

Integrated Sustainability Report 2022





Vision:

The global leading innovative and sustainable power company



Aspiration:

To be top-three power company in Southeast Asia with more than half of MW from green portfolio



Mission:

To be a PTT Group power and smart-energy flagship that innovatively pursues operational excellence to create value for stakeholders by delivering reliable products to customers with responsibility to the planet



 Member of

 Dow Jones

 Sustainability Indices

 Powered by the S&P Global CSA



DJSI

An international indicator of GPSC's commitment to creating long-term, sustainable value for energy innovations

To the Net Zero Society

4S Corporate Strategies





Strengthen and Expand the Core Strengthen and grow services in our core businesses. Enhance production efficiency and refrain from investing in new coal-fired power plants.

S2

Scale-up Green Energy Grow the renewables portfolio to more than 50% by 2030.

S3



S-Curve & Batterie

Apply energy innovations and futuristic businesses, including advanced energy storage systems for EV batteries. Raise renewables power efficiency, catering to energy consumption models of a low-carbon society.



Shift to customer-Centric Solutions

Provide solutions to customers' needs, including power and utility generation, by applying energy innovations derived from conventional and alternative-energy power plants.

GPSC: PTT Group's Power and Smart Energy Flagship

As a leading innovative power and utility generator, GPSC relentlessly pursues clean-energy technology. We pioneered New S-Curve businesses, expertly carrying out the 4S Strategies while cooperating with business partners in scaling up green innovations for becoming a global innovative and sustainable power company. A company that efficiently applies smart energy for consumers, drives Thailand toward a low-carbon society, improve people's lives, and jointly provides better stewardship for the planet with readily accessible clean energy.



Onward with clean energy, transforming our world ... To the Net Zero Society



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About this Report GRI 2-1, 2-2, 2-3, 2-4, 2-5

In preparing its annual sustainability report, Global Power Synergy Plc (GPSC) strives to disclose its economic, social, and environmental performance and illustrate how its operations have taken into account sustainable development of issues considered critical to business and all stakeholders. This ISR encompasses the operations from January 1 to December 31, 2022, and embraces GPSC Group, meaning companies located in Thailand where GPSC holds 75% or more shares or is a strategic owner,* to which there has been no material change compared to the previous year. GPSC has adopted the Integrated Sustainability Report (IR) framework of the Value Reporting Foundation in parallel with materiality assessment and the disclosure of management and performance data in line with the Global Reporting Initiative (GRI) Standards 2021. This report also incorporates additional indicators stipulated in the Electric Utilities Sector Disclosures document. In addition, GPSC has set targets and reported its performance in alignment

with UN Sustainable Development Goals (SDGs). It also discloses financial data related to climate, as recommended by the Taskforce on Climate-related Financial Disclosure (TCFD).

This ISR has been partly reproduced on the company website. For greater credibility, accuracy, and alignment with the GRI Standards, this report, for both this publication and the website content, has undergone verification for limited data assurance by SGS (Thailand) Co., Ltd. Additional information appears on pages 64 - 66. This is the sixth year of third-party certification. GPSC intends to keep up this practice.

GPSC is determined to keep improving the quality of its sustainability reports to upgrade the quality of information disclosure and welcomes all suggestions so that they may be integrated into the process to promote sustainable development in conjunction with all stakeholders. Below are our contact channels.

Remark: * The scope of this report is detailed on pages 62 - 63.

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Message from the President & Chief Executive Officer GRI 2-22

Dear shareholders,

In 2022, the world inevitably continued to grapple with further crises and challenges as it sought to recover from the economic impact of the COVID-19 pandemic, push decarbonization efforts forward through the 27th Conference of the Parties (COP 27) to address and tackle climate change and produce tangible outcomes, and end geopolitical conflicts and accompanying energy crises, which also affected Thailand as well as Global Power Synergy Public Company Limited (GPSC). It is thus necessary for GPSC to monitor the situation and adjust its work model to suit the new normal as well as complete its transition to renewable energy for the purposes of decarbonizing its production, decentralizing its energy network, and digitalizing its energy management to enhance efficiency as well as create business opportunities and shared value for all stakeholders.

At GPSC, we are fully aware of the impacts of these situations and have thus made preparations to address these issues effectively to promptly adapt to changes and achieve an economic (governance), environmental, and social balance under the vision of becoming a leading innovative and sustainable power company and our sustainability framework, which comprises the following key business goals:

- To achieve Carbon Neutrality by 2050 and net zero emissions by 2060, in line with Thailand's Nationally Determined Contributions (NDCs)
- To increase the proportion of renewable energy to over 50% of our total capacity by 2030.
- To support sustainable development goals (SDGs)
- To conduct business in adherence to the United Nations Guiding Principles on Business and Human Rights (UNGPs)
- To drive and develop electricity and smart energy innovations that align with new lifestyles and future changes in energy demand in collaboration with PTT Group



To this end, we have developed the 4S Strategies, consisting of S1: Strengthen and Expand the Core (with emphasis on improvement of generation efficiency and reliability), S2: Scale-up Green Energy (including solar energy and wind power in Thailand and overseas), S3: S-curve & Batteries (with emphasis on energy storage systems (ESSs) and batteries), and S4: Shift to Customer-Centric Solutions (providing services to answer customer needs). These strategies have enabled us to achieve our goals. Our achievements in 2022 are as follows:

- GPSC increased the proportion of domestic and overseas renewable power to 2,726 MW, or 38% of the total production capacity.
- GPSC participated in the assessment by the Dow Jones Sustainability Indices (DJSI) and was placed on the Emerging Markets Index in the Electric Utilities category for the first year.

- GPSC joined the Carbon Disclosure Project (CDP), organized by a globally recognized institute rating corporate climate management, and maintained its performance rating of B (Management Level) for the fourth consecutive year.
- GPSC won a Highly Commended Sustainability Award in the Sustainability Excellence category at the SET Awards 2022 and was placed on the 2022 Thailand Sustainability Investment (THSI) list by the Stock Exchange of Thailand for the fifth consecutive year.
- GPSC was given an Excellence Award under the Low Carbon and Sustainable Business (LCSB) Project, hosted by Thailand Greenhouse Gas Management Organization (Public Organization), or TGO, for the third consecutive year.

As the President & Chief Executive Officer of Global Power Synergy Public Company Limited, I would like to express my heartfelt gratitude to all shareholders, customers, business partners, the general public, and stakeholders for their continued support for and trust in our business operations over the past 10 years. We are committed to operating the business to the fullest extent of our capabilities under the sustainability framework while also taking into account corporate governance and balanced environmental and social management in order to be able to effectively meet the expectations of customers, stakeholders, and neighboring communities as well as achieve long-term business growth and recognition both nationally and internationally.

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Mr. Worawat Pitayasiri President & CEO



Value Creation Through the Business Model 2022



	Outcome				Contribution	Material	
		To GPSC	To stakeholders	group	To SDGs	issues	
		 Total revenue: THB 126,416 MM EBITDA: THB 10,026 MM Net profit: THB 1,457 MM 	 Total shareholder return: 0.84 % Earnings per share: THB 0.32 Dividend per share: THB 1.50 	Anterioria Startenia Bartenia Anterioria Partners	B EXTERNO	- GRC - Maintaining Reliability and Availability	
	000 (G32)	 Turnover rate: 5.76% Key positions in succession planning: 100% Employee engagement: 69% Zero lost-time injury frequency rate (LTIFT) per 1,000,000 working hours 	 Average training hours: 28.07 hours/person Return on investment in power business skill development for employees: 3.96% Number of employee training courses: 172 	Employees		 OHS Workforce-focused Organization Human Rights 	
		 Other non-current asset: THB 3,876.49 MM Direct and indirect cost saving: THB 2,740 MM 	 Industrial customer availability: 99.998% Annual forced outage time: 9,731 hours 	Customers	8 EXCRAMENT MARKET 9 AREA PARTY Second Second Sec	- Maintaining Reliability and Availability	
•	\$ \$ \$	 Community satisfaction: 78% Customer satisfaction: 95% 12 corporate social responsibility (CSR) projects evaluated by social returns on investment (SROI) 	 No human rights violation complaint Tax paid: THB 515.95 MM Number of local people and new graduates hired under the GPSC United to Help the Nation project: 25 Revenue from the Zero Waste Village Project for local communities: THB 420,655 	iversition iversition	11 ENTRODUCED 115 ENTROPE	 Customer Relationship Management Supply Chain Management Sustainable Community 	
		 Developed a pilot project and experiment an ESS installation with a COD for one customer Entered into 3 service level agreements and/or memorandums of understanding for ESS installation 	 Forged awareness and shared knowledge of battery products among 34 customers and suppliers Established Nuovo Plus to carry out battery development and production 	InvestorsImportantInvestorsShareholderImportantImp	7 observer 2000 Parameter 2000 Parameter 20	 Capturing the Future Sustainability Market Being an Innovative Leader 	
	(F)	 Fuel saved: 7.40 MMBTU Energy saved: 2.17 million MWh No fine from environmental violation 	 Reduction in waste sent to external landfills: 0.23 million tons GHG emissions reduced under Thailand Voluntary Emission Reduction Program (T-VER): 433,122 tCO₂e GHG reduced through the use of renewable energy: 279.78 tCO₂e 	with the second	12 Simpler Simpler 12 Simpler 13 Simpler 13 Simpler 13 Simpler 14 Simpler 15 Simpler 15 Simpler 16 Simpler 17 Simpler 18 Simpler 18 Simpler 18 Simpler 19	 Environmental Management Clean Energy towards net zero 	

• Increase from the previous year • Decrease from the previous year • First reported this year

Business Strategy and Corporate Outlook GRI 3-1, 3-2

The corporate business strategy for the year 2022 (for the 2022-2030 period) was formulated to cope with the energy industry shift toward clean energy, constructed on four major pillars: S1: Strengthen and Expand the Core, S2: Scale-up Green Energy, S3: S-curve & Batteries, and S4: Shift to Customer-Centric Solutions. The focus areas are domestic Thailand and the 2nd home country group including India, Vietnam, and Taiwan. The strategy demands simultaneous development in six enablers including (1) partnership, (2) financial discipline, (3) technology & digitalization, (4) sustainability, (5) agile & resilient organization, and (6) operational excellence. These enablers will allow GPSC to achieve sustainable business growth alongside environmental stewardship and responsibility towards stakeholders and to position GPSC as a leading power generator in Southeast Asia. As part of the strategy, GPSC has added the goals of achieving carbon neutrality by 2050 and net zero GHG emissions by 2060.



