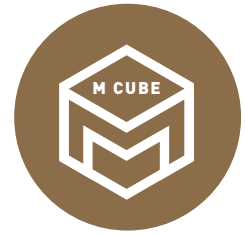




GLOBAL POWER SYNERGY PUBLIC COMPANY LIMITED

SUSTAINABILITY REPORT 2016

SUSTAINABLE GROWTH



MAXIMIZE



MANAGE



MOVE







SUSTAINABILITY REPORT 2016

SUSTAINABLE GROWTH



ECONOMY



- **Lithium-ion Battery Research Project**


GPSC has collaborated with alliances for the Lithium-ion Battery Research Project to develop high-efficiency energy storage in response to the market growth of electrical production from renewable energy.

- Reliability and Availability of Electricity System

GPSC sustainably operates the reliability of electricity and steam production and distribution systems by an internal management system to monitor its operations in normal and crisis conditions.

- Innovation Award

Efficiency development of innovation business operation has always been the priority that GPSC supports and promotes by encouraging employees to think creatively throughout projects and activities.



GPSC strives for efficient management to increase reliability of electricity systems in order to deliver electrical energy to customers at all times. The company aims to manage its invested companies to increase income and profits, including to seek for opportunities in developing electrical projects, domestically and internationally and to bring innovation in for new business investment for sustainable growth in the future.



SOCIETY



- **Creating Shared Value between Local Community and GPSC**

The company supports local community engagement by investing in the ground mounted solar power plant project for agricultural cooperatives.

- **Sustainability Operation Guideline for Suppliers**

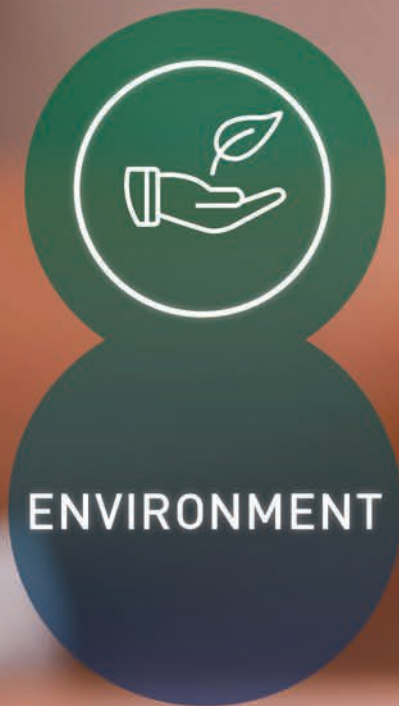
GPSC Supplier Sustainable Code of Conduct Manual has been provided for suppliers and contractors to follow as a management guideline to grow the business sustainably in alignment with governance mechanism for community, society and environment throughout the whole supply chain.

GPSC sustainably operates its business with responsibilities toward community, society and environment to complete its expectation of staying in society and community peacefully, together with strengthening stakeholder engagement accordingly.



- **Leadership Development Project**

Leadership Development Project has been launched in response to the objectives of leadership preparation and recruitment for vacant positions. High-potential employees will be prepared and ready to carry on vacant positions promptly and become leaders who have challenging responsibilities aligned with the company business strategy.



GPSC aims to protect natural resources and ecosystem throughout its operations with responsibilities toward community, society and environment.

- **Low Carbon Society**

GPSC improves its operation efficiency by focusing on machine development to obtain utmost efficiency and reduce greenhouse gas emissions effectively.

- **Green Factory**

Environment and safety management has been strictly implemented in order to reduce impacts and build community trust.

- **Study on Biodiversity Impacts**

All projects that GPSC has invested in or plan to develop must in must carry out risk assessment in terms of biodiversity of surrounding resources.



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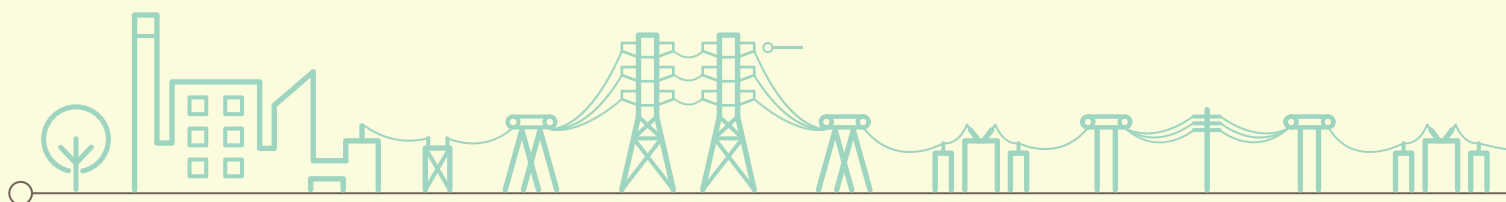
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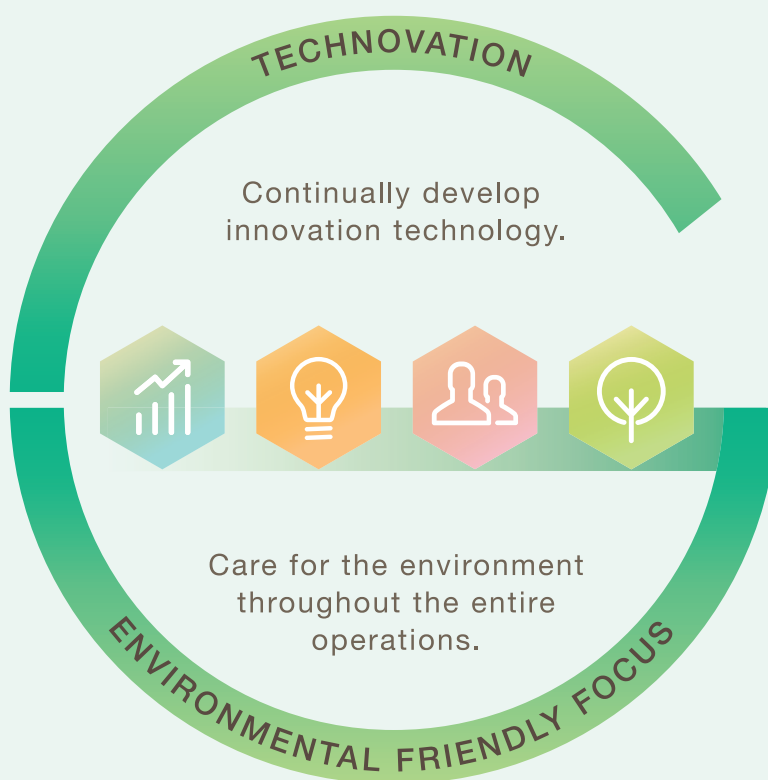


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About This Report

Global Power Synergy Public Company Limited (GPSC) prepares the Sustainability Report annually in order to express our commitments and communicate GPSC's business performance on sustainable development in compliance with good governance. The Sustainability Report for 2016 covers our performance from 1 January 2016 to 31 December 2016. The report has been prepared in accordance with the Global Reporting Initiative Guidelines 4 (GRI G4) at Core Option and additional indicators for companies in the power and utilities group. Moreover, the report references the Sustainable Development Goals (SDGs) which cover key issues in relation to GPSC sustainable business operations. The scope of this report covers invested companies which GPSC has a shareholding of more than 50% with operational control. To view reference data, please see the GPSC Annual Report or go to <http://www.gpscgroup.com/en/about/subsidiaries-associated-companies>.

The content of this report focuses on sustainability covering economic, social and environmental dimensions as well as value creation for society along with the company business operations. GPSC material issues are classified mainly into four areas: Sustainable Growth, Technovation, Inclusive Citizenship and Environmental Friendly.

GPSC is committed to communicating its operational practices and performance to achieve sustainable development in a clear and transparent way to internal and external stakeholders. GPSC considers all comments and suggestions from stakeholders in order to improve the company operational processes and promote sustainable development with stakeholders across all sectors.

Contact Information

Download this report: <http://www.gpscgroup.com/en/sustainability/reporting>
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Phone: +66 2140 4600
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E-mail: sustainability@gpscgroup.com



CEO Message



GPSC prioritizes the security of power and steam production and efficient distribution systems. The company has created safety excellence in alignment with operations by developing and diversifying its power and utility business through innovation development regarding customer requirements, technological risks, climate change impacts and new business opportunities.



The year of 2016 was a challenging year for Global Power Synergy Public Company Limited (GPSC). We encountered the instability of the national and world economy resulting in a dramatic fluctuation of oil and gas price, which was considered as an important factor in our production process. Despite such challenges, GPSC has been able to grow with strength through competency management, production cost management and commercial operations for projects under construction. GPSC showed a higher performance in 2016 compared to 2015 and gained trust from investors investing in our fundamental business operations. This has reflected in an increasing asset price due to fundamental intrinsic value. GPSC is ranked in the top 50 according to the Stock Exchange of Thailand Index (SET 50) which has the highest positive movement of common stock price valued in compliance with market price. It is the year of GPSC's pride; the company has become one of the one hundred companies that have registered capital and outstanding performance in terms of environment, society and good governance (ESG 100). GPSC has also received the Recognition Award in the

announcement of the Sustainability Report Award 2016.

The aforementioned success has proved that our company has been operating the business sustainably resulting from our commitments to meet the sustainability principles for power and utility businesses. GPSC strives for increasing business strengths from excellence governance practice, focusing on operations and disclosure of information to stakeholders with equality, accuracy, clarity, transparency and accountability under the principle of 3M Management. The 3M Management consists of three keywords: Maximize, Manage and Move. GPSC aims to maximize benefits, trust and reliability regarding the company operations. The company manages the ongoing business projects with the utmost success and effectiveness, seeks opportunities in new business investment and continues business investment in the country and abroad through technological innovation (Technovation) development while balancing environmental quality control (Environmental Friendly Focus). GPSC also aims to be a part of the society by continuously building strong relationships and trust among stakeholders and to



deliver sustainable values to all stakeholders in order to meet the company vision of becoming one of the world's leading companies of innovative management for the power and utility sector.

GPSC prioritizes the security of power and steam production and efficient distribution systems. The company has created safety excellence in alignment with operations by developing and diversifying its power and utility business through innovation development regarding customer requirements, technological risks, climate change impacts and new business opportunities.

In the past year, employees at all levels have been considered as the company valuable resources and the main power in driving success. GPSC commits to support on employee career development by focusing on self-development and promote career growth within the organization, alongside with creating rewarding working experiences in the long term. By managing human capital effectively, the company will become one of the leaders in this business sector in regards to sustainability performance.

GPSC is committed to sustainable operations with determination to become one of the world's leading power and utility businesses. The company continues to invest into the development of social, economic and environmental aspects across all business operational areas.

GPSC would like to express our gratitude to stakeholders from all sectors, including shareholders, investors, government agencies, joint-ventures, suppliers, contractors, customers, societies and communities, GPSC executives and employees who have been supporting the company operations.

Please trust that GPSC will continue the commitment and devotion to operate our business by adhering to good governance and sustainable development for the utmost benefits to all relevant parties.

A handwritten signature in black ink, appearing to read 'Toemchai Bunnag', with a stylized flourish at the end.

Mr. Toemchai Bunnag
Chief Executive Officer (CEO)





Sustainable Growth



Sustainable operations by building stakeholder trust, committing to Operational Excellence with transparency, continually development and social and environmental responsibilities.





Company Overview

Ichinoseki Solar Power 1GK Company Limited (ISP1)
Ichinoseki Japan
SCOD : 2017 ⚡ 20.8 MW

GPSC Partner 99%
1%

Bangpa-In 1 Cogeneration Company Limited (BIC 1)
Bang Pa-in Ayutthaya
⚡ 117 MW ⚙️ 20 T/H

CK Power 65%
GPSC 25%
IEAT 8%
Others 2%

CK Power 65%
GPSC 25%
IEAT 8%
Others 2%

Bangpa-In 2 Cogeneration Company Limited (BIC 2)
Ayutthaya
SCOD : 2017
⚡ 117 MW ⚙️ 20 T/H

Thai Solar Renewable Company Limited (TSR)
Kanchanaburi / Suphanburi
⚡ 80 MW (8 MW x 10)

TSE 60%
GPSC 40%

Combined Heat and Power Producing Company Limited (CHPP)
Bangkok
⚡ 5 MW ❄️ 12,000 RT

GPSC 100%

Combined Heat and Power Producing Company Limited (CHPP)
Chanthaburi
⚡ 5 MW

GPSC 100%

CK Power 30%
NSC (GPSC) 25%
EDL 20%
EGCO 12.5%
BEM 7.5%
PT 5%

Xayaburi Power Company Limited (XPCL)
Laos
SCOD : 2019
⚡ 1,285 MW

GPSC 40%
Hydro Eng 40%
POSCO 10%
EDL 10%

Nam Lik 1 Power Company Limited (NL1PC)
Laos
SCOD : 2019
⚡ 64.7 MW

Ratchaburi Power Company Limited (RPCL)
Ratchaburi
⚡ 1,400 MW (2 x 700)

RAC 25%
PAI Inter 25%
GPSC 15%
Chubu Electric 15%
Saha Union 10%
Toyota Tsusho 10%

RATCHGEN 40%
NNCL 30%
GPSC 30%

Nava Nakorn Electricity Generating Company Limited (NNEG)
Navanakorn Pathumthani
⚡ 125 MW ⚙️ 30 T/H

Global Power Synergy Public Company Limited - Sriracha Plant
Sriracha Chonburi
⚡ 700 MW ⚙️ 80 Cu.m./H

GPSC 51%
IRPC 49%

IRPC Clean Power Company Limited (IRPC-CP Phase 1)
Rayong
⚡ 45 MW ⚙️ 170 T/H

Global Power Synergy Public Company Limited - Sriracha Plant (CUP 1-3)
Rayong
⚡ 339 MW ⚙️ 1,340 T/H
⚙️ 2,000 Cu.m./H

GPSC 51%
IRPC 49%

IRPC Clean Power Company Limited (IRPC-CP Phase 2)
Rayong
SCOD : 2017
⚡ 45 MW ⚙️ 170 T/H

Global Power Synergy Public Company Limited - Sriracha Plant (CUP-4)
Rayong
SCOD : 2018
⚡ 45 MW ⚙️ 70 T/H



Commercial Operation



Projects Under Construction



Electricity



Steam



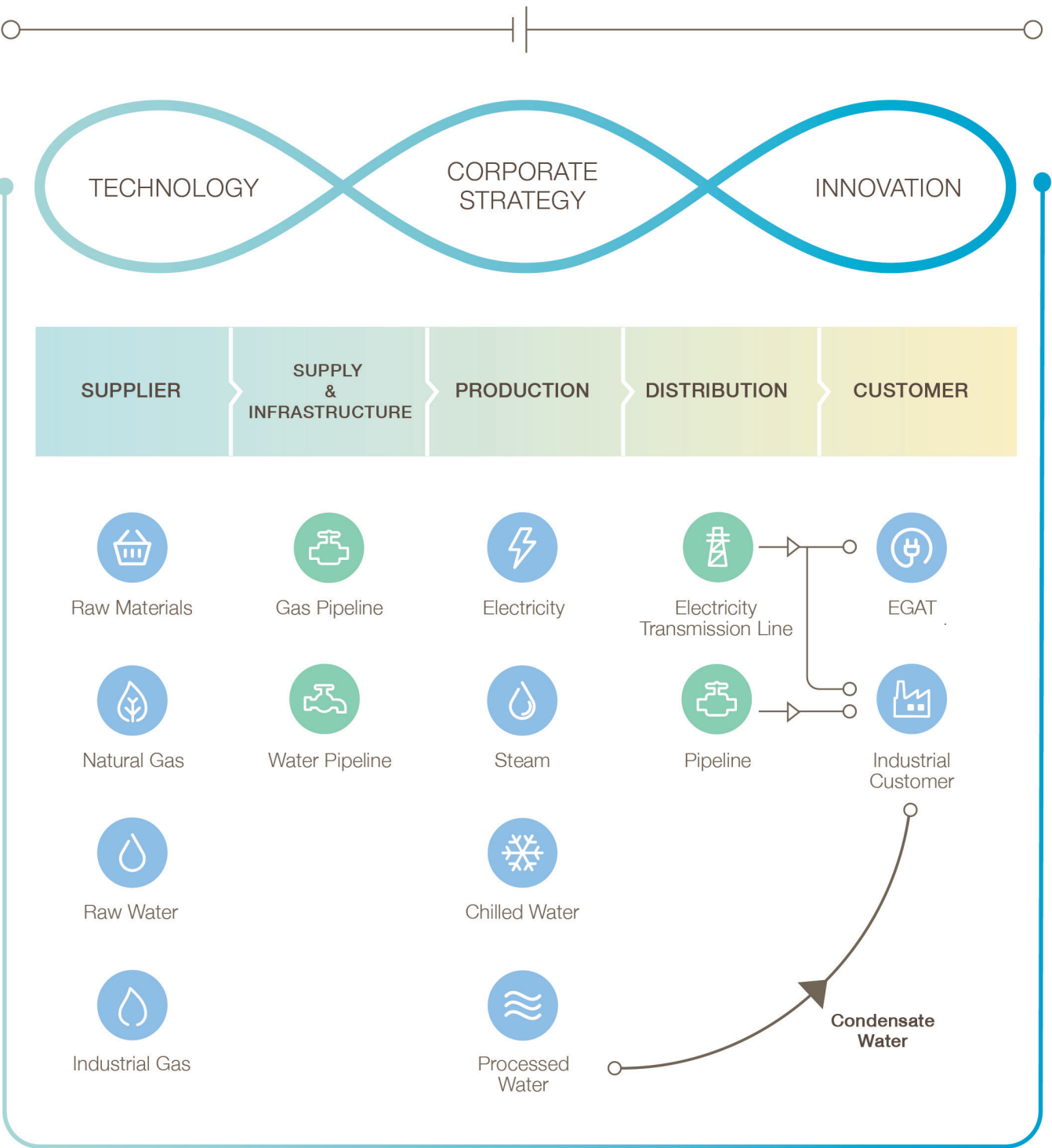
Chilled Water



Processed Water

SCOD refers to Scheduled Commercial Operation Date.

