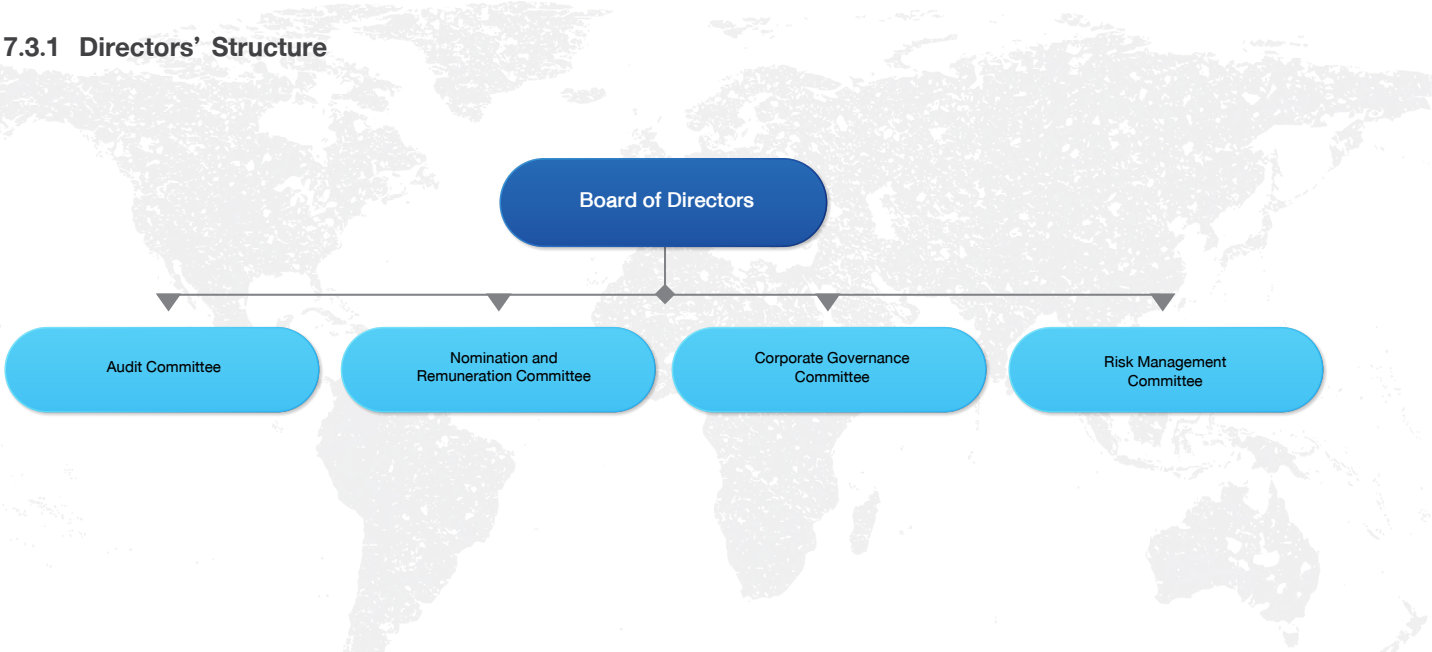
Roles And Responsibilities Of The Chairman

1. Supervise and monitor the performance of the Board to ensure efficiency in fulfilling the objectives and main goals of GPSC and compliance with laws, corporate governance principles, and the scope of duties and responsibilities of the Board of Directors of GPSC.
2. Determine the agenda of Board meetings, taking into account recommendations of the President and Chief Executive Officer, and ensure that vital agenda items are included.

3. Convene Board meetings and deliver meeting notices to the directors no less than seven days prior to the meetings so as to allow sufficient time for directors to consider information necessary for decision-making (The board meetings can be convened either by the Chairman of the Board or any individual assigned by the Chairman).
4. Preside over Board meetings, ensure efficiency of the meetings and sufficient allocated time for the presentations and discussion required for all agenda items, encourage careful consideration and free expression of opinions, guide the meetings towards resolutions, and conclude the meetings.
5. Preside over annual general meetings of shareholders to keep them in line with laws and articles of association of GPSC and the prescribed agenda and allocate sufficient time for presentations and shareholders’ inquiries.
6. Oversee and encourage directors to adhere to corporate governance principles and contribute to a corporate culture characterized by ethical principles and corporate governance.
7. Foster a cordial relationship between the Board and the management team.

7.3 Subcommittees

7.3.1 Directors’ Structure



7.3.2 Subcommittees

1. The Audit Committee

As of December 31, 2020, the Audit Committee comprised three members as follows.

No.	Name - Surname	Position
1.	Mrs. Saowanee Kamolbutr	Chairperson (Independent) An expert with experience in accounting and audit of financial statements
2.	Mr. Kurujit Nakornthap	Member (Independent)
3.	Maj. Gen. Chaowalek Chayansupap	Member (Independent)

Ms. Attayar Sukotanang, Senior Vice President, Corporate Internal Audit, serves as secretary to the committee.

The Audit Committee of Global Power Synergy Plc comprises three independent directors who command expertise in financial accounting, engineering and energy businesses, law and management and are qualified to review the credibility of financial statements in accordance with the regulations of the Securities and Exchange Commission (SEC) and the Stock Exchange of Thailand (SET).

Composition

The Audit Committee consists of one Chairman and 2-4 members. Each member must be an independent director and possess qualifications related to independence as stipulated in the notifications of SEC regarding qualifications and scope of responsibilities of an audit committee. In addition, at least one member of the committee must possess knowledge, expertise and experience in finance and accountancy to be able to review the reliability of financial statements.

Scope of duties and responsibilities

1. Define regulations and guidelines to ensure compliance with the Audit Committee Charter, and regularly review the appropriateness of such regulations and guidelines.
2. Financial Reports and Audit
 - 2.1) Review the financial process and reports to ensure that the reports are accurate and credible in illustrating the financial status of the company, with complete disclosure of material information and in compliance with accounting standard as well as other relevant standards and laws.

- 2.2) Review, select, and nominate external auditors and propose their audit fees to ensure their independence and propose their dismissal if they demonstrate inability to perform their duties, neglect of duty, or abuse of functions.

- 2.3) Promote the independence of external auditors, provide opinions on their suitability, and attend at least one meeting with external auditors per year in the absence of management.

3. Internal Control

- 3.1) Review to ensure that the Company's systems for internal control, internal audit, and risk management are efficient and effective, and that Internal Audit appropriately performs in accordance with the internal control standards.

- 3.2) Guide management in the improvement of work processes and systems to reduce risks and enhance its efficiency, as well as to ensure that financial reports are accurate and reliable.

- 3.3) Offer advice in defining a good corporate governance policy, monitor, assess, and report the implementations under the CG guidelines.

- 3.4) Review the Company's CG implementations and procedures to ensure compliance with the policy, rules, regulations, requirements and laws, including directives in relation to the GPSC's operations.

- 3.5) Ensure that management has put in place procedures to deal with complaints and whistleblowing.

4. Internal Audit

- 4.1) Review to ensure that the internal audit system is appropriate and efficient, and that Internal Audit complies with the standard of internal audit, as well as considering the adequacy of human resources,

and the independence of Internal Audit.

- 4.2) Set a scope of internal auditing and review and approve the annual audit plan, as well as any change to the plan, including to consider the report of the auditor on the result of the auditing.
- 4.3) Assess the performance of the Chief of Internal Audit.
- 4.4) Review and approve the appointment, transfer and dismissal of the Chief of Internal Audit.
- 4.5) Review and approve the Internal Audit Charter.
- 4.6) Coordinate to ensure that the understanding among the Audit Committee, Management, Internal Audit and external auditor is in the same direction, and jointly consider the scope of the auditing with the external auditors to ensure that the internal auditing by internal and external auditors, are in alignment and supportive of each other.

5. Compliance with the law and other relevant regulations

- 5.1) Review compliance with the law on securities and exchange, requirements of SET and other rules and regulations which are relevant to business.
- 5.2) Review related transactions or transactions of potential conflicts of interest or fraud or corruption which might have material impact on the performance of the Company, and ensure that such transactions, if taken, must be reasonable and for the utmost benefit to the Company and ultimately, must comply with SET's law and regulations.
- 5.3) Review the appropriateness of the Audit Committee Charter at least once a year and propose it to the Board for approval.
- 5.4) Conduct performance self-assessment of the Audit Committee and report the results with problems or obstacles in performing the duties which might hinder it from achieving the goals to the Board annually.

6. Reporting

- 6.1) The Audit Committee prepares the Report of the Audit Committee, and its Chairman countersigns in the report to endorse it, and discloses it in the annual report. The report must at least contain the following information:

- The Audit Committee's views on:

- Accuracy, completeness and reliability of financial reports.
- Adequacy of GPSC's internal control system.
- Compliance with the securities and exchange act, SET's notifications and other applicable laws in relation to the Company's business.
- Suitability of the auditor.
- Transactions of potential conflicts of interest.
- Number of the meetings of the Audit Committee and meeting attendance of each director.
- Overall opinions or comments of the Audit Committee regarding its performance under the Audit Committee Charter.
- Other matters that the Committee deems that shareholders and investors should know according to its scope of duties and responsibilities assigned by the Board.

7. Other duties

- 7.1) In the course of auditing, if the knowledge and expertise from an external independent specialist is needed, the Audit Committee may propose to the Board for consideration to invite or hire such specialist at the expense of the Company. The hiring procedure must comply with the Company's articles of association, rules and regulations, including the authority to appoint a working group to support the work of the Audit Committee.
- 7.2) Upon receiving reports from internal auditor about the results of the internal auditing which indicating performance in violation with the law, rules, regulations, practices, notifications and orders concerning the Company's operations, the Audit Committee must notify senior executives to order the unit which is responsible for the Company's operation to rectify the situation and ensure compliance with the Company's policy, rules and regulations, practices and relevant laws, including directives concerning the Company's operations.

If the report on the results of the internal auditing indicating suspicious transactions or activity which might cause significant damage to the Company's performance, such as:

- Conflicts of interest.
- Fraud or corruption, or irregular transactions or great defects in the internal control system.
- Violation with the law on securities and exchange, SET's regulations or applicable laws in relation to the Company's business,

the Audit Committee must promptly report the incident to the Board for rectification and immediate action. If the Board or Management fails to take any action for the rectification within the appropriate time, any member of the Audit Committee may file a report to the SEC.

- 7.3) After the Audit Committee has been informed that the auditor has a reasonable suspicion that a director, manager or person responsible for the operation of the Company has committed an offence in duties and responsibilities under the Securities and Exchange Act, Section 281 /2, paragraph two, Section 305, Section

306, Section 308, Section 309, Section 310, Section 311, Section 312 or Section 313, the Audit Committee must conduct an investigation or auditing and submit a preliminary report to the Board for acknowledgement, and to the SEC and SET and the external auditor within 30 days from the date the Audit Committee has been informed by the auditor.

- 7.4) Perform other duties as assigned by the Board or by the shareholders with the approval of the Audit Committee or as required under the laws.

In the case that the Audit Committee's scope of duties and responsibilities has been changed, the Company must disclose the resolution on the change of duties, name of director and the scope of operation of the Audit Committee in accordance with the form defined by SET within three working days from such change and in accordance with the methods under SET's notification on e-reporting.

2. Nomination and Remuneration Committee

As of December 31, 2020, the Nomination and Remuneration Committee comprised three members as follows.

No.	Name - Surname	Position
1.	Mr. Payungsak Chartsutipol	Chairman (Independent)
2.	Mr. Wittawat Svasit-Xuto	Member
3.	Mr. Atikom Terbsiri	Member

Ms. Pallapa Achanon, Company Secretary and Corporate Governance and Affairs Department, acts as secretary.

Composition

The Nomination and Remuneration Committee consists of at least three members, one of whom shall be an independent director. The term of each member is equal to his or her directorship term, and a vacating member is eligible for re-election.

Scope of duties and responsibilities

1. Select qualified candidates to be nominated as GPSC's new directors and President and Chief Executive Officer as well as ensuring that the selection criteria and processes are principled and transparent before proposing

to the Board and/or shareholders' meetings for approval.

2. Review remuneration policies and criteria for GPSC's directors and President and Chief Executive Officer to ensure fairness and reasonableness for subsequent proposal to the Board and/or shareholders' meetings for approval.
3. Review and nominate qualified directors as subcommittee members before proposing to the Board for appointment as deemed necessary.
4. Provide recommendations on the remuneration structure and composition for GPSC's directors to the Board.
5. Assess the President and Chief Executive Officer in order to provide recommendations to the Board of GPSC regarding the appropriate remuneration.

6. Review the succession plan for the President and Chief Executive Officer and the list of candidates qualified for the succession consideration.
7. Report the performance of the Nomination and Remuneration Committee to the Board, and prepare the Report of the Nomination and Remuneration Committee, endorsed by its Chairman, to be disclosed in the annual report.
8. Perform other duties as assigned by the Board.

3. Corporate Governance Committee

As of December 31, 2020, the Corporate Governance Committee comprises four members as follows.

No.	Name - Surname	Position
1.	Mr. Kurujit Nakornthap	Chairman (Independent)
2.	Mrs. Nicha Hiranburana Thuvatham	Member (Independent)
3.	Mr. Somchai Meesane	Member (Independent)
4.	Mr. Bandhit Thamprajamchit	Member

Ms. Pallapa Achanon, Company Secretary and Corporate Governance and Affairs Department, acts as secretary.

Composition

The Corporate Governance Committee consists of at least three members, at least half of whom shall be independent directors. The term of each member is equal to his or her directorship term, and a vacating member is eligible for re-election.

Scope of duties and responsibilities

1. Determine guidelines and propose policies regarding GPSC's code of conduct and business ethics in accordance with corporate governance principles to propose to the Board for approval and implementation as part of GPSC's standard practices.
2. Formulate policies, promote internal assessment of corporate governance standards, and apply for assessment by recognized external organizations on a regular basis.
3. Offer recommendations on corporate governance to the Board.
4. Oversee performance of the directors and management to ensure adherence to corporate governance principles stipulated by supervisory institutions, such as SET, SEC, and other relevant organizations.
5. Review GPSC's corporate governance guidelines in comparison to international practices on a regular basis and propose to the Board.
6. Formulate corporate governance policies for the Company's CG working teams for further implementations.
7. Formulate policies and guidelines regarding sustainability management and corporate social responsibility.
8. Monitor sustainability management operations and report results to the Board.
9. Establish guidelines for GPSC's anti-corruption operations.
10. Promote the organizational culture of corporate governance among executives and employees at all levels to create practical results in both GPSC and its subsidiaries.
11. Provide advice and consultancy to the working team on corporate governance to be prepared for the CG ranking performed by neutral external organizations and conducted at least once every three years.
12. Review and offer recommendations on the assessment form and the results of the performance assessment of GPSC's directors for subsequent proposal to the Board.
13. Formulate compliance frameworks for anti-corruption related operations of GPSC.
14. Prescribe and review the anti-corruption policy; offer recommendations and guidance; monitor and assess anti-corruption related operations.
15. Report the results of corporate governance assessment to the Board. Should a factor or situation that may significantly affect GPSC arise, the Corporate Governance Committee must report it to the Board for acknowledgment and consideration immediately.

16. Regularly review the Corporate Governance Committee Charter.
17. Appoint a secretary to the Corporate Governance Committee as deemed appropriate.
18. Perform other duties as assigned by the Board.

4. Risk Management Committee

As of December 31, 2020, the Risk Management Committee comprised five members as follows.

No.	Name - Surname	Position
1.	Mr. Payungsak Chartsutipol	Chairman (Independent)
2.	Mr. Wittawat Svasti-Xuto	Member
3.	Mr. Kongkrapan Intarajang	Member
4.	Mr. Wirat Uanarumit	Member
5.	Mr. Worawat Pitayasiri	Member

Mr. Manaschai Kongrakhavin, Acting Senior Vice President, Corporate Strategy and Risk Management, acts as secretary.

Composition

The Risk Management Committee consists of at least three directors who are either executives or independent directors. The term of each member is three years, equal to his or her directorship term, and a vacating member is eligible for re-election.

Scope of duties and responsibilities

1. Define and review corporate risk management policies and frameworks relevant to the business of GPSC.
2. Oversee and support risk management implementation to ensure alignment with GPSC's strategies and business goals as well as the prevailing situations.
3. Provide recommendations on the guidelines for the monitoring and assessment of risk management to the Risk Management and Internal Control Committee (RMCC) (management level) for further implementation.
4. Review the results of corporate risk management, offer opinions on potential risks and recommendations on risk control measures and mitigation plans as well as the development of GPSC's corporate risk management system to RMCC on a regular basis to ensure efficiency.
5. Ensure that GPSC has risk management plans, systems, or procedures to minimize impacts on the business of GPSC, as well as monitoring and assessing the implementation under the risk management framework across the organization to ensure that adequate and appropriate risk management has been put in place.
6. Oversee and promote risk management implementation which covers all aspects, including environmental, social, and governance risks (ESG risks), as well as the anti-corruption efforts of GPSC and all companies in GPSC Group.
7. Support and develop risk management and related instruments at all levels across the organization as well as promote risk management as part of the organizational culture.
8. Report the results of risk management to the Board. Should a factor or situation that may significantly affect GPSC arise, the Risk Management Committee must promptly report it to the Board for acknowledgment and consideration.
9. Hold a meeting of the Audit Committee at least every quarter.
10. Perform other duties as assigned by the Board.

EXECUTIVE TEAM

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03



01 MR. WORAWAT PITAYASIRI
President and Chief Executive Officer

02 MR. PAJONGWIT PONGSIVAPAI
Chief Operating Officer

03 MRS. WANIDA BOONPIRAKS
Chief Financial Officer

04



05



06



07



08



04 MR. SIRIMET LEEPAGORN
Executive Vice President Corporate
Strategy and Subsidiary Management

05 MRS. ROSAYA TEINWAN
Executive Vice President -
Business Development

06 MRS. SRIPRAPHA SUMRUATRUAMPHOL
Executive Vice President - Commercial

07 MR. SMORNCHAI KHOONRAK
Executive Vice President - Operations

08 MR. ARJAN VAN DEN BROEK
Executive Vice President -
Operation Center of Excellence



09 MS. NARISA TUMMA-UPAKORN
Senior Vice President Organization Effectiveness



10 MR. JARUWAT SINGSOMDEE
Senior Vice President Transformation
and Sustainability Management



11 MS. DUTDAO SUKSAMRAN
Senior Vice President Office of Legal



12 MS. ATTAYAR SUKOTANANG
Senior Vice President Corporate Internal Audit



13 MS. PALLAPA ACHANON
Senior Vice President Company Secretary and Corporate Governance



14 MR. KULAPAT PERMBHUSRI
Senior Vice President Subsidiary
and Investment Management



15 MR. LAKSANAPREECHA KRUTKUNTODE
Senior Vice President New Technology



16 MR. NARONGCHAI VISUTRACHAI
Senior Vice President Government
Relations & Public Affairs

EXECUTIVE TEAM



17



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17 MR. REUNGPONG REUNGHIRUN
Senior Vice President, EVP-Corporate Strategy and Subsidiary Management

18 MS. SUKITTEE CHAIYARAK
Senior Vice President of Chief Financial Officer

19 MRS. SIROBON BOONTAWORN
Senior Vice President Corporate Finance

20 MS. SUTTASINEE PENGSUPAYA
Senior Vice President Accounting and Tax Planning and Service



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21 MR. SUTTHI CHUESOOK
Senior Vice President Plant Operations, Rayong Cogen.

22 MR. SURAJIT BOURTHERNG
Senior Vice President Plant Operations, Other areas

23 MR. WISIT SRINUNTAWONG
Senior Vice President Project Feasibility and Engineering

24 MR. SOMSAK LERTCHAROENSERSUK
Senior Vice President Project Construction Management



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25 MR. SAOCHAI SOOKKASEM
Designated Senior Vice President - SSHE

26 MR. SURATCHAI BANGLUANG
Senior Vice President Maintenance Execution

27 MRS. MANTANA KUNAKORN
Senior Vice President Group Facility Management

28 MR. AKARIN PRATHUANGSIT
Senior Vice President Supply Chain Management



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29 MR. PAVARATE RATTANASUWAN
Senior Vice President - Commercial GPSC
and Government Contract

30 MR. MANATCHAI KONGRAKKAWIN
Acting Senior Vice President Corporate
Strategy and Risk Management

31 MR. AUNGSUTHON PUBOONTERM
Acting Senior Vice President Plant and Production
Optimization

32 MR. LOUIS HOLUB
Acting Senior Vice President Maintenance Strategy

7.4 Management Information

7.4.1 As of December 31, 2020, GPSC's Senior Vice Presidents and over are listed below

Name	Position
1. Mr. Worawat Pitayasiri	President and Chief Executive Officer
2. Mr. Pajongwit Pongsivapai	Chief Operating Officer
3. Mrs. Wanida Boonpiraks	Chief Financial Officer
4. Mr. Sirimet Leepagorn	Executive Vice President Corporate Strategy and Subsidiary Management
5. Mrs. Rosaya Teinwan	Executive Vice President - Business Development
6. Mrs. Sriprapha Sumruatruamphol	Executive Vice President - Commercial
7. Mr. Smornchai Khoonrak	Executive Vice President - Operations
8. Mr. Arjan van den Broek	Executive Vice President - Operation Center of Excellence
9. Ms. Narisa Tumma-upakorn	Senior Vice President - Organization Effectiveness
10. Mr. Jaruwat Singsomdee	Senior Vice President Transformation and Sustainability Management
11. Ms. Dutdao Suksamran	Senior Vice President Office of Legal
12. Ms. Attayar Sukotanang	Senior Vice President Corporate Internal Audit
13. Ms. Pallapa Achanon	Senior Vice President Company Secretary and Corporate Governance
14. Mr. Narongchai Visutrachai	Senior Vice President Government Relations & Public Affairs
15. Mr. Laksanapreecha Krutkuntode	Senior Vice President New Technology
16. Mr. Kulapat Permbhusri	Senior Vice President Subsidiary and Investment Management
17. Mr. Reungpong Reunghirun	Senior Vice President,EVP-Corporate Strategy and Subsidiary Management
18. Ms. Sukittee Chaiyarak	Senior Vice President of Chief Financial Officer
19. Mrs. Sirobon Boontaworn	Senior Vice President Corporate Finance
20. Ms. Suttasinee Pengsupaya	Senior Vice President Accounting and Tax Planning and Service
21. Mr. Sutthi Chuesook	Senior Vice President Plant Operations, Rayong Cogen
22. Mr. Surajit Bourtherng	Senior Vice President Plant Operations, Other areas
23. Mr. Wisit Srinuntawong	Senior Vice President Project Feasibility and Engineering
24. Mr. Somsak Lertcharoensermsuk	Senior Vice President Project Construction Management
25. Mr. Suratchai Bangluang	Senior Vice President Maintenance Execution
26. Mr. Saochai Sookkasem	Designated Senior Vice President - SSHE
27. Mrs. Mantana Kunakorn	Senior Vice President Group Facility Management
28. Mr. Akarin Prathuangsit	Senior Vice President Supply Chain Management
29. Mr. Pavarate Rattanasuwan	Senior Vice President - Commercial GPSC and Government Contract

Name	Position
30. Mr. Manatchai Kongrakkawin	Acting Senior Vice President Corporate Strategy and Risk Management
31. Mr. Aungsuthon Puboonterm	Acting Senior Vice President Plant and Production Optimization
32. Mr. Louis Holub	Acting Senior Vice President Maintenance Strategy

The executives No. 1-8 are qualified as the first four executives, according to SEC's definition.

Scope of authority of the President and Chief Executive Officer
The President and Chief Executive Officer has the authority and duties to manage business operations as assigned by the Board and to manage plans or budgets approved by the Board of Directors with stringency, honesty, and circumspection, while protecting the interest of GPSC and shareholders. The scope of authority of the President and Chief Executive Officer entails the following matters:

- 1) To manage GPSC's daily operations
- 2) To manage GPSC's plans and budgets approved by the Board of Directors
- 3) To prepare reports, plans, and financial statements and present them to the Board of Directors on a quarterly basis
- 4) To formulate GPSC's commercial policies and engage in or terminate current and future agreements or obligations concerning trading of raw materials and products on its behalf for a period of up to five years and worth up to Baht 300 million. Should additional investment be required, he or she must conform to GPSC's regulations on investment criteria before approving any engagement or obligation.
- 5) To enter into or terminate any contract or obligations other than specified in Item 4., with the contract value not exceeding THB 300 million
- 6) To employ, appoint, remove, transfer, promote, demote, decrease salary or payment, impose disciplinary sanctions on, or terminate employment of employees on behalf of GPSC; to appoint executives; as well as to delegate authority and responsibilities to suitable personnel

In addition, the Board of Directors has granted a power of attorney to the President and Chief Executive Officer, the scope of which is defined as follows.

- The authority to manage GPSC's business operations in accordance with objectives, rules, policies, regulations, orders, and resolutions reached at the Board of Director's meetings and/or shareholders' meetings
 - The authority to command, contact, order, and proceed as well as execute juristic acts, sign contracts, agreements, orders, announcements, and any other documents that are deemed necessary and appropriate in order to fulfill the assigned responsibilities.
 - The authority to authorize and/or assign other individuals to act on his or her behalf to perform certain specific tasks. The appointment of a lawful attorney or assigning individuals must be conducted within the scope of authority indicated in that specific letter of authorization and/or in accordance with relevant rules, regulations, or orders issued by the Board of Director and/or GPSC.
- However, the aforementioned scope of the President and Chief Executive Officer's authority shall not apply if the Chief Executive Officer is a stakeholder or has any conflict of interest with GPSC.

7.4.2 Policy of compensation for management director and management executives

The compensation for all management executives varies with their respective KPIs, defined by the Board of Directors, the President & CEO, and senior management. These KPIs consist of financial, stakeholder, internal work processes, and learning and growth of GPSC and the workforce in addition to their respective annual performances (short-term) and assessed caliber and leadership that ensure GPSC's achievement of strategic goals. Each executive's KPIs correspond to his or her roles for a given year. The Board decides the President & CEO's annual salary adjustment, while the President & CEO decides the adjustment for senior management against their respective performances. Such adjustment must conform to GPSC's criteria.

7.4.3 Total compensation for management director and management executives

Cash compensation

- Cash compensation for management executives

	2020
Persons	32
Compensation (Baht)	157,899,794

Other compensation

- Other cash compensation, including provident fund contribution and other income

	2020
Persons	32
Compensation (Baht)	277,941,953

7.5 Employee Data

GPSC's employee headcount (excluding Senior Vice President or higher) by function as of December 31, 2020, are detailed as follows:

No.	Function	Headcount (People)
		As of December 31, 2020
1.	Chief Operating Officer	511
2.	Chief Financial Officer	86
3.	EVP-Corporate Strategy and Subsidiary Management	54
4.	EVP-Business Development	40
5.	Organization Effectiveness	34
6.	Company Secretary and Corporate Governance	12
7.	Corporate Internal Audit	6
8.	Government Relations & Public Affairs	27
9.	Office of Corporate Legal	11
Total		781

Employee Remuneration (Excluding Senior Vice President or Higher)

Remuneration, including salary, bonus, provident fund contributions, and other income in 2020 (from January 1 to December 31, 2020), were as follows:

No.	Function	Remuneration (Baht)
		As of December 31, 2020
1.	Chief Operating Officer	801,343,929.70
2.	Chief Financial Officer	125,019,701.83
3.	EVP-Corporate Strategy and Subsidiary Management	77,184,659.37
4.	EVP-Business Development	62,912,283.50
5.	Organization Effectiveness	57,530,651.45
6.	Company Secretary and Corporate Governance	16,734,344.16
7.	Corporate Internal Audit	12,756,629.20
8.	Government Relations & Public Affairs	39,896,135.54
9.	Office of Corporate Legal	22,183,619.45
Total		1,215,561,954.20

HR Management Policy

GPSC recognizes that employees are valuable and essential resources that drive business growth. As a result, it emphasizes HR management, covering capacity development, employee care, long-term talent retention, employee engagement, and incentives. It believes that efficient HR management will enhance business competitiveness and drive the organization toward goals to help GPSC become a global leading innovative and sustainable power company.