S1 Strengthen And Expand The Core	2022 Key Success Indicators	2022 Performance	Long-term Target (2030)	Additional Details
Promoting and developing the Company's core	- Realized synergy value	✓	- EBITDA≥	Page 50
business with the aim of creating maximum	- SAIFI	1	2,300 million baht	Please scan:
satisfaction for shareholders. Accessing customer			- ≤0.10	a ~3399/a
needs and building confidence through Operational		v	- 0.00	
Excellence principles to develop and maintain			0.00	
security, stability, profitability at an international				
level through continuous talent development and				E1362897.5645
the application of management standards systems				
and digital technology to help drive and enhance				
operations in various fields as well as expanding				
to other nearby businesses both at domestic and				
internationally.				

S2	2022	2022	Long-term Target	Additional
Scale-Up Green Energy	Key Success Indicators	Performance	(2030)	Details
Increasing the proportion of clean energy project development from both solar power and wind power while integrating renewable energy into energy storage systems (ESS), focusing on the target countries (India, Vietnam, Taiwan) and committed to reducing GHG intensity to expand the company's growth in parallel with reduction of the company's GHG reduction.	- Additional MW growth	×	 12 GW Renewable Reduce GHG Intensity by 35% >50% of Renewable in portfolio 	Page 16 Please scan:

S3	2022	2022	Long-term Target	Additional
S-Curve & Batteries	Key Success Indicators	Performance	(2030)	Details
Investing in innovation to generate revenue from battery and New S-curve businesses to support changes in the energy and electricity industry in the future, with an aim to become a leader in the production of energy storage systems and in services related to the value chain of the battery business. GPSC also places emphasis on other New S-curve businesses that will play greater role in the power production industry in the future, such as digital energy; hydrogen energy; and carbon capture, utilization, and storage.	 Setup Joint Venture for battery value chain business 	1	- Battery production in gigawatt-hour scale in Thailand	Page 28 Please scan:

S4 Shift To Customer-Centric Solutions	2022 Key Success Indicators	2022 Performance	Long-term Target (2030)	Additional Details
Moving towards the energy management solutions business, with an aim to deliver energy services to meet customers' needs for cost reduction and reliability enhancement and to introduce fund service providers to commercial and industrial customers.	 FID a commercial project on energy management solutions 	√	 1,000 million baht increase in revenue from energy management 	Please scan:
with an emphasis on distributed generation through solar power generation in conjunction with energy storage systems and other utilities, such as district cooling systems. This strategy will be implemented in Thailand first.			solutions	

Materiality Assessment 2022 GRI 3-1, 3-2

In conducting this year's materiality assessment, changes in external factors with impacts (both positive and negative) on the company and its creation of long-term value for stakeholders and the business as well as internal and external pressure were identified: post-COVID economic recovery, the advancement of GHG reduction for climate change management, geopolitical conflicts and energy crises, shifting trends in market demand and forms of energy used, and greater awareness of human rights across the world. Accordingly, GPSC's material issues changed as detailed below.



Remarks:

- Key material issues: Issues viewed as significant by stakeholders in economic (governance), social, and environmental aspects rated to have significant impacts, both positive and negative, (high and very high levels of impacts) based on the criteria of severity and likelihood of impacts on internal and external stakeholders as well as impacts on GPSC's business operations
 - Positive impacts: Healthy operating results, business growth, quality of life enhancement, promotion of environmental quality, etc.
 - Negative impacts: Business losses or remediation expenses, violation of relevant laws or regulations, degradation in quality of life, environmental degradation, etc.
- Fundamental material issues: Issues arising in the normal course of business that need to be managed to ensure compliance with laws, standards, and general practices and are rated to have a low or normal level of impact

GPSC's Materiality Assessment 2022

		Occurrence				Alignment with	
Material Issue	Impacts (Positive and negative)	Past and present	Possible in the future	Related Stakeholders	Global Reporting Initiative: GRI	Sustainable Development Goals (SDGs)	
Key Material Issues							
Clean Energy Towards Net Zero	 Play a vital role as a power service provider in advancing the country's clean energy and climate change goals. Attract foreign investors in the energy industry 	✓		Government sector, customers, suppliers	 Management Approach (3-1, 3-2, 3-3) Energy (302-1, 302-3, 302-4) 	12 Exercise 13 Exercise Table Total States Total States	
	 Support low-carbon businesses and innovations showing trends of potential growth 	~	~	Shareholders, investors, partners, customers	- Emission (305-1, 305-2, 305-3, 305-4, 305-7)		
	 Promote consumer access to clean energy sources 		~	Customers, society and communities	-		
Capturing the Future Sustainability Market	 Ensure alignment with and accommodate changes in market trends, customer needs, and government policies 		~	Shareholders, investors, government sector, customers, suppliers	- Management Approach (3-1, 3-2, 3-3)	Omenantement 17 destruiter Statementement 19 destruiter	
	 Foster collaboration for product development initiatives that create value and market opportunities for GPSC and its business partners 		~	Partners			
Being an Innovative Leader	 Prevent disruption by new players and create operational strengths 	•	1	Shareholders, investors, partners, customers, employees	- Management Approach (3-1, 3-2, 3-3)	9 Intervieweda Int	
	 Enhance operational efficiency Enhance employees' efficiency and give them time for skill development in accordance with their interest 		~	Employees			
	 Impact the operating results through the development and procurement of innovation that can further enhance GPSC's products and services in the future 		~	Shareholders, investors	-		
Employee-focused Organization	 Employees form a vital force in driving the business towards its established goals. Create differentiation and competitive advantages 		~	Shareholders, investors, employees	 Management Approach (3-1, 3-2, 3-3) Collective bargaining agreements (2-30) Training and Education (404-1, 404-2, 404-3) Freedom of association and collective bargaining (407-1) Diversity and Equal Opportunity (405-1, 405-2) 	3 IRRURATE 	



Remarks:

Further details of materiality assessment and the list of GPCS's material issues can be found at:

 $\underline{https://www.gpscgroup.com/th/sustainability/gpsc-sustainability/materiality-assessment}$



Clean Energy Towards Net Zero

Clean Energy Towards Net Zero



Business Drivers

As a result of the increasing frequency and intensity of natural disasters, such as floods, droughts, and temperature spikes, coupled with a shift in market demand towards lower greenhouse gas emissions as well as a push from the recent United Nations Framework Convention on Climate Change Conference of the Parties (COP27), which stressed the commitments made by member nations, including Thailand, to their nationally determined contributions¹ (NDCs), which will accelerate progress towards net zero emissions in a tangible way, GPSC, as a member of the power industry, which emits the most GHG compared to others², is committed to developing clean energy and implementing climate resilience guidelines in order to reduce risks, increase operational opportunities, and enhance competitiveness as well as to play a role in reducing the severity of climate change impacts and create long-term value for stakeholders.



Renewable energy accounted for 34% of the total capacity, amounting to 2,161.38 MW

45.45% increase from 2021



Joint research projects for CCS/CCUS development and application were conducted with external organizations.



GHG emissions were reduced by 124,768 tCO₂e 47.09% increase from 2021



GHG emissions were reduced under reforestation and sea grass planting projects.

590 tCO2e

¹ National Determined Contributions (NDCs)

https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Thailand%20First/Thailand%20Updated%20NDC.pdf

International Energy Agency (IEA)

https://iea.blob.core.windows.net/assets/830fe099-5530-48f2-a7c1-11f35d510983/WorldEnergyOutlook2022.pdf

Risks and Opportunities

 Production optimization and integration of technology, such as carbon capture, utilization and storage (CCUS) technology, in power plants to reduce GHG emissions efficiently.

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- Increasing the use of renewable energy in the organization.
- Scaling up the adoption of internal carbon pricing (ICP)
- Improving and creating climate change impact simulations based on current studies, such as a simulation based on the Shared Socioeconomic Pathways (from IPCC's sixth assessment report).

Aspiration

Making preparations to become a leading global power producer by increasing investments in renewable energy, reducing production based on fossil fuels, and taking advantage of internal carbon pricing (ICP) in investment decisions with the goals of increasing renewables-based production to account for over half of the total capacity and maintaining reliable delivery and energy security, which are GPSC's strengths and satisfy stakeholder expectations in a sustainable way.