GPSC Value Chain





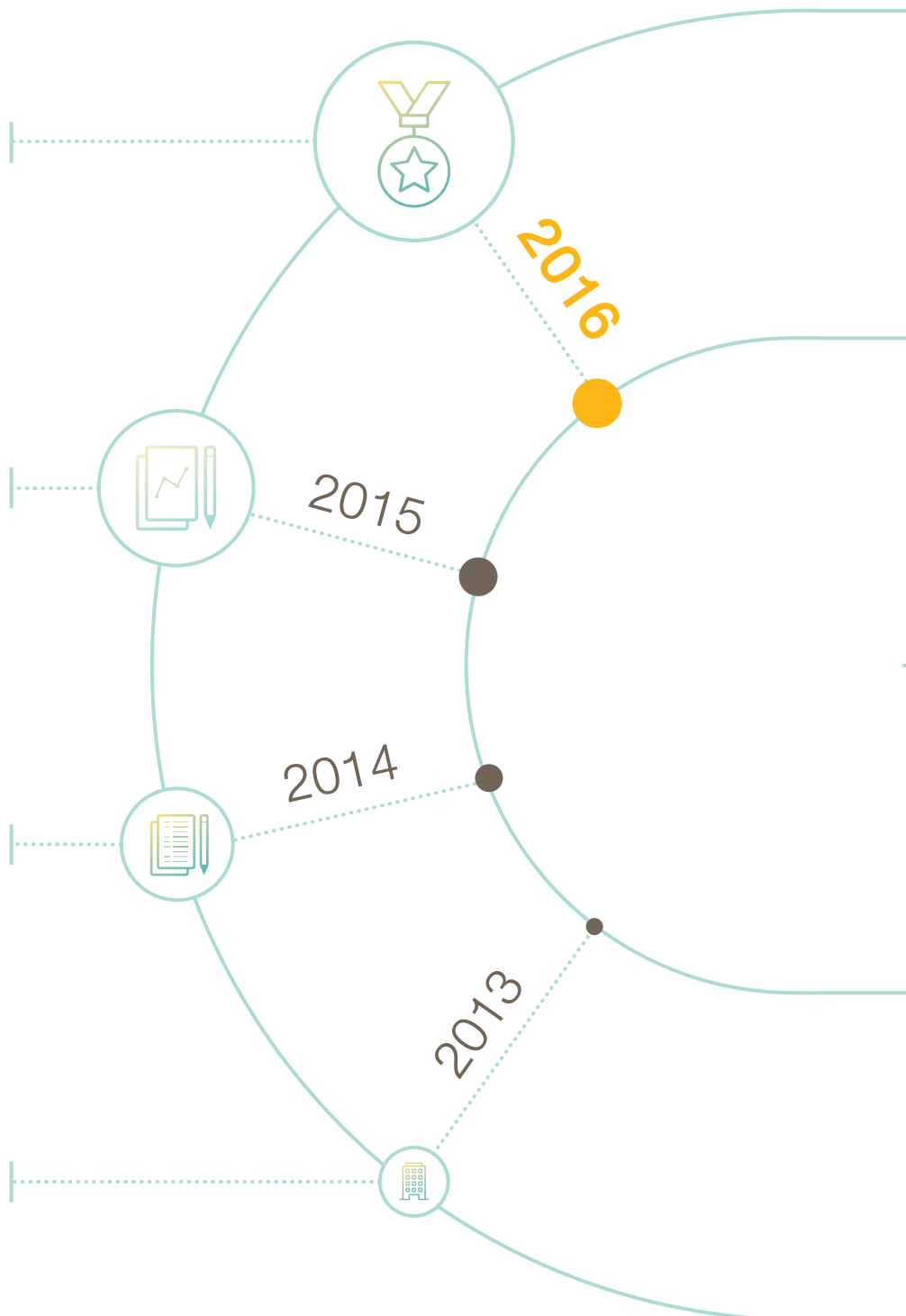
History and Significant Business Operations

- ESG 100
- Recognition of Sustainability Report Award 2016
- Investors' Choice Award 2016
- CGR 2016 at Excellence Level

GPSC was listed in the Stock Exchange of Thailand (SET) and had its first day of trading on 18 May 2015.

The company changed into a public company limited. Its name has been changed to Global Power Synergy Public Company Limited or GPSC.

Global Power Synergy Company Limited was established on 10 January 2013 through the amalgamation of PTT Utility Company Limited (PTTUT) and Independent Power (Thailand) Company Limited (IPT).



Overall Business Operations on 31 December 2016



Electricity
1,922 megawatts

Domestic : Commercial Operation 1,381 megawatts
: Projects Under Construction 173 megawatts
International : Projects Under Construction 368 megawatts



Steam
1,582 tons per hour

Commercial Operation 1,441 tons per hour
Projects Under Construction 141 tons per hour



Chilled Water
12,000 refrigeration ton



Processed Water
2,080 cubic meter per hour

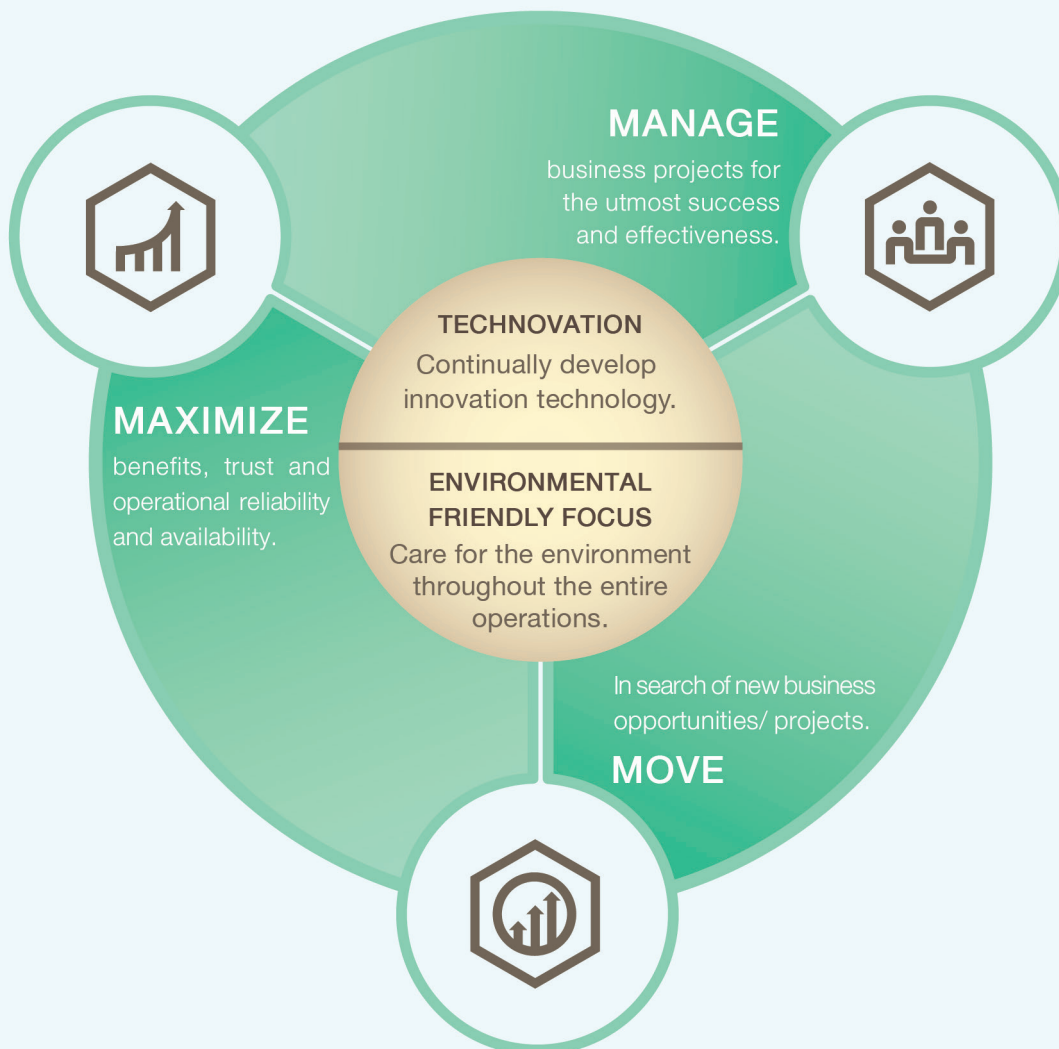
VISION

Being Global Leading Innovative Power and Utility Management Flagship of PTT Group delivering the sustainable value to all stakeholders

MISSION

- Create long term shareholders value with profitable growth
- Delivery reliable energy through operation excellent to customer
- Conduct business with social and environmental responsibility
- Seek for innovation in power and utility efficient management such as Energy Storage Technology and SMART Grid

Business Growth for Sustainability



Sustainability Performance



Sustainable Growth

THB
20,675
million

Income from operations

42%

Increase profits

THB
3,809
million
EBITDA

1,922
megawatt
Equity Capacity



Technovation



Collaborated with
24M Technologies, Inc.

99.99%

System reliability
and availability

0%

Lost Time Injuries
Frequency Rate (LTIFR)

4.7

million working hours
Zero Lost Time Injuries
Frequency Rate (LTIFR)



Inclusive Citizenship

87.4%

Customer satisfaction

THB
3.83
million

Saved from supply
chain management

37.1
hours

Training hours
per employee

90.2%

Community satisfaction
of CSR activities



Environmental Friendly Focus

62.28%

Water consumption
reduced

60.06 tons

Generated waste
reduced

0.33

tons carbon dioxide equivalent
per megawatt hour
Greenhouse gas
emission intensity

**ZERO WASTE
TO LANDFILL**

Stakeholder Engagement



GPSC realizes the importance of all stakeholders across all sectors. The company would not be able to operate its business sustainably without their understanding and supports. Key stakeholders are identified and classified into six groups based on the importance to the company business operations, both directly and indirectly. The main objectives of GPSC are to understand the expectations and interests of each stakeholder group and to communicate about the company operations in response to the issues. In addition, GPSC aims to build trusting and lasting relationships with all stakeholder groups on an ongoing basis.

The company believes that the good relationships built on trust together with feedback from all stakeholders will lead the company to achieve sustainable success. Hence, expectations, interests and suggestions from all stakeholders groups have always been GPSC high priority and the company always welcomes feedback in order to improve its business operations.

Stakeholder Group	Engagement Channels	Issues that Stakeholders are interested in
 <p>Investors and Shareholders</p>	<ul style="list-style-type: none"> GPSC's quarterly and annual performance disclosure and additional data disclosure on the company website Annual shareholder meeting Site visits CSR activities Open communication through several channels, such as website, e-mail, telephone, letter and other Grievance mechanism: whistle-blowing system 	<ul style="list-style-type: none"> Equal access to information Transparent, accountable and fair operations Sustainable performance and business development Good governance
 <p>Government Agencies and Related Functions</p>	<ul style="list-style-type: none"> Business performance and operational results regarding government agency requirements Ongoing participation in activities and projects of government agencies 	<ul style="list-style-type: none"> Operations in compliance with the laws, regulations and rules Anti-corruption and rights of customers and stakeholders
 <p>Employees</p>	<ul style="list-style-type: none"> Annual employee engagement survey Grievance mechanism: whistle-blowing system Executives Meeting with employees Communication via e-mail 	<ul style="list-style-type: none"> Benefits and welfare Remuneration and career advancement Employee retention Human capital development
 <p>Partners / Suppliers and Contractors</p>	<ul style="list-style-type: none"> Continual selection and assessment of supplier and contractor performance Annual supplier relationship management activity 	<ul style="list-style-type: none"> Transparent, fair and accountable procurement Good relationships and development of collaborations
 <p>Customers</p>	<ul style="list-style-type: none"> Customer satisfaction survey (Twice a year) Customer relation activities (monthly, quarterly and annually) Monthly joint meeting to monitor and report: <ol style="list-style-type: none"> Demand Plan Preparedness Plan and Maintenance Plan Problem Follow-Up 	<ul style="list-style-type: none"> Product quality and service efficiency Problem solving with accuracy, appropriateness and on time
 <p>Society and Community</p>	<ul style="list-style-type: none"> Annual survey on community data and satisfaction (in collaboration with PTT Group) Community and social activities with government agencies and local agencies (at least once a year) Continual site visit with communities and locals who might be affected by the company operations directly and indirectly 	<ul style="list-style-type: none"> Sustainable living in terms of society and environment Community and social development Acknowledgement of the company operation impacts Fast communication in case of incidents



Stakeholder's Voice



Mr. Somchai Wongwattanasan

Executive Vice President-Strategy
Thai Oil Public Company Limited

Investors and Shareholders

"GPSC is in an advantage position which is having opportunity to increase energy business sustainably, both power and battery production, according to the global trend which can be a positive effect on the company."



Ms. Kesara Manchusree

President
The Stock Exchange of Thailand

Government Agencies and Related Functions

"GPSC has set the direction of sustainability, shown by the company goal of excellence in service, social and environmental responsibilities. From a business perspective, the company should broaden the business direction to green energy and related business continuity thereby responding to the business model changes of the industry in the future and customer needs. GPSC can achieve its goal of greenhouse gas emission reduction, thus reducing the impacts on our community and environment. This is the way to sustainability."



Ms. Sasitorn Stithit

Vice President, Human Resources
and Organization Effectiveness
Global Power Synergy Public
Company Limited

Employees

"GPSC has a clear strategic plan for human resources management. We aim to recruit and develop personnel competencies in accordance with GPSC future operations."

Partners/ Suppliers and Contractors (Partner)

"We have always been impressed with the company commitment towards the sustainability even before the company applied for registration as the public company limited. We believe that the company commitment in the development of energy storage system with the good understanding of renewable energy technology in details can illustrate the company commitment towards the sustainable economy."



Mr. Throop Wilder

CEO and Co-Founder
24M Technologies, Inc.

Partners/ Suppliers and Contractors (Supplier)

"Over the past years, GPSC has developed range of systems to support the growth of the company due to higher expectation of external and internal parties. I think the company has rapidly improved and developed. The company always communicates with suppliers before issuing new policies. As a supplier, I would like the company to keep on improving. Working with a company that continuously develops means that we will develop as well".



Mr. Nawayuth Inchai

Executive Director Sales
and Marketing Department
PKK Siam Company Limited

Customers

"The company operates in an economically, socially and environmentally sustainable manner in order to assure business and power growth for sustainable future. GPSC is also committed to reducing and adapting to climate change, as well as controlling its operations following eco-efficiency and biodiversity principles."



Mr. Nilesh Mittal

Finance Controller
Overseas Chemical Business
Aditya Birla Group

Society and Community

"In communities located in a large scale industrial plant zone of the country, locals are certainly afraid, worried and feeling unsafe. The fears do not come from ideas passing through informal channels but from self-experiences.

In the past few years, GPSC public relation officers have been communicating with communities through various activities, such as open-house events, on-site visits, grievance acknowledgement and management as well as providing knowledge of chemical and workshops on emergency incident management, which have helped communities to gain more knowledge and to have a better understanding of GPSC operations."



Mr. Thiwa Chokekasem

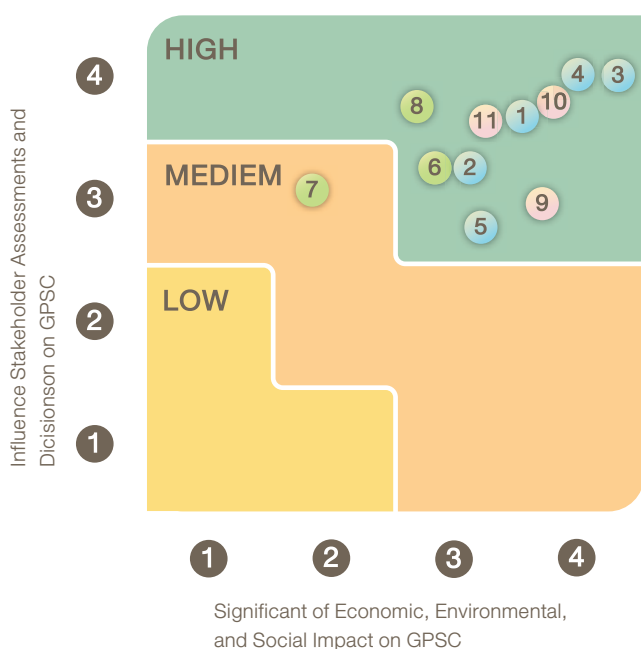
Secretary of Talad Map Tha Put
Community, Rayong Province

Materiality Assessment

GPSC adopts the Materiality Assessment of Global Reporting Initiative (GRI) to prioritize the issues in accordance with the company goals of sustainability and stakeholder interests. The company then reports its sustainability-related management measures and performance in consideration to the identified issues covering the common three dimensions of sustainability: economy, society and environment. The steps of materiality assessment can be summarized as below.