GPSC's challenge in HR development for sustainable operations is to prepare and develop employee capacity in line with its strategic direction under global dynamic conditions in economy, society, the environment, and technology affecting employees' skills, knowledge, and abilities. Moreover, it promotes employee engagement. In 2020 GPSC underwent reorganization and process improvement to serve new business expansion and improve systems that manage performance, compensation, and benefits. It also strengthened executives' and employees' leadership to support GPSC's future growth. The effort includes recruiting internal personnel who are ready to fill vacancies promptly.

Performance Of Human Resources and Organizational Development Strategies

In 2020 the Company formulated HR management strategies relevant to strategic plans, including synergy & integration, selective growth, and S-Curve and digitization, and changing external and internal situations. Details are as follows:

1. Design and Maximize Deal Value Creation

- 1.1 Created synergy between two companies to add value through M&A. This included expansion of shared services to minimize OPEX and enhance GPSC's efficiency by streamlining and simplifying work processes.
- 1.2 Improved work processes and restructured the organization to promote synergy and post-M&A performance. GPSC improved its HR processes and tools, such as performance evaluation and career management, and considered outsourcing some services to qualified third parties to lower HR management costs.

2. Strengthen Capabilities for Growth

- 2.1 Developed and enhanced high flyers' (high-potential group's) capacity to accommodate the Company's future expansion. GPSC also strengthened these employees'

capability in response to business development; operations and technical skills; and M&A process in business, legal, and financial aspects because these are key factors driving the Company's future business.

2.2 Recruited personnel within GPSC Group and PTT Group and outside, domestically and internationally. These employees must have the expertise, especially in international business development, to serve the corporate direction in increasing overseas investment.

3. Improve Employee Experiences to Strengthen Employee Engagement

This work focused on providing good employee experiences throughout the employment period. In doing so, the Company deployed a quick, accurate, and efficient HR system starting from recruitment and selection, training, performance evaluation, benefits, to welfare. Furthermore, the information technology (IT) system allowed employees to conveniently access the HR system anytime, anywhere through various channels.

Key Performance Aligned With Human Resources And Organizational Development Strategies

GPSC values organizational development in parallel with HR development throughout the organization. High-potential employees will serve as a success factor that leads the organization to sustainable growth. Therefore, GPSC implemented holistic employee care and capacity building. The details are below:

1. Organizational Development

The Company set ACT SPIRIT as the core values (Ambition, Commitment, Trust, Synergy, Performance Excellence, Innovation, Responsibility For Society, Integrity & Ethics, Trust And Respect). It also established a program promoting a corporate culture to support M&A and the ONE TEAM ONE UNITY concept to achieve synergy as specified in the objective. Furthermore, GPSC streamlined work processes and underwent organizational restructuring to support M&A.

2. Human Resource Development

GPSC formulates HR development plans for all employees by preparing training roadmaps to develop employees

for required abilities. This includes core competency or mandatory ability, such as business perspectives, adaptation, customer care, continuous learning and development, teamwork, and functional competency. It provides a specific program for each job function to ensure that each employee performs his or her duties efficiently while increasing the expertise and capacity based on fundamental responsibilities. All employees must attend the Business Academy, which provides knowledge about power plants, the power business, and management of power purchase agreements.

3. Spark Accelerator Management Trainee Program

One of GPSC's most crucial strategies is to create New S-Curve businesses. Therefore, GPSC values building skilled leaders for the future. As the PTT Group power flagship, it initiated the "SPARK ACCELERATOR MANAGEMENT TRAINEE PROGRAM" by adopting various challenging learning mechanisms inside and outside the country to prepare high flyers who can grow into future leaders. It is open to employees both inside and outside the Company. Within three years, the participants can rotate to three major functions of GPSC, including strategy, organization and management of affiliates, business development, commerce, financial management, and operation.

The SPARK ACCELERATOR MANAGEMENT TRAINEE PROGRAM shows GPSC's commitment to retaining talents and entrusting them with a crucial role in driving key corporate strategies in line with the business growth plans.

4. Leadership Development Program

GPSC develops leaders based on leadership competency, namely performance management, leadership, mentoring and coaching skills, and change leadership. GPSC's leadership development program focuses mainly on building the capacity for business management and people management. Each year this program is based on key business strategies and employee care issues to ensure that it suits the current situation.

5. Leadership Pool Development

GPSC values sustainable growth. To accommodate future

growth and plan for vacancies due to retiring executives, it therefore grooms the next “leaders” before they take up a position by selecting and assessing high-performing executives with great leadership potential conduct. The assessment develops their capacity and ensures their readiness. The selected candidates from the Leadership Pool must follow their Individual Development Plans (IDPs). GPSC monitors them regularly to ensure that their capacity is strengthened for better preparedness.

Corporate Knowledge Management

GPSC conducts corporate knowledge management to increase employees’ knowledge and skills and ensure efficient work, lower risks, and competitive excellence. Since these employees will help the Company achieve goals under the vision and strategy, GPSC nurtures an atmosphere and culture that facilitate learning and knowledge-sharing, which leads to new knowledge and innovation. The effort focuses on mutual learning of employees in the organization to share knowledge, experiences, and skills while continuously receiving external knowledge. Thanks to the support of the Knowledge Management Portal technology, they can access and scale up the ability to find creative ways to achieve best practices.

Performance Evaluation

In 2020 the Company enhanced its Performance Management System (PMS) to provide clarity for measuring and evaluating employees’ performance. This implementation would drive the organization’s performance toward goals and ensure continuous development. GPSC improved behavioral evaluation in line with core competencies and the ACT SPIRIT corporate values. Evaluation broke down into behavioral and performance evaluation. All employees were required to set individual KPIs in line with the corporate strategy and goals. Then GPSC would use the results to plan and identify appropriate career development for employees in the short term and long term. The information is also used for remuneration adjustment and promotion in line with corporate performance.

Key Projects

“Great Leader” Course

Having high-potential leaders is a crucial factor for turning corporate strategies into success. In 2020 GPSC faced a challenge in implementing the Synergy and Integration strategy to add business value to the acquisition of GLOW. That is why it held the “Great Leader” course, introducing three pillars of employee development: 1) Strategic Management to strengthen knowledge, understanding, and linkage between strategy formulation and implementation, 2) Organization Management to manage the organization efficiently, and 3) Change Management to achieve success. This course helped nurture the capacity of executives in business management and people management.

Diversity

GPSC recognizes and accepts individual diversity of gender, race, nationality, religion, political view, socioeconomic status, age, background, and disability or physical disorder. Diversity will help the Company respond creatively to stakeholders’ different needs and the changing nature of business, resulting in sustainable benefit. For recruitment, GPSC sets personnel qualifications and provides an equal opportunity for HR development to prepare employees for career advancement. In 2020 female executives represented 37% of the total GPSC executives.

Employee Welfare

In addition to salary and bonus, GPSC offers all employees various benefits to meet their needs:

1. The social security fund offers compensation to those in the social security system for non-work-related hazards, sickness, disability, or death. The benefits also cover cases of maternity, children’s education, retirement, and unemployment expenses.
2. A provident fund is established to provide security to employees who voluntarily join the fund, including their families. Employees contribute in the proportion determined by GPSC, and the Company matches the amounts.
3. Medical welfare is provided to employees and their family members (parents, spouse, and children) under

- the conditions set by GPSC. The Company also offers employees an annual health check-up.
4. Life insurance offers security to employees and their families.
 5. Housing allowance is provided for employees working outside Bangkok, Nonthaburi, Pathum Thani, Samut Prakan, Samut Sakhon, and Nakhon Pathom as specified by GPSC.
 6. Extra allowance is paid to shift employees who work on odd days or hours from other employees as specified by GPSC.
 7. Extra allowance is paid to support employees on duty or on standby in the precinct or accommodation specified by GPSC.
 8. A children's education fund is provided to employees, based on educational institutions' levels and types specified by GPSC.
 9. A token of appreciation is provided when employees' years of service reach given periods.
 10. Optional welfare is a welfare plan where GPSC allows employees to declare their intention of receiving. If waiving the right to do so, they can choose substitute benefits as specified by GPSC.
 11. Substitute welfare is specified and provided by GPSC for employees to choose whether to receive it as optional welfare or waive the right.
 12. Other allowances as specified by GPSC, such as gym, phone bill, parking fee, and funeral assistance.

7.6 Other Key Information

7.6.1 List of officers responsible for the following key duties at GPSC:

Company Secretary

The Board of Directors' Meeting No. 7/2562 of July 26, 2019, appointed Ms. Pallapa Achanon as the Company Secretary, effective from August 1, 2019, with the following roles and responsibilities:

- 1) To prepare and maintain GPSC documents, namely a registrar of directors, notices and minutes of the Board meetings, notices and minutes of shareholders' meetings, and annual reports
- 2) To maintain reports on vested interests submitted by directors or management.
- 3) To arrange Board meetings and shareholders' meetings.
- 4) To provide advice on applicable laws and regulation to the Board and management.
- 5) To organize training and orientations as well as providing current and new directors with information essential to the fulfillment of their roles.
- 6) To oversee and ensure complete compliance with laws, regulations, rules, and resolutions of the Board meetings and shareholders' meetings, as well as corporate governance policies and code of business ethics.
- 7) To carry out other tasks under the stipulations of the Capital Market Supervisory Board.

Ms. Achanon possesses education and Company Secretary training as follows:

- Master of Business Administration (Finance), Kasetsart University
- Bachelor of Science (Business Administration), Kasetsart University
- Fundamentals for Corporate Secretaries, Thai Listed Companies Association
- Company Secretary Program (CSP) Class 99/2019, Thai Institute of Directors
- Director Accreditation Program (DAP) Class 163/2019, Thai Institute of Directors
- Board Reporting Program (BRP) Class 33/2020, Thai Institute of Directors
- Risk and Opportunity Management for Corporate Leaders, Thai Institute of Directors
- ASEAN CG Scorecard Coaching 2020, Thai Institute of Directors.

Her profile and qualifications appear in Attachment 1.

Directly responsible person for accounting

GPSC has assigned Ms. Suthasinee Pengsupaya, Senior Vice President Accounting and Tax Planning and Service, to be directly responsible for corporate accounting supervision. Her profile appears in Attachment 1.

Chief of internal audit

GPSC has assigned Ms. Attayar Sukotanang, Senior Vice President, Corporate Internal Audit, to head internal audit. Her profile appears in Attachment 3.

Chief of compliance

GPSC has appointed Ms. Pallapa Achanon, Senior Vice President, Company Secretary and Corporate Governance and Affairs, to head compliance and ensure corporate compliance with regulations applicable to GPSC businesses. Her profile appears in Attachment 1.

7.6.2 List of chief contacts for Investor Relations**Contact information****Mr. Pongsak Plai-ngam**

Investor Relations Division Manager

Tel. 0-2140-4646

Email: pongsak.pl@gpscgroup.com

7.6.3 Audit and other fees**Audit fees**

GPSC and subsidiaries paid a total of Baht 11.23 million in audit fees over the past fiscal year to the auditors from their external auditor. Baht 1.02 million for its own audit and Baht 10.21 million for subsidiaries' audits.

Other fees

GPSC and subsidiaries paid a total of Baht 3.60 million in non-audit fees over the past fiscal year to the audit office where the external auditors belong for the audit of compliance with the terms of investment certificates, review of financial ratios, and counsel on accounting and tax, and Baht 3.42 million to the auditors' related parties or businesses.



8. Key Corporate Governance Implementation

8.1 Performance of the Board of Directors in 2020

Corporate Governance and Code of Business Conduct

The Board of Directors has reviewed and improved the GPSC's Corporate Governance and Code of Business Conduct Handbook (CG Handbook) to be in conformity with the principles of the Corporate Governance Code for Listed Companies 2017 of the Office of the Securities and Exchange Commission (SEC). The CG Handbook which has come into effect since 2020 provides guidelines for employees at all levels to adhere to in performing their duties and in conducting business to ensure that GPSC's operation is efficient and effective and that its management, characterized by development towards excellence, transparency, and accountability, will foster stakeholders' confidence in GPSC as a leading SET-listed public company whose business is guided by governance and strives towards sustainable growth.

Policies, Directions, Business Strategies and Key Performance Indicators

- In 2020, the Board reviewed and defined the policies, directions, and business strategies of GPSC and its invested companies, as well as reviewing GPSC's vision, mission, and business goals.
- In 2020, the Board approved GPSC's Key Performance Indicators (KPIs) both financial and non-financial aspects in accordance with the Balanced Scorecard. The indicators included Financial Perspective (EBITDA and net profit), Stakeholder Perspective (Customers' satisfaction), Internal Process Perspective, and Learning & Growth Perspective (Employee Engagement and Succession Planning).

8.1.1 Nomination, Development and Performance Assessment of Directors

1) Independent Directors

As of December 31, 2020, out of the 15 directors on the Board, GPSC had a total of seven independent directors, who are independence from the the company's management

and major shareholders, in line with SEC's criteria which stipulated that at least one third of the members of the Board, but no fewer than three, must be independent directors.

The Board has assigned the Nomination and Remuneration Committee to nominate qualified candidates to be appointed as GPSC's directors, based on shareholders' recommendations and the Directors Pool of recognized organizations. The Nomination and Remuneration Committee will consider the qualifications of qualified candidates based on GPSC's definition of independent directors, taking into account those set forth in the notification of the Capital Market Supervisory Board, as detailed below:

1. Must not hold more than 0.5% of the voting shares of GPSC, its parent company, subsidiary, associated company, major shareholder, or authorized controlling person of GPSC, including the shares held by persons related to the independent director.
2. Must not be or have been an executive director, an employee, a member of staff, an advisor who receives a regular salary, or an authorized controlling person of GPSC, its parent company, subsidiary, associated company, sister company, major shareholder, or authorized controlling person, unless such status has ceased for at least 2 years. However, the prohibited roles do not include cases where the independent director used to be a government official or an adviser in government agencies that are major shareholders or authorized controlling persons of GPSC.
3. Must not be a related family member or by legal registration as the father, mother, spouse, sibling, or offspring, or spouse of the offspring of any other director, executive, major shareholder, authorized controlling person, or any person who is to be nominated as a director, executive, or authorized controlling person of the GPSC or its subsidiary;
4. Must not have or have had any business relationship with GPSC, its parent company, subsidiary, associated company, major shareholder, or authorized controlling person in the manner that may obstruct the exercise

of independent judgment of the director, and must not be or have been a key shareholder or an authorized controlling person of a person with business relationship with GPSC, its parent company, subsidiary, associated company, major shareholder, or authorized controlling persons, unless such status has ceased for at least 2 years;

The mentioned “business relationship” shall include conducting ordinary business transactions, offering or taking on leases of any immovable properties, conducting transactions relating to assets or services, or granting or accepting any financial supports by way of offering or taking on loans, guarantees, asset-based collaterals, including any other similar actions, which result in the Company or the counterparty being indebted to the other party in the amount of 3% or more of the net tangible assets of the Company or Baht 20 million or more, whichever is lesser, based on the calculation of the Related Transaction value as per the notification of the Securities and Exchange Commission (SEC), where the consideration of such indebtedness shall include any indebtedness taking place during a period of one year prior to the commencement date of the business relationship with such person;

5. Must not be or have been the auditor of GPSC, its parent company, subsidiary, associated company, major shareholder, or authorized controlling persons, must not be a key shareholder (holding more than 10% of the voting shares of GPSC, including the shares held by persons related to the independent director), and must not be a shareholder who may be perceived to have authorization or a partner of an auditing firm in shareholder who may be perceived to have authorization or is a partner of an auditing firm of which the auditor is attached to GPSC, its parent company, subsidiary, associated company, major shareholder, or authorized controlling persons, unless such status has ceased for at least 2 years;
6. Must not be or have been a provider of any professional services, including providing legal services or financial services with service fees of more than THB 2 million a year from GPSC, its parent company, subsidiary, associated company, major shareholder, or authorized controlling person, and must not be a key shareholder,

an authorized controlling person, or a partner of such professional services provider, unless such status has ceased for at least 2 years;

7. Must not be a director appointed to represent GPSC, a major shareholder, or a shareholder connected to a major shareholder;
8. Must not engage or involved in the business of the same nature as and in significant competition with the business of GPSC or its subsidiaries, and must not be a key partner in a partnership, an executive director, an employee, a member of staff, or an advisor on regular payroll, or hold more than 1% of the voting shares of a company that engages in the business of the same nature as and in significant competition with GPSC or its subsidiaries; and
9. Must not have any other characteristics that may hinder expression of independent views on GPSC’s operations.

GPSC’s definition of independent directors is more stringent than that of the Capital Market Supervisory Board, such as, GPSC’s independent directors must not hold more than 0.5% of the voting shares of GPSC, its parent company, subsidiary, associated company, major shareholder, or authorized controlling person of GPSC (1% under the Capital Market Supervisory Board’s definition) and has also limited the consecutive terms of office for independent directors to be no more than nine years (or three consecutive terms).

2) Nomination of Directors and the Highest-Ranking Executives

The Board has appointed the Nomination and Remuneration Committee to select and nominate qualified candidates for directorship. In this process, the Nomination and Remuneration Committee will take into consideration recommendations from major shareholders and free float as well as Director’s Pools of reliable organizations, which provide a list of qualified persons in different fields before reviewing the qualifications of the candidates in the following aspects:

- Must be qualified and have none of the prohibited characteristics under the Public Company Limited Act, B.E. 2535 (1992), and have no characteristics indicating a lack of appropriateness in respect of trustworthiness in managing business whose shares are held by public shareholders as specified in SEC’s notifications.

- Must not be over 70 years of age.
- Must be knowledgeable, capable and possess a variety of skills and working experiences that are in line with GPSC's strategy and GPSC's Director Skill Matrix.
- Must be capable of devoting sufficient time for GPSC, in good health, capable of regularly attending, contributing to and freely expressing opinions at the Board meetings, and/or have good reputation, good record of work performance and ethics.
- Must have good leadership and be able to oversee performance of executives with efficiency and effectiveness.
- Must hold directorship in not more than four listed companies.

The selection process shall be free from discrimination on grounds of gender, race, religion, or other considerations. Nomination of directors to replace those who have completed their terms to be proposed to the annual general meeting of shareholders will be publicized on the Company website in order that shareholders may propose qualified candidates for directorship in advance of the meeting. The Board will consider their qualifications and propose qualified candidates at the annual general meetings of shareholders in accordance with GPSC's criteria.

Appointment of Directors

1) Appointment of directors to replace directors retiring by rotation

The Nomination and Remuneration Committee shall select and nominate qualified candidates as defined by GPSC's nomination criteria to recommend to the Board for approval and to be subsequently proposed at the annual general meeting of shareholders for approval by a majority votes of the total votes of shareholders attending the meeting. The candidates that win the next highest votes are also to be appointed to match the number of directorships up for appointment at the time.

- A shareholder shall have one vote for each share held
- Shareholders shall vote for each individual candidate nominated for directorship
- In case the votes cast for candidates in descending order are tied, which would otherwise cause the number of directors to be exceeded, the chairman of the meeting shall cast the decisive vote.

2) Appointment of Directors to Fill Vacancies Incurred by Reasons Other than Expiration of Term of Office

The Nomination and Remuneration Committee shall select and nominate qualified candidates as defined by GPSC's nomination criteria to recommend to the Board for appointment to fill the vacancies. At least three-quarters of the total votes of the remaining directors is required in the appointment of new directors, and the newly appointed directors shall be in office for as long as the remaining term of office of their predecessors.

Termination of Directorship

1. At each annual general meeting of shareholders, one third of the directors must retire from office by rotation. If the number is not a multiple of three, the number nearest to one third of the total number of the directors must retire from office by rotation. A retiring director is eligible for re-election.
2. Apart from retirement upon expiry of the term of office, a director shall cease to hold office upon death, resignation or in possession of prohibited characteristic under the Public Company Limited Act, the Securities and Exchange Act, resolution of the shareholders meetings or court order.
3. Any director who wishes to resign shall submit a resignation letter to GPSC. The resignation letter shall be effective from the date the resignation letter reaches GPSC. A director who resigns may inform the registrar of his or her resignation.
4. Shareholders' meeting may have a resolution removing any director from office prior to the expiration of the term of office, by a vote of no less than three-quarters of the total voting shares from eligible shareholders attending the meeting, and the shares held by the voting shareholders shall, in aggregate, be no less than one -half of the number of shares held by the shareholders attending the meeting and eligible to vote.

Director Development

It is GPSC's policy to encourage its directors to continuously develop themselves to enhance their efficiency in fulfilling their duties. The training sessions attended by GPSC's directors were as follows.

Directors' Training with Thai Institute of Directors (IOD)

No.	Name – Surname	DCP	DAP	RCP	ACP	AACP	RCL	RCC	Others
1.	Mr. Pailin Chuchottaworn	51/2004	24/2004						FND 14/2004 ACEP 4/2012
2.	Mr. Kurujit Nakornthap		64/2007		32/2010			12/2011	R-CF 2/2013 C-Conference 1/2014
3.	Mr. Payungsak Chartsutipol		SCC/2004				3/2016		
4.	Maj. Gen. Chaowalek Chayansupap	217/2016				24/2016			
5.	Mrs. Nicha Hiranburana Thuvatham		164/2019						
6.	Mrs. Saowanee Kamolbutr	69/2006		23/2010		17/2014		8/2009	FGP 1/2010 BMD 9/2019 ITG 15/2020
7.	Mr. Somchai Meesen		161/2019						
8.	Mr. Wittawat Svasti-Xuto	146/2011							FSD 12/2011
9.	Mr. Atikom Terbsiri	125/2009		41/2017			4/2016		
10.	Mr. Wuttikorn Stithit	158/2012							
11.	Mr. Kongkrapan Intarajang	119/2009		21/2009					
12.	Mr. Boonchai Chunhawiksit	244/2017		46/2020			21/2020		
13.	Mr. Wirat Uanarumit	8/2001			38/2012				DCPU 5/2015 ELP 7/2017
14.	Mr. Bandhit Thamprajamchit	187/2014							
15.	Mr. Worawat Pitayasiri	158/2012							

DCP : Director Certification Program

DAP : Director Accreditation Program

RCP : Role of the Chairman Program

ACP : Audit Committee Program

AACP : Advanced Audit Committee Program

ACEP : Anti-corruption for Executive Program

R-CF : R-CF-Chairman Forum

FGP : Financial Institutions Governance Program

ITG : IT Governance and Cyber Resilience Program

RCL : Risk Management Program for Corporate Leaders

RCC : Role of Compensation Committee

FSD : Financial Statements for Directors

FND : Finance for Non-Finance Director

C-Conference : Collective Action Against Corruption Conference

DCPU : Director Certification Program Update

ELP : Ethical Leadership Program

BMD : Boards that Make a Difference

Additional Directors' Training Record in 2020

In 2020, the following directors received additional training as detailed below.

- Mr. Boonchai Chunhawiksit attended the Risk Management Program for Corporate Leaders (RCL), Class 21/2020, and the Role of Chairman Program (RCP) Class 46/2020, organized by the Thai Institute of Directors (IOD).
- Mrs. Saowanee Kamolbutr attended the IT Governance and Cyber Resilience Program (ITG), Class 15/2020, organized by IOD.
- Mr. Atikom Terbsiri attended the Crisis Management Training, organized by PTT Leadership and Learning Institute.

Orientation of New Directors

GPSC organized an orientation for new directors prior to their first Board meeting so as to inform them of GPSC's business policies and relevant information such as the nature of the business, business strategies, organizational structure, shareholding structure, operating results, good corporate governance, and the code of business conduct, as well as laws and regulations beneficial to their role as GPSC's directors.

In 2020, GPSC's directors attended the Orientation of New Directors were Mr. Atikom Terbsiri, Mrs. Saowanee Kamolbutr, Mr. Somchai Meesen and Mr. Worawat Pitayasiri.

In 2020, 4 directors attended the orientation of the new directors of the Company are

- 1) Mr. Atikom Terbsiri
- 2) Mrs. Saowanee Kamolbutr
- 3) Mr. Somchai Meesen
- 4) Mr. Worawat Pitayasiri

Performance Assessment of the Board and the Sub – committees of 2020

Assessment Process and Criteria

In 2020, the Board, with recommendation from the Corporate Governance Committee, approved assessment criteria and assessment forms which consisted of the Board assessment form (entire Board), Individual director assessment forms

(self-assessment and assessment of other directors), Sub-committee assessment forms (the entire committee) for the four sub-committees, and Sub-committee assessment forms (individual member) for the Audit Committee only.

Assessment scales: the percentages represent the assessment results as follows:

Over 85%	=	Practice regularly / Excellent
Over 75%	=	Practice most of the time / Very Good
Over 65 %	=	Practice sometimes / Good
Over 50 %	=	Rarely practice / Satisfactory
Below 50 %	=	Never practice / Poor

The Company Secretary team then distributed these assessment forms to the directors to complete and return to the Company to analyze the results. Subsequently, the assessment results were reported to the Board' Meetings to inform future improvements.

Assessment Results:

1. The Board assessment (entire Board)

The assessment form comprises five topics:

- 1) Composition and qualification of the Board
- 2) Policy of the Board
- 3) Roles, duties, and responsibilities of the Board
- 4) Meeting of the Board, and
- 5) Self-development of the Board

► **Assessment result: "Excellent" (93.05%)**

2. Individual director assessment (self-assessment and assessment of other directors)

The assessment form comprises six topics:

- 1) Accountabiliton - in the decision making and one's own actions on a reasonable grounds,
- 2) Responsibility - to perform duties to the full extent of ability and effectiveness,
- 3) Equitable treatment of stakeholders,
- 4) Transparency – in performing with accountability and information disclosed,
- 5) Vision to create long -term value
- 6) Good governance and business conduct - in performing the duties.

▶ **Assessment result (self -assessment): “Excellent” (97.34%)**

▶ **Assessment result (assessment of other directors): “Excellent” (97.94%)**

3. Sub-committee assessment

3.1 Sub-committee assessment form (the entire committee) for the four sub-committees comprises three topics:

- 1) Composition and qualification of the committee,
- 2) Meeting of the committee, and
- 3) Roles, duties, and responsibilities of the committee.

▶ **Assessment result (Audit Committee): “Excellent” (99.62%)**

▶ **Assessment result (Nomination and Remuneration Committee): “Excellent” (90.19%)**

▶ **Assessment result (Corporate Governance Committee): “Excellent” (96.11%)**

▶ **Assessment result (Risk Management Committee): “Excellent” (95.00%)**

3.2 Sub-committee assessment form (individual member) for the Audit Committee comprises six topics:

- 1) Business knowledge
- 2) Expertise
- 3) Authority and duties
- 4) Independence and fairness
- 5) Understanding of duties and responsibility
- 6) Devotion of time and and meeting engagement.