 The second seco



Value Creation Process

Input Factors



Business Operation

Strategic for success	 S2: Scale-up Green Energy strategy, which focuses on increasing the proportion of renewables, including solar and wind power. Co-development of infrastructure for the reduction and storage of GHG emitted from GPSC's operations, such as carbon capture, storage, and utilization (CCS/CCUS) technology, with external agencies. Nature-based solutions and reforestation Research on energy storage system (ESS) technology Energy management of efficiency optimization, use of renewables, GHG reduction from processes, and efficiency improvement of internal energy consumption Risk and opportunity assessment to identify guidelines for coping with climate change impacts under TCFD recommendations Introduction of internal carbon pricing (ICP) to supplement decision-making on investments in renewable power project and low-carbon innovations
Corporate KPIs	 GHG intensity reduction* Increasing the proportion of renewable energy* Implementation of climate change strategies Power generation efficiency improvement * Corporate KPIs

Outcomes	
Investors	Government agencies Customers Suppliers Imagencies
Society	
Impact to stakeholders and value creation	 Had 38% power generated from renewables Reduced GHG emissions by 294,505 tCO₂e from the use of renewable energy and reduced fuel consumption by 7.40 MMBtu Reduced energy consumption by 2.17 million MWh Had GHG emission intensity of 0.45 kgCO₂e/kWh Reduced GHG emissions under T-VER by 433,122 tCO₂e Won an award under the Low Carbon and Sustainable Business (LCSB) Project for the third consecutive year Supported nationally determined contributions (NDCs) through corporate GHG reduction Joined and supported external climate-change networks as members, namely Carbon-Neutral Thailand, Carbon Market Thailand, and RE100 Thailand Club, to build on and promote entry into the low-carbon business. Planted over 29,000 trees covering an area of over 149 rai as part of the reforestation project and planted over 9,600 tufts of seagrass covering an area of 6 rai as part of the seagrass planting project
Short- & Long-term Targets	 GPSC has established its net zero targets and maintained its performance every year, as detailed below. 2022 targets Keep GHG emission intensity under 0.49 kgCO₂e/kWh Make joint investment with PTT to raise the proportion of renewable power generation overseas. Short- and long-term targets Carry out reforestation in additional 250 rai by 2023 and maintain seagrass grown in a 6 rai area in 2021. Increase the proportion of renewables to over 50% by 2030. Decrease GHG emission intensity by 10% and 35% by 2025 and 2030 (compared to the base year of 2020). Achieve carbon neutrality by 2050 and net zero emissions by 2060. Achieve no net deforestation by 2025.

Carbon Capture, Utilization, and Storage (CCUS/CCS) Research and Development

Clean energy trends and heightened awareness of the impact of global warming have significant repercussions on the electric power industry. To this end, GPSC has formulated strategies to "strive towards a low-carbon and net zero electricity business" in order to cope with energy transition and minimize impacts. GPSC also seeks to create business opportunities through the S2: Scale-up Green Energy strategy and climate change strategies, placing emphasis on primary business activities, as detailed below.



Under the strategies, carbon dioxide capture and storage (CCS) and carbon dioxide capture, utilization, and storage (CCUS) are key technologies for the reduction and storage of carbon dioxide from business operations that have garnered the attention of various industries in response to climate change. Carbon dioxide is captured through various methods during the pre-combustion or post-combustion phase or in oxy-fuel combustion, and is then compressed and injected into shale formations that were once oil reservoirs. Alternatively, captured carbon dioxide can be utilized in the production of various products such as concrete or biofuels. The development of such technologies is crucial for reducing GHG emissions during the production process. GPSC prioritizes open innovation in collaboration with various partners through the integration of knowledge from both inside and outside the organization, as shown



1. Carbon Capture, Utilization, and Storage (CCUS) Technology Development Consortium (CCUS Consortium)

GPSC has established CCUS Consortium in collaboration with the Bio-Circular-Green-economy Technology & Engineering Center (BCGeTEC) of the Department of Chemical Engineering, Faculty of Engineering, Chulalongkorn University, various companies in other sectors, government agencies, and other network member organizations. At present, CCUS Consortium has carried out three projects as described below.



 PTT Group's Feasibility Study of Carbon Capture and Storage (CCS) Application (PTT Group CCS Hub Model)



In collaboration with PTT Group, GPSC has carried out the PTT Group CCS Hub Model Project, which aims to study the feasibility of comprehensive CCS application in order to support the reduction of GHG emissions from the operations of GPSC Group in Chonburi and Rayong. The project will serve as a vital model for scaling up the application of CCS on the national level.

The three expected benefits of the project are: 1) findings on CCS application, 2) successful establishment of Thailand's first offshore project (Arthit Project), and 3) the scaling up of offshore CCS application and opportunities for on/nearshore CCS adoption. The project studies two types of carbon storage based on location as shown below.

Offshore

Developing Thailand's first pilot project and creating opportunities for future CCS applications

GPSC has participated in Arthit Upstream CCS Project (Offshore), a pilot project in the Arthit oil field in which membrane-assisted carbon storage systems are tested. In 2022, the project studied potential storage sites, designed storage methods as well as studied relevant laws and regulations and compiled data for the formulation of strategies and actions to be communicated to stakeholders and the general public.

On/Nearshore

Studying carbon capture and transportation methods and seeking opportunities for on/nearshore CCS applications

Under this project, studies have been conducted across three dimensions:

- a technical study which serves as a key driver of the suitable and practical application of CCS,
- a study of business models and strategies with respect to operations, commercialization, and risk management, and
- a study on laws and regulations for planning operations and providing general support for the development of laws and regulations in Thailand.

However, there still exist challenges for the practical deployment of CCS in Thailand: 1) solving technoeconomic bottlenecks, 2) formulating laws, regulations, and policies that support CCS deployment, and 3) fostering government-private collaboration to effectively advance common goals.

The outcomes of GPSC's participation in CCUS Consortium and PTT Group CCS Hub Model Project have benefitted the Company's plan to develop infrastructure under the S2: Scale-up Green Energy strategy to reduce GHG emissions from its operations and promote the achievement of long-term GHG targets.



GPSC has participated in a CCUS deployment, promotion, and development project.



GPSC has joined a collaborative project for the development of CO_2 conversion into higher-value products using hydrogen obtained from carbon-free membrane-assisted production.



GPSC has collaboratively initiated Thailand's first offshore carbon storage project.



GPSC has participated in an on/nearshore carbon storage study.



⁶⁶ GPSC strives to create a robust network and share knowledge in order to foster development and move forward on a path towards Net Zero emissions in a sustainable way together. ₉₉

Ms. Thapanee Komolvatin Senior Analyst Sustainability and Climate Change Policy

Increasing the Use of Renewables to Achieve Net Zero GHG Emissions

GPSC has been monitoring research findings and economic, social, and environmental trends related to climate change that have further bolstered GHG reduction commitments around the world. In response, the Company has announced its target to achieve net zero GHG emissions by 2060 and formulated the S2: Scale-up Green Energy strategy. In addition, in making preparations to become a leading global power producer, GPSC has increased its investments in order to increase its use of renewable energy and reduce power generation based on fossil fuels, while also maintaining its reliable and secure energy delivery, which is GPSC's strength and an area where the Company can satisfy stakeholder expectations efficiently.

Based on the strategies described above, GPSC aims to increase renewables-based power production to 38% by 2025 and to over 50% by 2030. In 2022, the Company invested into two large renewables projects, namely a solar power plant in India and an offshore wind farm in Taiwan, with a combined capacity of over 5,229 MW.



Total Comidted equity capacity

As of Sep 30, 2022

GPSC recognizes opportunities and the potential for energy growth in India, given its position as one of the top five investors in solar energy. India boasts a landscape and climate that are highly favorable for solar energy production, with an average of up to 300 days of sunlight and the potential to generate photovoltaic power output (PVOUT) within the range of 3.5-4.5 kWh/kWp - a suitable range for investment. As such, GPSC has decided to make an investment worth over 14,825 million baht in a 4,634 MW solar power plant in

Avaada Energy Private Limited (AEPL)



India through its shareholding in Avaada Energy Private Limited (AVAADA). The construction was 83.79% complete in 2022 and is expected to reach completion in 2024.

GPSC has also made joint investment with Copenhagen Infrastructure Partners ("CIP") through its wholly-owned Global Renewable Synergy Company Limited (GRSC) in the Changfang and Xidao (CFXD) offshore wind farm project, with a production capacity of 595 MW. This marks GPSC's first co-investment in an offshore wind farm project with a company experienced in the development of such projects. This investment will also give an opportunity for GPSC to expand its expertise in this area as it requires specific construction technology and specialization to ensure suitability for the environment of the project so that it can generate and feed electricity to the distribution system continuously and safely. The construction was 49.6% complete as of 2022 and is expected to commence commercial operation by 2024.

CFXD: Progress of offshore wind in Taiwan





GPSC has obtained an additional renewables-based capacity of 1,990 MW from a solar power plant (calculated based on shareholding percentage)



The solar power plant project reduces GHG emissions by 2.29 million tCO₂e per year.

GPSC has obtained an additional renewables-based capacity of 149 MW from an offshore wind farm project (calculated based on shareholding percentage)



The offshore wind farm project reduces GHG emissions by 723,000 tCO₂e per year.



⁶⁶ Innovation and clean energy transition form the foundation for the reduction of GHG emissions in the electric power industry and play a vital role in the creation of a low-carbon society in the future. 99

Mr. Kulapat Permbhusri Executive Vice President - Corporate Strategy and Subsidiary Management



Being an Innovative Leader

Being an Innovative Leader



Business Drivers

A study¹ has projected that the global energy storage system (ESS) market will grow over 14.1% annually and will be worth 10.4 trillion baht in 2027, attributable to various external factors, including soaring demand for electricity, especially in the transportation section, which will undergo a transition to electric vehicles (EVs)², as well as exponential growth in demand for renewable energy across various sectors as ESSs play a key role in ensuring operational efficiency in these areas.