MATERIAL ISSUES

MATERIALITY MATRIX



IMPACT	ITEM	MATERIAL ISSUES
 Economy	1	Integrity/ Business Ethic and Governance
	2	Customer Satisfaction
	3	Intelligent Innovation
	4	Reliability of Power and Steam Production and Distribution
	5	Supply Chain Management
 Environment	6	Climate Change Risk and Adaptation
	7	Habitat Protection and Biodiversity
	8	Operational Eco-Efficiency
 Society	9	Human Capital Development and Talent Attraction
	10	Safe Operations
	11	Engagement/ Community Relations/ Creating Shared Value

REPORTING CONTENT

- HIGH** – Management Approach, Performance, Target and Case
- MEDIUM** – Management Approach, Performance
- LOW** – Performance or not report

Process	Practice Guideline
<p>Step 1 Identification</p> <p>Collect and identify relevant issues in relation to the sustainability of GPSC and stakeholders throughout the entire value chain by considering risks and opportunities for business operations in conjunction with global business directions, industry groups and GRI. The scope of relevant material issues that impacts on the company and internal and external stakeholders has also been identified.</p>	<ul style="list-style-type: none"> ○ The Sustainable Development Guidelines of PTT Group and GPSC ○ International practice guidelines, such as GRI¹, DJSI², SDGs³, WBCSD⁴, CDP⁵ and other ○ Feedback from internal and external stakeholders ○ Annual employee survey ○ Community satisfaction survey ○ Customer satisfaction survey ○ Corporate reputation development ○ Grievance mechanism ○ Corporate risk assessment ○ Company executive workshop
<p>Step 2 Prioritization</p> <p>Prioritize the issues relevant to sustainability and place them in the Materiality Matrix. Each issue is assessed and scored on a scale of 1 (least important) to 4 (most important), considering two dimensions: significant economic, social and environmental issues impacting to the company; and its influence on the assessment and decision making of the stakeholders.</p> <p>Score weight given to relevant issues depends on the risk assessment criteria, opportunities in the business operations and factors that influence the company and stakeholders. Opinions from stakeholders are taken into consideration to prioritize the issues. Content in this report covers and focuses on issues with material levels of high and moderate.</p>	<ul style="list-style-type: none"> ○ Workshops with representatives from every agency who are directly involved with each stakeholder group
<p>Step 3 Validation</p> <p>Ensure the completeness and coverage of GPSC's material issues by considering material aspects and the scope of the report. In addition, the data and information used in the report preparation must be verified transparently and accurately in conformity with the report criteria indicated in the GRI G4 guidelines.</p>	<ul style="list-style-type: none"> ○ Sub-group meeting of each function to review the priority of issues considering external stakeholder interests ○ Executive meeting to review GPSC material issues
<p>Step 4 Review</p> <p>Review the Sustainability Report for identify further improvement on the company policies, objectives and goals and stakeholder engagement process for a better reflection on material issues.</p>	<ul style="list-style-type: none"> ○ Wide range of grievance channels ○ Sub-group meeting of each function to review the performance of 2016 Sustainability Report

Remark

1. Global Reporting Initiative (GRI) is an international organization that develops and disseminates the applicable guidelines for sustainability reporting.

2. Dow Jones Sustainability Indices (DJSI) is a family of indices that assesses the effectiveness of business operations according to the guideline of sustainable development of the world's leading companies which the worldwide funds use it as the investment criteria.

3. Sustainable Development Goals (SDGs) is a set of 17 sustainable development goals by United Nation (UN) covering a broad range of sustainable development issues to be achieved and implemented by 2030 (B.E. 2573).























4. World Business Council for Sustainable Development (WBCSD) is a global advocacy association of 200 leading businesses and partners working together to accelerate the transition towards a sustainable world. This organization is officially accredited in the "Earth Summit" in 1992 (B.E. 2535).

5. Carbon Disclosure Project (CDP) is the global institution which provides a disclosure system for companies, cities, states and regions to manage their environmental impacts.



Material Sustainability Issues

Report Chapter	GPSC Material Issues	Corresponding GRI Aspects	Key Stakeholder and Impact Boundary		SDGs
			Within Organization	Outside Organization	
Sustainability Growth	Integrity/ Business Ethics and Governance	<ul style="list-style-type: none"> Organizational Profile (G4-13) Governance (G4-34) Ethics and Integrity (G4-56, G4-57, G4-58) Anti-Corruption (G4-DMA, G4-SO4, G4-SO5) Anti-Competitive Behavior (G4-DMA, G4-SO7) 	<ul style="list-style-type: none"> Employees 	<ul style="list-style-type: none"> Government Agencies and Related Functions Investors and Shareholders Customers Partners/ Suppliers and Contractors 	
Technovation	Reliability of Production	<ul style="list-style-type: none"> Availability and Reliability (G4-DMA(EUSD), EU10) 	<ul style="list-style-type: none"> Employees 	<ul style="list-style-type: none"> Customers Society and Community Partners/ Suppliers and Contractors 	
	Intelligent Innovation	<ul style="list-style-type: none"> Research and Development (G4-DMA(EUSD)) 	<ul style="list-style-type: none"> Employees 	<ul style="list-style-type: none"> Investors and Shareholders Customers Society and Community Partners/ Suppliers and Contractors 	
	Safe Operations	<ul style="list-style-type: none"> Occupational Health and Safety (G4-DMA, G4-LA6) Training and Education (G4-DMA, G4-LA10) 	<ul style="list-style-type: none"> Employees 	<ul style="list-style-type: none"> Government Agencies and Related Functions Society and Communities Partners/ Suppliers and Contractors 	
Inclusive Citizenship	Customer Satisfaction	<ul style="list-style-type: none"> Product and Service Labeling (G4-DMA, G4-PR5, G4-EU27, G4-EU28, G4-EU29, G4-EU30) 	<ul style="list-style-type: none"> Employees 	<ul style="list-style-type: none"> Customers Society and Community 	
	Supply Chain Management	<ul style="list-style-type: none"> Supplier Environmental Assessment (G4-DMA, G4-EN33) Supplier Assessment for Labor Practices (G4-DMA, G4-LA15) 	<ul style="list-style-type: none"> Employees 	<ul style="list-style-type: none"> Partners/ Suppliers and Contractors Society and Community 	

Report Chapter	GPSC Material Issues	Corresponding GRI Aspects	Key Stakeholder and Impact Boundary		SDGs
			Within Organization	Outside Organization	
	Human Capital Development and Talent Attraction	<ul style="list-style-type: none"> Employment (G4-DMA, G4-LA1-LA2, G4-EU15, G4-EU17) Labor/Management Relations (G4-DMA, G4-LA4) Training and Education (G4-DMA, G4-LA9, G4-LA10) Diversity and Equal Opportunity (G4-DMA, G4-LA12) 	<ul style="list-style-type: none"> Employees 	-	    
Inclusive Citizenship	Engagement/ Community Relations/ Creating Shared Value	<ul style="list-style-type: none"> Indirect Economic Impacts (G4-DMA, G4-EC7) 	<ul style="list-style-type: none"> Employees 	<ul style="list-style-type: none"> Society and Community 	  
Environmental Friendly Focus	Climate Change Risk and Adaptation	<ul style="list-style-type: none"> Organizational Profile (G4-DMA, G4-EU1, G4-EU2) Emissions (G4-DMA, G4-EN15, G4-EN16, G4-EN18, G4-EN19) 	<ul style="list-style-type: none"> Employees 	<ul style="list-style-type: none"> Society and Community Partners/ Suppliers and Contractors 	     
	Operational Eco-Efficiency	<ul style="list-style-type: none"> Water (G4-DMA, G4-EN8, G4-EN10) Emissions (G4-DMA, G4-EN21) Effluents and Waste (G4-DMA, G4-EN22, G4-EN23) Compliance (G4-DMA, G4-EN29) Local Communities (G4-DMA, G4-SO2) 	<ul style="list-style-type: none"> Employees 	<ul style="list-style-type: none"> Government Agencies and Related Functions Society and Community 	    
	Habitat Protection and Biodiversity	<ul style="list-style-type: none"> Biodiversity (G4-DMA, G4-EN13) 	-	<ul style="list-style-type: none"> Government Agencies and Related Functions Society and Community 	  

Remark :

Millennium Development Goals (MDGs) was ended in 2015. The United Nations (UN) then initiated the discussion process to determine the post-2015 development agenda according to the paradigm "Sustainable Development". The important issue of the post-2015 development agenda is about Sustainable Development Goals (SDGs), comprising 17 goals as follows:





Integrity/ Business Ethic and Governance



“GPSC is committed to operating with good corporate governance, management and to comply with business ethics in accordance with company vision and mission statement”.

Corporate Governance & Code of Conduct Manual
Global Power Synergy Public Company Limited

Corporate Governance

GPSC strives to operate business sustainably and promote good and transparent management systems complying with international standards. This will drive the company competency to compete with other businesses, prevent and eliminate the potential conflicts of interests, build stakeholder trust and provide co-benefit for stakeholders across all sectors. Guided by GPSC code of conduct, the company addresses good governance and anti-corruption principles as its core policy in order to operate its business in transparent manners throughout the entire value chain (Details can be found at <http://www.gpscgroup.com/en/cg/policy>).

The GPSC report on the compliance of good corporate governance principle is included in the GPSC Annual Report and on the website: <http://www.gpscgroup.com/en/cg/action>. The GPSC Committee, Board of Executives and all employees adhere to comply with the GPSC Corporate Governance & Code of Conduct Manual as well as all related value chain operations prepared by the company. The GPSC manual clearly defines roles and responsibilities of employees to maintain a good corporate governance business ethics and best practices (Details can be found at <http://www.gpscgroup.com/en/cg/policy>).

[gpscgroup.com/en/cg/policy](http://www.gpscgroup.com/en/cg/policy)). The company performance of good corporate governance and operations has been monitored by both internal and external auditors. The monitoring results are used to develop and improve its operations for better efficiency and sustainability according to the responsibilities of GPSC Committee and Board of Directors toward all stakeholders.

The Six Key Principles of Good Corporate Governance

Accountability	Responsibility towards decision making and actions that can be clarified by one's self and explanation can be given for any decision making.
Responsibility	Carry out our duties with responsibilities and competencies.
Equitable Treatment	Treatment towards stakeholders with equity, fairness and transparency.
Transparency	Transparency in the verifiable operations and disclosure of information to relevant stakeholders.
Vision to Create Long Term Value	Visions in value creation for our corporation in the long term.
Ethics	Morality and ethics across all business operations.

In the aspect of corporate governance in the company operations, GPSC has set up the Board of Directors who is responsible for an overall performance in corporate governance and ensuring that GPSC strictly complies with the standard practices, laws, objectives, regulations, good code of conduct and shareholder agreement according to the criteria of registered companies in the Stock Exchange of Thailand (SET). Board of Director has set up the Corporate Governance Committee as a sub-committee and defined their responsibilities in compliance with the Corporate Governance Committee Charter and regulations of the Securities and Exchange Commission (SEC), Thailand. This set of committee will determine and propose policy of ethical infrastructure for good governance and report the performance in corporate governance to the Board of Director. The company will then deploy the proposed policy as a best practice and standard for the whole organization.

For the general corporate management, the executives have been assigned into the GPSC Management Committee whose responsibility is to manage the corporate business in compliance with goals and policies set up by the Board of Director. The Management Committee is also in charge of the approval of plans, budget and progress monitoring in different operations.

The company has identified management responsibilities by central management groups and operational functions. Each group is responsible for operating and monitoring every function under the chain of responsibilities. In November 2016, GPSC has restructured its corporate structure in order to be more engaged to business units thoroughly, which answers its business strategies and goals to become the leading national company and international power and utility business (Details of GPSC corporate structure can be found at <http://www.gpscgroup.com/en/about/organization>).

For sustainability management, GPSC has set up Corporate Sustainability Management Department, whose responsibilities include development of the corporate sustainability policy, monitoring of the company sustainability performance and building trust amongst stakeholders through excellence ESG (Environmental, Social and Governance) practices in order to enable the company path toward true sustainability.

PTT Group CG Day



PTT Group CG Day was held on 18 October 2016 with the theme, “See Through the Future” which puts emphasis on the companies in PTT Group to become the transparent companies who strictly and continually focuses on anti-corruption in all forms and promotes the culture of transparent operations at business, community and national level. This is the way for GPSC business to grow sustainably.



Ethics in Business Operations

Ethics in business operations determine the scopes, standard disciplines and GPSC personnel behaviors at all levels. Every GPSC invested company shall operate its business and work with ethics, integrity, creativity, discipline, equity and equitability in compliance with GPSC Code of Conduct in order to maintain the company vision of becoming a transparent, fair and sustainable business.

The “GPSC Corporate Governance & Code of Conduct Manual” covers business ethics and a range of aspects, including ethics in respect of the laws and human rights, conflicts

of interests, data confidentiality and procurement and treatment of suppliers. GPSC personnel at all levels must acknowledge and sign an agreement of business ethics and implement business ethics. In all chains of command across the business units, supervisors are supporting, promoting and monitoring their employees to operate work in compliance with “The GPSC Corporate Governance & Code of Conduct Manual” all the time. The manual helps GPSC personnel to realize the importance of business ethics and how to apply to day to day operational activities.

Awards and Recognition

The following awards have shown that the company operates business under good governance and business ethics, beyond focusing solely on financial profits. The company has concerns and responsibilities for the environment, society, good governance and transparency.

ESG100



On 10 August 2016, the ESG100 Award was given to GPSC by Thaipat Institute for the outstanding performance in Environment, Society and Governance (ESG). The company was selected from 621 listed companies.

CGR at excellence level



As one of Thai Listed Companies, Institute of Directors (IOD) evaluated GPSC Corporate Governance Report. In 2016, the company joined the evaluation for the first year, and the results showed that the company CGR achieved excellence level and has ranked in the Top Quartile of the company group that has Market Capitalization higher than THB 10,000 million. 601 companies participated in this evaluation process.

Investors' Choice Award 2016



GPSC was evaluated by the Annual General Meeting (AGM) Checklist and received 100 out of 100 scores in the first year of participation. GPSC was awarded the Investors' Choice Awards by Thai Investors Association, in the group of “100 scores in the first year”.

The Investors' Choice Award has shown the commitment of GPSC which emphasizes disclosure of information to shareholders with accuracy and completeness and equal treatment toward shareholders.

The awards show the commitment of GPSC listed in the Stock Exchange of Thailand continuously improves corporate governance by focusing on sustainability in alignment with business operations and disclosure of information in a transparent way. Roles and leadership of the company are also improved and strengthened proactively in terms of visions, strategies for business operations and corporate risk management in order to meet stakeholder needs in particular investors at domestic and international levels.

Anti-Corruption

GPSC has been operating its business with transparency, fairness, integrity, loyalty and accountability according to the Anti-Corruption Policy, which all employees have to follow. In 2016, the company has continuously improved operations for anti-corruption measures, inside and outside the business in alignment with operational systems that support an effective anti-corruption to build trust amongst all stakeholders. The anti-corruption operational systems can prevent corruption proactively due to the determination of practice complying with the Anti-Corruption Policy, including No Gift Policy that limits the giving and taking of gifts, treats or other benefits and avoid actions which lead to inequitable treatment or conflicts of interests.



On 8 February 2016, GPSC announced the intention for Collective Action Coalition (CAC) Signatory of Thai private sector to take part in solving corruption problems in the sector. GPSC has set up policies and practices to eliminate bribery, including every form of corruption.

In addition, the company has launched a “Whistle Blowing System: Reporting of Corruption” which can be accessed via the GPSC website. The Whistle Blowing System conceals the name of a person reporting grievance incidences to ensure all grievance incidences are dealt with equality and fairness toward all relevant parties. Over the reporting year, the Whistle Blowing System has been improved to respond to grievance incidences in a more efficient manner.

The company has established an internal control system and effective assessment for any corruption risks in order to prevent corruption in all forms and assure fair business operations towards all stakeholders.

In 2016, GPSC has received one case of grievance via the Whistle Blowing System which was about unfair procurement. The case is currently under investigation.

Monitoring and Receiving of Grievance

Success Indicators	2016 Target	2016 Performance	2017 Target
Number of investigated grievance.	All grievances are investigated and resolved.	One case of grievance is under the investigation.	All grievances are investigated and resolved.



Risk and Crisis Management



TARGET 2016

Risk assessment and management are conducted in all business units. All employees (100%) engage in the risk management and business continuity management (BCM).



PERFORMANCE 2016

Training and knowledge dissemination of risk management and business continuity management have been implemented, aiming at employees from all business units. All employees (100%) have taken part in the risk management and participated in emergency communication plan drills.

Enterprise Risk Management (ERM) Process

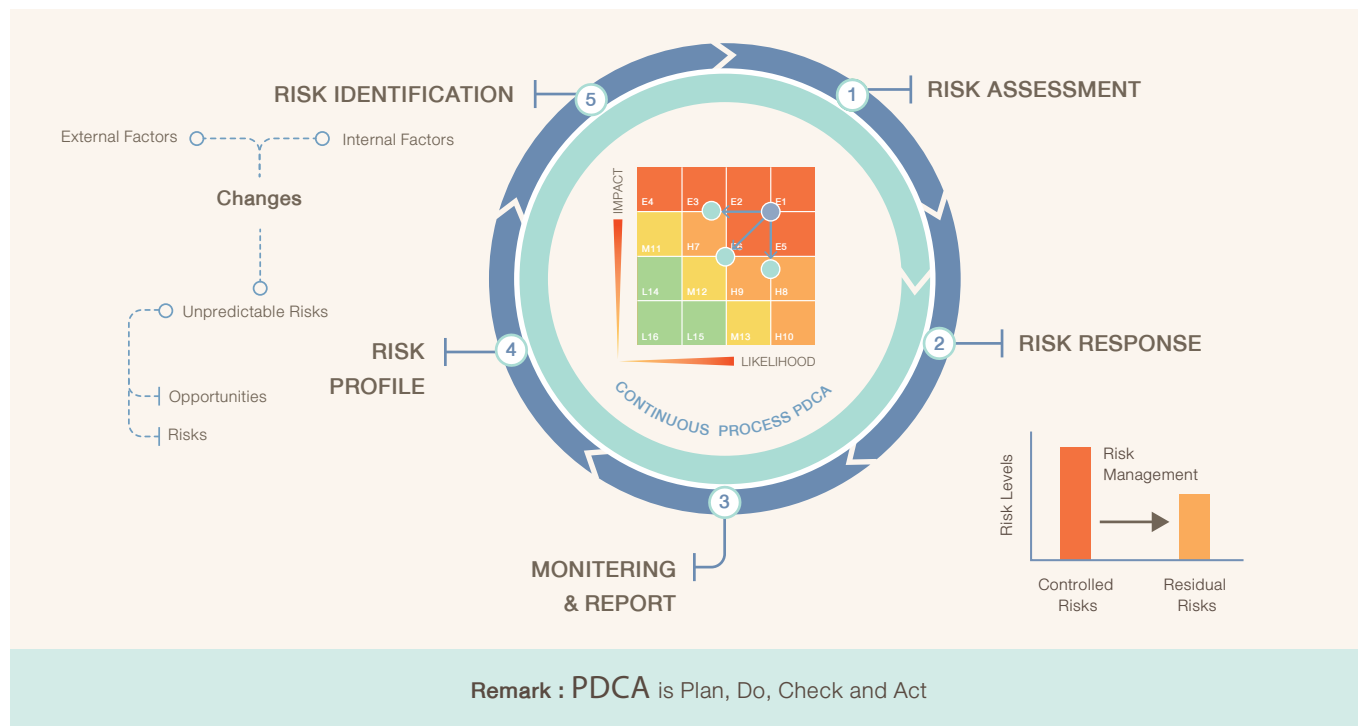
Risk management has played an important part in managing risks across the company business operations to ensure to achieve the company objectives. Proactive business strategies and plans are set up regarding risk assessment which are linked to the systematic corporate internal control and monitoring systems. Risk management is considered a foundation for future business goals, strategies and development plans. Hence, creating the culture of corporate risk management is considered a responsibility of GPSC personnel throughout the organization.