▶ **Assessment result: “Excellent” (98.02%)**

Rights of Minority Shareholders in Nominating Directors

One or more shareholders holding at least 1% of the total GPSC’s voting shares can propose meeting agenda item and candidates to be elected as directors from October 1, 2019 to December 31, 2019 (at least three months prior to the Annual General Meeting of Shareholders 2020). Consideration criteria and process were disclosed on the Company’s website with regards to the rights and equitable treatment of shareholders.

Nomination Criterion for the Chief Executive Officer Nomination and Appointment of the President and Chief Executive Officer

If the position of President and Chief Executive Officer becomes vacant, the Nomination and Remuneration Committee is required to review candidates who have qualifications in accordance with relevant criteria and laws as well as other appropriate qualifications, such as knowledge, competency, experience, leadership, and breadth of vision, and nominates such candidates to the Board Meeting to be approved for appointment.

Performance Assessment and Remuneration Policy of the President and Chief Executive Officer

In 2020, the Board conducted a performance assessment of the President and Chief Executive Officer, with the criteria consisting of performance in relation to the Key Performance Indicators (KPIs), which included annual performance (short-term), and performance in pursuing the company’s policies in the long term in achieving sustainable growth which required managerial ability and leadership to contribute to the company’s long-term sustainability. The Board, with a careful review by the Nomination and Remuneration Committee, conducted performance assessment and determined the remuneration of the President and Chief Executive Officer using such criteria in tandem with the self-assessment of the President and Chief Executive Officer.

Succession Plan and Management

GPSC has devised a succession planning system for key positions in which a list of individuals with potential for executive positions is compiled before they are assessed for their capacity as executives on competency and personal attributes. Subsequently, the assessment results are utilized to create Individual Development Plans (IDPs) so as to prepare these individuals for succession either by taking office left vacant by retirement or filling new positions created with future expansion of the business. The progress of succession planning is constantly being reported to the executives. In 2020, 20 executives were assessed and provided with IDPs, and more executives will be assessed in the near future.

Reports on the succession plan for the President and Chief Executive Officer were also made to the annual non-executive directors meeting this year.

8.1.2 THE BOARD MEETING

According to the corporate governance practice, the Board designates dates of meetings in advance each year to enable the directors to allocate their time for the meetings. The Board may call special meetings to consider urgent matters if required. Directors who have unexpected engagement and are unable to attend a meeting must submit a leave of absence letter to the Chairman. Meeting notices and documents will be submitted to directors at least seven days prior to each meeting to provide the directors with adequate time to review the agendas before the meeting, except for urgent matters that require the calling of urgent meetings. If more information is needed, the directors can request the Company Secretary to respond to the queries in advance

In addition, the directors who have any conflict of interest with each agenda must not take part in the decision-making process of such agenda.

After the meeting, the minutes of meeting will be prepared for the Board' endorsement in the next meeting. The Chairman will countersign to endorse the minutes of meeting and it will be systematically kept for further use.

In 2020, GPSC held a total of 15 Board Meetings: 12 ordinary meetings and 3 special meetings, one Non-Executive Directors Meeting, and one Independent Directors Meeting. More importantly, GPSC has set up Protocols for Meetings of the Board to obtain a clear procedure, encompassing meeting management processes to ensure their efficiency.



MEETING ATTENDANCE OF GPSC DIRECTORS IN 2020

Name- Surname	Position	Board	Board (Special Meeting)	Audit Committee	Nomination and Remuneration Committee (NRC)	Corporate Governance Committee (CGC)	Risk Management Committee (RMC)	Risk Management Committee (RMC) (Special Meeting)	Non-Executive Directors	Independent Directors	Shareholders' Meeting
		12 Meetings	3 Meetings	6 Meetings	5 Meetings	4 Meetings	10 Meetings	2 Meetings	1 Meeting	1 Meeting	1 Meeting
1. Mr. Pailin Chuchottaworn	Independent Director / Chairman of the Board	12/12	3/3	-	-	-	-	-	1/1	1/1	1/1
2. Mr. Kurujit Nakomthap ⁽¹⁾	Independent Director / Chairman of the Corporate Governance Committee /	12/12	3/3	6/6	-	4/4	-	-	1/1	1/1	1/1
3. Mr. Payungsak Chartsutipol	Member of the Audit Committee	12/12	3/3	-	5/5	-	10/10	2/2	1/1	1/1	1/1
4. Maj.Gen. Chaowalek Chayansupap	Independent Director / Member of the Audit Committee	12/12	3/3	6/6	3/3	-	-	-	1/1	1/1	1/1
5. Mrs. Nicha Hiranburana Thuvatham	Independent Director / Member of the Corporate Governance Committee	10/12 ⁽²⁾	3/3	2/2	-	3/4 ⁽³⁾	-	-	1/1	1/1	1/1
6. Mrs. Saowanee Kamolbutr ⁽⁴⁾	Independent Director / Chairman of the Audit Committee	7/7	2/2	4/4	-	-	-	-	1/1	1/1	N/A
7. Mr. Somchai Meesen ⁽⁵⁾	Independent Director / Member of the Corporate Governance Committee	7/7	2/2	-	-	2/2	-	-	1/1	1/1	N/A
8. Mr. Wittawat Svasti-Xuto	Director / Member of the Nomination and Remuneration Committee / Member of the Risk Management Committee	12/12	3/3	-	5/5	-	10/10	2/2	1/1	-	1/1
9. Mr. Atikom Terbsiri ⁽⁶⁾	Director / Member of the Nomination and Remuneration Committee	12/12	3/3	-	2/2	2/2	-	-	1/1	-	1/1

Name- Surname	Position	Board	Board (Special Meeting)	Audit Committee	Nomination and Remuneration Committee (NRC)	Corporate Governance Committee (CGC)	Risk Management Committee (RMC)	Risk Management Committee (RMC) (Special Meeting)	Non-Executive Directors	Independent Directors	Shareholders Meeting
		12 Meetings	3 Meetings	6 Meetings	5 Meetings	4 Meetings	10 Meetings	2 Meetings	1 Meeting	1 Meeting	1 Meeting
10. Mr. Wuttikorn Stithit	Director	12/12	3/3	-	-	-	-	-	1/1	-	1/1
11. Mr. Kongkrapan Intarajang	Director / Member of the Risk Management Committee	12/12	3/3	-	-	-	10/10	2/2	1/1	-	1/1
12. Mr. Boonchai Chunhawiksit ⁽⁷⁾	Director	12/12	3/3	-	-	-	-	-	1/1	-	1/1
13. Mr. Wirat Uanarumit ⁽⁸⁾	Director / Member of Risk Management Committee	12/12	3/3	-	-	-	10/10	2/2	1/1	-	1/1
14. Mr. Bandhit Thamprajamchit	Director / Member of the Corporate Governance Committee	12/12	3/3	-	-	4/4	-	-	1/1	-	1/1
15. Mr. Worawat Pitayasiri ⁽⁹⁾	Director / Secretary to the Board / Member of the Risk Management Committee / President and Chief Executive Officer	1/1	-	-	-	-	1/1	-	-	-	N/A
DIRECTORS WHO COMPLETED THE TERM IN 2020											
16. Ms. Peangpanor Boonklum ⁽¹⁰⁾	Director / Member of the Corporate Governance Committee	-	-	-	-	-	-	-	-	-	-
17. Mr. Chawalit Tippawanich ⁽¹¹⁾	Director / Secretary to the Board / Member of the Risk Management Committee / President and Chief Executive Officer	11/11	3/3	-	-	-	9/9	2/2	-	-	1/1

Remarks:

N/A : means not attended either the Director resigned or was appointed during the year 2020.

GPSC held one meeting of shareholders in 2020: namely the Annual General Meeting of Shareholders (AGM) on June 4, 2020

- ⁽¹⁾ Mr. Kurujit Nakornthap, at the 2020 Annual General Meeting of Shareholders (AGM) on June 4, 2020, was re-appointed as an independent director, with effect from June 4, 2020; and, at the Board' Meeting (Board's Meeting) No. 7/2020 on June 17, 2020, was re-appointed as Chairman of the Corporate Governance Committee and Member of the Audit Committee with effect from June 18, 2020.
- ⁽²⁾ Mrs. Nicha Hiranburana Thuvatham was not able to attend the Board' Meeting No. 2/2020 of February 12, 2020, due to urgent matter, and neither the Board' Meeting No. 6/2020 of May 15, 2020 due to an urgent mission on the meeting of the COVID-19 Situation Management Center.
- ⁽³⁾ Mrs. Nicha Hiranburana Thuvatham Thuvatham was not able to attend the Board' Meeting No. 1/2020 of January 20, 2020, due to urgent matter.
- ⁽⁴⁾ Mrs. Saowanee Kamolbutr, at the 2020 AGM on June 4, 2020, was appointed as an independent director, with effect from June 4, 2020, and, at the Board's Meeting No. 7/2020 of June 17, 2020, was appointed as Chairman of the Audit Committee, with effect from June 18, 2020.
- ⁽⁵⁾ Mr. Somchai Meesen, at the 2020 AGM on June 4, 2020, was appointed as an independent director, with effect from June 4, 2020, and, at the Board's Meeting No. 7/2020 of June 17, 2020, was appointed as a Member of the Corporate Governance Committee, with effect from June 18, 2020.
- ⁽⁶⁾ Mr. Atikom Terbsiri, at the Board's Meeting No. 11/2019 of November 19, 2019, were appointed as a director and Member of the Corporate Governance Committee, replacing Miss Peangpanor Boonklum who resigned, with effect from January 1, 2020; and, at the 2020 AGM on June 4, 2020, was re-appointed as a director, with effect from June 4, 2020; and, at the Board's Meeting No. 7/2020 of June 17, 2020, was re-appointed as a Member of the Nomination and Remuneration Committee, with effect from June 18, 2020.
- ⁽⁷⁾ Mr. Boonchai Chunhawiksit, at the 2020 AGM of June 4, 2020, was re-appointed as a director, with effect from June 4, 2020 and resigned from directorship with effect from January 1, 2021. Mr. Todsaporn Boonyapipat, at the Board's Meeting No. 15/2020 of December 16, 2020, was appointed as a director, replacing Mr. Boonchai Chunhawiksit, with effect from January 1, 2021.
- ⁽⁸⁾ Mr. Wirat Uanarumit, at the 2020 AGM of June 4, 2020, was re-appointed as a director, with effect from June 4, 2020, and at the Board's Meeting No. 7/2020 of June 17, 2020, was re-appointed as a Member of the Risk Management Committee, with effect from June 18, 2020.
- ⁽⁹⁾ Mr. Worawat Pitayasiri, at the Board' Meeting No. 13/2020 of November 6, 2020, was appointed as a director and secretary to the Board, Member of the Risk Management Committee, and President & CEO, with effect from December 1, 2020.
- ⁽¹⁰⁾ Ms. Peangpanor Boonklum resigned as a director and Member of the Corporate Governance Committee, with effect from January 1, 2020.
- ⁽¹¹⁾ Mr. Chawalit Tippawanich resigned as a director / Secretary to the Board / Member of the Risk Management Committee / President & CEO, with effect from December 1, 2020.

Director Remuneration

In 2020, the Board, with the recommendation of the Nomination and Remuneration Committee, considered the remuneration of the Board and the Sub-Committees, taking into account various relating factors, including the company's operating results, dividend payout to shareholders, the Board's performance, responsibilities of the Board and the Sub-committees, and comparison with other listed companies within the same industry and with a similar size. The following remuneration scheme for the Board was proposed to and subsequently approved at the 2020 Annual General Meeting of Shareholders.

1. Retainer Fee for Directors

1.1 Retainer fee

- Chairman 65,000 THB / month
- Directors 45,000 THB / month

1.2 Meeting allowance (only for the directors who attend the meeting)

- Chairman 25,000 THB / meeting; for no more than 15 meetings per year
- Directors 20,000 THB / meeting; for no more than 15 meetings per year

2. Meeting allowance for Sub-Committees

Meeting allowance for Sub-Committees, namely Audit Committee, Nomination and Remuneration Committee, Corporate Governance Committee and Risk Management Committee (only the directors who attend the meeting)

- Chairmen of Sub-Committees 37,500 THB / meeting; for no more than 15 meetings per year
- Members of Sub-Committees 30,000 THB / meeting; for no more than 15 meetings per year

3. Annual Bonus

The 2020 AGM resolved to approve annual bonuses for the directors, including those who completed their terms and/or retired during 2019, at the rate of 0.5 percent of the 2019 net profit but not exceeding THB 25 million. The bonus portion is calculated based on the term of each director. The Chairman of the Board shall receive an amount which is 25 percent higher than other directors.

4. Other Remuneration

-None-



REMUNERATION OF GPSC DIRECTORS IN 2020 (Unit: Baht)

Name - Surname	Position	Board		Audit Committee (AC)	Nomination & Remuneration Committee (NRC)	Corporate Governance Committee (CGC)		Risk Management Committee (RMC)		Annual Bonus for 2019 Performance ⁽¹⁾	Total
		Retainer Fee	Meeting Allowance			Meeting Allowance	Meeting Allowance	Meeting Allowance	Meeting Allowance		
1 Mr. Pailin Chuchothaworn	Independent Director / Chairman of the Board	697,500.00	362,500.00	-	-	-	-	-	-	622,396.58	1,682,396.58
2 Mr. Kurujit Nakornthap ⁽²⁾	Independent Director / Chairman of the Corporate Governance Committee / Member of the Audit Committee	495,000.00	290,000.00	182,500.00	-	137,500.00	-	-	-	1,532,376.06	2,637,376.06
3 Mr. Payungsak Chartsutipol	Independent Director / Chairman of the Risk Management Committee / Chairman of the Nomination and Remuneration Committee	495,000.00	290,000.00	-	162,500.00	-	-	425,000.00	-	1,532,376.06	2,904,876.06
4 Maj. Gen. Chaowalek Chayansupap	Independent Director / Member of the Audit Committee	495,000.00	290,000.00	170,000.00	70,000.00	-	-	-	-	1,532,376.06	2,557,376.06
5 Mrs. Nicha Hiranburana Thuvatham	Independent Director / Member of the Corporate Governance Committee	495,000.00	270,000.00	50,000.00	-	90,000.00	-	-	-	1,532,376.06	2,437,376.06
6 Mrs. Saowanee Kamolbutr ⁽³⁾	Independent Director / Chairman of the Audit Committee	310,500.00	180,000.00	150,000.00	-	-	-	-	-	-	640,500.00
7 Mr. Somchai Meesen ⁽⁴⁾	Independent Director / Member of the Corporate Governance Committee	310,500.00	180,000.00	-	-	60,000.00	-	-	-	-	550,500.00
8 Mr. Wittawat Svasti-Xuto	Director / Member of the Nomination and Remuneration Committee / Member of the Risk Management Committee	495,000.00	290,000.00	-	130,000.00	-	-	340,000.00	-	1,532,376.06	2,787,376.06
9 Mr. Atikom Terbsiri ⁽⁵⁾	Director / Member of the Nomination and Remuneration Committee	495,000.00	280,000.00	-	60,000.00	50,000.00	-	-	-	-	885,000.00
10 Mr. Wuttikorn Stithit	Director	495,000.00	280,000.00	-	-	-	-	-	-	1,150,331.62	1,925,331.62
11 Mr. Kongkrapan Intarajang	Director / Member of the Risk Management Committee	495,000.00	290,000.00	-	-	-	-	340,000.00	-	1,532,376.06	2,657,376.06

Name - Surname	Position	Board		Audit Committee (AC)		Nomination & Remuneration Committee (NRC)		Corporate Governance Committee (CGC)		Risk Management Committee (RMC)		Annual Bonus for 2019 Performance ⁽¹⁾	Total
		Retainer Fee	Meeting Allowance	Meeting Allowance	Meeting Allowance	Meeting Allowance	Meeting Allowance	Meeting Allowance	Meeting Allowance	Meeting Allowance			
12 Mr. Boonchai Chumhawiksit ⁽⁶⁾	Director	495,000.00	290,000.00	-	-	-	-	-	-	-	-	386,242.73	1,171,242.73
13 Mr. Wirat Unanarumit ⁽⁷⁾	Director / Member of the Risk Management Committee	495,000.00	280,000.00	-	-	-	-	-	-	340,000.00	-	512,191.45	1,627,191.45
14 Mr. Bandhit Thamprajamchit	Director / Member of the Corporate Governance Committee	495,000.00	290,000.00	-	-	-	-	110,000.00	-	-	-	1,532,376.06	2,427,376.06
15 Mr. Worawat Pitayasin ⁽⁸⁾	Director / Secretary to the Board / Member of the Risk Management Committee / President and Chief Executive Officer	45,000.00	20,000.00	-	-	-	-	-	-	30,000.00	-	-	95,000.00
DIRECTORS WHO RESIGNED / COMPLETED THE TERM IN 2020													
16 Ms. Peangpanor Boonklum ⁽⁹⁾	Director / Member of the Corporate Governance Committee	30,000.00	10,000.00	-	-	-	-	-	-	-	-	1,532,376.06	1,572,376.06
17 Mr. Chawalit Tippawanich ⁽¹⁰⁾	Director / Secretary to the Board / Member of the Risk Management Committee / President and Chief Executive Officer	450,000.00	250,000.00	-	-	-	-	-	-	280,000.00	-	1,532,376.06	2,512,376.06
DIRECTOR WHO COMPLETED THE TERM / RESIGNED IN 2019 (RECEIVED ANNUAL BONUS FOR 2019 PERFORMANCE)													
18 Mr. Surong Bulakul ⁽¹¹⁾	Director / Chairman of the Board	-	-	-	-	-	-	-	-	-	-	477,555.55	477,555.55
19 Mrs. Suvimol Chrityakierne ⁽¹²⁾	Director / Member of the Risk Management Committee	-	-	-	-	-	-	-	-	-	-	1,020,184.61	1,020,184.61
20 Mr. Atikom Terbsiri ⁽¹³⁾	Director / Member of the Risk Management Committee	-	-	-	-	-	-	-	-	-	-	1,020,184.61	1,020,184.61
21 Mr. Supattanapong Panmeechao ⁽¹⁴⁾	Director	-	-	-	-	-	-	-	-	-	-	1,323,511.11	1,323,511.11
Total		7,288,500.00	4,142,500.00	552,500.00	422,500.00	447,500.00	1,755,000.00	20,303,982.80	34,912,482.80				

Remarks

- ⁽¹⁾ Bonus for 2019 performance approved at the 2020 AGM was paid to directors on June 25, 2020
- ⁽²⁾ Mr. Kurujit Nakornthap was, at the 2020 Annual General Meeting of Shareholders (AGM) on June 4, 2020, was re-appointed as an independent director, with effect from June 4, 2020; and, at the Board' Meeting (Board's Meeting) No. 7/2020 on June 17, 2020, was re-appointed as Chairman of the Corporate Governance Committee and Member of the Audit Committee with effect from June 18, 2020.
- ⁽³⁾ Mrs. Saowanee Kamolbutr, at the 2020 AGM on June 4, 2020, was appointed as an independent director, with effect from June 4, 2020, and, at the Board's Meeting No. 7/2020 of June 17, 2020, was appointed as Chairman of the Audit Committee, with effect from June 18, 2020.
- ⁽⁴⁾ Mr. Somchai Meesen, at the 2020 AGM on June 4, 2020, was appointed as an independent director, with effect from June 4, 2020, and, at the Board's Meeting No. 7/2020 of June 17, 2020, was appointed as a Member of the Corporate Governance Committee, with effect from June 18, 2020.
- ⁽⁵⁾ Mr. Atikom Terbsiri, at the Board's Meeting No. 11/2019 of November 19, 2019, were appointed as a director and Member of the Corporate Governance Committee, replacing Miss Peangpanor Boonklum who resigned, with effect from January 1, 2020; and, at the 2020 AGM on June 4, 2020, was re-appointed as a director, with effect from June 4, 2020; and, at the Board's Meeting No. 7/2020 of June 17, 2020, was appointed as a Member of the Nomination and Remuneration Committee, with effect from June 18, 2020.
- ⁽⁶⁾ Mr. Boonchai Chunhawiksit, at the 2020 AGM of June 4, 2020, was re-appointed as a director, with effect from June 4, 2020 and resigned from directorship with effect from January 1, 2021. Mr. Todsaporn Boonyapipat, at the Board's Meeting No. 15/2020 of December 16, 2020, was appointed as a director, replacing Mr. Boonchai Chunhawiksit, with effect from January 1, 2021.
- ⁽⁷⁾ Mr. Wirat Uanarumit, at the 2020 AGM of June 4, 2020, was re-appointed as a director, with effect from June 4, 2020, and at the Board's Meeting No. 7/2020 of June 17, 2020, was re-appointed as a Member of the Risk Management Committee, with effect from June 18, 2020.
- ⁽⁸⁾ Mr. Worawat Pitayasiri, at the Board' Meeting No. 13/2020 of November 6, 2020, was appointed as a director and Secretary to the Board, Member of the Risk Management Committee, and President & CEO, with effect from December 1, 2020.
- ⁽⁹⁾ Ms. Peangpanor Boonklum resigned as a director and Member of the Corporate Governance Committee, with effect from January 1, 2020.
- ⁽¹⁰⁾ Mr. Chawalit Tippawanich resigned as a director / Secretary to the Board / Member of the Risk Management Committee / President and CEO with effect from December 1, 2020.
- ⁽¹¹⁾ Mr. Surong Bulakul completed his term as director at the 2019 AGM on April 1, 2019.
- ⁽¹²⁾ Mrs. Suvimol Chrityakierne resigned as a director with effect from September 1, 2019.
- ⁽¹³⁾ Mr. Atikom Terbsiri resigned as a director with effect from September 1, 2019.
- ⁽¹⁴⁾ Mr. Supattanapong Panmeechao resigned as a director with effect from October 1, 2019.

Remuneration of GPSC's Independent Directors Seconded to GPSC's Parent Company, Subsidiaries, or Sister Companies, as of December 31, 2020.

(Unit: Baht)

Name - Surname	Company	Position	Secondment Period in 2019	Total Remuneration (Baht)
1. Mr. Pailin Chuchottaworn ⁽¹⁾	PTT Plc	Independent Director/ Member of the Risk Management Committee	September 11, 2020 – December 31, 2020	845,647.66
Total				845,647.66

Remarks

⁽¹⁾ Mr. Pailin Chuchottaworn was appointed to PTT Plc's Board of Directors on September 11, 2020. This compensation included the first and second round of the 2020 bonus.

8.1.3 Governance of affiliates

GPSC has a policy to conduct due diligence for all its affiliates (subsidiaries, associates and related companies) to look after company investment as well as building value and confidence for all stakeholders. Therefore, the Company has established a "GPSC Way of Conduct" to serve as an administrative mechanism for GPSC Group. This is a collection of practice guidelines and processes in GPSC and GPSC Group to align all practices and create a standard for the connection and coordination in business of all GPSC companies to ensure successful accomplishment of targets and to achieve transparent and sustainable growth together.

The GPSC Way of Conduct comprises five governance practices:

1. Key strategic positions

GPSC has a long-standing practice of seconding executives and employee to key strategic positions in its affiliates according to agreed commitment or business conditions. It has determined a "Criteria for Recruitment and Appointment of Directors of Invested Companies" as criteria for its selection of directors and executives of subsidiary companies and associates. The number of directors in subsidiary companies and associates would depend on GPSC's equity or as agreed upon. As for investment in related companies, the Company does not have a governance policy, as investment ratios are relatively small.

The responsibility of GPSC's representatives is to provide due diligence of subsidiaries, associates, and related

companies and ensure strict adherence to operational and management requirements as well as good practices in alignment with the policy framework and strategic directions of the Company, including corporate governance principles, legal compliance, human resource management as well as other key policies.

2. Rules and Regulations

The Company has a requirement that rules, regulations, conditions, policies as well as orders are part of the governance principles to generate linkage and coordination in accordance with GPSC's governance policies and successful application of these policies. The various rules, regulations, conditions and policies as well as orders are what GPSC representatives will be using in their work as directors, top executives, executives or operators in affiliates and are required to follow and establish as the same standards in GPSC Group.

3. Reporting line and performance management

GPSC requires that a performance report and operational result management according to its guidelines be made as part of the due diligence. GPSC Group must report on the progress of various policies to Company management and/or company directors. To ensure that the GPSC Way of Conduct is effectively and efficiently mobilized, GPSC has defined clear operational indicators.

Moreover, the Company has established administrative structures for each subsidiary company, associate and related company for effective and efficient oversight of

operations and performance results as follows:

- Monitor and provide recommendations for all operations of each subsidiary company, associate and related company to ensure compliance with various contracts and related rules and regulations
- Constantly follow up on performance results of each subsidiary company, associate, and related company as well as providing recommendations to ensure that each performance is achieved on target and that each can manage obstacles in a timely and appropriate manner.
- Consider, monitor and provide recommendations for each subsidiary company, associate and related company to feature appropriate disclosure of information and internal control as well as a system to effectively and efficiently sustain business operations.
- Consider, monitor and provide recommendations for regular review and improvement of key policies and plans of each subsidiary company, associate and related company to ensure updated and appropriate business operations.

4. Multi-level Governance

To unify the management of GPSC Group and ensure that procedures are clear and connected, the Company has designed a multi-level governance system by direct transfer of knowledge of the GPSC Way of Conduct to a daughter company which has the authority to conduct due diligence through GPSC executives that are working as the top executive in a given affiliate. This company must establish a group management system of its own to cascade the GPSC Group management approach to each next company they hold shares in. The transfer must be made to a company with the capacity of governance and must comprise governance principles and a strategic alignment policy to provide a unified standard throughout GPSC Group.

5. GSPC Group Management Committee (GPSC-GMC)

The Company has appointed a GSPC Group Management Committee (GPSC-GMC) to help steer group management efficiently and act as a forum for discussion and advice and jointly determine the way forward. A report must

be made regularly to the GPSC-GMC.

The Company must also define plans and implement them to ensure that each subsidiary company, associate and related company disclose its performance data and financial status, including other data that must be made available to regulators, applicable state organizations and outside investors, including the public, accurately, completely and credibly. If it is necessary for the affiliate to have related party transactions or engage in possible conflicts of interest, it must monitor the affiliate's action to make sure that the transaction is made with transparency and fairness. The Company must strictly comply with the criteria of related party transactions as well as acquisition and sale of assets as states by regulators.

8.1.4 Monitoring of Compliance with Corporate Governance Policy and Guideline

1) Prevention of Conflicts of Interest

GPSC's directors, executives, and employees are required to produce disclosure reports that may result in possible conflicts of interest of themselves or their related persons with the Company yearly and every time a conflict is encountered (incident report) by using the designated "GPSC Conflict of Interest Disclosure Form" and notify their supervisor to sign his/her name for acknowledgment and then send the "GPSC Conflict of Interest Disclosure Form" to Compliance.

Compliance will then compile the information and summarize the connected transactions that may cause conflicts of interest to the Management Committee for acknowledgment and management to prevent such actions by related parties, and report to the Corporate Governance Committee for acknowledgment yearly.