Furthermore, digital innovation will usher in new innovative technologies that enhance operational efficiency and reliability², reduce human errors and redundancies, optimize data storage and analysis, and boost employees' operational efficiency. It will also promote the development of other innovations that will continuously create business opportunities and operating results for GPSC. At present, advances in data management technology have resulted in greatly improved efficiency, lower costs, and a more diverse range of alternatives. As such, the development or management of such innovations is a vital consideration for the organization.



Nuovo Plus Co., Ltd. was established to undertake battery development and production.



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GPSC collaborated with external agencies to study the development of a battery swapping station project for commercial transportation.



GPSC set a target to achieve a commercial battery production capacity by 2030.

5-10 GWh per year



GPSC initiated the systematic development of a corporate culture centered on digital technology and innovation.

International Banker (2021), The Outlook For The Global Battery Market

(https://internationalbanker.com/brokerage/the-outlook-for-the-global-battery-market/)

² International Energy Agency (2022), World Energy Outlook 2022 (<u>https://iea.blob.core.windows.net/assets/830fe099-5530-48f2-a7c1-11f35d510983/WorldEnergyOutlook2022.pdf</u>)

Risks and Opportunities

- Fostering confidence and recognition among customers to expand and penetrate energy service markets, which are growing in number.
- Minimizing environmental impacts of the battery life cycle and reducing production costs.
- Guidelines for developing an R&D center and investment for studying a circular economy-based battery recycling process.
- Fostering partnerships with other agencies for the development of batteries of EVs and other industries.
- Joint investment in startups to advance battery technology and innovation.
- Cultivating a corporate culture of innovation and applying digital systems across the organization.

Aspiration



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- Ensuring alignment with Thailand's policy to establish itself as Southeast Asia's ESS and EV production hub with the goal of continuously pushing innovative products to the market to meet the needs of the industrial, commercial, and transportation sectors; and promoting and developing new business models that support the country's digital economy and clean energy efforts.
- Being an organization with a corporate culture of innovation and applying digital systems across the organization efficiently.



Value Creation Process

Input Factors





Business Operation

Strategic for success	 S3: S-curve & Batteries strategy for the development of ESS innovations ESS research and development Development of batteries for electrical devices, energy systems for buildings, EVs, and others Promotion of joint research and experience sharing between GPSC's staff and external organizations Promotion of joint investments and cooperation between GPSC and external organizations on technological research Cultivation of a corporate culture of innovation and application of digital technology to the organization's operations
Corporate KPIs	 Trial battery pack installation for actual customers and official commercialization of installation services under at least five agreements/contracts related to battery installation projects



Outcomes	
Shareholders Customers	Investors Partners Employees
Impact to stakeholders and value creation	 Completed the construction of a new energy storage unit manufacturing plant as planned and successfully manufactured the First Cell Forged awareness and shared knowledge of battery products among 34 customers and suppliers Developed a pilot project and experiment an ESS installation with a COD for one customer Entered into three service level agreements and/or memorandums of understanding for ESS installation
Short- & Long-term Targets	 2022 targets Forge awareness and share knowledge of battery products with customers and suppliers. Develop an ESS pilot project and install it for customers in various industries, including telecommunication and EV sectors. Formulate service level agreements or memorandums of understanding on installation of battery ESSs, both of stationary and of mobility application types. Offer more products in support of the energy industry and the EV market. Implement projects to advance GPSC towards becoming an organization of innovation through digital transformation. Long-term targets Develop new high-quality products at reasonable costs that can be integrated into an energy production system to enhance the competitiveness in the electricity production business. Achieve ESS leadership in the industrial sector in Thailand. Develop new business models to support the electricity business in the future. Expand ESS capacity to the giga-scale to accommodate commercial production by 2025. Expand the commercial battery production capacity to 5-10 GWh per year by 2030. Establish an R&D center to study a circular economy-based battery recycling process in line with the government's targets. Become Southeast Asia's energy storage system production hub. Drive the organization towards becoming an organization of innovation and digital technology.

G-Cell Battery as the Driver of the Future

The EV market has emerged as a significant and swiftly growing market, both domestically and internationally. Moreover, the government has implemented a policy to encourage domestic investment and adoption of EVs, with a trend towards continual expansion of investments. Furthermore, the government is supporting ESS development to cater to the expansion of related industries, including energy and renewable energy management, to support regional markets as Thailand seeks to become a major global production hub for EVs and related components, in line with the country's 30@30 policy, which aims to manufacture at least 30% of zero emission vehicles (ZEVs) of the total motor vehicle production by 2030.

Therefore, as an energy service provider and battery manufacturer with a direct stake in driving this policy forward, GPSC is committed to developing battery innovations, infrastructure, and related services to fully achieve the ecosystem for the production of EVs as well as utility devices and systems. In 2022, GPSC partnered with Arun Plus Co., Ltd. (ARUN PLUS), a subsidiary of PTT Public Company Limited (PTT), to establish Nuovo Plus Co., Ltd. (NUOVO PLUS) to specifically focus on battery production and development as well as accelerate battery innovation and advancement to meet the needs of emerging markets. At the same time, GPSC will strive to advance battery usage in various sectors, such as EVs, energy backup systems, renewable ESSs, as well as to improve the energy stability and reliability of telecom and data centers in order to support investment in the battery value chain, in line with Thailand's policy to drive the automotive and energy storage industries as well as global trends, and to propel PTT Group towards leadership in the EV industry and realize a low-carbon society.



NUOVO PLUS has ensured its personnel, technology, and capital preparedness to increase investment opportunities and improve cost competitiveness through economies of scale. The company aims to expand its production capacity to a level of gigawatt-hours (GWh) and intends to expand towards regional markets, with the goal of pushing its annual battery production capacity to 5-10 GWh by 2030. The G-Cell battery will lend itself to a diverse range of both stationary and mobile applications in the energy industry.



NUOVO PLUS will be responsible for manufacturing and distributing batteries for EVs and ESSs to promptly meet the battery needs of all customer groups, which can be broadly divided into two main groups: (1) Mobility group, including EVs, e-bikes, e-tuktuks, golf carts, small EVs, e-buses, e-trucks, and e-boats; (2) Stationary group, including ESSs, uninterruptible power supply (UPS), and charging systems for electric vehicles at service stations. In addition, Nuovo Plus has a mission to source, provide services, and distribute related equipment while also exploring the possibilities of new technologies to meet the demand for EV markets both domestically and regionally.

Furthermore, GPSC has established partnerships with three organizations: Sunny Heavy Industry (Thailand) Co., Ltd. (SANY), Leadway Heavy Machinery Co., Ltd. (LEADWAY), and Root Cloud Technology (Singapore) Limited (ROOTCLOUD), to undertake a research project on the development of battery swapping services and battery-as-a-service business for electric commercial vehicles (eCV) as well as on the development of software for the operation and management of battery swapping stations, which are critical services and infrastructures for enhancing the efficiency of EV usage. The primary goal is to tackle the issue of battery charging time, bring about a pollution-free transportation sector, foster the adoption of clean energy, and drive the achievement of net zero emissions by 2060.



The first phase of the project will focus on examining the feasibility of building stations along highways connected to areas with heavy goods transportation. Once the study is finished, investment expansion plans will be proposed to construct additional stations and identify prospective routes and regions with potential in order to scale up the project. The four organizations will play significant roles in the project as detailed below.



GPSC is the primary entity responsible for the project as a key energy service provider and serves to develop batteries and EVs in collaboration with PTT Group.



Sany contributes expertise in commercial battery swapping and EV technologies to promote pilot construction of ecofriendly digital service stations in Thailand in collaboration with GPSC. LEADWAY

As Thailand's leader in heavy machinery solutions for large vehicles, Leadway contributes experts in large EV maintenance, stationed at various branches nationwide.



Rootcloud provides tech support for Internet of Things (IoT) and big data integration for the development of in-depth insights beneficial to real-time station management.

The development of battery swapping stations described above will introduce technology and energy innovation that will serve as infrastructure for optimizing efficiency and reducing commercial transportation time in preparation for the growth of the EV industry. Accelerating the development of such infrastructure is thus a crucial step towards future industrialization.

To accelerate the development of the energy storage and EV value chain across all dimensions from upstream to downstream, NUOVO PLUS has signed a joint venture agreement with Gotion Singapore Pte. Ltd. (Gotion), China's leading expert on EV batteries and ESSs) to establish NV Gotion Co., Ltd. with a registered capital of up to 600 million baht, with the investment proportion of 51% and 49% respectively. The joint venture will operate the business of importing, assembling, and distributing battery modules and battery packs for ESSs and EVs and plans to deliver high-quality lithium-ion batteries to the market by 2023 with an initial production capacity of 1 GWh per year, and expand production capacity to 2 gigawatt-hours per year by 2025.



NUOVO PLUS was established specifically to be responsible for battery production and distribution.



A goal was set to achieve a battery production capacity by 2030.

5-10 GWh per year



A study on commercial EV battery swapping station development was conducted in collaboration with external organizations.



Innovation and Digital Transformation

The significance of digital technology and innovation in business operations has become evident. As customer expectations and industry competition continue to rise, businesses must adapt to maintain and expand growth opportunities and take a customer-centric approach. To successfully make such adaptations, digital transformation plays a key role. It involves the application of innovation and digital technology to establish a corporate culture in order to foster the creation of new innovations, enhance operational efficiency, reduce costs, and increase competitiveness.