The GPSC risk assessment covers all risks from the functional to the corporate level. Risks can be identified into four main types, comprising:

- Strategic Risk
- Business Risk
- Financial Risk
- Operational Risk

The corporate risks are evaluated annually. Risk management plans, including risk mitigation plans and timeline for implementation will be established accordingly by relevant functions and approved by the Risk Management and Internal Control Committee (RMCC). The RMCC monitors the performance for corporate risk management and reports the results to the Risk Management Committee (RMC). The RMC consists of risk management specialists who are responsible for developing and considering a corporate risk management framework and monitoring the company performance in corporate risk management. In addition, the RMC reports the performance to the Board of Directors and provides them with suggestions on risk management.

Corporate Risk Management Process



Risk identification is performed every year depending on the current business situation and business operational plan changes. In 2016, GPSC has added the completeness of risk assessment at the functional levels by improving the selection of Risk Management Agent who acts as a representative of each business unit to identify risk factors and risk assessment through the use of a risk register form. The Risk Management and Internal Control Unit will then collect and analyze the forms and report to RMCC. The RMCC has responsibilities for monitoring the progress of risk management and improving risk management plans in the long term.

The progress on corporate risk management will be reviewed on a monthly basis by the RMCC and then reported to the RMC at least every two month. The RMC monitors, evaluates and provides RMCC with suggestions for efficient risk management plans and guidelines to set up control measures, mitigation plans and the corporate risk management system development.

Moreover, the company has demonstrated a proactive approach for potential crisis management through Business Continuity Management (BCM). Risk Analysis was also used for analyzing risk factors which may potentially cause disruption in the Critical Business Function (CBF) in the case of a possible crisis.

The Risk Analysis process covers impacts in five aspects, comprising impacts on finance, business/ operational process, corporate reputation, customer/ supplier and personnel. Risks can be assessed in terms of likelihood of occurrence and impact levels: quantitative and qualitative. Results from the risk assessment will be shown on the Risk Matrix to indicate the significant risks that may affect the company business operations and appropriate mitigation plans will be developed accordingly.





Technovation



Ability to apply knowledge, creativity, skills and experiences in technologies or management to develop and create new products, production process or services in response to business opportunities.





Intelligent Innovation



Mr. Monthien Paipinij

Business Development Officer
Research and Development of Commercial Technology
Global Power Synergy Public Company Limited

“GPSC has been working on innovation development at the operational level. The company currently focuses on its research and development efforts on technologies for different businesses and products.”

Technology research and development unit focuses on innovation which is the key driving force for corporate business development and enhancing competitiveness and corporate sustainable growth GPSC encourages personnel at every level to be innovative and creative. The new innovative knowledge will be screened using a research and technology development standard and applied in the current operations according to available budget. The company also supports an exchange of knowledge inside and outside the company and research collaboration between research and development unit and PTT Group.

GPSC has implemented the technology research and development units in order to seek investment opportunities in new or existing business resulting in commercial development, such as Lithium-Ion Battery Research Project during the past year. The company has collaborated with three alliances, namely, National Science and Technology Development Agency (NSTDA), National Metal and Material Technology Center (MTEC) and 24M Technologies, Inc. These alliances collaboratively research and develop lithium-ion batteries for high-efficient energy storage. This technology is developed in response to the market growth in the power production from renewable energy and the company strategy to produce

power from alternative energy sources. Furthermore, GPSC promotes knowledge of lithium-ion batteries and energy storage in Thailand to elevate competitive competencies for the sustainable performance of national companies in the long term.



Memorandum of Understanding (MOU) signing ceremony between National Science and Technology Development Agency (NS), 24M Technologies, Inc. and GPSC, on 18 November 2016.

“GPSC has made huge progress in its understanding of energy storage and plans for integrating energy storage into its long term future. We were impressed that the roadmap was completed, detailed and indicated both global opportunity and, more importantly, regional opportunities. We would like to suggest that GPSC should set up a good navigating project that is related to energy storage systems, strengthening with renewable energies for continually development excellence.”



Mr. Throop Wilder

CEO and Co-Founder
24M Technologies, Inc.

The company's innovation excellence in the past year was recognized by the PTT Group Innovation Award 2016 during PTT Group Excellence Days 2016 event for the project on reduction of fuel consumption by adopting External Fogging System

PTT Group Innovation Award 2016 - Fuel Consumption by adopting External Fogging System

GPSC supports and promotes efficiency development in its main business operations through the innovation development. The company has encouraged employees to think creatively by participating in projects or activities, such as the Project on Reduction of Fuel Consumption by adopting External Fogging System in the Sriracha Power Plant. The system lowers the air temperature before sending into the Air Inlet Filter of gas turbines which increases their efficiency as well as reduces the natural gas consumption by 236,520 million BTU per year, resulting in a reduction of carbon dioxide emission by 12,483 tons per year and accounting to a cost saving of THB 70.96 million per year. GPSC has still continued its ongoing research on the External Fogging System. By 2017, a linear-motion maintenance system will be

adopted for the External Fogging System, which is more convenient, safer and cheaper than the currently used scaffolding system. A wastewater reuse system will be installed in addition to the existing system; it is anticipated that 34,560 cubic meters of wastewater will be reused each year.



PTT Group Innovation Award 2016 Granting Ceremony
PTT Group Excellence Days 2016, on 9 November 2016

Reliability of Power and Steam Production and Distribution



TARGET
2016
100%

reliability on production and distribution system



Central Utility Plant 1
(CUP 1)



Central Utility Plant 2
(CUP 2)



Central Utility Plant 3
(CUP 3)



Sriracha Power Plant



PERFORMANCE
2016

99.99%

reliability on production and distribution system

Reliability and availability of electrical power, steam generation and distribution systems are the most important issues which directly affect the company financial performance and business competitiveness since the industrial sector depends on highly reliable energy. Providing reliable energy presents a challenge as disruptions of the power generation system can cause severe malfunction to customer production process. To ensure that the company can supply electricity and steam in response to increased customer demand, the company must efficiently manage the internal production processes and enhance the performance of innovative technologies. At the same time, the company must assure safety across the business operations in order to build trust from customers sustainably.

The company has managed power plant projects in order to create efficient production and reliable systems by setting up strategies for each step, starting from power plant construction, power plant operation management and initiation of new power plant.



Power Plant Construction

- Expert team and consultants
- Advanced equipments and technologies
- Selection of contractors through strict procurement process



Power Plant Operation Management

- Manage reliable production for customers
- Provide maintenance plan to reduce maintenance time
- Enhance efficiency through operational innovation



Initiation of New Power Plant

- Set up measures in selecting investment projects/ investors.
- Sensitivity analysis of changed environment
- Prepare risk prevention measures in advance

The company assures the reliability of electricity and steam production and distribution systems by setting up an internal management system to monitor its operations under normal and crisis conditions. The database system of operations in the production process provides data for the operators to evaluate and analyze to ensure all operational steps can be managed proactively, and operations are improved during the time of incidents or crises. The system will raise an alarm in case of an incidents immediately to maintain the safety of

personnel and equipment during operations, including the control of the situation to avoid abnormal operations and reduce potential impacts for stakeholders. The system can also be adapted to use through standard systems or programs that track records of normal and error operations and produced on a daily basis for responsible operational employee. The report results are presented to GPSC executives weekly.



Power Management Controller (PMC) controls the operation of power distribution system to create efficiency and prevent mistakes in the receiving-sending electricity current between customers and the company.



Total Productive Maintenance System controls equipments and machines in the power plants for highest efficiency by engaging all parties to mensure that all equipments and machines generate power at full capacity.



Operator Training Simulator (OTS) Program simulates the gas turbine (GTG) operations to train employees how to solve problems and control machines in the production and distribution systems according to different simultaing situation.

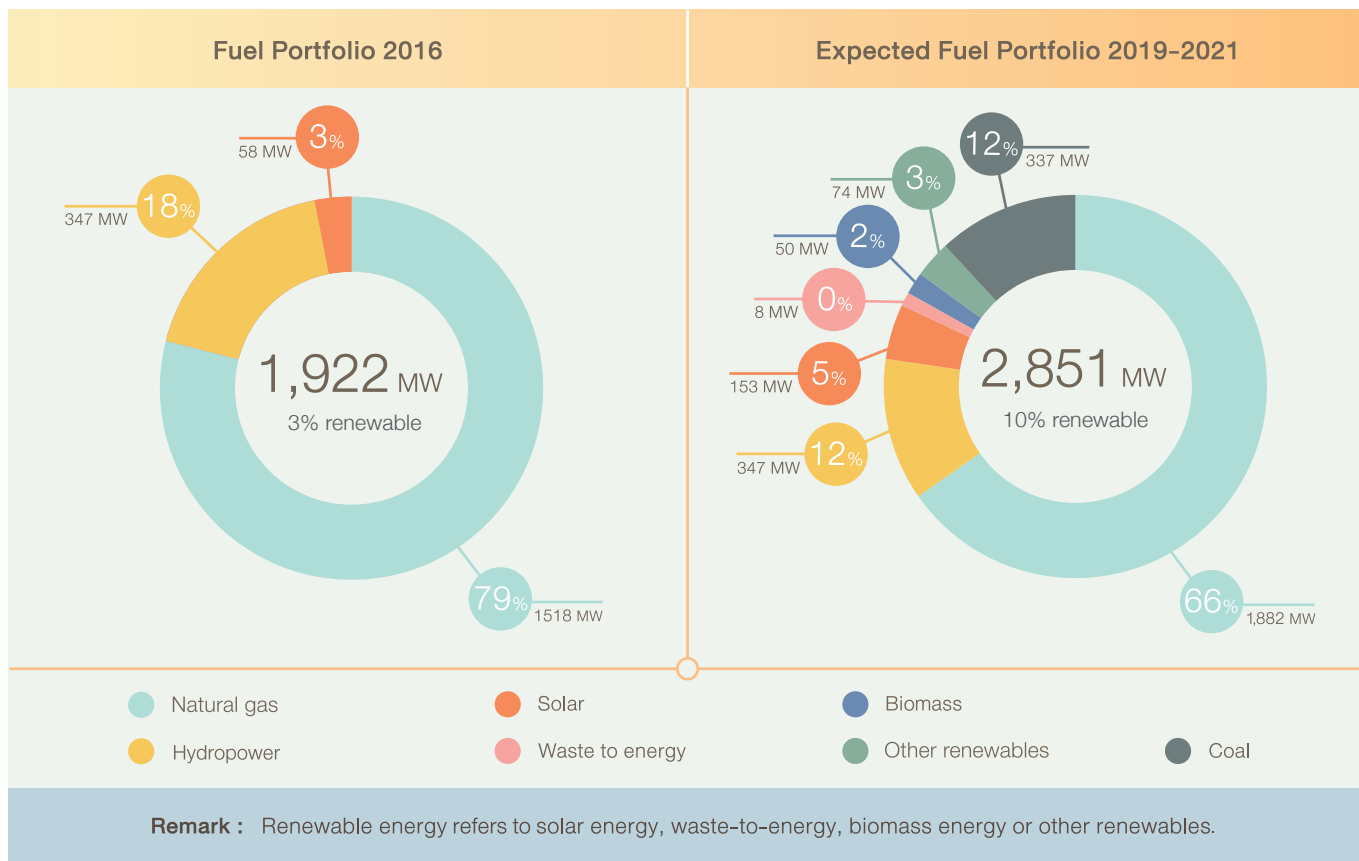


Quality Management System, such as ISO 9001, ISO14001, OHSAS/TIS 18001 and IMS.

GPSC considers the reliability in power production and distribution to customers and implements the framework of national energy integration plans by focusing on the reliability of national energy, economy, environment and customer needs to drive business growth with reliability and sustainability and support the business growth strategy.

The company plans to increase its production capacity and efficiency in response to customer needs by developing the Central Utility Plant 4 (CUP4). The CUP 4 is a cogeneration power plant, which can generate electricity, steam and demineralized water, located at the Asia Industrial Estate, Rayong Province. This cogeneration power plant with a capacity of 45 megawatts and expandable can also produce steam at 70 tons per hour which meet the increased demands for power due to customer business expansion in the future. The CUP 4 Project is anticipated to be completed in 2018.

The company foresees business opportunities from the establishment of the national energy policies and directions for power and utility business operation globally. With the intention of more diversified fuel categorization, the company has diversified fuel portion and increased the portion of renewable energy considering the appropriate energy cost per unit and the national economic and social development in the long term. High efficient technology or innovative technology is adopted in order to create reliability in production and reduce impacts on environment and communities.



Success Indicators	2016 Target	2016 Performance	2017 Target
System Reliability			
○ Reliability	100%	99.99%	100%
○ Availability	100%	99.99%	100%



PTT Group Operation Excellence 2016 Seminar - OpEx Thinking & Knowledge Sharing Session

GPSC presented Best Practice Sharing for two projects in the PTT Group Operational Excellence Seminar 3/2016 through sub-meeting on OpEx Thinking & Knowledge Sharing on 9 September 2016. This session showed the company commitment to continuously developing and improving its business operation and sharing the knowledge from the best operational practice to external agencies who can be benefited by applying the lessons learned to their work of responsibilities.



The Load Tap Changer (OLTC) Improvement Project has been implemented to change the original OLTC into the new VACUTAB at electrical arc. This can reduce gas and soot during the OLTC operation and increase reliability of KT2B transformer. The project prevents the incident of explosion like the case of KT1B transformer explosion and prolongs maintenance time.

Successful Outcomes : No fire occurred at KT2B transformer and after the project was implemented, it reduced life loss, accounting to the financial value of THB 134 million.



The Distributed Control System (DSC) Changing Project has been implemented for steam turbines and balance of plant systems in order to enhance reliability and integrity for the control systems to solve the emergency shutdown and DCS part obsolescence problem. Besides, the new DCS system is friendly with users as it is a windows base which is easier to use.

Successful Outcomes : It reduced penalty and damages from emergency shutdown that can be accounted to the financial value of THB 8 million per year.



Safe Operations



**TARGET
2016**

Zero incidents. Free from incidents that cause employees and contractors injuries and fatalities.



**PERFORMANCE
2016**

0



Lost Time Injuries Frequency Rate (LTIFR) or life loss at work



Incidents affecting production process

Total working hours of

4.7

million hours
employees and
contractors

“GPSC is committed to driving policies on quality, security, safety, occupational health and environment into outcomes of concrete practice, leading to goal achievement that can support everyone to work with safety, good health and good working environment. GPSC creates a sustainable QSHE culture, comprising of “we SAFE” or “Working safely, everyone is family, think before act and stop if unsafe”.

“In order to create awareness of a safety culture, we have to change everyone’s attitudes on safety, starting from the manager level. A manager has to be a good role model in working safely. All our buildings, workplaces and operational procedures must comply with safety standards to provide a safe working place for everyone. The important thing is that all agencies and people must share responsibilities to prevent accidents without thinking that responsibilities are duties or burdens. If they consider responsibilities as a burden, safety culture cannot be created.”



Opening speech given on
QSHE DAY 2016, 23 November 2016
Mr. Toemchai Bunnag
Chief Executive Officer
Global Power Synergy
Public Company Limited

GPSC maintains our safety culture “we SAFE” by creating safety awareness among employees and contractors operating during working hours and implementing activities outside working hours, covering both internal and external business areas. The company mainly manages safety in two parts: Process Safety and Personal Safety. The objectives of safe operations are to provide directions for operations towards safety excellence, in compliance with good governance and stakeholder acceptances and to create sustainability within the GPSC invested companies business operations.





Process Safety

Safety management and effective operational processes can prevent potential risks of severe incidents and can be used as a framework for operations, systems and process control throughout GPSC value chain. GPSC places a high importance on safety culture; the company has created and applied the safety culture in terms of fundamental principles, good practices and advanced technologies, ranging from engineering design, operation in production, maintenance

and hazardous object management.

The company manages safety in the operational processes through GPSC Operation Excellence Management System (GPSC OEMS) in compliance with laws and operational directions of PTT Group, alongside with safety standards: TIS/ OHSAS 18001 and Integrated Management System (IMS) certified by external reviewers accepted at international level.