2) Supervision of the Use of Inside Information for Unlawful Gain

GPSC has developed a policy on the protection against abuse of inside information in compliance with laws and corporate governance, which has been disseminated among GPSC's directors, executives, and employees. The policy and measures against abuse of inside information for unlawful gain are as follows:

Policy on the Protection against Abuse of Inside Information

- 1) GPSC's directors and executives have been informed of their duty to submit reports of change in securities holding of themselves, their spouses, and their minor children to the Securities and Exchange Commission (SEC), a duty as stipulated by the Securities and Exchange Act B.E. 2535 (1992) (including its amendment).
- 2) GPSC's directors and executives must report changes in their holding of GPSC's securities at Board meetings.
- 3) GPSC's directors and executives, including executive officers in accounting or finance at or above the vice president level and employees involved in operations that give them knowledge of inside information material to changes in securities prices, must suspend their purchase and selling of GPSC's securities until the public disclosure of financial statements or positions. These individuals will be informed of their suspension in written form at least 30 days before the public disclosure and should wait at least 24 hours after the disclosure before making any trade. They are also prohibited from disclosing such material information to other people.
- 4) GPSC's directors, executives, and employees are prohibited from exploiting inside information that may affect changes in GPSC's securities prices which has not been publicly disclosed but is accessible to them because of their offices or positions to purchase or sell, offer to purchase or sell, or invite any other person to purchase, sell or offer to purchase or sell GPSC's stocks or securities (if any or directly or indirectly) in such a way as to damage GPSC, whether or not such an act is done for their own or another person's benefit or to disclose such information so that they may receive consideration from the person who engages in such acts.
- 5) GPSC's directors, executives, and employees, both current and former, are prohibited from disclosing GPSC's inside information and classified information as well as confidentiality of GPSC's suppliers accessible to them because of their duties to an external person even if such disclosure may not damage GPSC and its suppliers.
- 6) GPSC's directors, executives, and employees, both current and former, must protect GPSC's confidentiality and/or inside information and must use GPSC's inside information solely for its business operations. In addition, GPSC's directors, executives, and employees are prohibited from exploiting GPSC's confidentiality and/or inside information to benefit any other companies in which they are shareholders, directors, executives, and employees.
- 7) Disciplinary actions shall be enforced for any violation of the use of inside information for personal interests, ranging from warning notifications, payment cuts, temporary suspension without pay, to termination of employment. The severity of the disciplinary action is based on the intention and the gravity of the violation.

Protection against Abuse of Inside Information in Action

- 1) New directors and executives of GPSC are informed and made aware of their duty to report changes in securities holdings of themselves, their spouses, and their minor children within three days after such changes via SEC's online system. In addition, current directors and executives will also be reminded regularly via notices and emails to submit reports in changes in securities holdings (if applicable).
- 2) GPSC's directors, executives, and relevant employees will be notified in writing of the black-out period designated by GPSC before public disclosure of information material to changes in securities prices.
- 3) The securities holdings GPSC's directors and executives will be disclosed in annual reports and on GPSC's website. In addition, the Board will track changes in securities holdings of GPSC's directors and executives monthly through reports at Board meetings. In 2020, no directors or executives were found to purchase or sell GPSC's securities during the black-out period.

Directors and Executives' Shareholding in GPSC in 2020 (including Spouses and Minors)

Name-Surname	Number of shares		Increase/ (decrease)	Remark
	Dec 31, 2019	Dec 31, 2020		
Directors				
1. Mr. Pailin Chuchottaworn		-	-	-
2. Mr. Kurujit Nakornthap	57,029	57,029	-	-
3. Mr. Payungsak Chartsutipol	138,789	138,789	-	-
4. Maj.Gen. Chaowalek Chayansupap	-	-	-	-
5. Mrs. Nicha Hiranburana Thuvatham	-	-	-	-
6. Mrs. Saowanee Kamolbutr	-	-	-	-
7. Mr. Somchai Meesen	-	-	-	-
8. Mr. Wittawat Svasti-Xuto	57,029	57,029	-	-
9. Mr. Atikom Terbsiri	137,300	137,300	-	-
10. Mr. Wuttikorn Stithit	-	-	-	-
By spouse	10,000	10,000	-	-
11. Mr. Kongkrapan Intarajang	-	-	-	-
12. Mr. Boonchai Chunhawiksit	-	-	-	-
13. Mr. Wirat Uanarumit	-	-	-	-
14. Mr. Bandhit Thamprajamchit	-	-	-	-
15. Mr. Worawat Pitayasiri	-	-	-	-
Senior Executives (SEC's definition) and Company Secretary				
1. Mr. Worawat Pitayasiri	-	-	-	-
2. Mr. Pajongwit Pongsivapai	-	-	-	-
3. Mrs. Wanida Boonpiraks	109,100	109,100	-	-
4. Mr. Sirimet Leepagorn	-	-	-	-
5. Mrs. Rosaya Teinwan	28,228	28,228	-	-
6. Mrs. Sriprapha Sumruatruamphol	-	-	-	-
7. Mr. Samornchai Khoonrak	73,500	73,500	-	-
8. Mr. Arjan van den Broek	-	-	-	-
9. Ms. Pallapa Achanon	1,000	1,000	-	-

Remarks

- Mr. Wuttikorn Stithit is the only director with indirect shareholding through his spouse. Others do not have indirect shareholding.
- As of December 31, 2020, the total GPSC shares held directly and indirectly by directors and executives is equivalent to 0.0141910%

3) Anti-Corruption

Anti-Corruption in Action in 2020

- GPSC prescribed its proper internal control measure for actions against bribing domestic and foreign government officers and international organization officers according to the announcement of the National Anti-Corruption Commission.
- In 2020, GPSC submitted and secured recertification as member of Thai Private Sector Collective Action against Corruption (CAC).
- GPSC announced its No-Gift Policy during the New Year or other occasions, along with a related message from the President and Chief Executive Officer to all stakeholders, including its business partners, customers, the Company's subsidiaries, and outsiders on its website www.gpscgroup.com.
- GPSC required directors, executives, and employees to submit their annual conflict of interest reports.
- Anti-fraud and anti-corruption training sessions and communications were offered online.
- In 2020, GPSC hosted training sessions and communicated with different stakeholder groups, including directors, employees, executives, representatives of the Company's subsidiaries, suppliers, and other external parties about its anti-fraud and anti-corruption policy; guidelines for accepting/giving gifts, receptions, and other benefits; and whistleblowing and the whistleblower protection policy, as detailed below
 - **New Employees** GPSC held orientation sessions for its new employees to communicate to them and foster an understanding about the Company's principles of good corporate governance, code of business conduct, and anti-fraud and anti-corruption policy.
 - **Executives and employees** On November 12, 2020, GPSC through Compliance communicated its anti-fraud and anti-corruption measures with a focus on conflicts of interest to the Company's executives and employees through an activity entitled "GPSC GROUP QSHE & KM DAY 2020".
 - **Suppliers** On December 16, 2020, GPSC communicated its compliance with the Personal Data Protection Act B.E. 2562 (2019) and its anti-fraud and anti-corruption measures on GPSC GROUP SUPPLIER

DAY 2020. The roles and duties between the Company's employees and suppliers were emphasized for working together with good governance.

- **Companies in PTT Group / Subsidiaries** On December 23, 2020, GPSC and PTT Group organized the PTT Group CG Day 2020 activity under the "Step to the Future: New Normal with CG" theme for PTT Group employees. Relevant government agencies and the suppliers of each subsidiary were invited to witness PTT Group's commitment to corporate governance. The event was held online in compliance with the New Normal situations.

Guidelines for Information Disclosure on Anti-Fraud and Anti-corruption Measures

In 2020, GPSC prevented involvement in fraud and corruption of business operation of the Company and its Subsidiaries through the following measures:

- GPSC announced its anti-fraud and anti-corruption measures through its No-Gift Policy (on accepting/giving gifts, receptions, and other benefits), whistleblowing and a whistleblower protection policy approved by the Board to ensure implementation by GPSC's employees, as well as raising their awareness and training held to foster their understanding. Upon violation, the Company would exercise the most severe penalty of termination of employment and may take legal action if damage was done to the Company.
- GPSC announced GPSC Group Way of Conduct, which was approved by the Management Committee, with the following objectives:
 - Framework, mechanism, and supervision of the policy and operation of GPSC Group at a level appropriate to business through teamwork and efficient group management
 - Guidelines and supervision of the companies whose shares are held by GPSC through the following:
 - ▶ GPSC representative assigned to serve as executive directors in the companies whose shares are held by GPSC or those assigned to supervise the companies whose shares are held by GPSC
 - ▶ Internal units of GPSC assigned to supervise the companies whose shares are held by GPSC

- ▶ Agreement of the practice of each policy of GPSC with the companies whose shares are held by GPSC to foster cooperation and synergy in management to reach investment objectives.
- ▶ Increased capability and potential for business operation, risk management performance, and sustainability of its business group in tandem with the clarity of GPSC's operation.
- GPSC's extension as a CAC member was recertified. The Company conducted business risk assessment involving fraud and corruption, communication and training for employees on the anti-fraud and anti-corruption policy and practices, and monitoring and evaluation of the compliance with the anti-fraud and anti-corruption policy via E-learning.

4) Whistleblowing

GPSC provides the following complaint channels:

Mailing address

Address: Global Power Synergy Public Company Limited
555/2 Energy Complex Building B, 5th Floor, Vibhavadi-Rangsit Road, Chatuchak Sub-district, Chatuchak District, Bangkok 10900

E-mail Address

whistleblowing_complaint@gpscgroup.com

Website

<http://www.gpscgroup.com/th/cg/whistle-blowing>

In person

Compliance Division
Telephone : 0-2140-4600

In 2020, GPSC received one complaint through Email. The case was found to have met the criteria and thus accepted. An investigation was conducted and disciplinary action was taken on the related party under the Company's whistleblowing and whistleblower protection policy.



8.2 Performance Report of The Sub-Committees

8.2.1 Audit Committee Report

Dear Shareholders,

The Audit Committee consists of three independent directors, all of whom command pertinent expertise and experience in financial accounting, engineering, energy businesses, law, and management. They are, therefore, qualified to review the credibility of financial statements in accordance with the regulations of the Office of Securities and Exchange Commission (SEC) and the Stock Exchange of Thailand (SET). The Audit Committee comprises the Chairman, Mrs. Saowanee Kamolbutr, and two audit committee members, namely Mr. Kurijit Nakornthap, and Maj. Gen. Chaowalek Chayansupap. During the year, on June 18th, 2020, the Audit Committee's composition was changed once due to Mrs. Nicha Hiranburana Thuvatham's resignation from her post in the Audit Committee. As such, the Board of Directors at its 7/2020 meeting on June 17th, 2020 appointed Mrs. Saowanee Kamolbutr as the Chairman of the Audit Committee replacing Mr. Kurijit Nakornthap who still remain as a member of the Audit Committee. Serving as secretary to this Audit Committee is Ms. Attayar Sukotanang, Senior Vice President, Corporate Internal Audit of GPSC.

The Committee independently performed its duties as prescribed by GPSC's Board and as specified in the Audit Committee Charter, in compliance with all the rules stipulated by the SEC and SET. The Audit Committee strives to ensure good corporate governance and comprehensive reviews of financial reports, connected transactions, risk management, internal controls, and internal audit systems. The Audit Committee also ensures that the Company remains in compliance with laws and regulations relevant to GPSC's domestic and overseas operations in order to create value added to the organization.

In 2020, the Committee held 6 meetings, where consultations were held with the Management, Internal Audit Staff, and the External Auditor. This year's performance highlights are as follows:

1. Review of Financial Statements: The Committee reviewed material items and issues of quarterly and annual financial statements of GPSC and its subsidiaries, in

compliance with the Thai Financial Reporting Standards (TFRS), in cooperation with related members of the Management and the External Auditors. Material items reviewed included the accuracy and completeness of financial information, the important adjustment entries, the accounting estimation, as well as the information disclosure in the notes to the financial statements. The Committee also considered clarifications from the External Auditor, Top Executives, and other relevant parties which ultimately led to the conclusion that GPSC's financial statements and disclosures in the notes to the financial statements are aligned with TFRS. The external auditor gave an unqualified opinion was that the internal control evaluation results were appropriate, no data were concealed, and the external auditor was able to work independently. In addition, the Audit Committee, together with the external auditor, in the absence of the executives, discussed matters related to auditing plans, their independence in fulfilling their duties, and the opinions of the external auditor.

2. Review of Connected Transactions: The Committee reviewed connected transactions, particularly those posing potential conflicts of interest with GPSC and its subsidiaries under the guidelines of the SET's and the SEC's announcements. This review revealed that GPSC and its subsidiaries operated under regular business practices, exercised fairness and sensibility, and exhibited no benefit siphoning. In addition, its disclosure of information was carried out with accuracy and completeness in compliance with GPSC's corporate governance policies as well as the SEC's and the SET's notifications.

3. Review of Risk Management: The Committee reviewed the efficiency and appropriateness of GPSC's risk management, for which risk identification must consider internal and external factors, in terms of policy and processes in order to ensure that GPSC and its subsidiaries had in place appropriate risk management processes that minimized any negative impact and responded to changes effectively and promptly. Risk management practices were effectively executed under the stated policy and

plans, and were in line with GPSC and its subsidiaries' short-term and long-term goals and strategic plans.

- 4. Review of Internal Control System:** The Committee reviewed compliance with the law and relevant regulations, together with the Management, under the Three Lines of Defense concept, in which legal and regulatory compliance was audited, monitored, assessed, and reported on regular basis. In addition, the executives also assessed the internal control systems using the internal control assessment questionnaires prepared under the framework of the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

Moreover, the external auditor results demonstrated that there were grounds to be confident that GPSC and subsidiaries' internal control system helped to produce efficient and effective performance, and thus remained suitable for their businesses to achieve their defined objectives and goals. As a result, in 2020 no cases of violation of relevant laws and regulations were found in GPSC and its subsidiaries.

- 5. Review of Internal Audit System:** Having Corporate Internal Audit report directly to the Committee ensured the unit's independence as is specified necessary in the Audit Committee Charter. The Committee also reviewed and approved the annual internal audit plans and long-term plan covering GPSC, its subsidiaries, and their joint ventures. The Committee also regulated the unit's operation to comply with Internal International Standards for the Professional Practice of Internal Auditing (the Standard), also to align with the strategies and directions of GPSC. This included the oversight for internal audit quality assessment from internal and external assurance companies in order to enhance internal auditor's qualification and competency correlating to the Standard. In addition, the Committee assessed the annual performance of the Corporate Internal Audit and reviewed its structural suitability and efforts in the continuous development of personnel. The Committee supported internal auditors rotate function to other departments in order to enhance their qualification and competency correlating to the Standard. In 2020, the Committee also emphasized the importance of applying IT applications i.e. Data Analytics in the audit process for greater efficiency and effectiveness of audit work

and up-to-date on the current situation.

- 6. Appointment of the External Auditor for 2021:** This process involved selecting external auditor candidates based on their independence, skills, competence, and experience in the electricity and energy business, together with deciding upon acceptable fees. Ultimately, the Audit Committee nominated PricewaterhouseCoopers ABAS Limited (PWC) to the Board of Directors, which is to be proposed at the 2021 Annual General Meeting of Shareholders for consideration and appointment as the Company's External Auditor for the year 2021, names of individual auditors from PWC to be appointed as signing external auditors are : Ms. Amornrat Permpoonwathanasuk (CPA 4599), Mr. Boonruang Lertwisetwit (CPA 6552), or Mr. Phongthawee Ratanakoset (CPA 7795), or Ms. Wanvimol Preechawat (CPA 9548). These nominated auditors have already been on the SEC's approved auditor list.

In summary, the Audit Committee carried out its duties and responsibilities in the manner as stated in the Audit Committee Charter, employing their diverse expertise, care, prudence, and adequate independence while also providing recommendations for the equitable benefit of all stakeholders. The Audit Committee's opinion is that GPSC's financial reports are accurate and credible, and are also fully consistent with generally accepted accounting standards; GPSC's operations were in full compliance with all relevant laws and business obligations. Furthermore, the Committee found that GPSC had implemented good corporate governance, put in place adequate risk management, suitable and effective internal control, and efficacious internal audit systems.

On behalf of the Audit Committee.



(Mrs. Saowanee Kamolbutr)

Chairman of the Audit Committee

8.2.2 Report of the Nomination and Remuneration Committee

Dear Shareholders,

The Board of Directors of Global Power Synergy Public Company Limited (GPSC) has appointed the Nomination and Remuneration Committee consisting of at least three directors, one of whom must be an independent director. The current committee comprises three directors, namely Mr. Payungsak Chartsutipol (independent director) serving as chairman, with Mr. Wittawat Svasti-Xuto (director) and Mr. Atikom Terbsiri (director) serving as members.

In 2020, the committee held five meetings, as highlighted below.

1. Nominated qualified candidates for directorship to be submitted to the Board for consideration and proposing to the 2020 AGM for appointment as directors succeeding those who had completed their terms
2. Nominated qualified candidates for directorship to be submitted to the Board for consideration and proposing to the 2020 AGM
3. Nominated qualified candidates for directorship to be submitted to the Board for consideration and proposing to the 2020 AGM for appointment as directors succeeding those who had resigned before term completion
4. Nominated qualified candidates for serving on subcommittees by reviewing them against subcommittee composition, specifically expertise and appropriate skills for such service, before submitting them for the Board's appointment
5. Screened and proposed Board compensation for 2020 by reviewing GPSC's performance results and business size as well as those of companies of the same industry and the Board's responsibility for the Board's endorsement before forwarding to the AGM for approval
6. Reviewed the 2020 performance assessment of the President & CEO, the findings of which were forwarded to the Board for approval
7. Nominated qualified candidates for the President & CEO post, the findings of which were forwarded to the Board for approval.

On behalf of the Nomination
and Remuneration Committee



(Payungsak Chartsutipol)
Chairman of the Nomination
and Remuneration Committee

8.2.3 Report of the Corporate Governance Committee

Dear Shareholders,

Recognizing the importance of corporate governance (CG) to the foundation of corporate sustainability, which promotes business efficiency, the Board of Directors of Global Power Synergy Plc (GPSC) appointed a Corporate Governance Committee to steer tasks relating to CG practices, code of conduct, sustainability management, and stewardship of society, communities, and the environment. The current committee is made up of four directors, namely Mr. Kurujit Nakornthap (chairman), Mrs. Nicha Hiranburana Thuvatham (independent director), Mr. Somchai Meesen (independent director), and Mr. Bandhit Thamprajamchit (director) serving as members.

This year the committee held a total of four meetings, highlighted as follows:

1. Endorsed the CG report and a CG Code compliance report for 2019 for disclosure in the 2019 Form 56-1 and the 2019 annual report (Form 56-2)
2. Endorsed the CG and corporate compliance plans for 2020
3. Endorsed the plan for stewardship of society, communities, and the environment for 2020
4. Endorsed the sustainability management plan for 2020
5. Endorsed the criteria for shareholders' proposal of meeting agenda and nomination of directors for election at the 2021 AGM
6. Endorsed the CG report and compliance report for 2020 and endorsed related plans and budgets for 2021
7. Endorsed the report on stewardship of society, communities, and the environment for 2020 and endorsed related plans and budgets for 2021
8. Endorsed the report on sustainability management for 2020 and related plans and budgets for 2021
9. Endorsed the criteria and assessment forms for the Board's performance assessment for 2020
10. Endorsed the report on the plans for CAC (Thailand's Private Sector Collective Action Coalition against Corruption) membership renewal.

Thanks to GPSC's commitment to running its business with CG, the company garnered the following domestic awards for CG and sustainability management:

- Excellent rating given by Thai Institute of Directors under its CGR Project among Thai listed companies for the fifth consecutive year
- Sustainability Disclosure Award for 2020 (an honorary award) from Thaipat Institute for publicizing sustainability data to applicable stakeholders in the form of a sustainability development report, illustrating corporate development for long-term sustainability
- Thailand Sustainability Investment (THSI) Award for 2020 from SET, citing GPSC for its outstanding Environmental, Social, and Governance (GRC) management, successfully passing selection for a third year
- First runner-up in the ASEAN Renewable Energy Projects Awards 2020 from GPSC's project to improve and install a solar power generation system in Ko Kham Marine National Park in Chon Buri, illustrating the company's caliber for driving the business of clean, green energy development, leading to greenhouse gas emission reduction, thus agreeing with public policy in parallel with sustainable accommodation of Thailand's ecotourism
- CAC membership renewal in 2020 for a period of three years from the renewal date
- For the fifth consecutive year, ranking among the ESG 100 securities group for 2020 out of a field of 803 listed companies, presented by Thaipat Institute, which adopted the criterion of ESG operation in parallel with GPSC's performance outcomes
- Low Carbon and Sustainable Business Index (LCSI) excellence award presented by Thailand Greenhouse Gas Management Organization (Public Organization) for outstanding operation on greenhouse gas management and reduction.

On behalf of the Corporate Governance Committee



(Kurujit Nakornthap)

Chairman of the Corporate Governance Committee

8.2.4 Report of the Risk Management Committee

Dear Shareholders,

This past year was truly a challenging one facing our overall business, whose strategies were to maintain business security, grow domestic and international energy and renewable energy businesses, and grow battery and energy storage businesses—regarded as GPSC’s and Thailand’s New S-Curve undertaking. What emerged as severe ongoing impacts of Covid-19 has harmed business and social sectors worldwide, worsened by the domestic drought wreaking havoc on the domestic manufacturing sector.

Under such circumstances, GPSC valued risk management even more to mitigate impacts while pursuing opportunities amid assorted uncertainties so as to promote goal achievement under its mission, in addition to fostering confidence among GPSC’s investors and stakeholders.

GPSC therefore advocated Tone at the Top as a way to concretely manage risks. The Risk Management Committee (RMC), appointed by the Board of Directors, features five qualified directors, namely Mr. Payungsak Chartsutipol (chairman), Mr. Wittawat Svasti-Xuto, Mr. Kongkrapan Intarajang, Mr. Wirat Uanarumit, and Mr. Worawat Pittayasiri (members). This committee executed its tasks under its charter and GPSC’s Enterprise Risk Management (ERM) scope in line with COSO ERM 2017 and ISO 31000:2009.

This past year, meeting 12 times, this committee continued to value the steering of corporate risk management to support management’s operation with maximum efficiency by screening all issues with potential significant impacts on GPSC. All members attended these meetings, as highlighted below

1. Defined and reviewed the risk management policy together with the scope of enterprise risk management and reviewed GPSC’s risk appetite in keeping with strategic plans and business directions as well as prevailing circumstances
2. Commented on the annual corporate risk development and screened it in line with business directions, strategic plans, and corporate goals. Monitored and provided quarterly recommendations on management’s operation to ensure efficiency, thus leading to short-term and long-term goals in a sustainable way
3. Monitored and analyzed various external circumstances, including drought, Covid-19 epidemic, and cyber-attacks, which represented emerging risks. Advocated new models of management to enable GPSC to manage impacts efficiently and promptly, thus enabling the company to still proceed with its strategic plans and maintain planned outcomes
4. Monitored, assessed, and advised various investment projects to ensure that GPSC’s business commands efficiency under its risk appetite as well as concrete, practical mitigation plans.

On behalf of the Risk Management Committee



(Payungsak Chartsutipol)

Chairman of the Risk Management Committee

9. Internal Control

9.1 Internal Control

GPSC values internal control and risk management according to the standard of Committee of Sponsoring Organizations of the Treadway Commission (COSO) to achieve the three internal control objectives, namely efficient and effective operations, credibility of financial and other reports, and compliance. The Board of Directors assigns the Audit Committee to undertake a review to ensure that the business is equipped with an internal audit system, an internal control system, and a risk management system in line with the efficient and suitable internal control scope. The Audit Committee is also assigned to assess the adequacy of internal controls and make a report to the Board.

At the Audit Committee meeting No. 4/2563 on November 5, 2020, the Audit Committee reviewed the adequacy of internal controls for the year, taking into account the report on internal control adequacy jointly prepared by Internal Control, Company Secretary, and Corporate Governance together with management and other units. The review by the Audit Committee was based on the assessment form and guidelines of the SEC and SET. Five internal control aspects were looked into:

1. Control Environment

The Board and management gave practice guidelines based on integrity and a code of conduct, as evidenced in the charter, corporate value, policy, and principles on honesty and ethics in business operations, which have been communicated to all staff.

GPSC has defined a scope of authorities and responsibilities of the Board and subcommittees, as well as the CEO, in written form to clarify different duties and responsibilities. Business processes have been divided into the Three Lines of Defense for checks and balances. A policy on internal control was also formulated and cascaded down to staff to ensure their understanding in order to achieve the desired business targets.

2. Risk Assessment

To manage risk, GPSC's Board established a Risk Management Committee (RMC) to take charge of formulating and reviewing policy, defining a scope of organizational risk management, and overseeing as well as giving support for risk management that addresses business strategies and targets. The RMC also defines risk appetite for all different areas of work to ensure suitability for strategies and business



operations at a given time, which will be used for determining risk management direction. In this respect, the Risk Management and Internal Control Committee (RMCC) was established, with senior executives as members, to consider risk management plans at both corporate and functional levels. The RMCC is to report results of risk management to the RMC. The RMCC also set up an organizational risk management unit responsible for cooperation with various work units to encourage them to use risk management as a supporting tool to drive their functional operations towards the desired corporate goals. The organizational risk management unit is tasked with monitoring and analyzing enterprise risk management and reporting development to the RMC and RMCC.

GPSC follows the guidelines for risk management under the COSO ERM Framework and ISO 31000:2009, which focus on tangible enterprise risk management and cover assessment of both functional and corporate risk profiles. This is useful for management of risk and internal control system in the company.

Moreover, GPSC introduced a regulation in 2020 on investment criteria for GPSC and its affiliates, aiming for better control of investment and better management of subsidiaries. GPSC Way of Conduct was also launched as a tool to integrate operations of GPSC and subsidiaries to achieve ways of working that agree with one another, such as finance and accounting, business strategies and plans, risk management,

internal control, and human resource management.

3. Control Activities

The internal control system at GPSC has been designed for application to both corporate and functional levels, in line with acceptable levels of risk earlier defined. Control measures have been suitably incorporated into work processes in both manual and automated forms and in line with the Table of Authorities, regulations, and criteria concerned as seen fit for each type of risk. In addition, each function has drawn up its own policy, regulations, and operation manual to set its functional standard and a good design of internal control.

GPSC defines and reviews its compliance policy to ensure conformity with laws and company regulations so that directors, executives, and staff can act according to also ensure that business is strictly managed under both internal and external laws, regulations, orders, and announcements. GPSC also issued a regulation on behavior and actions considered disciplinary offences. Penalty will be imposed for any violation of lawful regulations or orders of the company or the supervisor, which harm GPSC.

4. Information & Communication

GPSC has designed work processes and defined the type of information required for each work process. This includes data collection and processing in the database designed for each work process. Data are reviewed, approved, updated, with accessibility as well as correct and efficient use ensured.

GPSC has defined means of internal communication for each type of information, such as email, the customized IT system, and GPSC Intranet. Means of communication also include the whistleblowing channel, recognized as part of internal controls needed for keeping confidence of whistleblowing issues. This particular communication channel must be separate from others.

As for communication with external parties, the Board allows disclosure of both financial and non-financial data to outsiders under the corporate governance policy through efficient,



reliable, and timely channels and methods. Shareholders and stakeholders have equal rights to receive such information. Release of company information is under the responsibility of a dedicated work unit responsible for public relations and investor relations.

5. Monitoring Activities

GPSC has established a process for monitoring compliance with corporate governance and other regulations on conflicts of interest under the corporate governance policy to ensure that internal controls are completely and suitably implemented.