Digital transformation can be undertaken through various means depending on the organization's context. An example is the IT modernization of data management and operations through technology like cloud computing, artificial intelligence, hybrid and remote work models, and automated operating systems. However, to ensure sustainable and efficient digital technology adoption, it is just as crucial to enhance employee skills and change their attitudes toward these changes. To this end, GPSC prioritizes employee education and innovation development to obtain digital innovations suitable for its organizational context as well as implement personnel competency development projects to foster a digital culture within the organization, in line with digital transformation under the Corporate Innovation Maturity Model (CIMM).



In 2022, GPSC developed the digital innovation skills of its personnel to familiarize them with the use of digital technology as well as instilled in them innovation skills and mindsets and design thinking to achieve the three following objectives.



To identify the current status to determine the corporate direction through the understanding of the corporate innovation level and to allow the executives to jointly establish an approach to digital transformation



To enhance the internal teams both at the executive and organization-wide levels by cultivating an innovative mindset to foster preparedness for changes in work models and corporate cultures to strive towards becoming an innovative organization



To initiate innovative solutions through actual deployment of innovations and new digital technology developed to meet customer needs based on a customer-centric approach.

The project helped enhance employee competencies critical to the fostering of ideas and innovative creativity as well as prepare executives and staff for changes in the work model as part of GPSC's transformation into a digital and innovation-focused organization, which ultimately promoted GPSC's overall operational efficiency in a sustainable manner.



Initiated the systematic internal promotion of a digital and innovation culture.



Initiated the study, development, and procurement of digital technology and innovation suitable for the organization's context to adjust and further optimize the work model.



Initiated the systematic enhancement of innovation skills and mindsets and design thinking for personnel.



Initiated the study on the status of the organization's current innovations and future trends to establish comprehensive innovation strategies.



⁶⁶ Developing ideas and innovations for a digital transformation towards sustainability. ₉₉

Mrs. Prinda Ma-imjai Acting Vice President Digitalization Strategy and Platforms





Capturing the Future Sustainability Market

Capturing the Future Sustainability Market



Business Drivers

The rising trend of electricity utilization, particularly from renewable energy sources, has led to a shift in consumer behavior from being a mere consumer to a "prosumer" who both produces and consumes energy. This aligns with the concept of small decentralized power generation (decentralization) and the integration of digital platforms in energy management (digitalization), both of which serve as important drivers that can increase market opportunities and generate new income in order to elevate energy innovation and accommodate future energy consumption patterns.



Three projects were conducted to study energy management innovations as part of **the ERC Sandbox** Phase 2 for future business expansion.



GPSC collaborated with suppliers and partners to study and develop **a new smart energy** consumption business model.





Value Creation Process

Input Factors



Business Operation

Strategic for Success	 S4: Shift to Customer-centric Solutions strategy for the development of services that meet customer needs and address all energy consumption needs through technology and innovation Initiation of power distribution systems for prosumers Research and development and investment in smart energy management and solutions provision Joint design and trial deployment of energy innovation with external organizations to scale up to practical applications to meet consumer needs Promotion of joint research and experience sharing between GPSC's staff and external organizations to enhance their potential in the clean energy business in the future
Key Performance Indicators: KPIs	 FID on a commercial project on energy management solutions* * A corporate KPI

Outcome



Business Operation

Impact to stakeholders and value creation	 Developed energy management services and solutions to meet consumer needs efficiently under S4: Shift to Customer-centric Solutions strategy Conducted joint studies and entered into agreements and/or memorandums of understanding for studying energy technology and innovation with external organizations Collaborated with suppliers and business partners to study and expand new business models for smart energy management Expansion of energy management operations to ensure access to clean energy and efficient energy consumption across all sectors and contribute to Thailand's GHG reduction efforts
Short- & Long-term Targets	 2022 targets Develop new high-quality products at reasonable costs that can be integrated into an energy production system to enhance the competitiveness in the electricity production business. Develop new business models to support the electricity business in the future. Short- and long-term targets Offer more commercial products in support of new electrical power industries, such as distributed generation through solar power production in conjunction with ESSs and other utility systems, such as district cooling systems. Develop a ESS pilot project and other new products and install them for customers in various industries, such as real estate, telecommunication, and EV sectors. Integrate clean energy installation and services and adopt innovations related to carbon management, such as the purchase of renewable energy certificates (RECs) and carbon credits on digital exchange platforms. Formulate agreements or memorandums of understanding for jointly studying energy technology and innovation with external organizations.

Customer-centric Solutions and Innovations for Integrated Energy Management

The energy industry is currently facing a shift in energy user demands and behaviors, as global trends are increasingly focused on environmental impact and sustainability issues, such as climate change, digital technology, and energy storage innovation. This has bolstered demand for clean energy, such as solar and wind power, and energy-saving innovations as well as energy management solutions that afford greater convenience, such as smart energy management systems, which can reduce energy consumption costs, increase the proportion of renewable energy, and enhance energy efficiency. To address these changing needs, the development of new technologies and innovations in electric power management is necessary to meet demands and bolster long-term competitiveness.

GPSC strives to continuously develop products and services that cater to evolving customer needs based on its customer-centric strategy for the creation of energy innovation and service solutions in both electricity production and public utilities. The initiative will also enhance the efficiency of eco-friendly electricity generation and create new business opportunities for GPSC, in line with the S4: Shift to Customer-centric Solutions strategy, which focuses on integrated clean energy services, including:



Distributed generation system installation service



District cooling systems



Integrated Smart Energy Management Services through ESS innovations, energy trading platforms, and digital technology





System Interconnecting & Optimization for Future Technology



The installation of renewable power production systems for commercial and industrial customers in areas with power demand to reduce energy costs and increase the use of renewable eco-friendly energy, with relevant technologies including the following:

- Solar rooftop
- Floating solar
- Solar farm
- Smart grid
- District cooling
- Behind-the-meter energy storage system (BTM ESS)

The development, design, and installation of district cooling systems well-suited for user needs, as well as management and maintenance services throughout the term of agreement for commercial and industrial customers with a need for cooling systems within their places of operations.

Provision of integrated smart energy management services through new technologies and innovations in order to efficiently meet the needs of energy users; consultancy services; real-time energy use analysis and inspection; remote control energy management; and ESS integration for the enhanced stability of electricity management systems.

- Installation of distributed generation systems
- Installation of district cooling systems
- Application of integrated energy storage systems
- Energy trading platforms
- Integrated smart energy management services via applications
- Analysis and consultancy on energy management optimization through the adoption of digital technologies, such as system interconnecting and optimization software



Reducing risks of damage to key production machinery and equipment due to disruption in the main electrical system through ESS integration to enhance power distribution reliability in case of distribution failure within <10 ms response time.

Bolstering energy security, reducing GHG

emissions, and enhancing value through

the integration of various energy production

innovations from multiple energy sources.



Integration of an energy production management and peer-to-peer energy trading system so that excess energy can be automatically circulated to other buildings and power users to enhance clean power potential.



Improving energy production and use management in real time with AI and digitalization to enhance cost management capabilities.

Collaboration for Renewable Energy Business Opportunities

In response to changes in energy consumption trends and innovations, GPSC is committed to developing new electric business models, elevate energy innovations of the future to offer more alternatives to power users, as well as enhance efficiency and reduce production costs through energy management collaboration with various organizations with the goal of meeting evolving needs and contributing to the GHG reduction targets of energy users.

GPSC has conducted a feasibility study on the use of new forms of energy as part of the ERC Sandbox Phase 2, in which energy service innovations and technologies are tested, in collaboration with its suppliers and business partners in order to study and develop new energy business models, products, devices, and services with the goal of applying them in practice.



As part of the project, the feasibility of three projects related to energy management and increased access to clean energy has been studied in order to determine their potential commercialization in the future.



Energy Trading Platform and Renewable Energy Certificate (REC) Study and Development Project

GPSC is studying and developing an energy trading platform and renewable energy certificates (RECs), which are mechanisms that help power producers and users to claim their rights to produce and utilize renewable-based electric power.

A Study of Energy Trade through Third Party Access (TPA)

GPSC, in collaboration with PTT Public Company Limited and Western Digital Storage Technology (Thailand) Limited (WD), has conducted a study on renewable energy development and utilization in the production at WD's manufacturing plant through a new power purchase agreement. This agreement will serve as a prototype of third party access (TPA), which enables a third party to access and trade power through the electricity authority's power network that will be available in the future.



Pilot Project for Smart City Energy Management Innovation Development

GPSC has collaborated with the Provincial Electricity Authority to develop a pilot project for the development of smart city energy management innovations.

In addition, GPSC has collaborated with SC Asset Corporation Public Company Limited (SC), or SC Asset, to conduct a two-year feasibility study and development project to develop electrical infrastructure and energy management systems for use in single houses, town homes, condominiums, and office buildings in real estate development projects. The outcome will serve as a prototype for electricity management for the use of clean energy and innovation-enabled efficiency maximization and will be further developed and deployed in other projects.