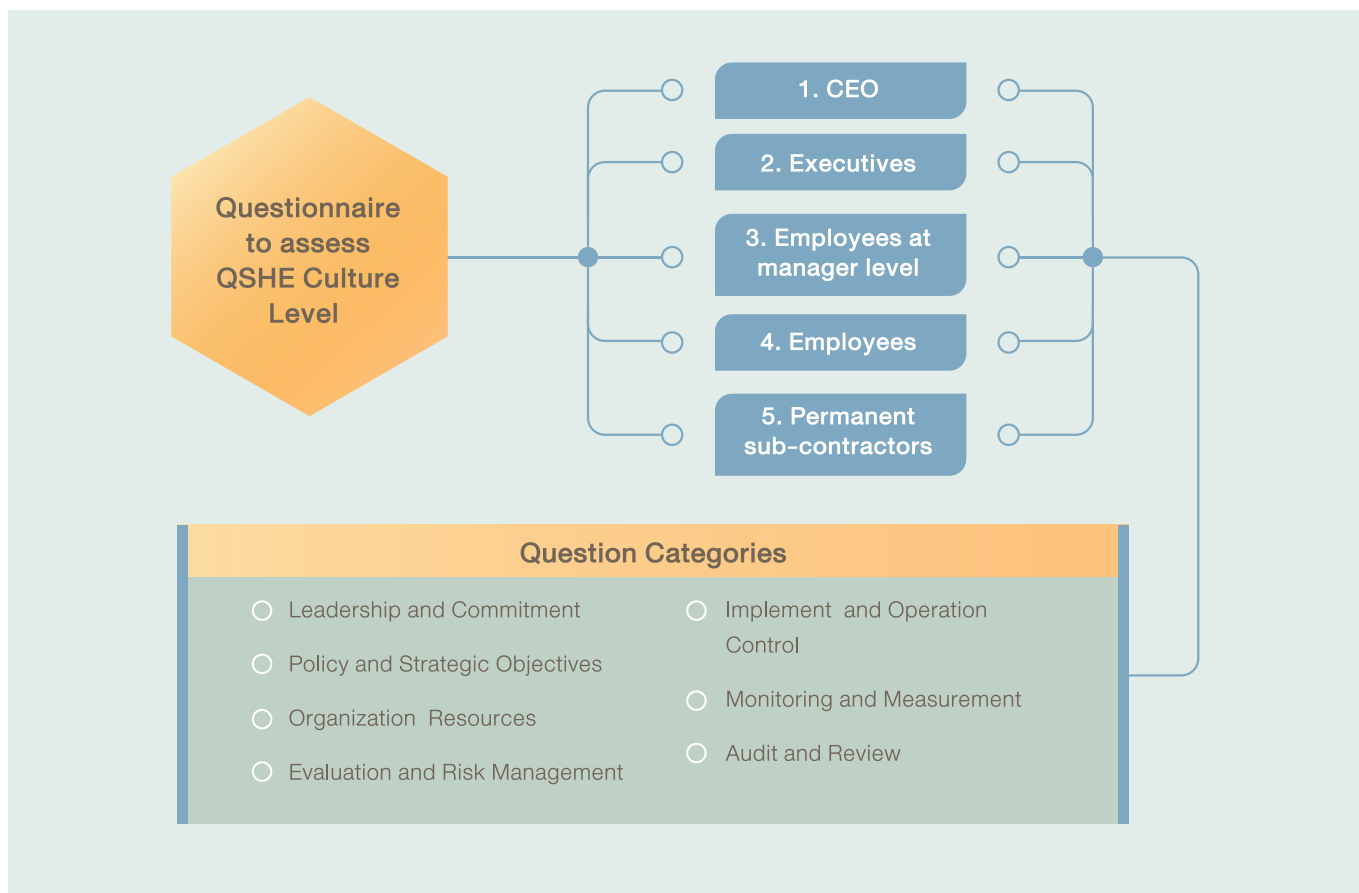


Personal Safety

Efficient business operations result from operations in an organization fully equipped with employees with safety knowledge and competencies to work safely. The most important thing of efficient business operations is the concerns on safety impacting life of employees and properties of the company. GPSC has determined that all GPSC employees must pass the fundamental safety training for different aspects, starting from the first day at work, such as personal safety in physical preparedness before work commencement, wearing of safety suit and the use of Personal Protective Equipment (PPE). Additional training for specific hazard protection are to be conducted according to operational activities as assigned in the Annual Training Plan. The plan contains training related to safety management systems in order to comply with the GPSC Quality, Security, Safety, Occupational Health and Environment (QSHE) Policy, including laws and regulations on safety and occupational health and environment at work,

together with building trust in communities around the business operational areas.

The importance of the security, safety, occupational health and environment culture in the company is considered as the main factor for sustainable corporate development. In order to attain zero injuries and incidents in the workplace, the company has prepared questionnaires for employees in five different working groups with seven question categories to assess the level of awareness of security, safety, occupational health and environment. The questionnaire complies with the PTT Group assessment method. The assessment results showed that total questionnaire interviewees were accounted to 72.3% of the set-up goal, indicating that GPSC is in the level which has enforcement system and strict care towards the culture of security, safety, occupational health and environment, as evidenced by the average score of 3.6 out of 5.



In addition to the safety excellence under the GPSC direct governance, the company considers safety throughout the supply chain focusing on suppliers and contractors by determining safety conditions in operational processes and in regards to personal safety as safety management and good practice guidelines outlined in GPSC Supplier Sustainable Code of Conduct. The GPSC Supplier Sustainable Code of Conduct includes guidelines for occupational health management, monitoring processes for safety operations of suppliers and contractors.

It is the company's pride to have safe operations which is reflected by the empirical performances taken from the annual safety statistics for the year of 2014 to 2016 for Medical Treatment Loss Time Incident Free. There was a zero Lost Time Injuries Frequency Rate (LTIFR) of 4.7 million working hours in total (combined number for employees and contractors).

Success Indicators



Total Recordable Injuries Rate (TRIR)*

Zero case per
200,000 working hours



Lost Time Injuries Frequency Rate (LTIFR)**

Zero case per
200,000 working hours

0

- ✓ 2014 Performance
- ✓ 2015 Performance
- ✓ 2016 Performance



Remark :

* Total Recordable Injuries Rate (TRIR) includes all fatalities, lost time injuries, cases restricted for work, medical treatment cases by medical professionals (doctors, nurses, etc.). It does not include any first aid injury.

** Lost Time Injuries Frequency Rate (LTIFR) refers to the amount of lost time injuries occurred in the workplace resulting employees and contractors' inability to work the next full work day.

Incident Report Program

Direction of GPSC safety management is considered the first priority in order to comply with the vision of "Zero incident towards a work operator". Safety issues can affect trust of stakeholders from all sectors across the company business operations. The company, therefore, has determined to improve data collection to ensure an efficient and accurate data collection process for further analysis to find solutions for incidents and preventing reoccurrence of incidents with effectiveness.

In 2016, the Incident Report Program has been developed to enhance competencies in safety management by collaborating with the Information Technology and

Communication Division. The new program is integrated in the company's intranet system (company's internal communication and knowledge sharing system) which all employees can access via the Single Point Communication System. The program features comprise of data collection, processing, incident, accident and near miss reporting, investigating, analyzing, situation and unsafe act reporting that is below safety standards. This Single Point Communication System will help to communicate and promote the corporate safety culture for employees from all sectors better. This program is anticipated to be completed and deployed in 2017.





Inclusive Citizenship



Implementation of the Creating Shared Value principle with stakeholders, community and society throughout all areas of business operations.





Customer Satisfaction



**TARGET
2016**

Customer Satisfaction
Survey Result

85%



**PERFORMANCE
2016**

Customer Satisfaction
Survey Result

87.4%



Mr. Nilesh Mittal

Finance Controller - Overseas Chemical Business
Aditya Birla Group

“2016 was a great year for GPSC. The supply of power was uninterrupted and able to meet our expectations. GPSC aims to supply uninterrupted quality power on continuous basis in the future.”



**Customer Satisfaction Survey
was implemented to 100% of
customers.**

Customer Relationship Management (CRM) is a key component across all company business operations in order to achieve the highest customer satisfaction. Based on efficient operations which deliver products and services to meet the customer needs, GPSC has determined goals and directions for business operations based on creating value and growing together with customers. The company has developed the customer relationship management by applying an efficient data processing and analyzing system. In 2016, GPSC has installed several systems simultaneously in order to create continuity and compliance with operations in customer relationship management support such as Salesforce System and Telemetry System.

o The Salesforce System consists of programs for sales and customer relationship management in the Cloud Computing type, covering data processing and data storage. In addition, the company has included the whistle-blowing programs to listen to customer suggestions. Customers can access the system via GPSC website directly.

o The Telemetry System measures the quantity of each customer's electrical power purchase. Customers can directly communicate with the company via an online system that results in direct improvement plans for generated electrical power delivery and management for the highest effectiveness. This system is currently pilot-tested within the company internal business units. Training program on how to use the system is implemented, and awards are given to operational units that frequently use the system in order to enhance competencies of operating employees and promote efficiency in the company operations.

GPSC anticipates that the two systems above will be fully deployed by 2017.

The company has increased communication channels with customers and stakeholders in accordance with the behavioral changes in the use of widespread social media such as Facebook and LinkedIn. The company recognizes that customers want to stay informed of company operation news in a convenient and efficient way.

The company has been implementing activities on an ongoing basis to maintain good with customers. The results of implemented activities are used to develop and improve operations to meet the needs of each customer group. Operational performance and customer relationship management are monitored on an ongoing basis to learn more about their target audiences and how to best cater to their needs.

The company has engaged external agencies to prepare customer satisfaction surveys for customers from 20 companies in total. There were 60 responds to the survey, across different divisions including commerce and accountancy, planning and process, operations and engineering and maintenance. The survey is conducted twice a year. In addition to the online survey and Google Forms, the company included in 2016 in-depth interviews with 11 companies covering five main categories.



Survey results reflect the competency level in delivering products and services which meet the customer expectations. The company is able to proactively manage the relationship and satisfaction level to meet the customer needs. The satisfaction survey results and customer feedbacks are considered in the GPSC Board of Directors Meeting, including key issues which require action plans. The results will be included in the planning, development and improvement of

product quality and leveraging of service standards in line with international excellence. According to the results of the 2016 customer satisfaction survey, the score is 87.40% which has achieved the set goal of 85%. The continuous increase of customer satisfaction is evidenced by the fact that operations in customer relationship management meet the customer expectations.



Supply Chain Management



Mr. Nawayut Inchai

Executive Director Sales and
Marketing Department
PKK SIAM Co., Ltd.

“GPSC has a supplier selection system, ranging from supplier assessment through performance improvement. Suppliers are assessed and categorized into different levels based on their performances. GPSC has changed its procurement processes to be more collaborative by building relationship with suppliers through diverse activities. Unlike in the past, there would have been other 3-4 companies to compare and we would focus only on the price which was not sustainable. We can now focus more on developing our technology and innovation, not only on bidding.”

In order to stay competitive and respond to customer needs promptly and efficiently, key systems that support the effective management within the corporate are necessary. The Supply Chain Management System, for instance, is a management system which focuses on relationship continuity. Collaboration within the supply chain based on good governance, environmental and social responsibilities sustainably strengthens GPSC business.

GPSC is committed to managing its supply chain and collaboratively building the business competencies throughout

the entire supply chain sustainably. The company has in place the policy for managing its supply chain with transparency, fairness and in compliance with international standards. The material procurement policy focuses on the integration of effective operations in terms of material procurement and warehouse services, insurance and continual operations, considering fair practice toward suppliers and social and environmental engagement and responsibilities. The policy can be found at: <http://www.gpscgroup.com/en/sustainability/economic>.

GPSC Sustainable Supplier Management consists of three stage processes:



Pre-Qualification

The first process is a selection of suppliers that can deliver materials and services in response to the company needs and comply with the company material procurement policy. In this process, the company has conducted the performance assessment annually according to Measuring Supplier Performance principle and sustainability criteria. GPSC has assessed the performance of suppliers who have business relationship with the company in 2016. The supplier assessment results are used for product and service quality improvement and business development amongst business partners in order to create shared value and build sustainable growth for GPSC and its suppliers.



Management of Contractor

This process is implemented in order to control and manage suppliers efficiently in accordance with the company principles. The company has provided a guidance on fairness and equal treatment of all suppliers and on social and environmental responsibilities covering all procurement activities and services. The Management of Contractor consists of three clearly stages:

- Team set-up and Mobilization
- Contract Execution
- Closeout and Feedback



Supplier Relationship Management

This process focuses on the relationship development between suppliers to ensure efficient work processes according to procurement strategies and regulations. The policy focuses on competitive abilities of business, cost control, environmental and social risk management and customer satisfaction. The policy deployment covers all procurement activities, such as material purchasing and external hiring. The Supplier Relationship Management consists of the following processes:

- Categorize the relationship with suppliers comparing to the Category Management Plan
- Classify the relationship with suppliers using the Spending Analysis

Supplier relationship can be grouped into three levels of relationship: Strategic Suppliers, Key Suppliers and Managed Suppliers. The company identified plans for supplier management for different supplier relationship levels.

GPSC has developed a GPSC Supplier Sustainable Code of Conduct by preparing a manual of sustainability operations for suppliers to follow. The manual was developed complying with the company vision of sustainable growth in alignment with an active governance mechanism for community, society, environment throughout the whole supply chain. The framework has four main aspects:



- Business ethics, covering four categories: business loyalty, confidentiality, social responsibilities and hidden interests
- Human Rights, covering eight categories: labor freedom, child labor, remunerations and benefits, working hours, equal treatment, termination of employment and right to join a trade union
- Occupational health and safety, covering three categories: safety and environment at workplace, emergency preparedness, injuries and sickness at work
- Environmental management, covering five categories: environmental management throughout the life cycle of a product/ service, waste and hazardous waste, water pollution, air pollution, greenhouse gas (GHG), soil and underground water contamination

GPSC expects that all suppliers and contractors shall strictly operate their business in compliance with Environmental Social and Governance (ESG) principles identified in the GPSC Supplier Sustainable Code of Conduct which indicated in the Contract Clause. The company is improving and amending the Contract Clause which is expected to be completed in 2017 for all suppliers and contractors to operate their business in alignment with it.

2016 Seminar to Promote Relationship with Suppliers



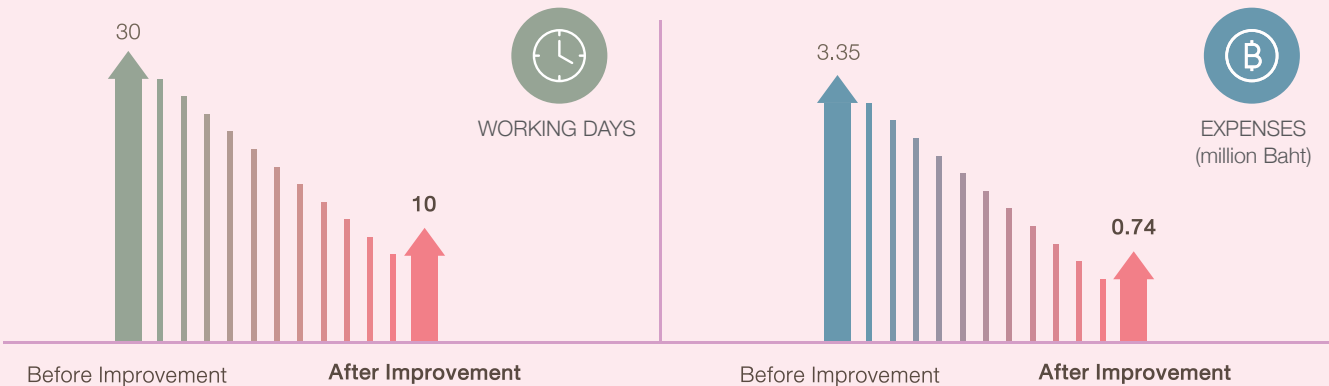
GPSC arranges seminars to promote relationship with suppliers on an annual basis, aiming to improve collaboration and sustainable business performances for GPSC and suppliers. On 2 August 2016, the seminar was conducted at the multi-purpose building of Central Utility Plant 2 (CUP2) with total attendance of 22 from GPSC and suppliers. The seminar included activities to promote relationship between the employees and

suppliers, exchange knowledge and strengthen good relationship with suppliers. In 2016, the seminar focused on Creating Shared Value, green procurement and GPSC Supplier Sustainable Code of Conduct as well as exchanging feedbacks. The supplier feedbacks from the seminar have been recorded and prioritized to use as inputs for operation improvement accordingly.

Time Reduction of Purchase Order Approval and Product Receiving System

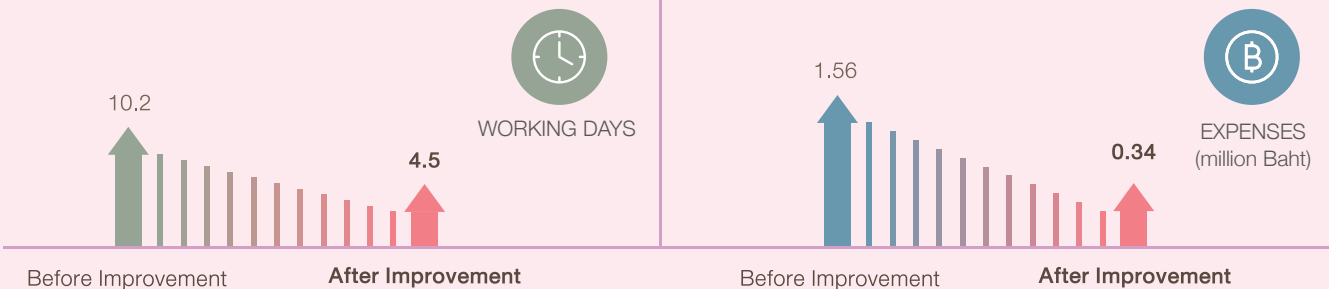
One of the factors in maintaining relationship between the company and suppliers is the development of an efficient procurement system within a timeframe of effective operational planning. In 2016, GPSC reduced half of the time spent for Purchase Order Approval which saved THB 2.61 million in six months (during March-August).

Purchase Order Approval Time Reduction



This concept can also be applied to the Material Receive System. The operational time is reduced by 30% and the cost saving is THB 1.22 million for seven months (during February-August).

Material Received System Process



Based on this additional development of Supply Chain Management, the company was able to save

THB
3.83 million



Human Capital Development and Talent Attraction



**TARGET
2016**

30

hours

Average training hours per each employee



**PERFORMANCE
2016**

**Meet the target of average
training hours per each
employee.**



Ms. Sasitorn Stithit

Vice President, Human Resources
and Organization Effectiveness
Global Power Synergy Public Company Limited

"It is a challenge for us to prepare and develop employee competencies in response to the dynamic changes in the global level and new business opportunities, such as SMART GRID/ Energy Storage. The direction for employee engagement over the past year focused on capability building and leadership development for employees through organizational structure and remuneration strategy improvement based on human capital development strategy of 2017.