GPSC assesses adequacy of internal controls by annually leveraging the Internal Control Self-Assessment form and guidelines of the SEC. The assessment is under the responsibility of Internal Control, Company Secretary, and Corporate Governance. With responsibility for continuously monitoring and assessing internal controls, Internal Control is required to perform its duties according to the international standard of the internal control profession under The Institute of Internal Auditors (IIA). Results are to be directly presented to the Corporate Governance Committee.

If Internal Control discovers or suspects any item or action that may harm business operations, or any conflict of interest, or fraud, or major irregularity or flaw in the internal control system, the chief of Internal Control will immediately consider and submit a report along with suggestions and recommendations to the Audit Committee and management. The Audit Committee will also file a report to the Board immediately so that corrective actions can be taken without delay, as stated in the charters for the Audit Committee and for Internal Control.

The Audit Committee, after having considered the adequacy of internal controls for 2020, regarded them as adequate and suitable for business operations in 2020. GPSC provided a sufficient number of personnel for carrying out efficient internal controls according to an earlier designed process. Internal control for GPSC and subsidiaries was in line with the GPSC Way of Conduct for 2020, which concerns governance principles and monitoring of business operations of

GPSC and subsidiaries to safeguard assets of GPSC and subsidiaries from misuse or unauthorized use against business objectives by directors and executives. Internal controls are also meant for adequately preventing transactions made by any person who may have a conflict of interest and related parties.

The Audit Committee made additional comments regarding internal controls as follows:

- Close monitoring to ensure strict compliance with work procedures and regulations to avoid risk to plant reliability.
- Management of cybersecurity to prevent cyber-attacks
- Management of personal data under Personal Data Protection Act, B.E. 2562 (2019); the chapter involving the business sector will come into effect in 2021.

Following the Board Meeting No. 15/2563 on December 16, 2020, with attendance by the seven independent directors and the three-member Audit Committee, the Board acknowledged results of the assessment of internal control adequacy for 2020 as proposed by the Audit Committee.

The above-mentioned assessment results of internal control adequacy and the results of account audit by licensed auditors during 2020 showed no irregularity in internal controls.

9.2 Connected Transactions

9.2.1 GPSC and subsidiaries' connected transactions with potential parties of conflict.

9.2.1.1 PTT Public Company Limited (“PTT”)

PTT holds 31.72% of GPSC's shares. There are 7 members of the Board of Directors who concurrently hold directorship or executive positions at PTT, namely Mr. Pailin Chuchottaworn, Mr. Wittawat Svasti-Xuto, Mr. Wuttikorn Stithit, Mr. Atikom Terbsiri, Mr. Kongkrapan Intarajang, Mr. Wirat Uanarumit and Mr. Worawat Pitayasiri.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Income from consultation service		GPSC Group was contracted by PTT as a consultant for the project involving using polymers in the solar floating PV system at an agreed price and under terms and conditions considered normal business practice.
• Revenue	4.05	
• Receivable	0.37	
Other income from financial rewards received from PTT		GPSC staff represented the company under PTT Group Operational Excellence and SPIRIT Award contest Projects, and were selected for financial rewards.
• Revenue	0.05	
Other income from pipe-rack rental		GPSC Group leased out its pipe-racks at a price and under terms and conditions considered normal business practice. Payment was made in advance and was booked as a fee for the long-term right to use the asset; however, income was gradually booked throughout the contract period.
• Revenue	0.65	
Purchase of natural gas		GPSC and subsidiaries purchased natural gas as raw material for power generation with prices and terms considered normal business practice.
• Expenses	31,767.86	
• Payable	3,021.82	
PTT secondment		PTT seconded its employees to GPSC in support of GPSC's business with prices and terms considered normal business practice.
• Expenses	87.80	
Expenses on pipe-rack rental		GPSC requested rental of pipe-racks with prices and terms considered normal business practice. Since GPSC paid six months' rent in advance, this was treated as an advance expense item.
• Expenses	2.93	
• Receivable	1.61	
• Advance revenue	5.00	

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Expenses on the use of pipeline and associated equipment		GPSC Group invested in a gas distribution system under a gas sales agreement with PTT. GPSC Group will transfer the system to PTT in exchange for the right to use such asset throughout the contract period. GPSC Group already booked the cost as deferred expenses and amortization throughout the contract period.
<ul style="list-style-type: none"> Expenses Interest payment on financial lease agreement 	4.00 4.44	
Expenses on gas pipeline system inspection		GPSC hired PTT to run a standard safety test of the pipeline system to ensure its operability at a price comparable to other vendors.
<ul style="list-style-type: none"> Expenses Payable 	0.07 0.08	
Use of PTT's Service Center		PTT set up a Service Center within its headquarters and EnCo, including a medical care center, fitness center, air booking center, and training center, and charged the fees at the same rate charged to PTT Group with prices and terms, considered normal business practice.
<ul style="list-style-type: none"> Expenses 	0.24	
Expenses on training		The expenses involve personnel development training to enhance staff's knowledge and skills to meet commercial requirements.
<ul style="list-style-type: none"> Receivable 	0.41	
Short-term loan		As financial assistance for GPSC, PTT charged interest at a rate comparable to commercial banks' short-term interest rates under a similar loan period and other terms.
<ul style="list-style-type: none"> Loan interest 	14.31	
Expenses on technical advisor		GPSC requested personnel support on technology research and development with prices and terms considered normal business practice.
<ul style="list-style-type: none"> Payable Asset cost 	3.21 3.00	
Expenses on lease of land		PTT leased out to GPSC EECi Wang Chan Valley to build a solar farm with the rental rate and agreement terms similar to what PTT charges to others.
<ul style="list-style-type: none"> Interest payment on financial lease agreement Advance expenses 	0.11 6.61	

9.2.1.2 PTT Global Chemical Public Company Limited (“GC”)

GC holds 22.73% of GPSC’s shares. There are three members of the Board of Directors who concurrently hold directorship or executive positions at GC, namely Mr. Wittawat Svasti-Xuto, Mr. Kongkrapan Intarajang, and Mr. Boonchai Chunhawiksit.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Income from sale of power, steam, and industrial water		GPSC and GC entered into individual sales agreements of each product with prices and terms that followed the same guidelines as those for other customers, both related and unrelated to GPSC.
● Revenue	7,183.65	
● Expenses	0.38	
● Receivable	618.92	
Income from engineering design, procurement and construction (EPC) service		GPSC made a contract with GC on providing EPC service at prices and on terms similar to those for other customers related or unrelated to GPSC, considered normal business practice.
● Revenue	1.23	
● Expenses	0.74	
● Receivable	7.27	
Income from operation and maintenance service		GPSC entered into an agreement with GC to provide operation and maintenance service for energy storage system (ESS) with prices and terms that followed the same guidelines as those for other customers, both related and unrelated to GPSC, considered normal business practice.
● Revenue	0.84	
● Receivable	0.26	
Other income from pipe-rack rental		GPSC Group leased out pipe-racks under a contract with rental rates and terms considered normal business practice. GPSC Group received the rental in advance, which was booked as income received in advance for the long-term right to use such asset while gradually booking income throughout the contract period.
● Revenue	9.78	
● Expenses	0.87	
● Advance revenue	33.00	
Expenses on repurchase of condensate containing water in excess of the volume specified in the contract, returned by the customers		Under the steam agreement, GC was required to return condensate of the contractual volume. Since GPSC needed more condensate than the contractual volume, it requested to repurchase such condensate from GC over and above the contract volume with prices and terms, considered normal business practice.
● Expenses	15.60	
Expenses on tail gas purchase		GPSC purchased tail gas for power generation at a price and under contractual conditions considered normal business practice.
● Expenses	308.85	
● Payable	33.17	
Expenses on gas pipeline system inspection		GPSC Group commissioned a pipeline standard test at a price comparable to other vendors.
● Expenses	0.15	
Short-term loan		GPSC received financial assistance offered with interest at a market rate comparable to commercial banks’ short-term interest rate under similar loan period and other conditions.
● Loan interest	4.24	

9.2.1.3 Thaipol Public Company Limited (“TOP”)

TOP and GPSC have the same major shareholder (PTT) with 45.03% shareholding⁽¹⁾. There are two members of the Board of Directors who concurrently hold directorships or executive positions at TOP, namely Mr. Wirat Uanarumit and Mr. Bandhit Thamprajamchit.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Income from the sale of industrial water		GPSC made a contract with TOP at prices and under terms comparable to other customers related and unrelated to GPSC.
• Revenue	19.84	
• Receivable	2.49	
Expenses on purchase of diesel		GPSC uses diesel as reserve fuel at the Sriracha Power Plant in case of natural gas delivery interruption with prices and terms, considered normal business practice.
• Expenses	11.96	
• Payable	2.10	
Expenses on land rental		Sriracha Power Plant lies on state property over which TOP earned possession and usage rights. TOP subleased such land to GPSC with prices and terms that followed the same guidelines as those for other customers.
• Expenses	4.82	
• Receivable	0.23	
• Deposit	3.04	
• Interest payment on financial lease agreement	1.32	
Expenses on raw water pipe rental		GPSC rented TOP’s raw-water pipes at the Sriracha Power Plant, linked to Eastern Water Resources Development and Management Plc. (EW)’s raw-water pipes, to buy water from EW with prices and terms, considered normal business practice.
• Expenses	3.09	
Expenses on office rental, water and electricity bills		GPSC rented office space from TOP since Sriracha Power Plant was located on TOP’s land with prices and terms, considered normal business practice.
• Expenses	0.18	
• Payable	0.05	
Expenses on community relations activities		TOP advanced payment for community relations activities jointly held with GPSC, to be reimbursed by GPSC, considered normal business practice.
• Expenses	0.17	
• Payable	0.07	
Expenses on the construction		GPSC and TOP entered into a purchase agreement for assets for the energy recovery unit (ERU) at prices and under terms comparable to other customers related and unrelated to GPSC.
• Prepaid expenses	2,191.59	
Expenses on the service and supply related to inspection and maintenance of equipment		GPSC hired TOP to provide service and supply related to inspection and maintenance of equipment with prices and terms considered normal business practice.
• Expenses	0.72	

Remark: ⁽¹⁾ Data about GPSC’s major shareholder may differ from other sources because PTT is in the process of acquiring GPSC’s shares from TOP and its group. After completing this process on February 1, 2021, PTT holds 31.7% and TOP holds 20.8%

9.2.1.4 Thaipower Company Limited (“TP”)

TP holds 20.78% of GPSC’s paid-up registered capital. In addition, Mr. Wirat Uanarumit and Mr. Bandhit Thamprajamchit serve as their common directors.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Income from sale of industrial water <ul style="list-style-type: none"> • Revenue 	0.38	GPSC and TP entered into a sales agreement of industrial water with prices and terms that followed the same guidelines as those for other customers, both related and unrelated to GPSC.

9.2.1.5 IRPC Public Company Limited (“IRPC”)

GPSC and IRPC have a common major shareholder, namely PTT, which holds 47.55% of IRPC’s paid-up registered capital.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Income from sale of power and steam <ul style="list-style-type: none"> • Revenue • Receivable 	2,296.75 404.93	GPSC Group and IRPC entered into individual sales agreements with prices and terms that followed the same guidelines as those for other customers, both related and unrelated to IRPC-CP.
Expenses on purchase of power, steam, industrial water and waste water treatment <ul style="list-style-type: none"> • Expenses • Payable 	155.13 3.21	Since GPSC Group’s plant was on the compound of IRPC’s plants, the company purchased each product and paid treatment charges to IRPC for system testing at the identical rate charged to others in the vicinity.
Expenses on office space rental, water and electricity bills, and central utilities <ul style="list-style-type: none"> • Expenses 	4.08	GPSC Group rented EnCo’s office space, and with most of its business partners’ headquarters at EnCo, the company conveniently coordinated with business partners. The rental followed the rates set under an agreement with IRPC, considered normal business practice.
Expenses on technical advisor <ul style="list-style-type: none"> • Expenses • Payable • Asset cost 	0.77 0.73 17.51	GPSC requested personnel support on technology research and development at a price and under contractual terms considered normal business practice.
Expenses on the conference room <ul style="list-style-type: none"> • Expenses 	0.03	GPSC’s conference room could not accommodate training participants and IRPC’s conference room is conveniently located in the same building with prices comparable to others in the vicinity.
Income from IRPC secondment <ul style="list-style-type: none"> • Revenue • Receivable 	0.18 0.19	GPSC seconded employees to IRPC in support of its business with prices and terms, considered normal business practice.

9.2.1.6 Business Services Alliance Company Limited (“BSA”)

GPSC holds 25% preferred shares of BSA’s paid-up registered capital. Also, both companies have common major shareholders, namely PTT, which owns BSA’s common shares accounting for 25% of BSA’s paid-up registered capital, and GC, which holds 25% preferred shares of BSA’s paid-up registered capital.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Expenses on the staff outsourcing service		GPSC Group hired BSA to provide outsourcing services of personnel to fit GPSC’s objectives with prices and terms, considered normal business practice.
• Expenses	53.21	
• Asset cost	4.52	
• Payable	4.93	

9.2.1.7 PTT Phenol Company Limited (“PPCL”)

GPSC and PPCL have a common major shareholder, namely GC, which wholly owns PPCL.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Income from sale of power, steam, industrial water, and nitrogen		GPSC and PPCL entered into individual sales agreements of each product with prices and terms that followed the same guidelines as those for other customers, both related and unrelated to GPSC, considered normal business practice.
• Revenue	2,826.62	
• Expenses	2.29	
• Receivable	382.98	
Other income from pipe-rack rental		GPSC Group leased out pipe-racks under a contract with rental rates and terms considered normal business practice. GPSC Group received the rental in advance, which was booked as income received in advance for the long-term right to use such asset while gradually booking income throughout the contract period.
• Revenue	0.85	

9.2.1.8 GC Maintenance and Engineering Company Limited (“GCME”)

GPSC and GCME have a common major shareholder, namely GC, which wholly owns GCME and have a common director in Mr. Boonchai Chunhawiksit.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Expenses on machinery maintenance and repair		GPSC engaged in a power plant service and maintenance agreement with GCME, an expert in maintenance, at mutually agreed prices and terms, considered normal business practice.
• Expenses	35.86	
• Asset cost	0.11	
• Payable	6.83	

9.2.1.9 NPC Safety and Environmental Service Company Limited (“NPC S&E”)

GPSC and NPC S&E have a common major shareholder, namely GC, which wholly owns NPC S&E.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Expenses on operating safety training and purchase of PPEs		GPSC engaged in an operating safety training service agreement with NPC S&E, an expert with its own training center and a supplier of standard PPEs, at mutually agreed prices and terms, considered normal business practice.
• Expenses	17.36	
• Payable	0.21	
• Inventory	0.38	

9.2.1.10 Vinythai Public Company Limited (“VNT”)

GPSC and VNT have a common major shareholder, namely GC, which holds 24.98% of VNT’s paid-up registered capital.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Income from sale of power and steam		GPSC and VNT entered into individual sales agreements of each product with prices and terms that followed the same guidelines as those for other customers, both related and unrelated to GPSC.
• Revenue	2,730.00	
• Receivable	288.50	
Other income from pipe-rack rental		GPSC Group leased out its pipe-racks at a price and under terms and conditions considered normal business practice. Payment was made in advance and was booked as a fee for the long-term right to use the asset; however, income was gradually booked throughout the contract period.
• Revenue	0.74	
• Advance revenue	3.00	

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Expenses on the purchase of sodium hydroxide <ul style="list-style-type: none"> • Expenses 	0.12	GPSC purchased sodium hydroxide for power generation at a price and under contractual conditions considered normal business practice.

9.2.1.11 HMC Polymers Company Limited (“HMC”)

GPSC and HMC have a common major shareholder, namely GC, which holds 41.44% of HMC’s paid-up registered capital and have a common director in Mr. Boonchai Chunhawiksit.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Income from sale of power, steam, and industrial water <ul style="list-style-type: none"> • Revenue • Receivable 	1,487.99 124.20	GPSC and HMC entered into individual sales agreements of each product with prices and terms that followed the same guidelines as those for other customers, both related and unrelated to GPSC considered normal business practice.
Other income from pipe-rack rental <ul style="list-style-type: none"> • Revenue • Advance revenue 	0.56 2.00	GPSC Group leased out its pipe-racks at a price and under terms and conditions considered normal business practice. Payment was made in advance and was booked as a fee for the long-term right to use the asset; however, income was gradually booked throughout the contract period.

9.2.1.12 PTT Tank Terminal Company Limited (“PTT Tank”)

GPSC and PTT Tank have a common major shareholder, namely PTT, which wholly owns PTT Tank.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Income from sale of nitrogen <ul style="list-style-type: none"> • Revenue • Receivable 	9.28 1.97	GPSC and PTT Tank entered into sales agreements with prices and terms that followed the same guidelines as those for other customers, both related and unrelated to GPSC, considered normal business practice.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Other income from pipe-rack rental		GPSC Group leased out its pipe-racks in Map Ta Phut with prices and terms that followed the same guidelines as those for other customers, both related and unrelated to GPSC considered normal business practice.
• Revenue	1.29	
• Advance revenue	9.00	
Other income from installation of pilot Floating Solar PV system		PTT Tank hired GPSC Group as a contractor to install the pilot Floating Solar PV system for power generation at an agreed price and under contractual conditions considered normal business practice.
• Revenue	4.00	
• Receivable	2.14	

9.2.1.13 PTT Asahi Chemical Company Limited (“PTTAC”)

GPSC and PTTAC have a common major shareholder, namely GC, which holds 50.00% of PTTAC’s paid-up registered capital.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Income from sale of power, steam, industrial water, and nitrogen		GPSC and PTTAC entered into individual sales agreements of each product with prices and terms that followed the same guidelines as those for other customers, both related and unrelated to GPSC considered normal business practice.
• Revenue	364.98	
• Receivable	28.22	
Other income from pipe-rack rental		GPSC Group leased out its pipe-racks in Map Ta Phut with prices and terms that followed the same guidelines as those for other customers, both related and unrelated to GPSC considered normal business practice.
• Revenue	0.88	
• Advance revenue	7.00	
Advance payment for equipment repair for steam pipes		PTTAC requested to receive more steam, from 20 tons to 80 tons, and installed a Restriction Orifice (RO) at the steam metering station in the plant. GPSC made advance payment and was refunded by PTTAC.
• Receivable	0.13	
Expenses on the purchase of steam		Due to excess steam in PTTAC’s processes, GPSC purchases such steam at mutually agreed prices and terms, considered normal business practice.
• Expenses	283.13	
• Payable	26.86	
• Receivable	4.89	

9.2.1.14 GC Logistics Solutions Company Limited (“GCL”)

GPSC and GCL have a common major shareholder, namely GC, which wholly owns GCL.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Income from operation and maintenance service		GPSC entered into an agreement with GCL to provide operation and maintenance service for solar rooftop PV and energy storage system (ESS) with prices and terms that followed the same guidelines as those for other customers, both related and unrelated to GPSC, considered normal business practice.
• Revenue	1.63	
• Receivable	0.35	
Income from sale of power and steam		GPSC and GCL entered into individual sales agreements of each product with prices and terms that followed the same guidelines as those for other customers, both related and unrelated to GPSC considered normal business practice.
• Revenue	61.94	
• Receivable	6.12	

9.2.1.15 Energy Complex Company Limited (“EnCo”)

GPSC and EnCo have a common major shareholder, namely PTT, which owns 50.00% of EnCo’s paid-up registered capital.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Expenses on office space rental and other related services, including parking fee, water and electricity bills, and equipment repair		GPSC rented EnCo’s office since most of its business partners are headquartered at EnCo and conveniently coordinated matters with them. The rent contained mutually agreed prices and terms, considered normal business practice.
• Expenses	14.42	
• Deposit	4.58	
• Payable	0.13	
• Interest payment on financial lease agreement	0.74	

9.2.1.16 PTT Digital Solution Company Limited (“PTT Digital”)

GPSC and PTT Digital have common major shareholders, namely GC, PTT and TOP, holding 40%, 20%, and 20% of PTT Digital’s paid-up registered capital.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Income from fiber optic rental		Since GPSC had surplus fiber optic capacities, it engaged in a memorandum of agreement for fiber optic use with PTT Digital with prices as agreed in the memorandum, considered normal business practice.
• Revenue	0.21	
• Receivable	0.21	

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Expenses on ICT		GPSC Group hired PTT Digital for their specialization in ICT services for server networks, the internet, emails, training, and installation of ICT support system for meetings, together with SAP system maintenance. The service fees are considered normal business practice
• Expenses	52.13	
• Payable	4.65	
• Receivable	0.95	
Capital expenditure for development of new programs		GPSC Group acquired systems and hired PTT Digital, which was skillful and appreciated the work of GPSC Group and its affiliates, at prices and terms as mutually agreed, considered normal business practice
• Asset cost	26.05	
• Payable	15.69	

9.2.1.17 Dhipaya Insurance Public Company Limited (“TIP”)

GPSC and TIP have a common major shareholder, namely PTT, which owns 13.33% of TIP’s paid-up registered capital.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Expense on plants insurance, business interruption insurance, and COVID-19 insurance		The insurance taken out by GPSC Group was group insurance. PTT had hired TIP, an expert in the insurance business that was skillful in representing brokers for large-scale insurance to handle the entire PTT Group. Insurance premiums and other terms are considered normal business practice.
• Expenses	123.69	
• Asset cost	0.18	
• Receivable	54.63	
• Payable	0.67	

9.2.1.18 GC Glycol Company Limited (“GCGC”)

GPSC and GCGC have common major shareholder, namely GC, which wholly owns GCGC and have common director Mr. Boonchai Chanhawiksit.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Income from sale of power, steam, and industrial water		GPSC and GCGC entered into individual sales agreements of each product with prices and terms that followed the same guidelines as those for other customers, both related and unrelated to GPSC, considered normal business practice.
• Revenue	897.51	
• Receivable	103.73	

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Other income from pipe-rack rental <ul style="list-style-type: none"> • Revenue 	0.10	GPSC Group leased out its pipe-racks at a price and under terms and conditions considered normal business practice. Payment was made in advance and was booked as a fee for the long-term right to use the asset; however, income was gradually booked throughout the contract period.
Advance income for steam sale under Minimum Take-or-Pay terms <ul style="list-style-type: none"> • Receivable 	51.77	Since the annual actual value of product purchase was lower than the minimum value specified in the contract, GPSC requested advance payment (Minimum Take-or-Pay : MTOP) from GCGC. If the purchase volume exceeds the minimum volume specified in the contract within the agreed period, GCGC can seek refund of such advance payment commensurate with the excess volume consumed. GPSC will book the remaining MTOP as the revenue for the year if GCGC is unable to consume steam over the minimum volume.

9.2.1.19 Global Green Chemical Public Company Limited (“GGC”)

GPSC and GGC have a common major shareholder, namely GC, which holds 72.29% of GGC’s paid-up registered capital, and two common directors in Mr. Payungsak Chartsutipol and Mr. Kongkrapan Intarajang.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Income from sale of power, steam, and industrial water <ul style="list-style-type: none"> • Revenue • Receivable 	383.61 31.95	GPSC and GGC entered into individual sales agreements of each product with prices and terms that followed the same guidelines as those for other customers, both related and unrelated to GPSC considered normal business practice.

9.2.1.20 Thai Fatty Alcohol Company Limited (“TFA”)

GPSC and TFA have a common major shareholder, namely GC, which wholly owns TFA through GGC.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Income from sale of power, steam, and industrial water <ul style="list-style-type: none"> • Revenue • Receivable 	97.45 8.59	GPSC and TFA entered into individual sales agreements of each product with prices and terms that followed the same guidelines as those for other customers, both related and unrelated to GPSC considered normal business practice.

9.2.1.21 Solution Creation Company Limited (“Solution Creation”)

GPSC and Solution Creation have a common major shareholder, namely GC, which wholly owns Solution Creation.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Expenses on utility delivery system construction <ul style="list-style-type: none"> • Expenses 	7.05	The construction of a utility transmission system cost incurred from Solution Creation canceled its product purchase from GPSC.

9.2.1.22 Thai Ethoxylate Company Limited (“TEX”)

GPSC and TEX have a common major shareholder, namely GC, which owns 50% of TEX’s paid-up capital through GGC.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Income from sale of power, steam, and industrial water <ul style="list-style-type: none"> • Revenue • Receivable 	28.98 2.50	GPSC and TEX entered into individual sales agreements of each product with prices and terms that followed the same guidelines as those for other customers, both related and unrelated to GPSC considered normal business practice.
Advance income for power sale under Minimum Take-or-Pay terms <ul style="list-style-type: none"> • Receivable 	0.63	Since the annual actual value of product purchase was lower than the minimum value specified in the contract, GPSC requested advance payment (Minimum Take-or-Pay: MTOP) from TEX. If the purchase volume exceeds the minimum volume specified in the contract within the agreed period, TEX can seek refund of such advance payment commensurate with the excess volume consumed. GPSC will book the remaining MTOP as the revenue for the year if TEX is unable to consume steam over the minimum volume.