GPSC has intended for this collaborative study to encompass the formulation of directions, strategies, as well as technical, marketing, and price structure feasibility in order to arrive at guidelines for developing a new business model, placing emphasis on production cost reduction and the enhancement of energy efficiency and system reliability. The scope of the collaboration is as follows:

- · Clean power production and the use of batteries as an ESS and a backup power system
- The application of an energy management system to facilities in future projects, such as office buildings for rent, to ensure efficient management and save energy
- Studying and developing other business models, such as electrical safety systems for use in residences and buildings
- The deployment of energy management or other relevant applications in conjunction with SC Asset's Super application to support and enhance smart home technology





Batteries are used as power backup systems in homes and buildings and renewable power usage capabilities are enhanced.



Electrical safety systems for homes and buildings have been developed.

Energy management applications have been developed for efficient energy management in homes and buildings.



⁶⁶ Prompt response to global changes and consumer expectations helps create vital business opportunities and enable a company to enter the market before its competitors. As such, collaboration with external parties to pool different resources is vital in accelerating the development of knowledge and innovation for products and services. GPSC's strategy focuses on networking with external agencies and looking for business partners to form a robust network. ⁹⁹

Mr. Jaruwat Singsomdee Senior Vice President – Subsidiary and Investment Management



Employee-Focused Organization

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Employee-Focused Organization



Business Drivers

Employees are invaluable resources in driving GPSC towards achieving its vision, missions, and goals. Effective human resource management thus helps the organization ensure operational efficiency amid changes, reduce expenses, and generate long-term returns. A challenge for GPSC is strategic human resource management in line with the corporate strategies and changing global trends. To this end, it is essential to foster a culture and organizational values that promote solidarity, motivate employees to perform their best, and encourage the development of new skills and capabilities as well as promote employee well-being and welfare in the workplace. In addition, a succession plan must be formulated to ensure the continuity of GPSC's operation and missions in the long run.

~~ **69%**

Employee engagement rate (compared to the industry's average rate of 63%)



Of personnel are aware of ACT SPIRIT (Acceptance Phase)



Turnover rate (compared to the industry's average rate of 5.4%)

A100%

Succession plans have been established for the key positions.





Value Creation Process

Input Factors



Business Operation

Strategic for Success	 ACT SPIRIT: Foster employee engagement and solidarity within GPSC through activities that promote ACT SPIRIT values. Succession Plan: Prepare succession plans for executive positions to ensure business continuity. SPARK Accelerator: Ensure the preparedness of talents in support of business growth. GPSC Academy: Enhance employee competencies to support GPSC's business growth and new business plans both domestically and internationally. Implement the Human Resource Management Policy and the Human Right Policy on a non-discriminatory basis.
Key Performance Indicators: KPIs	 Proportion of key positions with succession plans* Turnover rate Employee engagement level * A corporate KPI

Value Creation Process

Input Factors

Employees	Suppliers
Investors	Shareholders
Impact to stakeholders and value creation	 Succession plans impact employees' career advancement. SPARK Accelerator and GPSC Academy enhance employees' capabilities and lifelong learning. ACT SPIRIT enhances employees' wellbeing with respect to employee engagement and workplace harmony. In 2022, the turnover rate was 5.15%, lower than the industry average of 5.40%. Based on a survey, GPSC's employee engagement rate was 69%, which dropped slightly from the past year but was still higher than the industry average of 63%. Succession plans have been formulated for 100% of the vital positions. At present, GPSC has 30 Senior Vice Presidents and Executive Vice Presidents, 15 of which are critical positions (5 EVPs and 10 SVPs). For all critical positions, a total of 45 talents have been assigned as replacements, divided into 11 in the EVP Pool and 34 in the SVP Pool.
Short- & Long-term Targets	 GPSC has fostered a culture of transparency in adherence to human rights principles on a non-discriminatory basis. GPSC has established human resource management targets and maintained its performance, as detailed below. 2022 targets The turnover rate is lower than the industry average. The employee engagement rate is not lower than the average within the industry. Short- and long-term targets Succession plans are established for 100% of the key positions.



GPSC prioritizes and actively fosters the ACT SPIRIT corporate culture to create a collaborative and unified workplace environment. In 2022, the key behaviors under ACT SPIRIT were revised to align with GPSC's vision, missions, and strategic goals based on the perspectives of executives and employees obtained through interviews and workshops along with national and international research data. The new key behaviors comprise Ambition, Commitment, and Trust.

Throughout 2022, GPSC publicized the revised key behaviors across the organization through four participatory and accessible activities: ACT Ambassador, Happy ACT the Series, ACT SPIRIT in Action, and You're My ACT SPIRIT Idol, with the awareness target of 70% of the total personnel.

ACT Ambassador:



GPSC created PR materials to publicize the key behaviors of ACT SPIRIT, including interviews of executives who exemplified the behaviors – ACT Ambassadors, published in ACT SPIRIT in GIP Magazine, describing the significance of a change in corporate culture, the revised key behaviors,

as well as the connection between ACT SPIRIT and the operation within the organization.

Happy ACT the Series



For a period of five months, GPSC created monthly content on proper practice for working from home, such as how to organize an effective virtual meeting by setting out a clear agenda, how to take care of physical and mental health, and how to arrange the room to create a conducive work

environment. The content also incorporated the corporate culture and the revised key behaviors in order boost awareness and enable employees to apply them in the new normal era.

ACT SPIRIT in Action:



GPSC created materials promoting the corporate culture tailored to days of significance in Thailand, such as Songkran, National Science Day, and gave employees an opportunity to better understand the corporate culture through various activities, such as

the pairing of key behaviors and the ACT SPIRIT corporate culture.

You're My ACT SPIRIT Idol:



GPSC gave employees an opportunity to offer compliments to other employees who exhibited behaviors aligning with the corporate culture and the revised key behaviors. The goal was to develop ACT SPIRIT role models. Over 350 messages were sent.

The promotion of the revised key behaviors of ACT SPIRIT yielded positive results, with awareness raised among 90% of the total employees, exceeding the target and 11% higher than the previous year. A clear business benefit from these initiatives was a higher employee engagement level and a lower turnover rate compared to the average within the industry. GPSC planned to promote the integration of ACT SPIRIT into every aspect of its operations in 2023.

Competency Enrichment Towards Shared Goals

GPSC strives to enhance the potential of its personnel in order to achieve its established goals with the objective of raising climate awareness in line with its net zero GHG emissions goal, which requires that employees are equipped with knowledge, creativity, and an innovative mindset. To achieve this, GPSC disseminates in-depth knowledge and experience and seeks to foster leadership, which is vital to the advancement of GPSC.

ACT SPIRIT and KM Day 2022

GPSC held "Reimagine Energy, Pathway to net zero" an activity promoting knowledge management to foster employees' understanding and awareness of GPSC's investment in a solar business in India and of new energy and net zero emissions, which were GPSC's strategies in striving towards net zero GHG emissions. Key topics on clean energy presented included clean energy transition, the role of energy storage innovation in realizing net zero emissions, and excellent and sustainable production management. A highlight among the activities was a presentation of in-depth information on a solar power plant in Bikaner, India, in which GPSC joined hands with AVAADA Energy Private Limited, a leading renewable power company in India, to study and explore power plant management systems in order to apply the knowledge gained on solar power production to the Company.



Energy Storage System Technology Knowledge Base:

Under the New S-Curve strategic goal, GSPC has developed a knowledge base to record tech know-how obtained from 24M Technologies from the US, with which GPSC has been collaboratively researching and developing ESSs, and to disseminate the knowledge through an online system. Topics of note include the future of battery technologies, the knowledge and experience of 24 M, the market of battery technology, the expansion of battery technology production, and lessons learned from battery R&D over the past ten years.



Leadership Development through the Leadership Transformation Project:

GPSC strived to enhance the leadership of division managers and vice presidents through lectures and workshops as part of the Leadership Transformation Project, placing emphasis on fostering the ability to formulate strategic plans that will give GPSC a competitive advantage; their leadership amid global situations characterized by volatility, uncertainty, complexity, and ambiguity; as well as the development of teams that took diversity and equity into consideration. The project was well received, with a satisfaction score among the participants of 3.6 out of 5.





 ⁶⁶ The combination of cutting-edge electrical technology and the exceptional capabilities of employees will propel the organization towards achieving industrial leadership.

Ms. Rawissara Thanawang Division Manager Organization Effectiveness

Voices of Stakeholders

Shareholders

⁶⁶ GPSC is the innovative power flagship of PTT and aspires to become an international energy player. I believe the Company's business and innovation development strategies align with future growth, especially in the renewable energy sector, which has shown potential for further growth and capacity to meet customer needs. In addition, GPSC has been able to achieve a balance between its core business operations and investment in new businesses, as continuously reflected in its stable operating results over the year and its ability to generate returns and foster confidence among shareholders

> Mr. Noppadol Pinsupa Director / Chairman of the Risk Management Committee



Investors



⁶⁶ We wish to see GPSC grow steadily and implement good risk management and transparent corporate governance, both of which will form a foundation for a strong business operation and enable the Company to rise to the forefront of the country's electrical industry, which will in turn bolster confidence among investors. ,

> Ms. Narumol Wongvuthipornchai Associate Chief Investment Officer Kasikorn Asset Management Company Limited

⁶⁶ GPSC's strategies focus on expanding renewable power production and energy storage systems, which present excellent marketing opportunities to increase revenue and market shares for the Company. The strategies also jibe with global trends where consumers are seeking clean energy as well as make a significant contribution to the achievement of the Net Zero GHG emission goal.