Human Resource Management Policy

The Human Resource Management Policy prioritizes the human resource management and the company development to become the corporate of learning through promoting culture and right working environment for employees to reach their full potential and competencies. Every employee can equally provide feedbacks and recommendations through diverse channels; feedbacks and recommendations together with corporate strategy can be used to identify an effective human capital development strategy. GPSC realizes that all employees are considered as one of the important and valuable factors which leads to its success as a sustainable company.

The company has defined its principle of human resource management in compliance with laws and regulations on international human rights principles toward equal and

non-discriminatory treatment for all. All employees must take responsibilities in promoting the professional working behavior and continual employee competency development. The company has additionally developed the Information Technology (IT) System for human resource management and allowed the program to connect with corporate database, in order to enhance ability to analyze data efficiently reduce working process and paper work and access data more conveniently and transparently.

The development and enhancement of employee values are considered as a way to maintain employees, build corporate success and grow sustainably together (Additional Human Resource Management Policy can be found at <http://www.gpscgroup.com/en/sustainability/social>).

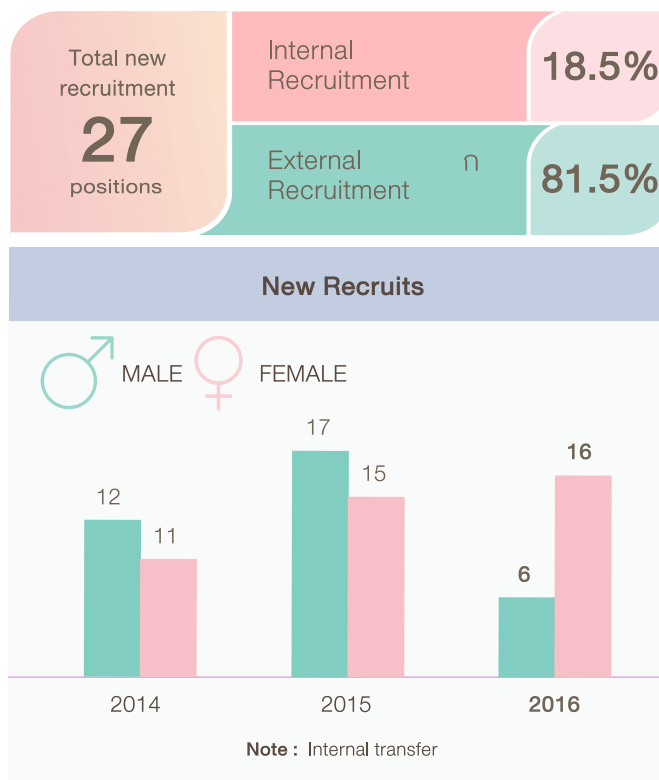
Human Resource Recruitment and Development

Competent employees are the key to business operations; therefore, the company creates the right environment for employees' knowledge development. The company treats its employees with fairness according to human resource management framework and policy toward ethical treatment for employees as defined in the GPSC Operational Excellence Management System Manual.

Employee Recruitment

To response the business expansion and growth, the company recruits qualified employees according to the following criteria: educational level, knowledge, skills, competencies and relevant working experience. The company has implemented the Integrated Management System (IMS) for a transparent and non-discriminatory recruitment in order to find the right people with high qualification and potential who are willing to drive the company business toward sustainability together.

The employee recruitment starts within internal business units by submitting their human resource recruitment plan to the Human Resources and Organization Effectiveness Department. The company considers both internal and external recruitment in order to find a competent employee who fits in the position properly. The company will then announce for external applicants to fill vacancies. In 2016, GPSC had 31 vacant positions in total. 27 vacant positions could be filled in, accounting to 87.10%. Five current employees were transferred to the vacant positions; accounting to 16.13%, and 22 employees were recruited from external source accounting to 70.97%. The company can recruit employees within two months at average.



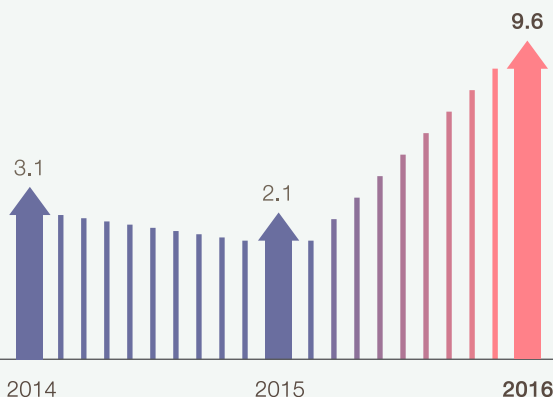
Training

Employee development through trainings in different aspects is an important matter in strengthening human resources to drive the company toward sustainable growth and development. In 2016, the company allocated budget, THB 9,698,723 million in total for management and technical trainings. Each employee had training hours of 37.10 hours at average, accounting to financial investment of THB 3,243.72 per one employee at average. This has considered a success when compared to the goal of 30 training hours at average.

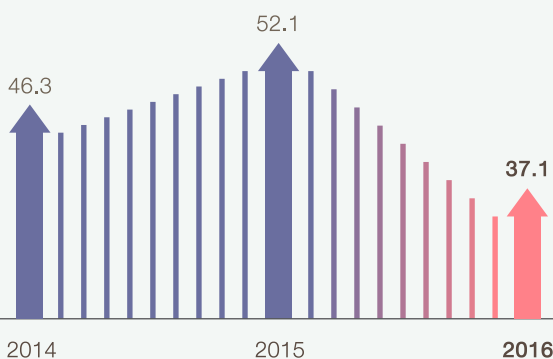
To select the right training programs for further self-improvement, Human Resources and Organization Effectiveness Department annually conducts surveys with each business unit on the employee requirements for specific training courses. The results can be used for planning the training courses efficiently. Therefore, employees can apply their new skills and knowledge to improve their operations on daily basis.



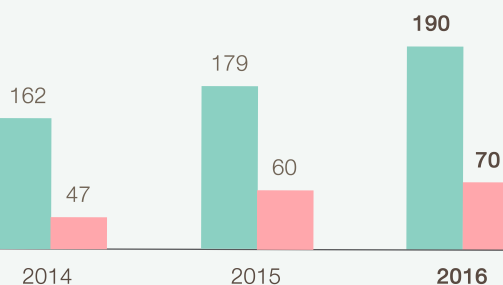
Training Budget (million Baht)



Average Training Hours per Employee



Number of Trained Employees



Employee Retention

GPSC retains employees and attracts qualified employees to work with the company through competitive compensation and benefits including salary, bonus and welfare such as provident fund, medical benefits for employees and their family members, life insurance, housing subsidy for operating outside the area, educational funding for employees and employees' children, and other financial supports for funeral and telephone bills.

To communicate with employees and create unity in the organization, the company conducts an executives meeting with employees every two month in order to provide information on corporate policies, performance outcomes, new knowledge, experiences and opinions.

Career Growth

Career growth for each employee is considered from their annual performances in accordance with employee behaviors and Key Performance Indicator (KPI). The evaluation is conducted collaboratively with employees and managers compared to success indicators for employees as an individual in order to identify the improvement directions of their knowledge and competencies according to their career path. The evaluation results are considered for promotion complying with performance at the corporate level.

Apart from the regular review and evaluation of employee performance for promotion, in 2016, the company initiated the GPSC Leadership Development Program by selecting employees with potentials to become company leaders and be ready to commit with responsibilities in a higher position or transfer for a job position that requires more expertise. The selected employees must pass the personal development planning process according to the specific career path and leadership evaluation. This project has clearly indicated that the company cares and concerns about opportunities for competent employees to actively grow in this business.

Labor and Workforce Practices

GPSC respects labor rights and strictly follows the relevant labor laws by communicating with employees in the company about rights and code of conduct via Corporate Governance & Code of Conduct Manual. The company supports employees to be aware of their rights and report grievances through the Welfare Committee which serves two-year terms. In 2016, GPSC arranged an election to vote for the new Welfare Committee. The candidates for this election were nominated from three GPSC operating areas: Rayong Province, Sriracha Area and Bangkok. The employees voted for the candidates amongst employees to become one of the members in the Welfare Committee. Thirteen employees were finally chosen to be a member of the Welfare Committee. This committee as a representative of the company holds a meeting every two month in order to discuss about employee welfare, benefits, assistance for employees in case of accidents.

Employee Engagement

The company conducts surveys on the employee engagement every year in collaboration with external parties in order to gain accurate and reliable data and information. According to the results from the 2016 Employee Engagement Survey, the score toward the company was 50% lower than the company target. The company found that the urgent issues were related to work structure and process, trusting in leaders, effective communication, employee caring and human resource development. GPSC used the results to develop the human resource management plans to make employees feel more engaged with the company and improve the performances to be the leader in power production and utility industry, driving the company towards sustainable excellence. GPSC has acknowledged suggestions and expectations obtained from the Employee Engagement Survey and will use them to improve the employee development project to be more effective and meet employee expectations.

GPSC Leadership Development Program



GPSC assists potential employees to become leaders who are ready to take responsibilities in challenging roles according to strategic adaptation in business operations. Internal recruitment, therefore, is considered as an effective solution to seek for employees who are qualified for some job positions and are ready to become successors of those vacant positions. The company has initiated the Leadership Development Project focusing on the selection of potential employees who have to become successors of the vacant positions at the executive level, starting with preparing employees at the manager level to take the position of sales manager (VP Pool).



GPSC LEADERSHIP DEVELOPMENT PROGRAM

Recruitment & Selection	Assessment	Development Direction & Mentor	Individual Development Plan	Development & Monitoring	Readiness Evaluation	Promotion & Rotation
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Selected employees are evaluated by an external party in order to define the opportunities for skill improvement and further development and monitor the development performance. The results are considered for identifying the directions for competency development and Individual Development Plan (IDP). The company will consider these qualified executives from this pool and promote them to the vacant positions.

The GPSC Leadership Development Program has been initiated in 2016; eight employees were selected. They are currently in the competency development process

according to the individual development plan. In 2017, the company is planning to select more participants from the potential group for the GPSC Leadership Development Program.

Expected benefits from this program are the employee commitments to achieve their highest competencies, the pride in their career growth and the confidence in working for the new position. GPSC can ensure that the company has sufficient numbers of executives that operate works with competencies and readiness and being able to support the business growth in the future.

“Knowledge Management (KM) for Executive” Workshop

The objectives of “Knowledge Management (KM) for Executive” Workshop were to create the understanding and new paradigm for regional managers and sales managers in terms of knowledge management and exchange mechanism, including the efficient application of KM in the corporate and internal business unit development. The workshop was held from 7-8 June 2016 with thirty participants. The outcomes were determination of operation framework and knowledge management structure for operations in the future. GPSC expects that the efficiency and effectiveness of operations will be improved by the knowledge exchange system.



Engagement/ Community Relations/ Creating Shared Value



Mr. Somkuan Santad

President of Map Kha-Map Nai Community
Rayong Province

"I place high value on the fact that Global Power Synergy Public Company Limited has concerns for communities and that GPSC executives and employees visited the Map Kha-Map Nai Community to arrange a community talk entitled "Kiang Bha Kiang Lai" (shoulder to shoulder) for us."



**TARGET
2016**

Community Satisfaction
Survey Result

80%



**PERFORMANCE
2016**

Community Satisfaction
Survey Result

90.2%

Sustainable business operations today are not only evaluated based on financial profits and business growth rate but also on public responsibilities and returning benefits to the public, including community, society and environment, through the creation of social benefits and community engagement in the operating areas. GPSC operations follow the Sustainable Management Policy and Social and Environmental Responsibility Policy which focus on communication and engagement with all internal and external stakeholder groups, especially stakeholders that are in close proximity to the company operational areas. GPSC regularly engages with communities by organizing CSR activities following the CSR Strategic Framework that consists of four aspects including education, quality of life, engagement with the public sector and environment. The financial budget for CSR activity support in 2016 was over THB 231 million.

 Total amount of financial support for CSR activities in 2016 THB 231 million	Details identified by types of CSR activities	Percentage
	Charitable Donation	1.01
	Community Investment	1.57
	Commercial Initiative	97.42

GPSC CSR activities aim to work in comprehensive areas covering diverse range of stakeholder groups, meeting their needs, creating good relationships and supporting all communities in the operational areas. Projects and activities implemented by the company including Educational Scholarship Project for Vocational Students in Rayong Province, Map Ta Phut Hospital Development Project, Kiang Bha Kiang Lai (Shoulder to Shoulder) Project and Rayong One Stop Service Waste Management Project. For details of GPSC CSR activities, please go to <http://www.gpscgroup.com/en/news/pr/csr>.



To achieve goals and directions of sustainable operations in compliance with the Corporate Social and Environmental Responsibility Policy (Please see details of the Corporate Social and Environmental Responsibility Policy on <http://www.gpscgroup.com/en/sustainability/gpsc>). GPSC has been monitoring each project by using indicators of success for CSR activities in 2016. Indicators of success comprise

1,987 CSR activity engagement hours of GPSC employees or seven hours per individual employee which is lower than the 2016 goal of ten hours per person. The annual survey of community satisfaction conducted by an external agency in cooperation with PTT shows that the satisfaction level toward CSR activities is 90.2 %. This result is higher than the 2016 expected goal for 80 %.

Indicator of Success	2016 Target	2016 Performance	2017 Target
Survey of community satisfaction toward CSR activities	Satisfaction level at 80%	90.2%	Satisfaction level at 80%

The company shares knowledge, involving results from the performance of good practice and operational excellence from CSR activities with PTT Group. Sharing knowledge between the PTT Group and relevant departments is on a monthly basis.

Under the sustainable development framework, GPSC strives to drive and initiate projects and activities which can create shared value for all relevant sectors by creating income, improving quality of life and reducing potential impacts on community and environment in the company operational areas. The company also strives to respond with both national and provincial policies.

Educational Scholarship Project for Vocational Students in Rayong Province

GPSC recognizes the importance of human capital development by investing into education and knowledge dissemination to support personnel development. In line with government policies for skilled labor, GPSC supported into vocational training by providing six educational scholarships to students of vocational certificate level for Rayong Technical College in 2016. Fields of study included electrical power, auto-mechanics and electronics. The scholarships were given to students for the length of the program. GPSC aims to provide assistance for students to become qualified personnel with knowledge and competencies to enter the workforce and join the company in the business operational areas. GPSC opens opportunities of scholarship recipients to improve their quality of life and to be successful in the national development; they can also apply to work with GPSC. The company is expecting to increase the number of scholarships in 2017 by expanding the scholarship program to other fields of study and educational institutes.

**Mr. Monthon
Chuen-Ngern**

Vocational Certificate Level 1
Auto-Mechanics Field
Rayong Technical College



"I am very glad to have had the opportunity from Global Power Synergy Public Company Limited. I do not know how to return anything to GPSC but to do my best to build on the opportunity I have received. I will use the scholarship for education and to support my parents. I would like to say thank you to the company for granting me the scholarship and opportunity to study."

**Mr. Chayen
Wattanatanond**

Vocational Certificate Level 1
Electrical Power Field
Rayong Technical College



"I would like to say thank you to Global Power Synergy Public Company Limited for selecting me as a recipient of the 2016 scholarship program. The financial support that I have received will be used for my ongoing education. This scholarship encourages me to study and work harder. I will spend my time smartly to get good grades every semester and be a good citizen of the society. I will pursue my dream to become an electrical engineer. This scholarship opportunity has resulted in creating a path for my future."

Solar Power Plant Project: Part of Ground Installation for Chanthaburi's Shrimp Farmer Cooperative

Combined Heat and Power Producing Company Limited (CHPP), under the shareholding of GPSC and its invested companies, has become a supporter of the Solar Power Plant Project as part of ground installation for the selected agricultural cooperatives in order to produce and distribute power according to the proclamation of Energy Regulatory Commission (ERC). The project objective is to promote increased power production from solar energy, complying with the government policies. The government has transferred rights of project ownership to agricultural cooperatives. The project supporters will share income gained from the power distribution to cooperatives who will allocate the income to their members, accordingly.

The total financial investment into the Solar Power Plant Project is THB 225 million according to the policy for the support of Solar Power Plant Project fallen under the Type of Ground Installation for government agencies

and agricultural cooperatives. The Combined Heat and Power Producing Company Limited (CHPP) has jointly invested with Chanthaburi's Shrimp Farmer Cooperative to construct and operate the Solar Power Plant and to become a distributor, selling solar power to Provincial Electricity Authority (PEA) in Thailand. The Solar Power Plant has a capacity of five megawatts, covering an area of 75 Rais at the Chanthaburi's Shrimp Farmer Cooperative Area, Na Yai Aam Sub-district, Na Yai Aam District, Chanthaburi Province. The Solar Power Plant begins power distribution into the PEA System from 30 December 2016 onwards. The Chanthaburi's Shrimp Farmer Cooperative earns income from the Project's rental fees from the power distribution into the system according to the 25-year-contract. The contract provides us an opportunity to become long term sole provider of renewable energy to the government sector and helps stabilize the energy security for the country.





Environmental Friendly Focus



Green processes and technologies that care for the environment throughout the entire operations to ensure the utmost efficiency.



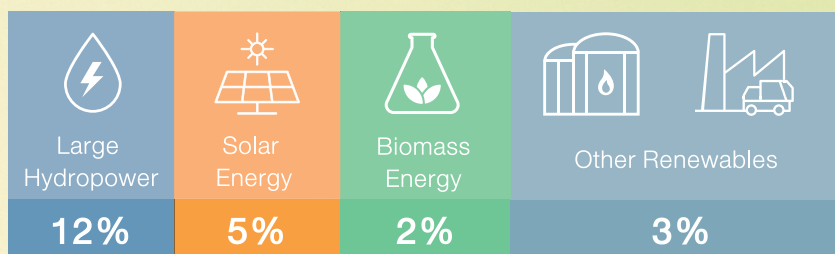


Climate Change Risk and Adaptation



TARGET
2019-2021

GPSC plans to expand the power generation from renewable energy (Including large hydropower) by 22% according to the business strategy plan.