9.2.1.23 Advanced Biochemical (Thailand) Company Limited (“ABT”)

ABT is a wholly owned subsidiary of VNT, which has the same major shareholder as GPSC, namely GC, which owns 24.98% of VNT’s paid-up registered capital.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Income from sale of power and steam <ul style="list-style-type: none"> • Revenue • Receivable 	265.22 22.71	GPSC and ABT entered into individual sales agreements of each product with prices and terms that followed the same guidelines as those for other customers, both related and unrelated to GPSC considered normal business practice.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Other income from pipe-rack rental		GPSC leased out its pipe-racks at a price and under terms and conditions considered normal business practice. Payment was made in advance and was booked as a fee for the long-term right to use the asset; however, income was gradually booked throughout the contract period.
• Revenue	0.74	
• Advance revenue	3.00	

9.2.1.24 Eastern Fluid Transport Company Limited (“EFT”)

GPSC and EFT have a common major shareholder, namely GC, which directly and indirectly owns 15% of EFT’s paid-up capital.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Expenses on the pipe-laying structural maintenance		GPSC Group hired EFT to maintain its pipe-laying structures. EFT was the sole provider of such service in the industrial estate where this structure was located. Prices and terms for such work followed the service agreement, considered normal business practice.
• Expenses	22.27	
• Payable	0.04	

9.2.1.25 Vencorex (Thailand) Company Limited (“VCX”)

GPSC and VCX have a common major shareholder, namely GC, which indirectly owns VCX.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Income from sale of power, steam, and industrial water		GPSC and VCX entered into individual sales agreements of each product with prices and terms that followed the same guidelines as those for other customers, both related and unrelated to GPSC considered normal business practice.
• Revenue	55.84	
• Receivable	4.56	

9.2.1.26 Sak Chaisidhi Company Limited (“SAKC”)

GPSC and SAKC have a common major shareholder, namely TOP, which holds 80.52% of SAKC’s paid-up registered capital through TOP SOLVENT.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Income from pipe-rack rental		GPSC engage in a pipe rack rental agreement with SAKC with prices and terms that followed the same guidelines as those for other customers, both related and unrelated to GPSC, considered normal business practice.
• Revenue	1.35	
• Advance revenue	8.00	

9.2.1.27 TOP SPP Company Limited (“TOP SPP”)

GPSC and TOP SPP have a common major shareholder, namely TOP, which holds 99.99% of TOP SPP’s paid-up registered capital.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Expenses on reserve power supply		Expenses for backup power for Sriracha Power Plant in case of power generation interruption at mutually agreed prices and terms, considered normal business practice.
• Expenses	1.24	
• Payable	0.33	

9.2.1.28 PTT Exploration and Production Public Company Limited (“PTTEP”)

GPSC and PTTEP have a common major shareholder, namely PTT, which holds 63.79% of PTTEP’s paid-up registered capital, and have a common director in Mr. Atikom Terbsiri.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Expenses on office space preparation		Office removal cost for Bangkok office space expansion at market price, considered normal business practice.
• Expenses	4.11	
• Deposit	3.33	
and electricity bills, and central utilities		GPSC rented an additional office space in Energy Complex (Enco) for use as headquarters to expand its Bangkok office. The office space, located on 18th floor in Building A of Energy Complex, belongs to PTTEP. The rental and agreement terms were considered ordinary business practice.
• Expenses	0.66	
• Payable	0.09	
• Interest on financial lease agreement	0.17	

9.2.1.29 PTTEP Services Company Limited (“PTTEP Services”)

GPSC and PTTEP Services have a common major shareholder, namely PTT, which wholly owns PTTEP Services through PTTEP.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Consulting services for the battery plant construction project		GPSC hired an expert from PTTEP Services to support the construction of the Battery Plant Project. Prices and terms for such work followed the agreement, considered normal business practice.
• Expenses	9.22	
• Payable	0.73	

9.2.1.30 PTT Oil and Retail Business Public Company Limited (“PTTOR”)

GPSC and PTTOR have a common major shareholder, namely PTT, which wholly owns PTTOR’s paid-up registered capital.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Income from sale of power		GPSC and PTTOR entered into a power purchase agreement with prices and terms that followed the same guidelines as those for other customers, both related and unrelated to GPSC.
• Revenue	0.15	
• Receivable	0.06	
Income from installation of solar panels on gas station canopies		PTTOR hired GPSC to install solar panels on the gas station canopies with prices and terms that followed the same guidelines as those for other customers, both related and unrelated to GPSC, considered normal business practice.
• Payable	0.83	
Expenses on lubricants		GPSC bought lubricants for its operation at a market price comparable to prices offered by other vendors, considered normal business practice.
• Inventory	2.86	
Expenses on Ammonia Anhydrous		GPSC Group purchased ammonia anhydrous for their processes at a price comparable to prices offered by other vendors, considered normal business practice.
• Expenses	79.78	
• Payable	8.90	
Expenses on meetings		GPSC bought snacks and drinks for meetings at market prices comparable to prices offered by other vendors, considered normal business practice.
• Expenses	0.21	

9.2.1.31 GC Estate Company Limited (“GCEC”)

GPSC and GCEC have a common major shareholder, namely GC, which wholly owns GCEC. Both have a common director in Mr. Boonchai Chunhawiksit

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Expenses on the right and land use fee for laying pipes for receiving and effluent drainage		Cost of the right and land use fee for laying pipes for receiving and effluent drainage in support of CUP-4 at a price and terms followed an agreement, considered normal business practice.
• Expenses	4.29	
• Payable	0.09	
• Interest payment on financial lease agreement	4.04	
Expenses on industrial water		GPSC bought industrial water at a price and terms followed an agreement, considered normal business practice.
• Expenses	30.21	
• Payable	2.58	
• Receivable	0.04	
Expenses on facilities maintenance		GPSC paid for facilities maintenance in the Asia Industrial Estate, where its CUP-4 was located. Prices and terms followed an agreement, considered normal business practice.
• Expenses	0.93	

9.2.1.32 NPC S&E Security Guard Company Limited (“NPCSG”)

GPSC and NPCSG have a common major shareholder, namely GC, which wholly owns NPCSG.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Expenses on security service		GPSC Group paid NPCSG for security service at a price and under contractual conditions considered normal business practice.
• Expenses	44.06	
• Payable	1.84	

9.2.1.33 GC-M PTA Company Limited (“GCMPTA”)

GPSC and GCMPTA have a common major shareholder, namely GC, which holds 74.00% of GCMPTA’s paid-up registered capital.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Income from sale of power and steam		GPSC and GCMPTA entered into individual sales agreements of each product with prices and terms that followed the same guidelines as those for other customers, both related and unrelated to GPSC considered normal business practice.
• Revenue	514.33	
• Receivable	47.26	

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Advance income for power sale under Minimum Take-or-Pay terms <ul style="list-style-type: none"> • Payable 	1.81	Since the annual actual value of product purchase was lower than the minimum value specified in the contract, GPSC requested advance payment (Minimum Take-or-Pay: MTOP) from GCMPTA. If the purchase volume exceeds the minimum volume specified in the contract within the agreed period, GCMPTA can seek refund of such advance payment commensurate with the excess volume consumed. GPSC will book the remaining MTOP as the revenue for the year if GCMPTA is unable to consume steam over the minimum volume.
Other expenses for pipe-rack rental <ul style="list-style-type: none"> • Expenses 	0.13	GPSC Group rented pipe-racks from GCMPTA at a price and under terms and conditions considered normal business practice. GPSC made payment in advance and was booked as a fee for the long-term right to use the asset; however, expense was gradually booked throughout the contract period.

9.2.1.34 GC Polyols Company Limited (“GCP”)

GPSC and GCP have a common major shareholder, namely GC, which holds 82.10% of GCP’s paid-up registered capital.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Income from sale of power, steam, industrial water, and nitrogen <ul style="list-style-type: none"> • Revenue • Receivable 	58.82 9.22	GPSC and GCP entered into individual sales agreements of each product with prices and terms that followed the same guidelines as those for other customers, both related and unrelated to GPSC considered normal business practice.
Other income from pipe-rack rental <ul style="list-style-type: none"> • Revenue 	1.42	GPSC Group leased out its pipe-racks at a price and under terms and conditions considered normal business practice. Payment was made in advance and was booked as a fee for the long-term right to use the asset; however, income was gradually booked throughout the contract period.

9.2.1.35 GC Oxirane Company Limited (“GCO”)

GPSC and GCO have a common major shareholder, namely GC, which wholly owns GCO.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Income from sale of power, steam, industrial water, and nitrogen		GPSC and GCO entered into individual sales agreements of each product with prices and terms that followed the same guidelines as those for other customers, both related and unrelated to GPSC considered normal business practice.
• Revenue	427.70	
• Receivable	107.13	
Other income from pipe-rack rental		GPSC Group leased out its pipe-racks at a price and under terms and conditions considered normal business practice. Payment was made in advance and was booked as a fee for the long-term right to use the asset; however, income was gradually booked throughout the contract period.
• Revenue	0.58	

9.2.1.36 Thai PET Resin Company Limited (“TPRC”)

GPSC and TPRC have a common major shareholder, namely GC, which holds 74.00% of TPRC’s paid-up registered capital.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Income from sale of power		GPSC and TPRC entered into power purchase agreement of each product with price and terms that followed the same guidelines as those for other customers, both related and unrelated to GPSC considered normal business practice.
• Revenue	81.92	
• Receivable	7.48	

9.2.1.37 Tiger Energy Trading Pte. Ltd. (“TET”)

GPSC and TET have a common major shareholder, namely PTT, which wholly owns TET.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Expenses on coal		GPSC and subsidiaries bought coal for their processes at prices comparable to prices offered by other vendors, considered normal business practice.
• Expenses	501.10	

9.2.1.38 PTT MCC Biochem Company Limited (“PTTMCC”)

GPSC and PTTMCC have a common major shareholder, namely GC, which holds 50.00% of PTTMCC’s paid-up registered capital.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Income from sale of power		GPSC and PTTMCC entered into power purchase agreement of each product with price and terms that followed the same guidelines as those for other customers, both related and unrelated to GPSC considered normal business practice.
• Revenue	39.56	
• Receivable	2.30	

9.2.1.39 Sarn Palang Social Enterprise Company Limited (“SPSE”)

GPSC and SPSE have common major shareholders, namely PTT, GC, and TOP, holding 20.00%, 15.00%, and 15.00% of PTTSE’s paid-up registered capital.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Expenses on polo shirts and employees’ shirts		GPSC hired SPSE to produce shirts from plastic waste for the Zero Waste Village project at prices and terms that followed the same guidelines as those for other customers, both related and unrelated to GPSC considered normal business practice.
• Expenses	0.16	

9.2.1.40 Business Professional Solutions Company Limited (“BPS”)

GPSC and BPS have a common major shareholder, namely PTT, which wholly owns BPS through BSA.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Expenses on the staff outsourcing service		GPSC Group hired BPS to provide outsourcing services of personnel to fit GPSC’s objectives with rates and terms considered normal business practice.
• Expenses	1.69	
• Payable	2.17	
• Asset cost	2.16	

9.2.1.41 District Cooling System and Power Plant Company Limited (“DCAP”)

GPSC and DCAP have a common major shareholder, namely PTT, which holds 35.00% of DCAP’s paid-up registered capital.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Expenses on machinery purchase		GPSC bought a governor steam control valve from DCAP.
• Asset cost	0.94	

9.2.1.42 GC Marketing Solutions Company Limited (“GCM”)

GPSC and GCM have a common major shareholder, namely GC, which holds 99.00% of GCM’s paid-up registered capital.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Expenses on polymer purchase <ul style="list-style-type: none"> Expenses 	0.23	GPSC Group bought HDPE to produce Floating Solar at a price and under contractual conditions considered normal business practice.

9.2.1.43 PTT Energy Solutions Company Limited (“PTTES”)

GPSC and PTTES have common major shareholders, namely PTT, GC, and TOP, holding 40.00%, 20.00%, and 20.00% of PTTES’s paid-up registered capital.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Expenses on the consultation service <ul style="list-style-type: none"> Expenses 	1.35	GPSC hired PTTES to develop Management of Change Procedure at a price and under contractual conditions considered normal business practice.

9.2.1.44 Alpha Com Company Limited (“APC”)

GPSC and APC have a common major shareholder, namely PTT, which wholly owns APC.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Other income from sale of renewable energy certificate <ul style="list-style-type: none"> Revenue 	0.56	GPSC sold a renewable energy certificate (REC) to APC at a price and under contractual conditions considered normal business practice.

9.2.1.45 PTT (Lao) Company Limited (“PTT-Lao”)

GPSC and PTT-Lao have a common major shareholder, namely PTT, which wholly owns PTT-Lao through PTTOR.

Transaction description	Connected transaction value for the year ended December 31, 2020	Justification and sensibility
	(THB Million)	
Expenses on diesel <ul style="list-style-type: none"> Expenses 	0.55	GPSC Group bought diesel for vehicles at a price and terms considered normal business practice.

9.2.2 Approval Measures And Procedures For Connected Transactions

For connected transactions involving GPSC and/or its subsidiaries with potential parties of conflict, vested interests, or potential future conflicts of interest, the Audit Committee provides its views on the justification of transaction engagement and the price sensibility of such transactions to ensure that the terms involved follow the normal course of business, that third-party price comparison or market price comparison is made, that prices or terms of such transactions at the same level exist for third parties, or that such transaction engagement can apparently contain sensible or fair prices or terms, or all of these. If the Audit Committee cannot scrutinize potential connected transactions, GPSC may arrange for an independent expert or its own external auditor to comment on such transactions in support of decisions by the Board, the Audit Committee, or the shareholders, as seen fit. The essential guidelines for such scrutiny are as follows:

- 1. Product sales prices or service fees:** These must be normal-business transactions or those in support of normal businesses. Prices and commercial terms must be at arm's-length for all customers, both related and unrelated to GPSC.
- 2. Product purchase prices or service fees:** These must be normal business transactions or those in support of normal businesses. Prices and commercial terms must be set under compatible criteria to those charged by business partners in question to other customers. Finally, engagement in such transactions must not compromise GPSC's interests.
- 3. Asset sales/purchases transactions:** These could periodically arise as needed and as seen suitable, including acquisition of businesses to grow business under GPSC's investment plans and expansion plans. In engaging in these transactions, the management or independent experts, or both (as seen fit), assess and comment on the sensibility of prices and commercial terms involved.

As for approval of connected transactions, those potential parties of conflict or vested interests have no voting rights on transaction approval so as to ensure that such engagement does not transfer or siphon interests between GPSC or its shareholders. Rather, the transactions must be in all shareholders' best interests. GPSC will disclose connected transactions in the notes to the audited financial statements signed by the external auditor in the Annual Information Form / Annual Report (Form 56-1 One Report).

GPSC complies with the laws, regulations, and procedures of SEC, the Capital Market Supervisory Board, and SET on connected transactions, related party transactions, and acquisition or disposal of assets under applicable rules for listed companies.

Independent Directors' Views

Independent directors agree with the Board of Director's views.

9.2.3 Policy For Connected Transactions

- GPSC's directors and management prepare reports on their individual vested interests with related parties and notify the company for use as reference for taking action under applicable requirements for connected transactions.
- Avoid engagement in connected transactions of potential conflicts of interest.
- If a connected transaction proves unavoidable, GPSC must follow the procedures and comply with applicable laws, which include those criteria set by SEC and SET.
- Set arm's-length prices and terms for connected transactions that are fair, sensible, and in the best interests of GPSC and all shareholders. If such prices are unavailable, GPSC must compare prices or service fees with third-party sources under the same or similar terms.
- Those with vested interests in connected transactions cannot approve or vote on them.
- In scrutinizing connected transactions, GPSC may appoint an independent assessor to evaluate and compare prices for significant ones to ensure that such connected transactions are sensible and in the best interests of GPSC and all shareholders.

9.2.4 Trends For Connected Transactions With Potential Parties Of Conflict

For future connected transactions, GPSC must comply with all laws on securities and exchanges, regulations, announcements, directives, or requirements of the Capital Market Supervisory Board, SEC, and SET. Engagement in such transactions must not result in benefit transfers or siphoning of interests between GPSC or its shareholders, or both, but rather in the best interests of GPSC and all shareholders.

For routine transactions likely to regularly occur, GPSC must follow the criteria and approaches of general commercial practices, with price references and terms that are suitable

and fair, sensible, and auditable. Such transaction engagement must follow principles on agreements with general commercial terms approved by the Board of Directors. To this end, the management must prepare a summary of connected transactions for reporting to the Audit Committee each year.

Disclosure of GPSC's connected transactions must comply with all laws and regulations set by SEC and SET.

GPSC's connected transactions during the last three years are available for shareholders and/or investors in the Annual Reports or Form 56-1 on GPSC's website https://investor-th.gpscgroup.com/form_561.html





Financial Statements

Financial Statements Revealing in
Financial Report 2020

FINANCIAL

HOW TO USE: Enter your budget for each category in the Summary By Category table below. These transactions on the Transaction sheet will see how your actual spending compares to your budget.



BUDGET VS ACTUAL

Attachment 1

Details about Directors

Mr. Pailin Chuchottaworn

Chairman of the Board / Independent Director
(Non-Executive Director))

Date Appointed : September 1, 2019 (1st Term)

Age : 65

Education

- Doctor of Engineering in Chemical Engineering from Tokyo Institute of Technology Japan (Japanese government scholarship), 1985
- Master of Engineering in Chemical Engineering from Tokyo Institute of Technology Japan (Japanese government scholarship), 1982
- Bachelor of Engineering in Chemical Engineering with 1st Class Honor, Chulalongkorn University, 1979

Training Record with Thai Institute of Directors (IOD)

- Director Certification Program (DCP 51/2004)
- Director Accreditation Program (DAP 24/2004)
- Finance for Non-Finance Directors (FND 14/2004)
- Anti-corruption for Executive Program (ACEP 4/2012)

Other Training Record

- Certificate in Top Executives in the Energy Education Program (Class of 1st), Thailand Energy Academy (TEA)
- Corporate Governance Program for Directors and Executives of State Enterprises and Public Organizations (Class of 7th), King Prajadhipok's Institute
- Diploma, The Joint State-Private Sector Course, National Defence College (Class of 22nd), National Defence College
- Top Executive Program (Class of 8th), Capital Market Academy (CMA)
- Top Executive Program in Commerce and Trade (TEPCoT) (Class of 1st), Commerce Academy

- PTT-GE Executive Leadership Program 2008, GE Crotonville, U.S.A.
- NIDA-Wharton Executive Leadership Program 2007, Wharton University of Pennsylvania, U.S.A.
- Industrial Liaison Program (ILP) 2005, Massachusetts Institute of Technology, U.S.A.

Current Position in Other Organizations

Listed Company-The Stock Exchange of Thailand 2 Organization

- Independent Director / Chairman of the Enterprise Risk Management Committee, PTT Public Company Limited
- Independent Director / Member of the Executive Committee / Member of the Technology Committee The Siam Commercial Bank Public Company Limited

Other Organizations / Companies (Not Listed in the Stock Exchange of Thailand

9 Organizations

- Director of SCB 10X Co., Ltd
- Chairman of Vidyasirimedhi Institute of Science and Technology Council
- Chairman of Governing Board Kamnoetvidya Science Academy (KVIS)
- Board Member, Oman Oil Company SAOC
- Board, National Higher Education Science Research and Innovation Policy Council
- Director of the Economic Situation Executive Committee As a result of the Coronavirus 2019 (COVID-19) outbreak
- Chairman, Committee on Economic Steering
- Advisor to the Prime Minister
- Board Member, The Board of Investment of Thailand. (BOI)

Working Experience (5-Year Past Experience)

2017 - Jul 15, 2019 Deputy Minister of Transport
 Mar 11, 2019 - Jul 15, 2019 Advisor to the Prime Minister

2015 - Nov 17, 2017 Director of Thai Institute of Directors

2015 - Nov 17, 2017 Chairman of VISTEC Council, Vidyasirimedhi Institute

2015 - Nov 17, 2017 Chairman of the Board of Governors, Kamnoetvidya Science Academy

2016 - Nov 17, 2017 Expert commissioners, Public Organization Development and Promotion Committee

2016 - Nov 17, 2017 Expert commissioners, The Securities and Exchange Commission

2016 - Nov 17, 2017 Expert commissioners, National Research Council of Thailand

2016 - Jul 31, 2017 Director, Bangkok Bank Public Company Limited

2016 - 2017 Director of the Faculty of Economics, Thammasat University

2017 - Nov 17, 2017 Director, Power of innovation and power of learning

2017 - Nov 17, 2017 Director of the University Council, Kasetsart University

2017 - Nov 17, 2017 Subcommittee on Personnel Development, Research and Innovation National, Research and Innovation Policy Council

2017 - Nov 17, 2017 Independent Committee for Education Reform

2017 - Nov 17, 2017 Expert Member, Board of Directors, Ministry of Digital Economy and Society

2017 - Nov 17, 2017 Expert Member, Committee on Education Management Development Collaboration with High-Potential Foreign Higher Education Institutions

2017 - Nov 17, 2017 Director, Committee National Quality Award, Office Institute for Productivity

2017 - Nov 17, 2017 Advisor, Chulalongkorn University Council

2017 : Board of Commissioners, Digital Economy Promotion Agency

2015 - 2017 Member of the Committee for Special Economic Zone Development Bureau of Industrial Potential of the Nation Office of Industrial Economics Ministry of Industry

2015 - 2017 Advisor, Sasin Graduate Institute of Business Administration of Chulalongkorn University

2012 - Jul 31, 2017 Member, Board of Trustees, Mahidol University

Shareholding in GPSC (including spouse and minor)

: None

Qualified According to Related Laws and Does Not Have Prohibited Qualifications

: Qualified

Family Relation with other Directors, Executives, Major Shareholders of GPSC and its Subsidiaries

: None

Mr. Kurujit Nakornthap

Independent Director / Chairman of the Corporate Governance Committee / Member of the Audit Committee (Non-Executive Director)

Date Appointed : June 4, 2020 (2nd Term)
April 3, 2017 (1st Term)

Age : 65

Education

- Ph.D. in Petroleum Engineering, University of Oklahoma, U.S.A.
- Master of Engineering in Petroleum Engineering, University of Oklahoma, U.S.A.
- Bachelor of Engineering in Petroleum Engineering, University of Oklahoma, U.S.A.

Training Record with Thai Institute of Directors (IOD)

- Director Accreditation Program (DAP 64/2007)
- Audit Committee Program (ACP 32/2010)
- Role of Compensation Committee (RCC 12/2011)
- R-CF-Chairman Forum (R-CF 2/2013)
- Collective Action Against Corruption Conference (C-Conference 1/2014)

Other Training Record

- The National Defence Course (Batch 51), National Defence College
- Senior Judicial Process Administrators (Baw Yaw Saw), Class 24, Judicial Training Institute
- Top Executive Program in Commerce and Trade (TEPCoT) (Batch 3),
- Commerce Academy, University of the Thai Chamber of Commerce
- Training Course on Administrative Justice for Executives, (Batch 2),

- Office of the Administrative Courts of Thailand
- Capital Market Academy Leader Program (Batch 13), Capital Market Academy
- Top Executives in the Energy Education Program (Batch 1), Thailand Energy Academy
- Bhumipalung Phandin Course for Executives (Batch 2), Chulalongkorn University
- Civil Service Executive Program: Visionary and Moral Leadership, (Batch 46), Office of the Civil Service Commission
- Senior Executive Program (SEP), (Batch 60), London Business School, United Kingdom
- Training Course on Leadership for Change (Batch 2),
- Right Livelihood Foundation & Matichon Publishing Group
- Systematic Problem Solving and Decision Making (SPSDM), Office of the Civil Service Commission in cooperation with
- ACI Consultants Company Limited
- Academic Seminar : Money Laundering
- Seminar : Anti-corruption: Leadership Role of the Board

Current Position in Other Organizations

Listed Company-The Stock Exchange of Thailand 1 Organization

- Independent Director, Padaeng Industry Public Company Limited

Other Organizations / Companies (Not Listed in the Stock Exchange of Thailand)

5 Organizations

- Executive Director, Petroleum Institute of Thailand Foundation
- Member of the Council of State
- Co-Chairman (Thailand), Malaysia - Thailand Joint Authority
- Member of the University Council, Khon Kaen University
- Chairman, Thailand Greenhouse Gas Management Organization (Public Organization)

Working Experience (5-Year Past Experience)

Oct 2015 – Aug 2017	Chairman of Energy Affairs Committee and Member of the National Reform Steering Assembly (NRSA)
Feb 2016 – Oct 2016	Executive Member of the National Research Council of Thailand
Jun 2015 – Sep 2015	Permanent Secretary, Ministry of Energy
Oct 2014 – Jun 2015	Deputy Permanent Secretary, Ministry of Energy
Oct 2014 – Sep 2015	Member of National Reform Steering Assembly
Jul 2014 – Sep 2014	Director - General, Department of Mineral Fuels, Ministry of Energy
2011 – 2014/2015	Director and Chairman of the Board, Electricity Generating Authority of Thailand

Shareholding in GPSC (including spouse and minor)

: Self 57,029 shares (0.0020225%)

Qualified According to Related Laws and Does Not Have Prohibited Qualifications

: Qualified

Family Relation with other Directors, Executives, Major Shareholders of GPSC and its Subsidiaries

: None

Mr. Payungsak Chartsutipol

Independent Director / Chairman of the Risk Management Committee / Chairman of the Nomination and Remuneration Committee (Non-Executive Director)

Date Appointed : April 3, 2018 (3rd Term)
April 2, 2015 (2nd Term)
November 27, 2014 (1st Term)

Age : 68

Education

- Honorary Doctorate Degree in Engineering, Suranaree University of Technology
- Honorary Doctorate Degree in Philosophy, Organization Development Administration, Chaopraya University
- Certificate of Management Development Program, Northwestern University, U.S.A.
- Bachelor of Engineering (Electrical Engineering), Chulalongkorn University

Training Record with Thai Institute of Directors (IOD)

- Director Accreditation Program (DAP SCC/2004)
- Risk Management Program for Corporate Leaders (RCL 3/2016)

Other Training Record

- Top Executives in the Energy Education Program (Batch 1), Thailand Energy Academy
- Executive Program, Poompalungpandin Program (Batch 1), Chulalongkorn University
- Administrative Justice for Executives (Batch 2), Administrative Court
- Capital Market Academy Leader Program (Batch 11), Capital Market Academy
- Top Executive Program in Commerce and Trade (TEPCoT) (Batch 2), Commerce Academy, University of the Thai Chamber of Commerce

Current Position in Other Organizations

Listed Company-The Stock Exchange of Thailand

1 Organization

- Independent Director / Chairman of the Corporate Governance and Sustainability Committee, Global Green Chemicals Public Company Limited

Other Organizations / Companies (Not Listed in the Stock Exchange of Thailand)

12 Organizations

- Chairman, Siam City Leasing and Factoring Public Company Limited
- Director, Linde (Thailand) Public Company Limited
- Director, Siam United Steel (1995) Company Limited
- Independent Director / Chairman of Corporate Governance Committee / Chairman of Audit Committee, Krungthai Panich Insurance Public Company Limited
- Independent Director / Vice Chairman, Sapthip Company Limited
- Chairman, Glow Energy Public Company Limited
- Chairman, Glow Company Limited
- Chairman, Glow SPP 2 Company Limited
- Chairman, Glow SPP 3 Company Limited
- Chairman, Glow IPP 2 Holding Company Limited
- Chairman, Glow SPP 11 Company Limited
- Chairman, Glow IPP Company Limited

Working Experience (5-Year Past Experience)

2017 - Mar 4, 2019	Chairman of the Audit Committee, Global Power Synergy Public Company Limited
2016 - 2017	Chairman of the Corporate Governance Committee, Global Power Synergy Public Company Limited
2015 - 2016	Member of the Corporate Governance Committee, Global Power Synergy Public Company Limited
2012 - 2014	Director, Office of Insurance Commission
2012 - 2013	Director / Chairman of the Corporate Governance and Social Responsibility Committee, Krungthai Bank Public Company Limited

2011 - 2015	Chairman/ Qualified Member, Board of National Catastrophe Insurance Fund Committee
2011 - 2014	Chairman, Board of Executive Directors, Krungthai Bank Public Company Limited
2010 - 2014	Chairman, The Federation of Thai Industries
2010 - 2014	Member of the Council Office, Suranaree University of Technology
2010 - 2014	Director, Board of Investment
2010 - 2011	Director, Samaggi Insurance Public Company Limited
2007 - 2014	Director, Board of Trustees, Sirindhorn International Institute of Technology Thammasat University

Shareholding in GPSC (including spouse and minor)

: Self 138,789 shares (0.0049221%)

Qualified According to Related Laws and Does Not Have Prohibited Qualifications

: Qualified

Family Relation with other Directors, Executives, Major Shareholders of GPSC and its Subsidiaries

: None

Maj.Gen. Chaowalek Chayansupap

Independent Director / Member of the Audit Committee
(Non-Executive Director)

Date Appointed : April 1, 2019 (3rd Term)
April 4, 2016 (2nd Term)
January 20, 2016 (1st Term)

Age : 64

Education

- Bachelor of Science, Chulachomkiao Royal Military Academy

Training Record with Thai Institute of Directors (IOD)

- Director Certification Program (DCP 217/2016)
- Advanced Audit Committee Program (AACP 24/2016)

Other Training Record

- Top Executives in the Energy Education Program (Batch 9), Thailand Energy Academy
- Officer Basic Course, Infantry School, Infantry Center
- Officer Advance Course, Infantry School, Infantry Center
- Logistics Management Course, The Royal Thai Army Logistics School
- Command and General Staff Course, Command and General Staff College
- Officer Comptroller General Course (Manager Level), Army School, Military Finance Department

Current Position in Other Organizations

Listed Company-The Stock Exchange of Thailand

: None

Other Organizations / Companies (Not Listed in the Stock Exchange of Thailand)