Ms. Vinitorn Phongsai

Senior Fund Manager Kasikorn Asset Management Company Limited



Government Agencies and Relevant Organizations

With respect to sustainability, we can see that GPSC prioritizes it and has clear sustainability action plans across three dimensions. This is particularly true with clean energy, for which GPSC has made investments in development projects and integrated applicable technology to optimize usage efficiency, which will serve as another way through which various organizations can access and take advantage of clean energy as well as attract foreign investors. To promote the sustainable development of clean energy, BOI has various measures and offers different forms of support that GPSC can apply for and benefit from. ,

Mr. Wirat Tatsaringkansakul Deputy Secretary General of the Board of Investment (BOI) ⁶⁶ GPSC has a clear action plan to achieve Net Zero emissions and is a business that has always made contribution to society. For EEC, GPSC has the potential to be a model organization in many areas, including advances in clean energy technology, social contribution, and cooperation with the government sector. However, it is important to make a more proactive effort, particularly in terms of clean energy and technology that can be applied to various projects, by piloting it in Wang Chan. Within EEC, there is also a project to develop a new town that will serve as a business hub in the future, for which GPSC can assist in utility system development. ₉₉

Ms. Pochanee Attarojpinyo Deputy Secretary-General of the Eastern Economic Corridor Policy Committee



Employees

⁶⁶ Today, there are many considerations in propelling an organization towards sustainability. Employee care and development forms an important component in driving GPSC towards achieving its goals in accordance to its business strategies as well as assures the personnel that they can achieve career advancement sustainably alongside the Company. 39

> Mr. Peerapol Ampaiwit Acting Senior Vice President – Corporate Strategy and Risk Management

⁶⁶ GPSC is an organization that prioritizes sustainable development and seeks to foster a positive and safe work environment as well as equality for all. The Company also places great emphasis on its personnel. To this end, it supports its employees and promotes its participation in order to encourage them to learn and grow alongside the Company, thus fostering their awareness and solidarity and turning them into a vital force that drives GPSC towards sustainability goals from within the organization towards the global level. ⁹⁹

Mr. Passapong Limsuwan Company Secretary Officer CEO Office



Suppliers and contractors

⁶⁶ GPSC is a well-established, sustainable organization and a role model for other organizations. GPSC's corporate governance including their transparent supplier processes makes it easy for us to collaborate, we trust GPSC. Moreover, GPSC has a high-level safety culture which makes suppliers and contracts like us confident that work at their premises can be performed in a safe manner. GPSC is also focused on decarbonization and becoming a Net Zero organization and we are grateful that we can be part of that journey – together we can move towards a low carbon emission society.



Mr. Eric Wiklund Country Business Unit Head Siemens Energy Limited

GPSC represents one of the key innovative power producers in Thailand who recognizes the importance of adopting new technologies into its products and services, and also bring innovation into working culture. As we have the opportunity to expand how we work with GPSC, we foresee and believe that this will enable GPSC to digitalize its organization towards sustainability. We appreciate that we enjoy collaboration and continued working with GPSC as a trusted service provider as we believe that sustainability requires collaboration in different ways of each party's capability to contribute together to make it happen.



Mr. Ron Beck Senior Director, Industry Marketing Aspen Technology, Inc "

Partners

⁶⁶ GPSC is an energy company that SC Asset trusts and has embarked on collaborations with to develop high-quality eco-friendly real estate projects that are safe and sustainable. GSPC offers products that meet international quality standards and provides systematic services that can promptly fulfil business needs. In addition, GPSC's reputation and energy expertise assures us that our collaborations will go smoothly and, most importantly, enable us to deliver projects that meet customer needs and set us apart on the market with confidence. 39

> Ms. Sudarat Charoengatemongkol Head of Customer Management and Sustainable Development SC Asset Corporation Public Company Limited



⁶⁶ As there are a number of players in the energy industry, with many offering similar levels of product and service quality, a key challenge for service providers is to develop innovation and differentiate their products. However, we are confident in the services of GPSC, which has been able to overcome challenges by integrating knowledge and applying innovation to the development of clean energy, which we have been able to utilize to further expand and enhance our products perfectly. 39

> Mr. Direk Tayakee Head of Technology Solutions SC Asset Corporation Public Company Limited

Customers

⁶⁶ For over 25 years we procured services from GPSC, we're satisfied and confide to say that GPSC is one of the most reliable power provider for us and we will continue working together with trust. To provide the best products and services to customers, we believe that GPSC will optimize their resources to ensure its power reliability and availability as well as risk mitigation and to create shared values towards sustainability. 99

Mr. Navin Kapur

Business Strategic Sourcing Head Aditya Birla Chemicals (Thailand) Limited (Chlor-Alkali Divisions)



⁶⁶ GPSC is the most reliable energy provider for us in addition to adopting a universally accepted code of conduct, excellent ESG management along with inclusion of human rights issues in their operation. Moreover, we also have a strong commitment to reduce our Carbon Footprint. We need GPSC to contribute to our target by providing renewable energy and low carbon products. ₉₉

> Mr. Akshay Sudhir Jog Head, Supply Chain Management Polyplex (Thailand) Public Company Limited



Communities and society



⁶⁶ GPSC has been a staunch supporter of our community thus far, providing technology and knowledge that enhance our quality of life. Particularly, GPSC's support in waste management has significantly reduced the community's waste problem and enabled us to create value by converting waste into fuel for energy production. Additionally, thanks to GPSC's active efforts in our community, we have become more aware of the benefits of using clean energy and have drawn up plans to increase household solar energy usage to save on expenses. Various projects carried out with the Company's support have also extended their positive impact to nearby communities, passing on knowledge to them. 31

Ms. Pattriya Kaewpradub

President of Baan Phai Waste Bank Moo 1 Community Enterprise in Rayong



⁶⁶ GPSC attaches significance to communities and the education of students, who are local youths, at Rayong Industrial Estate Technical College (RITEC), as evident in the granting of scholarships. In addition, the sharing of knowledge from GSPC personnel, collaboration with RITEC's faculty members, and the promotion of the development of innovations beneficial to local communities have played a vital role in solving environmental issues and enhanced the strength and sustainability of the local economies. Therefore, personally, GPSC is an organization that truly strives to foster and promote sustainability in local communities. 39

Mr. Kittipong Uttamawetin

Director of Rayong Industrial Estate Technical College

Data Coverage

						E	Economic	/ Governa	ance	
	Material issues				tt and Compliance (GRC)	ement	Maintair and	ing Afford d Reliabili	dability ty	
					nance, Risk Managemen	ner Relationship Manag	ed Capacity	ergy Generated	(Pls	
Country	"Subsidiaries & Associated companies"	Association	Share holding	Operational control	Goveri	Custo	Install	Net En	Other	
Thailand	Global Power Synergy Public Company Limited (GPSC)	GPSC	100%	Yes		•	-	•	•	
	Combined Heat and Power Producing Company Limited	GPSC	100%	Yes	•	-	•	•	-	
	Ratchaburi Power Company Limited	GPSC	15%	No	•	-	•	•	-	
	Siam Solar Energy 1 Company Limited	GPSC	40%	No	•	-	•	•	-	
	Nava Nakorn Electricity Generating Company Limited	GPSC	30%	No	•	-	•	•	-	
	IRPC Clean Power Company Limited	GPSC	51%	No	•	-	•	•	-	
	Bangpa-In Cogeneration Company Limited	GPSC	25%	No	•	-	•	٠	-	
	Business Services Alliance Company Limited	GPSC	25%	No	•	-	•	٠	-	
	Energy Recovery Unit Company Limited	GPSC	100%	Yes	•	-	0	0	0	
	N.P.S. Star Group Company Limited	GPSC	50%	No	•	-	•	٠	-	
	World X Change Asia Company Limited	GPSC	50%	No	•	-	•	•	-	
	P.P. Solar Company Limited	GPSC	50%	No	•	-	•	٠	-	
	Global Renewable Power Operating Company Limited	GPSC	50%	No	•	-	•	٠	-	
	GPSC Treasury Center Company Limited	GPSC	100%	Yes	•	-	•	٠	-	
	Glow Energy Public Company Limited (Glow)	GPSC	99.83%	Yes	•	٠	•	٠	•	
	Glow IPP Company Limited	Glow	95%	Yes	•	•	•	•	•	
	Glow SPP 2 Company Limited	Glow	100%	Yes	•	•	•	•	•	
	Glow SPP 3 Company Limited	Glow	100%	Yes	•	•	•	•	•	
	GHECO-One Company Limited	Glow	65%	No	•	-	•	•	•	
	Glow SPP 11 Company Limited	Glow	100%	Yes	•	•	•	•	•	
	Chonburi Clean Energy Company Limited	Glow	33.33%	No	•	-	-	-	-	
	Sport Services Alliance Company Limited	GPSC	25%	No	•	-	0	0	0	
	Sarn Palung Social Enterprise Company Limited	GPSC	10%	No	•	-	0	0	0	
	Eastern Fluid Transport Company Limited	Glow	15%	No	•	-	0	0	0	
	EurusPlus Company Limited	GPSC	51%	No	•	-	•	•	-	
	BoreePlus Company Limited	GPSC	51%	No	•	-	•	•	-	
	Helios 1 Company Limited, Helios 2 Company Limited, Helios 3 Company Limited, Helios 4 Company Limited, Helios 5 Company Limited,	GPSC	50%	No	•	-	•	•	-	
Laos	Xayaburi Power Company Limited	GPSC	25%	No	•	-	•	٠	-	
	Nam Lik 1 Power Company Limited	GPSC	40%	No	•	-	•	•	-	
	Houay Ho Power Company Limited	Glow	67.25%	No	•	-	•	•	-	
USA	24M Technologies, Inc.	GPSC	14.17%	No	•	-	0	0	0	
India	Avaada Energy Private Limited	GPSC	42.93%	No	•	-	•	•	0	
Taiwan	Sheng Yang Energy Company Limited	GPSC	45%	No	•	-	•	•	0	
	CI Changfang Limited, Ci Xidao Limitted	GPSC	25%	No	•	-	•	•	0	
China	Anhui Axxiva New Energy Technology Company Limited	GPSC	10.31%	No	•	-	0	0	0	