TARGET
2016

Intensity of greenhouse gas (GHG) emissions must not exceed

0.45

tons carbon dioxide equivalent per megawatt hour



RESULT
2016

Intensity of greenhouse gas (GHG) emissions was

0.33

tons carbon dioxide equivalent per megawatt hour



Mr. Surong Bulakul

Chairman
Global Power Synergy
Public Company Limited

"GPSC is looking for ways to reduce the risks from climate change impacts in business operations and to seek for opportunities from climate change. GPSC also applies adaptation measures to find a clear balance of the energy sources between conventional and renewable energy sources in order to mitigate climate change impacts by reducing GHG emissions."



Mr. Somchai Wongwattanasan

Executive Vice
President-Strategy
Thai Oil Public Company
Limited

"Setting goals to reduce GHG emissions in Thailand following the UN Climate Change Conference (COP 21) in 2015 is considered a good opportunity for the company to meet the country goals by investing more into renewable energies in addition to major energy source from natural gas".

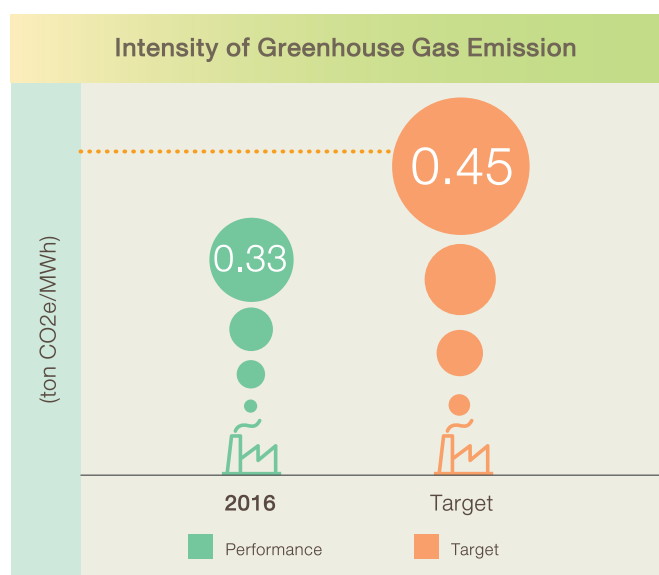
GPSC is aware of potential risks from climate change impacts related to temperature rise, as consequences of the increasing in severity and frequency of natural disasters such as droughts and floods. These climate change impacts are caused by the dramatic increase of global GHG emissions. Besides these physical risks from climate change impacts, the company has several concerns regarding regulatory risks which are enforced in term of GHG emission limitation at both national and global levels. These risks may reflect the overall business operation and performance of GPSC. As a part of the global community, the company commits to support initiatives to fight against and reduce the global warming phenomenon in both internal and external parties and also adhere to the best practices of the social and environmental responsibilities outlined in the company Climate Change Policy. Details can be found at <http://www.gpscgroup.com/en/sustainability/environmental>.

The company invests into projects and activities to prevent and mitigate climate change impacts and also implement adaptation measures to prepare itself for new business opportunities from climate change impacts. The company focuses on the sustainable use of resources in line with the eco-efficiency principle by improving the efficiency of the company power and steam generation process to achieve reduction of GHG emissions and support a lowcarbon society. Moreover, the company always seeks further opportunities from the research and development projects and activities associated power and steam generation applying environmental friendly and safe renewable energy. In addition, the company foresees the importance of awareness creation and engagement to achieve GHG emission reduction by engaging with stakeholders inside and outside the company.

Although the company generates power by using natural gas as a main energy source. GHG emission volume is lower when compared to other power generation operators that use crude oil and coal as fuels to generate power. The company continues to drive and promote operations and activities that help reduce and offset GHG emissions with the common understanding among stakeholders to move forward to a low carbon society

In 2016, the company has established the Division of Sustainability and Climate Change Policy under the Department of Corporate Sustainability Management to supervise GPSC operations to comply with the Climate Change Policy and strategy. This policy also includes the climate change assessment related to risks and business opportunities as well as internal GHG mitigation and management. Efficiency in operations on energy has been improved and enhanced since the establishment of the division.

The company has improved operational efficiency by focusing on the improvement of machinery to achieve highest efficiency for energy usage per generation unit, monitoring of machine operational performance according to limited time to control the complete fuel combustion and effective reduction of GHG emissions, especially, the collection of data to measure carbon footprint of all GHG emission activities, including direct GHG emission (Scope 1) and indirect GHG emission (Scope 2). Measuring the company carbon footprint provides the basis to establish more challenging goals and measures for GHG emission reduction, including the provision of carbon off-set projects. In 2016, the company GHG emission intensity was 0.33 tons carbon dioxide equivalent per megawatt hour (ton CO₂e/MWh) which is lower than the set target of 0.45 tons carbon dioxide equivalent per megawatt hour (ton CO₂e/MWh).





At present, the company has established the Energy Conservation Committee which is responsible for considering the plan for energy consumption to accomplish the utmost efficiency in order to comply with ISO 50001. In addition, the company has implemented the energy conservation projects by using resources for the utmost efficiency and effectiveness through the selection of advanced technologies, the application of highly efficient machines and equipment in the production processes and all supporting activities. In 2016, the company reduced GHG emissions due to the energy conservation projects in the volume of 268 tons carbon dioxide equivalent.

In 2016, the company has responded to the climate program of the CDP for the first time. The CDP (<https://www.cdp.net/en>) is the global disclosure system for companies, cities, states and regions to assess their environmental impacts and climate change management on an annual basis for investors to access environmental information for use in financial decisions. It promotes the disclosure of information on climate change management worldwide. In addition to CDP, GPSC has been involving with the Thailand Voluntary Emission Reduction Program (T-VER) as well.

Thermal Energy and Electrical Power from Cogeneration System Project

The company has started a prototype project for T-VER by developing the Thermal Energy and Electrical Power from Cogeneration System Project in the Central Utility Plant 2 (CUP 2) until the CUP 2 is registered and certified as a utility plant that can reduce GHG in the volume of 40,013 tons carbon dioxide equivalent, with the support of Thailand Greenhouse Gas Management Organization (TGO) in 2016. Details can be found at <http://ghgreduction.tgo.or.th/t-ver/>



Low Emission Support Scheme (LESS) Project

The company was awarded with a certificate from TGO under the Low Emission Support Scheme (LESS) <http://ghgreduction.tgo.or.th/less/> due to the implementation of projects and activities related to the reduction of GHG emissions at four power plants including CUP 1, CUP 2, CUP 3 in Rayong Province and Sriracha Power Plant, Chonburi Province. Activities that the company has been engaged with include the change of lighting electrical equipment for efficiency improvement, the waste segregation for recycle, the maintenance of air compressing system parts for energy saving, the reduction of electrical power consumption from cooling blow down system and heat insulation at the steam pipelines. These activities can be regarded as a prototype to promote and support every related function in terms of awareness and engagement for GHG reduction to further achieve a low carbon society. It is expected that GHG generated by these activities can be reduced in the volume of 268 ton CO₂e.



Operational Eco-Efficiency

Outstanding Environmental Performance in 2016

0

Zero waste to landfill and increase of beneficial use from waste

Reduce the amount of water used by

4.59 m³



Mr. Thiwa Chokekasem

Secretary of Map Ta Phut
Community
Rayong Province

“The sustainable environmental development of an industry starts with a plant inspection, plant improvement to achieve efficient operations, air emission control and all the way to the establishment of environmental protection activities to protect the environment and preserve the environment of communities in Rayong Province.”



Mr. Toemchai Bunnag

Chief Executive Officer
Global Power Synergy Public
Company Limited

“GPSC operations focus on eco-friendliness and reduction of environmental impacts from wastewater, air pollution and waste. In the selection of contractors and suppliers, the company considers environmental performance as well.”



Environmental Management

GPSC realizes that quality, security, safety, occupational health and environment are the key components of sustainable business operations. The company manages its environmental performance in relation to the Quality, Security, Safety, Health and Environment (QSHE) Policy at all times. This QSHE Policy is a framework used for the company operations in compliance with ISO 9001, ISO 14001, OHSAS 18001, TIS 18001, IMS and International Standard and Sustainability System controlled through GPSC Operation Excellence Management System (GPSC OEMS). The QSHE Policy covers also safety culture and environmental stewardship to raise awareness and strict management of potential risks that can arise from operations. The company strives to improve its operational excellence to earn stakeholder acceptance and achieve sustainable business operations for the power and utilities sector.

In addition to complying with the QSHE Policy Framework, GPSC has also implemented mitigation measures for prevention and reduction of environmental impacts as identified by the Environmental Impact Assessment Report (EIA Report). The EIA Report covers quality monitoring such as the

monitoring of air quality, water quality and occupational health and safety of employees. The report of EIA performance and Environmental Monitoring and Audit (EM&A) can be downloaded from <http://www.gpscgroup.com/en/about/eia-monitoring>.

Since 2016, the company has participated in the Eco Factory Project (EF Project) which is currently undergoing the certification process by the Industrial Environment Institute (IEI) and the Federation of Thai Industries (FTI). The participation shows GPSC's commitment for environmental management by focusing on production process development and improvement and environmental management based on eco friendliness and eco-efficiency. The focus of communication internally and externally on system details has led to better eco-efficiency, including water management, air quality management and waste management.

At present, the company is preparing its readiness for the ISO14001:2015 system within 2017. This new system will focus on the understanding risks and opportunities in the context of corporate and relevant stakeholders.



Water Management

Water is a limited natural resource. The demand of water is increasing across many sectors including industrial sectors which require water in the production process. In addition to the industry sector, the agricultural sector also requires water in cultivation and livestock, and the public requires water for consumption. The issue of water allocation in industrial areas and communities is therefore a sensitive one due to different stakeholder groups. The company focuses on water management to ensure the utmost efficiency in the power production process and the control of steam loss to be as low as possible in order to reduce the use of raw water from natural sources. In addition, the company water management is supported by the government sector in cooperation Eastern Water Resources Development Public Company Limited or East Water and surrounding communities.

Management of Water from External Operation

GPSC has become a member of PTT Group Water Management Team comprising of members from many invested companies working together to manage water in the Eastern region. The PTT Group Water Management Team focuses on solving the problem of water shortage caused by drought and preventing floods in the region in cooperation with relevant sectors, namely, Royal Irrigation Department, East Water, local agencies and neighboring communities. The PTT Group Water Management Team holds monthly meeting in order to evaluate the reserved water volume in the area. The team plans for solutions in case water levels are low and manages water proactively in Rayong, Chonburi and Chachoengsao Provinces.

Details of the monthly meeting in cooperation with PTT Group Water Management Team report monthly water situation from water forecast and analysis using water tool model which is one of the analysis tools that analyzes monthly reserved water in case of normal situation and when water is withdrawn continuously. If the analysis results indicate risks of water shortage for operations; plans for water management will be implemented, and prevention mitigation measures will be identified such as continuous water monitoring, water management measures before drought or water sources development projects by the government sector. Results from PTT Group Water Management Team Meeting will be summarized in a monthly report and communicated to the company in order to inform the responsible team of water situation and implement changes in the operations as required.

Operation results from the PTT Group Water Management Team and the company performance are shared in the annual report. It covers the assessment of water situation in the Eastern region, crisis response, risk management, progress and water management plan of each company, water management guidelines from agencies in the Eastern region in case of drought, mitigation measures and sustainable water management plan in alignment with social responsibilities.



Water Management from Internal Operation

GPSC manages the internal water usage by following the 3Rs principle (Reduce, Reuse and Recycle) for the utmost efficiency of water use. Wastewater from each production process will be recycled in order to reduce the use of raw water.



Water Usage Reduction

- Reduce water usage in the power production process per production unit.
- Increase working rounds of cooling tower to reduce water usage in cooling system and office building.



Water Reuse

- Reuse wastewater from cooling system by cooling wastewater from boiler.
- Reuse treated water for the most benefit by watering trees in the company areas with treated water.



Water Recycling

- Recycle condensate water in the steam production process.

In 2016, GPSC was able to reduce the volume of water used in the production process according to the compliance with the 3Rs principle to 4,587,196.61 m³, or 62.28% of total water consumption (arrival water) of 7,364,742.4 million m³. The company cost saving was THB 59.63 million.

Air Quality Management

The company prioritizes air quality management in the operating areas and neighboring communities by continually measuring and monitoring air quality level at the measuring points inside and outside the working areas. This includes the strict pollution control and management prior to release into the environment according to criteria as determined by laws and regulations. The company has also planted trees surrounding the operation areas as buffer lines in order to reduce environmental impacts and ensure neighboring communities.

In 2016, GPSC continued to monitor air quality by monitoring concentration of different pollutants using the equipment installed at the releasing chamber which is a part of Continuous Emission Monitoring Systems (CEMS) and monitoring the sensitive areas around the working areas. According to results from air quality monitoring, 754.45 tons

of Nitrogen Oxide (NO_x) was released. The result is lower than the control criteria, equivalent to 4,404.02 tons accounting to 17.13%.

Waste Management

GPSC is committed to operating business sustainably and minimizing environmental impacts. A decrease in annual waste volume resulted directly from efficient resource management resulting in the lowering of potential impacts on the environment and the reduction of waste management expenses in 2016. The company reduced generated wastes by 60.06 tons and eliminated hazardous and non-hazardous wastes into landfill (Zero Waste to Landfill) by enhancing the beneficial use from wastes. The company has set up the target of zero waste to landfill for 2017.

Awards Received in 2016

Due to its performance in compliance with laws and regulations and good relationship with surrounding communities. The company has been awarded as the followings:

Environmental Good Governance and Safety Award

The awards were for strict management of water, air pollution, industrial waste, safe working areas, accidents/ incidents and response toward complaints.

- Green Star Award was received for the consecutive 6th year.
- Gold Star Award was received for the outstanding category for the 1st year



Excellence Award for Complying with Mitigation Measures of Environmental Impact Assessment Report and Outstanding Environmental Management

The award was granted to promote and support entrepreneurs to continually and efficiently follow environmental mitigation measures as specified in the EIA report. The company has received the EIA Monitoring Award 2016 for the following categories.

- Excellence category for Sriracha Power Plant Project
- Outstanding category for Central Utility Plant 1 (CUP 1)





Habitat Protection and Biodiversity

The maintaining of biodiversity is important to the existence of ecosystem and natural resources. Physical changes and climate change in a certain area will affect the overall of existing ecosystem. GPSC, therefore, aims to protect the natural resources and ecosystem by means of operations with responsibilities toward environment and communities, especially the protection of habitat and biodiversity in the areas of the company business operations from upstream to downstream and from domestic to international levels. The company intends to maintain the conditions of the original ecosystem, rehabilitate the ecosystem for abundance, show respect to community rights in the habitat protection and biodiversity and strengthen securities in natural resources and environment.

The company controls and supervises operations by placing importance on the protection and reduction of environmental impacts in the biodiversity aspects to be as low as possible starting from the project design and construction in alignment with business operations. All of the company projects planned for new business development or productivity expansion of previous business operations must pass the risk analysis and the environmental impact assessment (EIA) study. An issue in habitat and biodiversity is one of the main topics analyzed by the company. The company business operations shall not against any laws in the country of the business operations including good practices in compliance with international standards.

In addition, the company has determined mitigation measures on environmental impacts including environmental impact monitoring programs which the company has strictly and completely followed. The company has continually presenting the performance results to relevant government agencies for consideration according to frequency as determined. However, all business operational areas in Thailand are located in the industrial estate. The town and country planning (combined town and city planning) shows the beneficial use of land as an industrial area (in purple color), mainly promoting and developing industries. Overall, industries do not impact on biodiversity and comply with the EIA report.

The company highly prioritizes its overseas projects. The project that GPSC will jointly invest must pass the risk assessment in terms of biodiversity, and a study of impact assessment must be conducted to analyze impacts on biodiversity of resources in the neighboring areas of the project. This is to set up mitigation measures, action plan and Environmental Management and Monitoring (EMMP) Plan. The company will apply and adopt results from the study and all action plans in use starting from the project design, construction and implementation in short term and long term in order to prevent and reduce impacts from the company project implementation to be as low as practicable. Impacts may potentially disturb the habitat of living organisms, both flora and fauna species. As evidenced in the power plant projects in Lao PDR in terms of low impacts, the Xayaburi Hydropower Plant is designed and constructed with the availability of Fish Passing Facility and the Nam Lik 1 Power Plant Project is located in the area that impacts on habitat and biodiversity cannot occur.



A field survey was conducted to study the type of forest and condition of habitat at the Nam Lik 1 Power Plant Project.

The company is strongly committed to operating the business in alignment with the perpetual maintaining of ecosystem, habitat and biodiversity.