1 Organization

: Expert Attached to the Senator

Working Experience (5-Year Past Experience)

2016 – 2017	Member of the Corporate Governance Committee, Global Power Synergy Public Company Limited
2013 – 2016	Army Expertise, Royal Thai Army

Shareholding in GPSC (including spouse and minor)

: None

Qualified According to Related Laws and Does Not Have Prohibited Qualifications

: Qualified

Family Relation with other Directors, Executives, Major Shareholders of GPSC and its Subsidiaries

: None

Mrs.Nicha Hiranburana Thuvatham

Independent Director / Member of the Corporate Governance Committee (Non-Executive Director)

Date Appointed : April 3, 2018 (1st Term)

Age : 51

Education

- Master's Degree, International Studies, Ohio University, U.S.A.(Foreign Student Scholarship)
- Bachelor of Political Science (Second Class Honors), Chulalongkorn University

Training Record with Thai Institute of Directors (IOD)

- Director Accreditation Program (DAP 164/2019)

Other Training Record

- Senior Management Course - Visionary and Ethical Leadership, Office of the Civil Service Commission
- Advanced Certificate Course in Promotion of Peaceful Society, King Prajadhipok's Institute
- Human Resources Management for Public Sector, Office of the Civil Service Commission
- Public Sector Management Certificate

Current Position in Other Organizations

Listed Company-The Stock Exchange of Thailand

: None

Other Organizations / Companies (Not Listed in the Stock Exchange of Thailand)

2 Organizations

- Deputy Secretary-General to the Prime Minister for Administrative Affairs, Secretariat of the Prime Minister Office of the Prime Minister
- Deputy Director, Prime Minister Delivery Unit

Working Experience (5-Year Past Experience)

March 7, 2016	Deputy Secretary-General to the Prime Minister for Administrative Affairs, Secretariat of the Prime Minister Office of the Prime Minister Deputy Director, Prime Minister Delivery Unit
April 1, 2015	Assistant Secretary-General to the Prime Minister
2010 - 2014	Advisor to the Prime Minister on Social, Secretariat of the Prime Minister

Shareholding in GPSC (including spouse and minor)

: None

Qualified According to Related Laws and Does Not Have Prohibited Qualifications

: Qualified

Family Relation with other Directors, Executives, Major Shareholders of GPSC and its Subsidiaries

: None

Mrs. Saowanee Kamolbutr

Independent Director / Chairman of the Audit Committee (Non-Executive Director)

Date Appointed : June 4, 2020 (1st Term)

Age : 67

Education

- Master of Political Science (Public Administration) Thammasat University
- Bachelor of Political Science (Public Administration), Thammasat University

Training Record with Thai Institute of Directors (IOD)

- Director Certification Program (DCP) Class no.69, 2006
- Role of the Compensation Committee (RCC) Class no 8/2009
- Role of the Chairman Program (RCP) Class no. 23/2010
- Financial Institutions Governance Program (FGP) Class no. 1/2010
- Advance Audit Committee Program (AACP) Class no. 17/2014
- Boards that make a difference (BMD) Class no. 9/2019
- IT Governance and Cyber Resilience Program (ITG) Class no. 15/2020

Other Training Record

- National Defense College of Thailand (NDC) 2548
- Capital Market Academy (CMA) Class No.7
- Senior Executive Program (Kellogg – Sasin)
- The Management Development Program (Wharton School)
- Top Executive Program in Commerce and Trade (TEPCoT), Commerce Academy in The University of the Thai Chamber of Commerce
- Advance Security Management Program (ASMP4), Thailand National Defence College
- Certificate in Public Reform University of Victoria, New Zealand

Current Position in Other Organizations

Listed Company-The Stock Exchange of Thailand

3 Organizations

- Independent Director, Member of the Audit Committee, Member of the Risk Management Committee, and Chairman of the Corporate Governance Committee, FN Factory Outlet Public Company Limited
- Independent Director, Chairman of the Audit Committee, Chairman of the Risk Management Committee, Vice

Chairman of the Nomination and Remuneration Committee, Carabao Group Public Company Limited

- Independent Director, Member of the Risk Management Committee and Chairman of the Audit Committee, T.K.S. Technologies Public Company Limited

Other Organizations / Companies (Not Listed in the Stock Exchange of Thailand)

2 Organizations

- Honorary Director, The Council of Southeast Bangkok College
- Honorary Director, Fiscal Economy, Office of the Commission for Management of Road Traffic

Working Experience (5-Year Past Experience)

2016 - Jan.2020	Independent Director, Chairman of the Audit Committee and Member of Nomination and Remuneration Committee, Glow Energy Public Company Limited
2017 - 2019	Independent Director and Chairman, Pacific Pipe Public Company Limited
2014 - 2019	Advisor, The Committee on Economics, Monetary Affairs and Finance, The Committee of the National Legislative Assembly
2014 - 2018	Honorary Director, Rajapark Institute
2014 - 2017	Independent Director and Chairman of the Executive Board, Small and Medium Enterprise Development Bank of Thailand (SME Bank)
2013 - 2017	Independent Director and Member of the Audit Committee, Interlink Communication Public Company Limited
2009 - 2012	Deputy Permanent Secretary, Ministry of Finance
2008 - 2013	President and Director of TMB Bank Public Company Limited

Shareholding in GPSC (including spouse and minor)

: None

Qualified According to Related Laws and Does Not Have Prohibited Qualifications

: Qualified

Family Relation with other Directors, Executives, Major Shareholders of GPSC and its Subsidiaries

: None

Mr.Somchai Meesen

Independent Director / Member of the Corporate Governance Committee (Non-Executive Director)

Date Appointed : June 4, 2020 (1st Term)

Age : 52

Education

- Master of Political Science (Politics), Thammasat University
- Bachelor of Arts (History), Chiang Mai University

Training Record with Thai Institute of Directors (IOD)

- Director Accreditation Program (DAP) Class 161/2019

Current Position in Other Organizations

Listed Company-The Stock Exchange of Thailand

1 Organization

- Director and Vice Chief Executive Officer - Nation Multimedia Group Public Company Limited

Other Organizations / Companies (Not Listed in the Stock Exchange of Thailand)

2 Organizations

- Chairman of the Board – Nation Foundation
- Director - Nation Digital Content Company Limited

Working Experience (5-Year Past Experience)

21 Oct 2019 – 15 Sep 2020	Director - Nat Business Connect Company Limited
Feb 2018 - Mar 2020	Chief Executive Officer - Nation Multimedia Group Public Company Limited
Jun 2016 - Dec 2019	Chairman of the Board of Directors, Max Metal Corporation Public Company Limited
Mar 2018 - Aug 2019	Director, Nation International Edutainment Public Company Limited

Feb 2018 - Jan 2019	Vice Chairman of the Board - Nation Broadcasting Corporation Public Company Limited
Jan 2017 - Jun 2018	Director, AQ Estate Public Company Limited
Jan 2017 - Jun 2018	Director, AQ Village Company Limited
Jan 2017 - Jun 2018	Director, Aquarius Estate Company Limited
Jan 2017 - Jun 2018	Director, Baan Chid tara Company Limited
Mar 2017 - Jun 2018	Director, Aquarius Hotels and Resorts Company Limited
Jan 2017 - Dec 2017	Director, Spring News Corporation Company Limited
Jun 2016 - Dec 2017	Managing Director, Thansettakij Multimedia Company Limited

Shareholding in GPSC (including spouse and minor)

: None

Qualified According to Related Laws and Does Not Have Prohibited Qualifications

: Qualified

Family Relation with other Directors, Executives, Major Shareholders of GPSC and its Subsidiaries

: None

Mr. Wittawat Svasti-Xuto

Director / Member of the Nomination and Remuneration Committee /
Member of the Risk Management Committee
(Non-Executive Director)

Date Appointed : April 1, 2019 (2nd Term)
September 19, 2018 (1st Term)

Age : 58

Education

- Master of Science (Industrial Engineering),
The University of Rhode Island
- Bachelor of Engineering, Chulalongkorn University

Training Record with Thai Institute of Directors (IOD)

- Director Certification Program (DCP 146/2011)
- Financial Statements for Directors Program (FSD 12/2011)

Other Training Record

- Capital Market Academy Leader Program (Batch 27/2018), Capital Market Academy
- Top Executives in the Energy Education Program (Batch 11), Thailand Energy Academy
- The National Defence Course (Batch 59), National Defence College
- Strategy and Innovation for Business in Asia (SIBA) (Batch 5), 2016

Current Position in Other Organizations

Listed Company-The Stock Exchange of Thailand

2 Organizations

- Chief Technology and Engineering Officer, PTT Public Company Limited
- Director, PTT Global Chemical Public Company Limited

Other Organizations / Companies (Not Listed in the Stock Exchange of Thailand)

1 Organization

- Director, PTT Energy Solutions Company Limited

Working Experience (5-Year Past Experience)

Sep 16, 2018 - Present	Chief Technology and Engineering Officer, PTT Public Company Limited
Jan 1, 2018 - Sep 15, 2018	Senior Executive Vice President, Innovation and Digital, PTT Public Company Limited
Jan 1, 2017- Dec 31, 2017	Senior Executive Vice President, Sustainability Management and Project Engineering, PTT Public Company Limited
Oct 1, 2016 - Dec 31, 2016	Senior Executive Vice President, Sustainability Management, PTT Public Company Limited
Jan 1, 2016 - Sep 30, 2016	Executive Vice President Downstream Business Group Alignment, PTT Public Company Limited

Shareholding in GPSC (including spouse and minor)

: Self 57,029 shares (0.0020225%)

Qualified According to Related Laws and Does Not Have Prohibited Qualifications

: Qualified

Family Relation with other Directors, Executives, Major Shareholders of GPSC and its Subsidiaries

: None

Mr. Atikom Terbsiri

Director / Member of the Nomination and Remuneration Committee (Non-Executive Director)

Date Appointed : June 4, 2020 (2nd Term)
January 1, 2020 (1st Term)

Age : 58

Education

- Master of Business Administration (Finance & International Business), High Distinction, Armstrong University, U.S.A.
- Bachelor of Business Administration, Assumption University, Thailand

Training Record with Thai Institute of Directors (IOD)

- Director Certification Program (DCP) - DCP 125/2009
- Risk Management Program for Corporate Leaders (RCL) - RCL 4/2016
- Role of the Chairman Program (RCP) - RCP 41/2017

Other Training Record

- Executive Education Program, Harvard Business School Harvard University, USA
- Advanced Security Management Program (ASMP 1), The National Defence College Association of Thailand
- Diploma, National Defence College, the State Private Sector and Political Sectors Course (Class 5)
- Capital Market Academy Program (Class 17), Capital Market Academy
- Executive Program on Energy Literacy for a Sustainable Future (Class 6), Thailand Energy Academy (TEA)
- CRISIS Management Training, PTT Leadership and Learning Institute (PLLI)

Current Position in Other Organizations

Listed Company-The Stock Exchange of Thailand 2 Organization

- Chief Operating Officer, Upstream Petroleum and Gas Business Group, PTT Public Company Limited
- Director, Board of PTT Exploration & Production Public Company Limited

Other Organizations / Companies (Not Listed in the Stock Exchange of Thailand)

2 Organizations

- Executive Director, Thailand Energy Academy
- Director, Board of The Federation of Thai Industries (Term 2018 - 2020 and Term 2020 - 2022)

Working Experience (5-Year Past Experience)

1 Sep 2019 - Present	Chief Operating Officer, Upstream Petroleum and Gas Business Group, PTT PLC
1 Oct 2014 - 31 Aug 2019	Chief Executive Officer & President, Thaioil PLC
2013 - 30 Sep 2014	Senior Executive Vice President, Petrochemicals & Refining Business Unit, PTT PLC
2011 - 2013	President, IRPC PLC

Shareholding in GPSC (including spouse and minor)

: Self 137,300 shares (0.0048693%)

Qualified According to Related Laws and Does Not Have Prohibited Qualifications

: Qualified

Family Relation with other Directors, Executives, Major Shareholders of GPSC and its Subsidiaries

: None

Mr. Wuttikorn Stithit

Director (Non-Executive Director)

Date Appointed : April 1, 2019 (1st Term)

Age : 55

Education

- Master Degree Master of Business Administration (Finance and Banking), Kasetsart University
- Master Degree M.S.(Science), Ohio University, U.S.A.
- Bachelor Degree Electrical Engineering, King Mongkut's Institute of Technology Ladkrabang

Training Record with Thai Institute of Directors (IOD)

- Director Certification Program (DCP 158/2012)

Other Training Record

- Leadership Development Program 3 (LDP3), PLLI
- Leadership Succession Program (LSP)
- Senior Executive Education Program, SIBA 2017
- Power of the Kingdom Class 4/2015 (Bhumipalung Phandin), Chula Unisearch, Chulalongkorn University
- Leadership Development Program 2 (LDP2), PLLI
- Senior Executive Program, SASIN 2011

Current Position in Other Organizations

Listed Company-The Stock Exchange of Thailand

1 Organization

- Senior Executive Vice President, Gas Business Unit, PTT Public Company Limited

Other Organizations / Companies (Not Listed in the Stock Exchange of Thailand)

2 Organizations

- Chairman, PTT Global LNG Company Limited
- Chairman, PTT Natural Gas Distribution Company Limited

Working Experience (5-Year Past Experience)

1 Feb 2018 - Present	Senior Executive Vice President, Gas Business Unit, PTT Public Company Limited
1 Nov 2015 - 31 Jan 2018	Executive Vice President, Natural Gas Supply & Trading, PTT Public Company Limited
1 Nov 2015 - 31 Oct 2015	Executive Vice President, Natural Gas Distribution, PTT Public Company Limited

Shareholding in GPSC (including spouse and minor)

: Self	None
: Spouse	10,000 shares (0.0003546%)
: Total	10,000 shares (0.0003546%)

Qualified According to Related Laws and Does Not Have Prohibited Qualifications

: Qualified

Family Relation with other Directors, Executives, Major Shareholders of GPSC and its Subsidiaries

: Mrs. Sasitorn Stithit, Mr. Wuttikorn Stithit's spouse is serving as PTT's Vice President, Organization Development Department

Mr. Kongkrapan Intarajang

Director / Member of the Risk Management Committee
(Non-Executive Director)

Date Appointed : April 1, 2019 (2nd Term)
August 15, 2017 (1st Term)

Age : 53

Education

- Doctor of Philosophy (Ph.D.) in Chemical Engineering, University of Houston, U.S.A.
- Bachelor of Engineering (Chemical Engineering) (Second - class Honors), Chulalongkorn University

Training Record with Thai Institute of Directors (IOD)

- Role of the Chairman Program (RCP) Class 21/2009
- Director Certification Program (DCP) Class 119/2009

Other Training Record

- Executive Development Training Program, The Royal Thai Police
- Capital Market Leader Program (Class 30), Capital Market Academy
- Leadership Development Program (LDP 3) Class 4, PTT Leadership and Learning Institute
- The Executive Program in Energy Literacy for a Sustainable Future, Class 14, Thailand Energy Academy (TEA)
- Diploma, National Defence College, The National Defence Course Class 60, National Defence College of Thailand (NDC)
- Breakthrough Program for Senior Executives, IMD Business School

Current Position in Other Organizations

Listed Company-The Stock Exchange of Thailand

3 Organization

- Chairman, Global Green Chemicals Public Company Limited

- Senior Executive Vice President reporting to Chief Operating Officer, Downstream Petroleum Business Group, PTT Public Company Limited
- Director and Secretary to the Board of Directors / Director to the Risk Management Committee and Chief Executive Officer, PTT Global Chemical Public Company Limited

Other Organizations / Companies (Not Listed in the Stock Exchange of Thailand)

15 Organizations

- Chairman, GC International Corporation
- Chairman, PTTGC America LLC
- Chairman, PTTGC America Corporation
- Chairman, PTTGC International Private Limited
- Director, Association of Capital Market Academy Alumni
- Advisor of the Member Relations, the Federation of Thai Industries
- Director, The Federation of Thai Industries
- Committee Member of Sustainable Energy Foundation
- Vice President (Supporting), Thailand Swimming Association
- Honorary Member of Vidyasirimedhi Institute Council
- Member of Trustee, The Petroleum Institute of Thailand (PTIT)
- Council of Trustee, Thailand Business Council of Sustainable Development (TBCSD)
- Executive Director, Thailand Energy Academy
- Director, Kamnoetvidya Science Academy (KVIS)
- Co-Chairman, France – Thailand Business Forum

Working Experience (5-Year Past Experience)

31 Oct 2019 – 31 Aug 2020	Director, GC International Corporation
9 Sep 2008 – 31 Aug 2020	Director, PTTGC International Private Limited
6 Nov 2019 - 20 Oct 2020	Director, Global Green Chemicals Public Company Limited

May 2017- Jan 2020	Director, Thai Tank Terminal Limited
Apr 2017 – Sep 2019	Chief Operating Officer - Upstream Petrochemical Business, PTT Global Chemical Public Company Limited
Jul 2015 – Sep 2019	Director and President & CEO, PTTGC America Corporation
Apr 2015 – Sep 2019	Director, PTTGC Innovation America Corporation
Feb 2015 – Sep 2019	Director, PTTGC International (Netherlands) B.V.
Jan 2015 – Sep 2019	Director, Vencorex Holding
Nov 2008 – Sep 2019	Director, Emery Oleochemicals (M) Sdn. Bhd.
Nov 2008 – Sep 2019	Director, Emery Specialty Chemicals Sdn. Bhd.
Sep 2014 – Dec 2018	Director, NatureWorks LLC
Sep 2014 – Dec 2018	Director, PTTGC International (USA) Inc.
Oct 2014 – Mar 2017	Executive Vice President - International Business Operations, PTT Global Chemical Public Company Limited

Shareholding in GPSC (including spouse and minor)

: None

Qualified According to Related Laws and Does Not Have Prohibited Qualifications

: Qualified

Family Relation with other Directors, Executives, Major Shareholders of GPSC and its Subsidiaries

: None

Mr. Boonchai Chunhawiksit

Director (Non-Executive Director)

Date Appointed : June 4, 2020 (2nd Term)
October 1, 2019 (1st Term)

Age : 60

Education

- Master of Business Administration, Thammasat University
- Bachelor's Degree in Electrical Engineering, King Mongkut's Institute of Technology (North Bangkok)

Training Record with Thai Institute of Directors (IOD)

- Director Certification Program (DCP) Class 244/2017
- Role of Chairman Program (RCP) Class 46/2020
- Risk Management Program for Corporate Leaders (RCL) Class 21/2020

Other Training Record

: Certificate of Senior Executive Program (SEP), Sasin Graduate Institute of Business Administration of Chulalongkorn University

Current Position in Other Organizations

Listed Company-The Stock Exchange of Thailand 1 Organization

- Senior Executive Vice President, Upstream Petrochemical Business PTT Global Chemical Public Company Limited

Other Organizations / Companies (Not Listed in the Stock Exchange of Thailand)

5 Organizations

- Chairman, GC Estate Company Limited
- Director, GC Glycol Company Limited
- Director, Thai Tank Terminal Limited
- Director, HMC Polymers Company Limited
- Director, GC Maintenance and Engineering Company Limited

Working Experience (5-Year Past Experience)

1 Oct 2020 - Present	Senior Executive Vice President, Upstream Petrochemical Business PTT Global Chemical Public Company Limited
1 Oct 2019 - 30 Sep 2020	Acting Senior Executive Vice President, Upstream Petrochemical Business PTT Global Chemical Public Company Limited
1 Jan 2017 - 30 Sep 2019	Senior Vice President, Group Performance Center - Olefins PTT Global Chemical Public Company Limited
1 Oct 2016 - 31 Dec 2016	Vice President - Group Performance Center - Olefins PTT Global Chemical Public Company Limited
1 Oct 2015 - 30 Sep 2016	Vice President, Olefins Plant II PTT Global Chemical Public Company Limited

Shareholding in GPSC (including spouse and minor)

: None

Qualified According to Related Laws and Does Not Have Prohibited Qualifications

: Qualified

Family Relation with other Directors, Executives, Major Shareholders of GPSC and its Subsidiaries

: None

Mr. Wirat Uanarumit**Director / Member of the Risk Management Committee (Non-Executive Director)****Date Appointed :** June 4, 2020 (2nd Term)
September 1, 2019 (1st Term)**Age :** 58**Education**

- Bachelor of Engineering (Electrical Engineering), Chulalongkorn University
- Master of Business Administration, with emphasis in Financial Management, Pennsylvania State University, Pennsylvania, USA

Training Record with Thai Institute of Directors (IOD)

- Director Certification Program (DCP 8/2001)
- Director Certification Program Update (DCPU 5/2015)
- Audit Committee Program (ACP 38/2012)
- Ethical Leadership Program (ELP 7/2017)

Other Training Record

- GE Global Customer Summit Crotonville
- Member, Beta Gamma Sigma (US National Scholastic Honour Society in Business)
- Advance Management Programme, INSEAD Business School, Fontainebleau, France
- Advanced Management Program (Class 184), Harvard Business School, USA
- Capital Market Academy Leader Program, Class 4, Capital Market Academy
- The Programme for Senior Executives on Justice Administration, Class 16, Judicial Training Institute, National Justice Academy
- Advanced Security Management Program, Class 2, The National Defence College Association of Thailand (NDCAT)
- Executive Development Program (EDP), Class 1, Thai Listed Companies Association (TLCA)
- The Joint State – Private Sector Course (Class 2013), National Defence College (NDC)

- Executive Management with Business Development and Investment (Class 2), Institute of Business and Industrial Development (IBID)
- Advanced Certificate Course in Politics and Governance in Democratic Systems for Executives, Class 20, King Prajadhipok's Institute
- The Rules of Law for Democracy (Class 6), College of the Constitutional Court
- The Executive Program in Energy Literacy for a Sustainable Future, Class 13, Thailand Energy Academy
- Thailand CG Forum: Governance as a Driving Force for Business Sustainability, The Stock Exchange of Thailand

Current Position in Other Organizations

Listed Company-The Stock Exchange of Thailand

2 Organization

- Director and Secretary to the Board of Directors / Member of the Risk Management Committee / Chief Executive Officer and President, Thai Oil Public Company Limited
- Chief Operating Officer under Chief Operating Officer, Downstream Petroleum Business Group, PTT working on a Secondment as Chief Executive Officer and President Thai Oil Public Company Limited

Other Organizations / Companies (Not Listed in the Stock Exchange of Thailand)

16 Organization

- Director and Chairman of the Board, Labix Company Limited
- Director and Chairman of the Board, Thairoil Power Company Limited
- Director and Chairman of the Board, Thai Paraxylene Company Limited
- Director, The Federation of Thai Industries (FTI) (Term 2020 – 2022)
- Vice President – Economic and academic work, The Federation of Thai Industries (FTI)
- Director, The Joint Standing Committee on Commerce, Industry and Banking (JSCCB)

- Director, National Economic Reform Steering Committee
- Advisory Committee, Promotion and Supporting Office of Industries, The Federation of Thai Industries (FTI)
- Director, Power of Sustainable Future Foundation (PSF)
- Member of Council, Vidyasirimedhi Institute of Science and Technology (VISTEC)
- Executive Director, Thailand Swimming Association (TSA)
- Member of Trustee (as Company representative), Petroleum Institute of Thailand (PTIT)
- Council of Trustee, Thailand Business Council of Sustainable Development (TBCSD)
- Executive Director, Thailand Energy Academy (TEA)
- Advisor to the President, Association of Capital Market Academy (ACMA)
- Director / Member of Audit Committee, Thailand Management Association (TMA)

Working Experience (5-Year Past Experience)

<p>Sep 1, 2019 - Present</p>	<p>Chief Executive Officer and President, Thai Oil Public Company Limited</p>
<p>Oct 1, 2016 - Aug 31, 2019</p>	<p>Chief Operating Officer, Upstream Petroleum and Gas Business Group, PTT Public Company Limited</p>
<p>2015 - Aug 31, 2019</p>	<p>Director/ Member of the Risk Management Committee, PTT Exploration and Production Public Company Limited</p>
<p>Nov 30, 2018 - 2019</p>	<p>Director and Chairman of the Board, PTTLNG Company Limited</p>
<p>Oct 2016 – 2019</p>	<p>Director, Sakari Resources Limited</p>
<p>Jun 2017 - Oct 2017</p>	<p>Chairman, PTT Global LNG Company Limited</p>
<p>2016 - 2017</p>	<p>Chairman, PTT Energy Resources Company Limited</p>

Jan - Sep 2016	Director, Thai Oil Public Company Limited
May 1, 2014 - Sep 30, 2016	Chief Financial Officer, PTT Public Company Limited

Shareholding in GPSC (including spouse and minor)

: None

Qualified According to Related Laws and Does Not Have Prohibited Qualifications

: Qualified

Family Relation with other Directors, Executives, Major Shareholders of GPSC and its Subsidiaries

: None

Mr. Bandhit Thamprajamchit

Director / Member of the Corporate Governance Committee (Non-Executive Director)

Date Appointed : April 3, 2018 (1st Term)

Age : 50

Education

- Master of Business Administration (Executive), Sasin Graduate Institute of Business Administration of Chulalongkorn University
- M.Sc. in Advanced Chemical Engineering (Distinction), Imperial College, University of London
- Bachelor of Engineering (Chemical Engineering) (First Class Honours), Chulalongkorn University

Training Record with Thai Institute of Directors (IOD)

- Director Certification Program (DCP 187/2014)

Other Training Record

- The Executive Program in Energy Literacy for a Sustainable Future (TEA Class 14), Thailand Energy Academy
- PTT Group Leadership Development Program 3 (LDP 3), PTT Leadership and Learning Institute, PTT Public Company Limited
- Capital Market Academy Leader Program (CMA 27), Capital Market Academy
- PTT Group Leadership Development Program 2 (with INSEAD), Thailand & Singapore, PTT Public Company Limited
- Energy Literacy for a Sustainable Future, YTEA Class 2, Thailand Energy Academy
- TLCA Executive Development Program (EDP), Thailand
- Executive Development Program, Fiscal Policy Research Institute Foundation, Thailand
- NIDA-WHARTON Executive Development Program, Thailand & U.S.A.