Remarks:

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• The company applies relevant policy, guideline where sustainability performance data cover full scope

• The company partially applies relevant policy, guideline where sustainability performance data partially cover scope

O Not relevant to the company

- The company does not apply relevant policy, guideline where sustainability performance data does not cover in the reporting scope

		Environmental Social Social																
	bility Market/				Envi	ronmenta	l Manage	ment					Clean I towards	Energy Net Zero		ty (OHS)	Б	
Supply Chain Management	Capturing the Future Sustaina Being an Innovative Leader	Energy Consumption	Water Consumption	Waste Disposal	Nox Emission	Sox Emission	Ash& Gypsum Waste	Direct Mercury Emission	Dust Emission	Hazardous Waste	SF6	GHG Scope 1	GHG Scope 2	GHG Scope 3	GHG Intensity (Scope1 and 2)	Occupational Health and Safe	Employee-focused Organiza	Sustainable Community
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
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SGS

ASSURANCE STATEMENT

SGS (THAILAND) LIMITED'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE GLOBAL POWER SYNERGY PUBLIC COMPANY LIMITED'S INTEGRATED SUSTAINABILITY REPORT FOR 2022

NATURE OF THE ASSURANCE/VERIFICATION

SGS (Thailand) Limited (hereinafter referred to as SGS) was commissioned by Global Power Synergy Public Company Limited (hereinafter referred to as GPSC Group) to conduct an independent assurance of the Integrated Sustainability Report for 2022 and the Sustainability Report webpage (hereinafter referred to as the Report).

INTENDED USERS OF THIS ASSURANCE STATEMENT

This Assurance Statement is provided with the intention of informing all GPSC Group's Stakeholders.

RESPONSIBILITIES

The information in the Report and its presentation are the responsibility of the directors or governing body (as applicable) and the management of GPSC Group. SGS has not been involved in the preparation of any of the material included in the Report.

Our responsibility is to express an opinion on the text, data, graphs and statements within the scope of verification with the intention to inform all GPSC's stakeholders.

ASSURANCE STANDARDS, TYPE AND LEVEL OF ASSURANCE

The SGS ESG & Sustainability Report Assurance protocols used to conduct assurance are based upon internationally recognised assurance guidance and standards including the principles of reporting process contained within the Global Reporting Initiative Sustainability Reporting Standards (GRI Standards) GRI 1: Foundation 2021 for report quality, GRI 2 General Disclosure 2021 for organisation's reporting practices and other organizational detail, GRI 3 2021 for organisation's process of determining material topics, its list of material topics and how to manages each topic, and the guidance on levels of assurance contained within the AA1000 series of standards. Assurance has been conducted at a moderate (limited) level of scrutiny.

The assurance of this report has been conducted according to the following Assurance Standards:

 AA1000ASv3 Type 2 (AA1000AP Evaluation plus evaluation of Specified Performance Information) at Moderate Level

SCOPE OF ASSURANCE AND REPORTING CRITERIA

The scope of the assurance included evaluation of quality, accuracy and reliability of specified performance information as detailed below and evaluation of adherence to the following reporting criteria:

- GRI Standards 2021 (In Accordance with)
- AA1000 Accountability Principles (2018)

SPECIFIED PERFORMANCE INFORMATION AND DISCLOSURES INCLUDED IN SCOPE

GPSC Group's the Report and on website content are adequately in line with GRI Standard and Electric Utilities Sector Disclosures (EUSD) to fulfills all the required content and quality criteria for the identified aspects data expressed numerically or in descriptive text form 01st January – 31st December 2022 listed as below;

	The scope	The boundary					
GRI Repo	orting Standards						
302-1	Energy consumption within the organization						
303-3	Water withdrawal	GPSC Head office					
303-4	Water discharge	Glow Head office					
303-5	Water consumption	GPSC Warehouse					
305-1	Direct (Scope 1) GHG emissions	Central Utility Plant 1 : CUP-1					
305-2	Energy indirect (Scope 2) GHG emissions	Central Utility Plant 2 : CUP-2					
305-3	Other indirect (Scope 3) GHG emissions (Upstream categories)	Central Utility Plant 3 : CUP-3 Central Utility Plant 4 : CUP-4					
	3. Fuel and energy related activities	Sriracha Power Plant					
	4. Upstream transportation and distribution	Glow IPP plant					
	5. Waste generated in operations	Glow Energy Phase 1 plant					
305-4	GHG emissions intensity	Glow Energy Phase 2 plant					
305-7	Nitrogen Oxides (NOx), Sulfur Oxides (SOx), and other significant air emissions (Including direct Mercury emission, dust emission, SF6 emission)	Glow Energy Phase 4 plant Glow Energy Phase 5 plant Glow Energy CFB 3 plant					
306-3	Waste generated	Glow Energy Solar plant					
306-4	Waste diverted from disposal	Glow SPP 2/Glow SPP 3 plant (Phase 3)					
306-5	Waste directed to disposal	Glow SPP 11 Project 1 plant					
403-9	Work-related injuries	Glow SPP 11 Project 2 plant					
403-10	Work-related ill health	GHECO-One Power Plant					
405-2	Ratio of basic salary and remuneration of women to men	Combined Heat and Power Producing Company					
Electric L	Itilities Sector Disclosures (EUSD)	Solar Private PPA – GPSC & Glow					
EU11	Average generation efficiency of thermal plants by energy source and by regulatory regime	Refuse Derived Fuel (RDF) Power Plant					
EU30	Average plant availability factor by energy source and by regulatory regime						

ASSURANCE METHODOLOGY

The assurance comprised a combination of pre-assurance research, interviews with relevant employees, superintendents and the management. Documentation reviewed and recorded were carried out onsit visit and remotely. The validation with external bodies and/or stakeholders where relevant and interview the person in charge of producing the report were also carried out remotely for the same reason.

LIMITATIONS AND MITIGATION

Financial data drawn directly from independently audited financial accounts has not been checked back to source as part of this assurance process. Some statements and data within the scope were not assured due to lack of accessible records during the time scale allowed for assurance, and these are clearly marked throughout the Report.

STATEMENT OF INDEPENDENCE AND COMPETENCE

The SGS Group of companies is the world leader in inspection, testing and verification, operating in more than 140 countries and providing services including management systems and service certification; quality, environmental, social and ethical auditing and training; environmental, social and sustainability report assurance. SGS affirm our independence from GPSC, being free from bias and conflicts of interest with the organisation, its subsidiaries and stakeholders.

The assurance team was assembled based on their knowledge, experience and qualifications for this assignment, and comprised auditors experienced in one or more of the following standards; AA1000, GRI, ISO 9001, ISO 14001, ISO 45001, ISO 50001, ISO 14064-1, ISO 14067, ISO 26000, SA 8000, GHG Verification/Validation and experience on the SRA Assurance service provisions.

FINDINGS AND CONCLUSIONS ASSURANCE/VERIFICATION OPINION

On the basis of the methodology described and the verification work performed, we are satisfied that the specified

performance information included in the scope of assurance is accurate, reliable, has been fairly stated and has been prepared, in all material respects, in accordance with the reporting criteria.

We believe that the organization has chosen an appropriate level of assurance for this stage in their reporting.

QUALITY AND RELIABILITY OF SPECIFIED PERFORMANCE INFORMATION

The material topics and their boundaries are properly defined in accordance with GRI's Reporting Principles for Defining Report Content. In year 2022, GPSC Group has expanded the assured performance data to associated company. For future reporting, more descriptions of GPSC Group and subsidiaries' involvement with impact for each material issue and mitigation efforts should be disclosed. The mechanism for internal audit on the data performance should be established to maintain the system in place.

ADHERENCE TO AA1000 ACCOUNTABILITY PRINCIPLES STANDARD (2018)

INCLUSIVITY

GPSC Group has considered sustainability's issues related to stakeholders from viewpoints of various sources. The survey and direct two-ways communication with investors, employee, customers, suppliers and other stakeholders were implemented to receive the concerning issues and organization's understanding of stakeholders.

MATERIALITY

Material topics have been identified in consideration of the requirements of international guidelines and stakeholder engagement. The identified topics are deliberated on by external experts and the Corporate Sustainability Committee to confirm the validity. The Corporate Sustainability Committee also regularly reviews the process for identifying material topics. The issues that are material to each stakeholder group are reported in appropriateness, and reflected their important and priority.

RESPONSIVENESS

Initiatives that address material topics are reported to stakeholders by disclosure in the report. The report also shows the relationship between these topics and the SDGs. The targets and the results for identified topics are also disclosed in the report.

IMPACT

Risk evaluation has been demonstrated to identify environmental, social and governance impacts. Performance results related to key issued are reported in the Sustainability Report Sustainability Report. Sustainability performances identified have been disclosed changes in data over time. Target setting and performance status in qualitative and quantitative have been measured and reported for material issues.

Signed: For and on behalf of SGS (Thailand) Limited

Mortu T.

Montree Tangtermsirikul General Manager 100 Nanglinchee Road Chongnonsee Yannawa, Bangkok 10120 Thailand 8 March 2023

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