Current Position in Other Organizations

Listed Company-The Stock Exchange of Thailand

1 Organization

- Senior Executive Vice President-Refinery and Petrochemical Thai Oil Public Company Limited

Other Organizations / Companies (Not Listed in the Stock Exchange of Thailand)

7 Organizations

- Chairman of Petroleum Refining Industry Club, The Federation of Thai Industries
- Director, Thai Paraxylene Company Limited
- Director, Thairoil Ethanol Company Limited
- Director, Thai Lube Base Public Company Limited
- Director, Thairoil Power Company Limited
- Director, Thairoil Energy Services Company Limited
- Director, LABIX Company Limited

Working Experience (5-Year Past Experience)

Feb 2020 - Present	Senior Executive Vice President-Refinery and Petrochemical Thai Oil Public Company Limited
Oct 2018 - Jan 2020	Senior Executive Vice President-Refinery and Petrochemical and Acting Executive Vice President-Operation Excellence, Thai Oil Public Company Limited
Jul 2017 - Oct 2018	Senior Executive Vice President-Refinery and Petrochemical and Acting Executive Vice President-Manufacturing, Thai Oil Public Company Limited
Jan 2017 - Jun 2017	Acting Senior Executive Vice President-Refinery and Petrochemical and Executive Vice President-Manufacturing, Thai Oil Public Company Limited
Aug 2016 - Dec 2016	Executive Vice President-Manufacturing, Thai Oil Public Company Limited

Apr 2016 - Jul 2016	Executive Vice President-Manufacturing and Acting Senior Vice President-Refinery, Thai Oil Public Company Limited
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Shareholding in GPSC (including spouse and minor)

: None

Qualified According to Related Laws and Does Not Have Prohibited Qualifications

: Qualified

Family Relation with other Directors, Executives, Major Shareholders of GPSC and its Subsidiaries

: None

Mr. Worawat Pitayasiri

Director / Secretary to the Board / Member of the Risk Management Committee / President and Chief Executive Officer (Executive Director)

Date Appointed : December 1, 2020 (1st Term)

Age : 54

Education

- Master of Business Administration, Thammasart University
- Bachelor of Engineering (Chemical Engineering), Chulalongkorn University

Training Record with Thai Institute of Directors (IOD)

- Director Certification Program (DCP), Class 158/2012, Thai Institute of Directors Association (IOD)

Other Training Record

- Advanced Certificate Course Politics and Governance in Democratic Systems for Executives, Class 22nd, King Prajadhipok's Institute
- NIDA-Wharton Executive Leadership Program, Class of 2009, The Wharton School of the University of Pennsylvania, USA
- Asia Petrochemical Industry Conference (APIC), Class 2/2017, Japan Petrochemicals Industry Association
- Senior Executive Program (SEP), Class 26/2012, Sasin Graduate Institute of Business Administration, Chulalongkorn University
- PTT Group VP Leadership Development Program

Current Positions

Listed Company-The Stock Exchange of Thailand

1 organizations

- Senior Executive Vice President, PTT Public Company Limited

Other Organizations / Companies (Not Listed in the Stock Exchange of Thailand)

9 organizations

- Director, Xayaburi Power Company Limited
- Director, Ratchaburi Power Company Limited
- Director, Glow Energy Public Company Limited
- Director, Glow Co., Ltd.
- Director, Glow SPP 2 Co., Ltd.
- Director, Glow SPP 3 Co., Ltd.
- Director, Glow IPP 2 Holding Co., Ltd.
- Director, Glow SPP 11 Co., Ltd.
- Director, Glow IPP Co., Ltd.

Working Experience (5-Year Past Experience)

Jul 2015 - Mar 2016	President, PTT MCC Biochem Company Limited
Mar 2016 - Sep 2016	Executive Vice President, Downstream Business Group Collaboration, PTT Public Company Limited
Oct 2016 - Sep 2018	Executive Vice President, Downstream Business Group Planning, PTT Public Company Limited
Sep 2018 - Nov 2020	Senior Executive Vice President, Innovation and Digital, PTT

Shareholding in GPSC (including spouse and minor)

: None

Qualified According to Related Laws and Does Not Have Prohibited Qualifications

: Qualified

Family Relation with other Directors, Executives, Major Shareholders of GPSC and its Subsidiaries

: None

Mr. Pajongwit Pongsivapai

Chief Operating Officer

Date Appointed : April 1, 2020

Age : 53

Education

- Master Degree of Engineering in Chemical Engineering, Oregon State University, USA
- Bachelor Degree in Chemical Engineering, Chulalongkorn University

Training Record

- Advanced Certificate Course in Politics and Governance in Democratic Systems for Executives conducted by The College of Politics and Governance, King Prajadhipok's Institute, Thailand
- TLCA Leadership Development Program (LDP) "Enhancing the Competitiveness of Thai Companies" organized by IMD (Switzerland) and Thai Listed Companies Association (TLCA)
- TLCA Executive Development Program (EDP), organized by Thai Listed Companies Association (TLCA)
- General Management Program at CEDEP European Centre for Executive Development, INSEAD Fontainebleau, France

Current Position in Other Organizations

Listed Company-The Stock Exchange of Thailand

- None

Other Organizations / Companies (Not Listed in the Stock Exchange of Thailand)

13 Organizations

- Director, Glow Co., Ltd.
- Director, Glow SPP 2 Co., Ltd.
- Director, Glow SPP 3 Co., Ltd.
- Director, Glow IPP 2 Holding Co., Ltd.

- Director, Glow SPP 11 Co., Ltd.
- Director, Glow IPP Co., Ltd.
- Director, Glow IPP 3 Co., Ltd.
- Director, GHECO-One Co., Ltd.
- Director, Houay Ho Power Co., Ltd.
- Director, Houay Ho Thai Co., Ltd.
- Director, Eastern Seaboard Clean Energy Co., Ltd.
- Director, Chonburi Clean Energy Co., Ltd.
- Director, Glow Energy Myanmar Co., Ltd.

Working Experience (5-Year Past Experience)

2019 - 31 Mar 2020	Chief Executive Officer, Glow Energy Public Co., Ltd., Glow Group, and Houay Ho Power Co., Ltd
2015 - 2019	Chief Financial Officer and Executive Vice President Glow Energy Public Co., Ltd., Glow Group, and Houay Ho Power Co., Ltd
2013 - 2015	Executive Vice President - Business Development, Glow Energy Public Co., Ltd., Glow Group, and Houay Ho Power Co., Ltd.
2007 - 2013	Chief Operating Officer and Executive Vice President, Glow Energy Public Co., Ltd., Glow Group, and Houay Ho Power Co., Ltd.

Shareholding in GPSC (including spouse and minor)

: None

Family Relation with other Directors, Executives, Major Shareholders of GPSC and its Subsidiaries

: None

Mrs. Wanida Boonpiraks

Chief Financial Officer

Date Appointed : April 1, 2020

Age : 55

Education

- Master of Business Administration (Finance), University of St. Thomas, U.S.A.
- Bachelor of Accounting, Chulalongkorn University

Training Record

- Director Certification Program (DCP 195/2014), Thai Institute of Directors (IOD)
- TLCA Executive Development Program (EDP) (Batch 9), Thai Listed Companies Association
- CFO Certification Program (Batch 19), Federation of Accounting Professions under the Royal Patronage of His Majesty the King
- Leadership Development Program II (LDP II), PTT Leadership and Learning Institute
- Orchestrating Winning Program (OWP) 2018, IMD Business School Switzerland
- Leadership Development Program III (LDP III), IMD Business School Singapore

Current Position in Other Organizations

Listed Company-The Stock Exchange of Thailand 1 Organization

- Executive Vice President, PTT Public Company Limited

Other Organizations / Companies (Not Listed in the Stock Exchange of Thailand) 12 Organizations

- Director, IRPC Clean Power Company Limited
- Director, Nam Lik 1 Power Company Limited
- Director, Ratchaburi Power Company Limited
- Director, GPSC Treasury Center (GPSCTC)
- Director, GHECO-One Co., Ltd.
- Director, Glow Co., Ltd.

- Director, Glow SPP 2 Co., Ltd.
- Director, Glow SPP 3 Co., Ltd.
- Director, Glow SPP 11 Co., Ltd.
- Director, Glow IPP Co., Ltd .
- Director, Glow IPP 2 Holding Co., Ltd.
- Director, Glow IPP 3 Co., Ltd.

Working Experience (5-Year Past Experience)

1 Feb, 2018 - 31 Mar, 2020	Executive Vice President - Corporate Finance and Accounting, Global Power Synergy Public Company Limited
1 Nov, 2016 - 31 Jan, 2018	Chief Financial Officer
Oct 2014 - 31 Oct, 2016	Chief Financial Officer, Global Power Synergy Public Company Limited
2015 - Mar 2016	Director, Xayaburi Power Company Limited
2013 - 2015	Director, PTT Regional Treasury Center Pte. (Singapore)
2012 - 2014	Vice President, Treasury Department, PTT Public Company Limited

Shareholding in GPSC (including spouse and minor)

: Self 109,100 shares

Family Relation with other Directors, Executives, Major Shareholders of GPSC and its Subsidiaries

: None

Remarks: Mrs. Wanida Boonpiraks was assigned the highest responsibility in accounting and finance. In this regard, the Board of Directors' meeting No.12/2020 on 21 October 2020 has approved the change of the highest responsible person in accounting and finance by appointing Mr. Thitipong Jurapornsiridee to take the position of Chief Financial Officer in place of Mrs. Wanida Boonpiraks, effective from 1 January 2021.

Mr. Sirimet Leepagorn

Executive Vice President Corporate Strategy and
Subsidiary Management

Date Appointed : April 1,2020

Age : 54

Education

- Master of Business Administration, Burapha University
- Bachelor of Science (Chemistry), Chiang Mai University

Training Record

- Director Certification Program (DCP 205/2015), Thai Institute of Directors
- PTT Leadership Development Program (LDP II), Harvard Business School
- GE Leadership Development Program, New York, USA
- Senior Executive Program, Sasin Executive Education
- Authentic You, Authentic Leader
- Coaching for Leaders
- Leadership Development Program 3 (LDP 3)
- Brain 4, The Federation of Thai Industries

Current Position in Other Organizations

Listed Company-The Stock Exchange of Thailand 1 Organization

- Executive Vice President, PTT Public Company Limited

Other Organizations / Companies (Not Listed in the Stock Exchange of Thailand

19 Organizations

- Chairman, IRPC Clean Power Company Limited
- Chairman, Nam Lik 1 Power Company Limited
- Chairman, GHECO-One Company Limited
- Director, Glow Energy Public Company Limited
- Director, Glow Company Limited
- Director, Glow SPP 2 Company Limited
- Director, Glow SPP 3 Company Limited
- Director, Glow SPP 11 Company Limited
- Director, Glow IPP Company Limited
- Director, Glow IPP 2 Holding Company Limited
- Director, Glow IPP 3 Company Limited
- Director, Global Renewable Power Company Limited

- Director, Energy Recovery Unit Company Limited
- Director, Nava Nakorn Electricity Generating Company Limited
- Director, Xayaburi Power Company Limited
- Director, N.P.S. Stargroup Company Limited
- Director, P.P. Solar Company Limited
- Director, World X Change Asia Company Limited
- Director, Global Renewable Power Operating Company Limited

Working Experience (5-Year Past Experience)

Apr 2020 - Present	Executive Vice President Corporate Strategy and Subsidiary Management, Global Power Synergy Public Company Limited
Oct 2018 - Mar 2020	Executive Vice President, Asset Management, Global Power Synergy Public Company Limited
Jan 2018 - Sep 2018	Executive Vice President, Strategic Transformation and Result Deliver, IRPC Public Company Limited
Jan 2016 - Dec 2017	EVEREST Project Director, IRPC Public Company Limited
Jan 2014 - Jun 2018	Acting President, IRPC Clean Power Company Limited
Sep 2014 - Sep 2018	Director, IRPC Clean Power Company Limited
Oct 2014 - Oct 2015	Executive Vice President, Corporate Business Planning, IRPC Public Company Limited
Jul 2013 - Sep 2014	Acting Executive Vice President, Corporate Business Planning, IRPC Public Company Limited
Feb 2012 - Sep 2018	Director, IRPC Oil Company Limited

Shareholding in GPSC (including spouse and minor)

: None

Family Relation with other Directors, Executives, Major Shareholders of GPSC and its Subsidiaries

: None

Mrs. Rosaya Teinwan

Executive Vice President – Business Development

Date Appointed : April 1, 2020

Age : 51

Education

- Master of Business Administration, Rangsit University
- Bachelor of Engineering (Electronic Engineering), Kasetsart University

Training Record

- Public-Private Social Peacekeeping Administration (Baw Raw Aw), Class 6, Police College, Police Education Bureau
- Senior Executive Program Sasin Graduate Institute of Business Administration of Chulalongkorn University
- Management of Public Economics for Executives #18 King Prajadhipok's Institute
- Leadership Development Program 3, PTT Leadership and Learning Institute
- MIT Entrepreneurship Online Boot camp
- Innovation of Products and Services MIT's Approach to Design Thinking Massachusetts Institute of Technology
- NUS Executive Programme in International Management, NUS Business School
- The Emerging US LNG Export Marketplace
- Overview of the Global LNG Market
- The Emerging US LNG Export Marketplace
- Comprehending the Coal Industry The Oxford Princeton Programme
- Advanced Audit Committee Program (AACP)
- Role of the Chairman Program (RCP) 31/2013
- Director Certification Program (DCP) 169/2013
- Anti-Corruption for Executive Program (ACEP) 6/2013 The Thai Institute of Directors Association (IOD)

Current Position in Other Organizations

Listed Company-The Stock Exchange of Thailand 1 Organization

- Executive Vice President, PTT Public Company Limited

Other Organizations / Companies (Not Listed in the Stock Exchange of Thailand)

9 Organizations

- Director, Combined Heat Power Producing Co., Ltd
- Director, PTT Green Energy Pte
- Director, Global Renewable Power 1 Co., Ltd.
- Director, IRPC Clean Power Co., Ltd
- Director, Global Renewable Power Co., Ltd.
- Director, Energy Recovery Unit Co., Ltd
- Director, 24M Technologies, Inc.
- Director, Siam solar energy 1 Co., Ltd
- Director, Thai Solar Renewable Co., Ltd

Working Experience (5-Year Past Experience)

Apr 1, 2020 - Present	Executive Vice President, Business Development, Global Power Synergy Public Company Limited
Sep 16, 2019 - Mar 31, 2020	Executive Vice President, Business Development and Corporate Strategy, Global Power Synergy Public Company Limited
2016 - 2019	Acting President, PTT Energy Resources Company Limited
2015 - 2019	Chief Executive Officer, Sakari Resources Limited and Director in Sakari Resources Limited Groups
2013 - 2019	Acting Managing Director, PTT Green Energy Pte. Ltd and Director PTT Green Energy Pte. Ltd Groups
2012 - 2013	Vice President (Acting), Ustream Petroleum and Gas Business Group and Thailand Integrated Gas Supply - PMO Optimization, PTT Public Company Limited

Shareholding in GPSC (including spouse and minor)

: Self 28,228 shares

Family Relation with other Directors, Executives, Major Shareholders of GPSC and its Subsidiaries

: None

Mrs. Sriprapha Sumruatruamphol

Executive Vice President – Commercial

Date Appointed : April 1, 2020

Age : 57

Education

- Master of Business Administration, Syracuse University, New York, USA
- Bachelor Degree in Science (Chemical Engineering), Michigan Technological University, Michigan, USA

Training Record

- Top Executives in the Energy Education Program (Batch 10), Thailand Energy Academy

Current Position in Other Organizations

Listed Company-The Stock Exchange of Thailand

- None

Other Organizations / Companies (Not Listed in the Stock Exchange of Thailand)

1 Organization

- Director of Gheco-One Co., Ltd.

Working Experience (5-Year Past Experience)

2015 - 31 Mar 2020	Chief Commercial Officer and Executive Vice President-Human Resources, Glow Energy Public Co., Ltd., and Glow Group
Feb 2012 - Sep 2013	Chairman of Association of Private Power Producers
Feb 2012 - Sep 2013	Chairman of Power Generation Club, The Federation of Thai Industries
Oct 2002 - Sep 2013	Director of Eastern Fluid Transport Co., Ltd.
2001 - 2015	Chief Commercial Officer and Executive Vice President, Glow Energy Public Co., Ltd. and Glow Group

Shareholding in GPSC (including spouse and minor)

: None

Family Relation with other Directors, Executives, Major Shareholders of GPSC and its Subsidiaries

: None

Mr. Smornchai Khoonrak

Executive Vice President, Operations

Date Appointed : November 1, 2016

Age : 59

Education

- Master of Business Administration, Khonkaen University
- Bachelor of Engineering, Khonkaen University

Training Record

- Director Certification Program (DCP 205/2015), Thai Institute of Directors (IOD)
- Natural Gas Engineering, Brussels, Belgium
- PTT Group Leader Development Program
- PTT- Harvard Business School (Batch 2), Shanghai, China

Current Position in Other Organizations

Listed Company-The Stock Exchange of Thailand

- None

Other Organizations / Companies (Not Listed in the Stock Exchange of Thailand)

9 Organizations

- Director, Bangpa-In Cogeneration Company Limited
- Director, Glow Company Limited
- Director, Glow SPP 2 Company Limited
- Director, Glow SPP 3 Company Limited
- Director, Glow SPP 11 Company Limited
- Director, Glow IPP Company Limited
- Director, Glow IPP 2 Holding Company Limited
- Director, GHECO-One Company Limited
- Director, Houay Ho Power Company Limited

Working Experience (5-Year Past Experience)

Mar 15, 2019 - Present	Director, Bangpa-In Cogeneration Company Limited, Glow Company Limited, Glow SPP 2 Company Limited, Glow SPP 3 Company Limited, Glow SPP 11 Company Limited, Glow IPP Company Limited, Glow IPP 2 Holding Company Limited, GHECO-One Company Limited and Houay Ho Power Company Limited
Nov 1, 2015 - Present	Executive Vice President - Operations, Global Power Synergy Public Company Limited
Jan 1, 2015 - Oct 31, 2016	Chief Asset Management Officer, Global Power Synergy Public Company Limited

Shareholding in GPSC (including spouse and minor)

: Self 73,500 shares

Family Relation with other Directors, Executives, Major Shareholders of GPSC and its Subsidiaries

: None

Mr. Arjan van den Broek

Executive Vice President – Operation Center of Excellence

Date Appointed : April 1, 2020

Age : 49

Education

- Master of Science in Management, General Management PDP2, University Nyenrode, the Netherlands
- Bachelor of Electronics Engineering-Technical Computer Science, College Rijswijk

Training Record

- General Management Program Cycle 8, CEDEP

Current Position in Other Organizations

Listed Company-The Stock Exchange of Thailand

- None

Other Organizations / Companies (Not Listed in the Stock Exchange of Thailand)

- None

Working Experience (5-Year Past Experience)

2016 - 2020 Chief Operating Officer and Executive Vice President, Glow Energy Public Co., Ltd., Glow Group, and Houay Ho Power Co., Ltd.

Shareholding in GPSC (including spouse and minor)

: None

Family Relation with Directors, other Executives, Major Shareholders of GPSC and its Subsidiaries

: None

Profile of the designated person directly responsible for accounting

Miss Suttasinee Pengsupaya

Senior Vice President Accounting and Tax Planning and Service

Date Appointed : April 1, 2020

Age : 54

Education

- Master Degree in Science (Accounting) Thammasat University
- Bachelor Degree in Accounting Thammasat University

Training Record

- Certificate of Taxation - UTCC
- Executive Development Program
- Mini CFO of IFAC

Current Position in Other Organizations

Listed Company-The Stock Exchange of Thailand

- None

Other Organizations / Companies (Not Listed in the Stock Exchange of Thailand)

- None

Working Experience (5-Year Past Experience)

1997 - 2020 Vice President - Accounting of Glow Energy Public Company Limited and Glow Group

Shareholding in GPSC (including spouse and minor)

: None

Family Relation with other Directors, Executives, Major Shareholders of GPSC and its Subsidiaries

: None

Profile of the Company Secretary and chief of Compliance

Ms. Pallapa Achanon

Senior Vice President Company Secretary and Corporate Governance

Date Appointed : April 1, 2020

Age : 52

Education

- Master of Business Administration (Finance) Kasetsart University
- Bachelor of Science (Business Administration) Kasetsart University

Training Record

- The Executive Program for Young Professionals (EYP) Class 1, Fiscal Policy Research Institute Foundation
- Leadership Development Program 1, Class 2, PTT Leadership and Learning Institute (PLLI), Executive Program
- Strategy Management Program (SMP), Class 2, Fiscal Policy Research Institute Foundation
- Fundamentals for Corporate Secretaries, Thai Listed Companies Association
- Company Secretary Program (CSP) 99/2019, Thai Institute of Directors
- Director Accreditation Program (DAC) 163/2019, Thai Institute of Directors
- Board Reporting Program (BRP) 33/2020, Thai Institute of Directors
- Risk and Opportunity Management for Corporate Leaders, Thai Institute of Directors
- ASEAN CG Scorecard Coaching 2020, Thai Institute of Directors

Current Position

Listed Company-The Stock Exchange of Thailand

: Vice President, PTT Public Company Limited

Other Organizations / Companies (Not Listed in the Stock Exchange of Thailand)

: None

Working Experience (5-Year Past Experience)

May 2019 - Present	Vice President Attached to Chief Technology and Engineering Officer
Aug 2019 - Mar 2020	Vice President Corporate Governance and Affairs Department
May 2019 - Jul 2019	Vice President Attached to President and Chief Executive Officer, GPSC
2018 - Apr 2019	Manager, Corporate Planning and Budgeting Department
2016 - 2018	Manager, Performance Management and Corporate Risk Department
2014 - 2016	Team Leader, Investment Management Department

Shareholding in GPSC (including spouse and minor)

: 1,000 Shares

Family Relation with other Directors, Executives, Major Shareholders of GPSC and its Subsidiaries

: None

Roles of the Chief of Compliance

Since 2018, GPSC has set up a unit under the Board's vision to strictly perform compliance tasks, namely the Compliance Division under the Company Secretary and Corporate Governance Department. In 2020, Compliance steered corporate compliance with laws and corporate regulations. As GPSC's Second Line of Defense, she defines policies, rules, and standards for compliance and steers compliance of matters under her responsibility, counsels, educates, and communicates defined policies, laws, and regulations.

Attachment 2 Details of Directors in the Subsidiary Companies of GPSC, as of December 31, 2020

❖ Chairman ✓ Director ○ Director/Executive ■ holding Company

	GLOW Energy Public Co., Ltd.	GLOW Co., Ltd.	GLOW SPP 2 Co., Ltd.	GLOW SPP 3 Co., Ltd.	GLOW SPP 11 Co., Ltd.	GLOW IPP Co., Ltd.	GLOW IPP 2 Holding Co., Ltd.	HHTC Co., Ltd.	Houay Ho Power Co., Ltd.	GHCO-One Co., Ltd.	GLOW IPP 3 Co., Ltd.	Glow Energy Myanmar Co., Ltd.	Combined Heat and Power Producing Co., Ltd.	Natee Synergy Co., Ltd.	NSC Co., Ltd.	IRPC Clean Power Co., Ltd.	GPSC International Holdings Limited	Global Renewable Power Co., Ltd.	Global Renewable Power Operating Co., Ltd.	P.P. Solar Co., Ltd.	N.P.S. Stargroup Co., Ltd.	World X Change Asia Co., Ltd.	Global Renewable Power 1 Co., Ltd.	Energy Recovery Unit Co., Ltd.	GPSC Holding (Thailand) Co., Ltd.	GPSC Treasury Center Co., Ltd.
	GLOW Energy	GLOW	GLOW SPP2	GLOW SPP3	GLOW SPP11	GLOW IPP	GLOW IPP2	HHTC	HHPC	GHCO-1	GLOW IPP3	GE Myanmar	CHPP	NSC	IRPC-CP	GPSC-IH	GRP	GRPO	PPS	NPS	WXA	GRP1	ERU	GPSC Holding	GPSC TC	
1	Mr. Payungsak Chatsutipol O	❖	❖	❖	❖	❖	❖																			
2	Mr. Veerasak Kositpaisal	✓																								
3	Prof. Dr. Borwornsak Uwanno	✓	✓	✓	✓	✓	✓																			
4	Mr. Jukr Boon-Long	✓	✓	✓	✓	✓	✓																			
5	Mrs. Patareeya Benjapolchai	✓	✓	✓	✓	✓	✓																			
6	Police General Aek Angsanant	✓	✓	✓	✓	✓	✓																			
7	Mrs. Boopha Amornkiatkajorn	✓	✓	✓	✓	✓	✓																			
8	Assoc. Prof. Dr. Chayun Tantivasadakarn	✓	✓	✓	✓	✓	✓																			
9	Mr. Worawat Pitayasiri O	✓	✓	✓	✓	✓	✓																			
10	Mr. Sirimet Leepagorn O	✓	✓	✓	✓	✓	✓						✓										✓			
11	Mr. Pajongwit Pongsivapai O	✓	✓	✓	✓	✓	✓					✓											✓			
12	Mrs. Wanida Boonpiraks O	✓	✓	✓	✓	✓	✓																✓			
13	Mrs. Rossaya Teinwan O	✓	✓	✓	✓	✓	✓																✓			
14	Mr. Smornchai Khoonrak O	✓	✓	✓	✓	✓	✓						✓										✓			
15	Mrs. Sirobon Boontaworn O							✓	✓	✓	✓	✓														✓
16	Mr. Vivat Jiratikamsakul							✓	✓	✓	✓															
17	Mr. Niphon Bundechanan							✓	✓	✓	✓															
18	Mr. Natthapatt Tanboon-ek							✓	✓	✓	✓															
19	Mr. Sichanh Gnabandith								✓	✓	✓															
20	Mr. Viraphanh Mandavong								✓	✓	✓															
21	Ms. Chansouk Thammvong								✓	✓	✓															
22	Mr. Vanhseng Vannavong								✓	✓	✓															
23	Mrs. Sripapha Sumruatruamphol O									✓	✓															
24	Mr. David Richard Nardone									✓	✓															
25	Mr. Ariyasak Thepchatrri											✓														
26	Mr. Chansak Chuenchorn												✓													
27	Mr. Jaruwat Singsoomdee O													✓												
28	Mrs. Sukittee Chalarak O													✓											✓	✓
29	Mrs. Nidcha Jirametthanakij														✓											
30	Mr. Woravuth Sivapetranart														✓											
31	Mr. Somkiat Lertripituwadol														✓											
32	Ms. Duddao Suksamran O																									
33	Mr. Laksanapreescha Krutkuntode O																									✓
34	Mr. Kulapat Permbhusri O																									✓

Attachment 3 Details about the Chief of Internal Audit

Ms. Attayar Sukotanang

Senior Vice President, Corporate Internal Audit

Education : April 1,2020

Age : 47

Education

- Master of Science in Information Systems The George Washington University, U.S.A.
- Bachelor of Arts in Business Administration, Eastern Washington University, U.S.A.

Training Record Professional Certification

- PTT Leadership Development Program I
- Certified Information Systems Auditor (CISA), U.S.A.

Current Position in Other Organizations

Listed Company-The Stock Exchange of Thailand

1 Organization

- Vice President, PTT Public Company Limited

Other Organizations / Companies (Not Listed in the Stock Exchange of Thailand)

- None

Working Experience (5-Year Past Experience)

2017 - Present	Senior Vice President, Corporate Internal Audit, Global Power Synergy Public Company Limited
2013 - 2017	Team Leader, Upstream and Gas Business Group Alignment Department, PTT Public Company Limited

Shareholding in GPSC (including spouse and minor)

: None

Family Relation with other Directors, Executives, Major Shareholders of GPSC and its Subsidiaries

: None



Attachment 4

Details of Operating Asset

Details of Assets used in Business Operations and Property Evaluation are shown in 56-1 One Report in Business Operation and Performance on Assets used in Business Operations.

Attachment 5

Full version of the Corporate Governance Policy and Guidelines

Good Corporate Governance Policy and Guidelines and Code of Conduct (Full version) Revealing on Company's website <https://www.gpscgroup.com/Uploads/eIFinder/download/cg/cg-and-code-of-conduct-manual-2020-th/GPSC2020.html>

Attachment 6

Report of the Audit Committee

The company has disclosed report of Audit Committee in 56-1 One Report : Report the Performance of Good Corporate Governance on the Company's website <https://www.gpscgroup.com/en/about/audit-committee>



This publication uses soy ink and manufacturing processes that protect the environment reduce CO2 emissions, equivalent to turning off 84 bulbs in 1 day.



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