SUSTAINABILITY PERFORMANCE DATA & GRI CONTENT INDEX



SUSTAINABILITY PERFORMANCE DATA 2013-2016

Corporate Governance

GRI	REQUIRED DATA	UNIT	DATA COLLECTION PERIOD			
			2013	2014	2015	2016
Anti-Corruption						
G4-SO4	Governance body members that the organization's anti-corruption policies and procedures have been communicated to	Persons	10	10	10	10
		%	100	100	100	100
	Governance body members that have received training on anti-corruption	Persons	NA	NA	NA	3
		%	NA	NA	NA	3.33
	Employees that anti-corruption policies and procedures have been communicated to	Persons	199	209	240	260
		%	100	100	100	100
G4-SO5	Confirmed incidents of corruption and actions taken	Cases	0	0	0	1
G4-SO7	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes	Cases	0	0	0	0
G4-SO8	Total monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	Million Baht	0	0	0	0
Grievance						
G4-EN34	Number of grievances about <u>environmental impacts</u> through formal grievance process	Cases	0	0	0	0
G4-HR12	Number of grievances about <u>human rights</u> through formal grievance process	Cases	0	0	0	0
G4-LA16	Number of grievances about <u>labor practices</u> through formal grievance process	Cases	0	0	0	0
G4-SO11	Number of grievances about <u>impacts on society</u> through formal grievance process	Cases	0	0	0	0

Economic

GRI	REQUIRED DATA	UNIT	DATA COLLECTION PERIOD			
			2013	2014	2015	2016
G4-EC1	Sale revenues	Million Baht	26,221	23,654	22,444	20,675
	Operating cost	Million Baht	24,525	21,981	20,847	18,265
	Employee wages and benefits	Million Baht	357	300	448	407
	Dividend payments for the performance	Million Baht	0	112	1,120	1,573
	Payments to government	Million Baht	430	422	552	697

Product Responsibility

GRI	REQUIRED DATA	UNIT	DATA COLLECTION PERIOD			
			2013	2014	2015	2016
G4-PR5	Customer satisfaction survey	% of total clients	85.75	85.98	86.85	87.40
	Data coverage	% of total clients	100	100	100	100
	Customer satisfaction target	% of total clients	85.00	85.00	85.00	85.00
G4-EU27	Total number of residential disconnections for non-payment, broken down by duration of disconnection and by regulatory regime	Cases	-	-	-	-
G4-EU28	Power outage frequency	(SAIFI)	0.56	0.03	0.63	0.00
G4-EU29	Average power outage duration	(SAIDI)	0.88	0.04	0.70	0.00
G4-EU30	Average plant availability factor by energy source and by regulatory regime	%	99.9995	99.9900	99.9837	100

Health and Safety

GRI	REQUIRED DATA	UNIT	DATA COLLECTION PERIOD			
			2013	2014	2015	2016
Rates of injury, occupational disease, lost day and work related fatalities						
G4-LA6	Fatalities					
	Total workforce	Cases	0	0	0	0
	Supervised workers	Cases	0	0	0	0
	Employees	Cases	0	0	0	0
	Contractors	Cases	0	0	0	0



GRI	REQUIRED DATA	UNIT	DATA COLLECTION PERIOD			
			2013	2014	2015	2016
G4-LA6 (cont.)	Total recordable injuries case					
	Total workforce	Cases	0	0	0	0
	Supervised workers	Cases	0	0	0	0
	Injuries Rate (IR)					
	Total workforce	Cases/1 million Manhours	0	0	0	0
	Supervised workers	Cases/1 million Manhours	0	0	0	0
	Lost-Time Injury Frequency Rate (LTIFR)					
	Total workforce	Cases/1 million Manhours	0	0	0	0
	Supervised workers	Cases/1 million Manhours	0	0	0	0
	Employees	Cases/1 million Manhours	0	0	0	0
	Data coverage	% of total employee	100	100	100	100
	Contractors	Cases/1 million Manhours	0	0	0	0
	Data coverage	% of total Contrator	100	100	100	100
	Occupational Diseases Rate (ODR)					
	Total workforce	Cases/1 million Manhours	0	0	0	0
	Supervised workers	Cases/1 million Manhours	0	0	0	0
	Lost Workday Case (LWC)					
	Total workforce	Cases	0	0	0	0
	Supervised workers	Cases	0	0	0	0
	Lost Day Rate (LDR)					
	Total workforce	Day/1 million Manhours	0	0	0	0
	Supervised workers	Day/1 million Manhours	0	0	0	0

GRI	REQUIRED DATA	UNIT	DATA COLLECTION PERIOD			
			2013	2014	2015	2016
Days worked by contractor and subcontractor employees on electric utility systems (generation, distribution, transmission)						
G4-EU17	Construction activities	Day	365	365	365	365
	Operation activities	Day	365	365	365	365
	Maintenance activities	Day	365	365	365	365
Customer health and safety						
G4-EU25	Number of <u>injuries</u> to the public involving company assets, including legal judgment, settlements and pending legal cases of diseases	Cases	0	0	0	0
	Number of <u>fatalities</u> to the public involving company assets, including legal judgment, settlements and pending legal cases of diseases	Cases	0	0	0	0
	Contractor and subcontractor working on electric utility systems, employees that have undergone relevant health and safety training in comparison to total contractor and subcontractor	%	0	0	0	0

Corporate Social Responsibility

GRI	REQUIRED DATA	UNIT	DATA COLLECTION PERIOD			
			2013	2014	2015	2016
Philanthropic activities						
G4-EC1	Total contribution	Baht	2,375,523	1,809,365	36,450,515	230,959,445
	Charitable donations	Baht	0	0	5,325,420	2,337,911
		% of total contribute	100	100	14.61	1.01
	- Cash contribution	Baht	2,375,523	1,809,365	5,184,075	2,195,411
	- Product or service donations	Baht	0	0	141,345	142,500
	Community investments	Baht	0	0	31,125,095	3,621,534
		% of total contribute	0	0	85.39	1.57
	Commercial initiatives	Baht	0	0	0	225,000,000
		% of total contribute	0	0	0	97.42
G4-EU22	Number of people physically or economically displaced and compensation	Persons	0	0	0	0



GRI	REQUIRED DATA	UNIT	DATA COLLECTION PERIOD			
			2013	2014	2015	2016
G4-EU26	Population unserved in licensed distribution or service areas	%	0	0	0	0
	Community satisfaction survey	%	NA	81.23	84.00	90.20
	Community satisfaction target	%	NA	80.00	80.00	80.00

Environment

GRI	REQUIRED DATA	UNIT	DATA COLLECTION PERIOD			
			2013	2014	2015	2016
Production						
G4-EU1	Primary energy sources					
	Natural gas	%	99.99	99.97	99.99	99.99
	Oil	%	0.01	0.03	0.01	0.01
	Installed capacity	MW	1,052	1,052	1,052	1,052
G4-EU2	Net energy generated	GJ	45,208,873	38,175,268	37,516,853	38,664,689
	Natural gas	%	98.68	99.99	99.99	99.99
	Oil	%	1.32	0.01	0.01	0.01
G4-EU12	Transmission and distribution losses as a percentage of total energy	%	0	0	0	0
Energy consumption						
G4-EN3	Total energy consumption	GJ	NA	NA	56,102,212	16,879,321
	Total direct energy consumption	GJ	NA	NA	56,033,631	15,747,727
	Total indirect energy consumption by primary energy source	GJ	NA	NA	68,581	1,131,594
	Electricity purchased	GJ	NA	NA	NA	83,246
	Steam	GJ	NA	NA	1,827,095	2,842,749
	Total energy sold	GJ	NA	NA	24,956,508	27,013,364
	Electricity	GJ	NA	NA	17,431,618	15,105,688
	Steam	GJ	NA	NA	7,524,889	11,907,675
G4-EN5	Total energy intensity	GJ/MWh	NA	NA	5.60	2.05

GRI	REQUIRED DATA	UNIT	DATA COLLECTION PERIOD			
			2013	2014	2015	2016
Water withdrawn						
G4-EN8	Total water withdrawal	m ³	NA	NA	13,121,371	7,367,897
	Surface water	m ³	NA	NA	11,141,838	7,364,742
	Municipal water	m ³	NA	NA	1,979,533	3,155
Water discharge						
G4-EN22	Total water discharge to surface water	m ³	NA	NA	1,459,287	1,620,696
Greenhouse Gas Emission (GHGs)						
G4-EN15	Direct total GHGs (scope 1)	Tonnes CO ₂ e	NA	NA	3,076,991	2,716,523
G4-EN16	Indirect total GHGs (scope 2)	Tonnes CO ₂ e	NA	NA	1,889	2,484
G4-EN17	Other indirect GHGs emission (scope 3) (calculated from Business travel)	Tonnes CO ₂ e	NA	NA	NA	517
G4-EN18	GHG intensity	Tonnes CO ₂ e/MWh	NA	NA	0.29	0.33
G4-EN19	Reduction of Greenhouse Gas (GHG) emissions	Tonnes CO ₂ e	NA	NA	40,199	268
Emissions						
G4-EN21	Nitrogen oxides (NOx)	Tonnes NO ₂	NA	NA	985	754
	SF6	kg	NA	NA	5	0
	Report Net generation from all generating capacity	MWh	NA	NA	9,876,082	9,343,420
	Report Net generation from all combustion power plants	MWh	NA	NA	9,431,108	4,289,807
Waste disposal						
G4-EN23	Total hazardous waste as defined by National Legislation	Tonnes	NA	NA	107.35	68.00
	Recycle	Tonnes	NA	NA	44.11	31.23
	Recovery	Tonnes	NA	NA	23.88	27.94
	Incineration	Tonnes	NA	NA	39.31	8.73
	On-site storage	Tonnes	NA	NA	0.05	0.10
	Total non-hazardous waste as defined by National Legislation	Tonnes	NA	NA	665.39	583.73
	Recycle	Tonnes	NA	NA	162.39	57.59
	Recovery	Tonnes	NA	NA	34.25	23.00
	Composting	Tonnes	NA	NA	189.12	468.65
	Incineration	Tonnes	NA	NA	34.36	34.49
	Other management methods (central wastewater treatment plant and land reclamation)	Tonnes	NA	NA	245.27	0



GRI	REQUIRED DATA	UNIT	DATA COLLECTION PERIOD			
			2013	2014	2015	2016
Compliance						
G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	Million Baht	0	0	0	0.88

Labor Practices

GRI	REQUIRED DATA	UNIT	DATA COLLECTION PERIOD							
			2013		2014		2015		2016	
			Male	Female	Male	Female	Male	Female	Male	Female
Workforce										
G4-10, G4-LA12	Total workforce	Persons	199		209		240		258	
		Persons	157	42	160	49	177	63	180	78
	Employees	Persons	NA		NA		NA		188	
		Persons	NA	NA	NA	NA	NA	NA	122	66
	Supervised workers	Persons	NA		NA		NA		70	
		Persons	NA	NA	NA	NA	NA	NA	58	12
	Workforce by area									
	Rayong	Persons	109	22	108	24	112	24	112	25
	Chonburi-Sriracha	Persons	35	6	35	6	36	5	37	4
	Bangkok	Persons	13	14	17	19	29	34	31	49
	Other	Persons	0	0	0	0	0	0	0	0
	Workforce by age									
	<30 years	Persons	19	3	20	8	32	16	29	17
	30 – 50 years	Persons	131	38	133	41	137	47	143	61
	>50 years	Persons	7	1	7	0	8	0	8	0
	Workforce by employee type									
	Permanent contract	Persons	157	42	160	49	177	63	180	78
	Full-time	Persons	157	42	160	49	177	63	180	78
	Part-time	Persons	0	0	0	0	0	0	0	0
	Temporary contract	Persons	0	0	0	0	0	0	0	0

GRI	REQUIRED DATA	UNIT	DATA COLLECTION PERIOD							
			2013		2014		2015		2016	
			Male	Female	Male	Female	Male	Female	Male	Female
	Workforce by employee category									
	Executive	Persons	2	0	2	0	2	0	1	0
	Middle Management	Persons	16	3	16	4	19	5	19	7
	Senior	Persons	24	1	26	1	24	1	38	5
	Employee	Persons	115	38	116	44	132	57	122	66
Total number and rates of new employees hires and employee turnover										
G4-LA1	New employees	Persons	6		21		32		22	
		Persons	6	0	11	10	17	15	6	16
	New hire rate	% of total employees	3.02	0.00	5.26	4.78	7.08	6.25	2.31	6.15
	New employees by area									
	Rayong	Persons	6	0	6	3	5	0	3	1
		% of total employees	3.02	0.00	2.87	1.44	2.08	0.00	1.15	0.38
	Chonburi-Sriracha	Persons	0	0	0	0	1	0	1	0
		% of total employees	0	0	0	0	0.42	0	0.38	0
	Bangkok	Persons	0	0	5	7	11	15	2	15
		% of total employees	0.00	0.00	2.39	3.35	4.58	6.25	0.77	5.77
	Other	Persons	0	0	0	0	0	0	0	0
		% of total employees	0	0	0	0	0	0	0	0
	New employees by age group									
	<30 years	Persons	3	0	3	6	13	10	2	7
		% of total employees	1.51	0.00	1.44	2.87	5.42	4.17	0.77	2.69
	30 - 50 years	Persons	3	0	8	4	4	5	4	9
		% of total employees	1.51	0.00	3.83	1.91	1.67	2.08	1.54	3.46
	>50 years	Persons	0	0	0	0	0	0	0	0
		% of total employees	0	0	0	0	0	0	0	0



GRI	REQUIRED DATA	UNIT	DATA COLLECTION PERIOD							
			2013		2014		2015		2016	
			Male	Female	Male	Female	Male	Female	Male	Female
G4-LA1 (cont.)	Employee turnover									
	Total employee turnover rate	Persons	5	2	5	1	4	3	7	3
		% of total employees	2.51	1.01	2.39	0.48	1.67	1.25	2.69	1.15
	Voluntary employee turnover rate	Persons	5	2	5	1	4	3	7	3
		% of total employees	2.51	1.01	2.39	0.48	1.67	1.25	2.69	1.15
	Turnover rate by age group									
	<30 years	Persons	4	0	0	1	2	2	1	1
		% of total employees	2.01	0	0	0.48	0.83	0.83	0.38	0.38
	30 – 50 years	Persons	1	2	5	0	2	1	6	2
		% of total employees	0.50	1.01	2.39	0	0.83	0.42	2.31	0.77
	>50 years	Persons	0	0	0	0	0	0	0	0
		% of total employees	0	0	0	0	0	0	0	0
	Turnover by area									
	Rayong	Persons	4	0	4	0	2	0	1	0
		% of total employees	2.01	0	1.91	0	0.83	0	0.38	0
	Chonburi-Sriracha	Persons	1	2	0	0	0	0	0	0
		% of total employees	0.50	1.01	0	0	0	0	0	0
	Bangkok	Persons	0	0	1	1	2	3	6	3
		% of total employees	0	0	0.48	0.48	0.83	1.25	2.31	1.15
	Other	Persons	0	0	0	0	0	0	0	0
		% of total employees	0	0	0	0	0	0	0	0

GRI	REQUIRED DATA	UNIT	DATA COLLECTION PERIOD							
			2013		2014		2015		2016	
			Male	Female	Male	Female	Male	Female	Male	Female
Eligible employees to retire in the next 5 and 10 years										
G4-EU15	Eligible employees to retire in the next 5 and 10 years by area									
	Rayong	Persons	5	0	5	0	5	0	6	0
	Chonburi-Sriracha	Persons	0	1	0	0	0	0	0	0
	Bangkok	Persons	2	0	2	0	3	0	4	0
	Other	Persons	0	0	0	0	0	0	0	0
	Eligible employees to retire in the next 5 and 10 years by category									
	Executive	Persons	1	0	1	0	1	0	5	0
	Middle Management	Persons	6	1	6	0	7	0	4	0
	Senior	Persons	0	0	0	0	0	0	0	0
	Employee	Persons	0	0	0	0	0	0	0	0
Employees receiving regular performance and career development reviews										
G4-LA11	Executive	Persons	2	0	2	0	2	0	5	0
		%	100	0	100	0	100	0	100	0
	Middle Management	Persons	16	3	16	4	19	5	20	7
		%	84.21	15.79	80.00	20.00	79.17	20.83	74.07	25.93
	Senior	Persons	24	1	26	1	24	1	42	7
		%	96.00	4.00	96.30	3.70	96.00	4.00	85.71	14.29
	Employee	Persons	115	38	116	44	132	57	115	64
		%	75.16	24.84	72.50	27.50	69.84	30.16	64.25	35.75

Remark :

NA means data is not available

The boundary performance data reporting is considered and conducted from GPSC (CUP 1-3 and Sriracha Power Plant)



GRI CONTENT INDEX

GENERAL STANDARD DISCLOSURES

GENERAL STANDARD DISCLOSURES	DESCRIPTION	PAGE / LINK	OMISSIONS / REMARKS
STRATEGY AND ANALYSIS			
G4-1	Statement from the most senior decision-maker of the organization about the relevance of sustainability	12-13	-
ORGANIZATIONAL PROFILE			
G4-3	Name of the organization	11	-
G4-4	Primary brands, products, and services	16-21	-
G4-5	Location of the organization's headquarters	11	-
G4-6	Countries of operation	16	-
G4-7	Nature of ownership and legal form	16	-
G4-8	Markets served	16-17	-
G4-9	Scale of reporting organization	16-21	-
G4-10	Total workforce by type	82	-
G4-11	Percentage of total employees covered by collective bargaining agreements	Omit	In 2016 - GPSC does not have the official trade union. However, there is "GPSC employee committee" which its members are as the representatives from operation units, in order to support the labor's right, welfare and benefit
G4-12	Organization's supply chain description	17	-
G4-13	Significant changes during the reporting period regarding the organization's size, structure, ownership, or its supply chain	31	-
G4-14	Precautionary approach or principle is addressed by the organization	34-35	-
G4-15	List externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses	70-72	-

GENERAL STANDARD DISCLOSURES	DESCRIPTION	PAGE / LINK	OMISSIONS / REMARKS
G4-16	Memberships of associations (such as industry associations) and national or international advocacy organizations	68, 73	-
IDENTIFIED MATERIAL ASPECTS AND BOUNDARIES			
G4-17	List all entities included and not included in the organization's consolidated financial statements or equivalent documents	30-31, 85	-
G4-18	Process for defining the report content and the Aspect Boundaries with explanation how the organization has implemented the Reporting Principles for Defining Report Content	11, 26-27	-
G4-19	List all the Material Aspects identified in the process for defining report content	26	-
G4-20	Material Aspect Boundary within the organization and any specific limitation regarding the Aspect Boundary within the organization	28-29	-
G4-21	Material Aspect Boundary outside the organization and any specific limitation regarding the Aspect Boundary outside the organization	28-29	-
G4-22	Effect of any restatements of information provided in previous reports, and the reasons for such restatements	Not Applicable	No any restatements that effect to information provided in previos report
G4-23	Significant changes from previous reporting periods in the Scope and Aspect Boundaries	Not Applicable	No any significant changes from previos reporting periods
STAKEHOLDER ENGAGEMENT			
G4-24	List of stakeholder groups engaged by the organization	22-23	-
G4-25	Basis for identification and selection of stakeholders	22-23	-
G4-26	Organization's approach to stakeholder engagement	23	-
G4-27	Key topics and concerns raised through stakeholder engagement, and how the organization has responded	23-25	-



GENERAL STANDARD DISCLOSURES	DESCRIPTION	PAGE / LINK	OMISSIONS / REMARKS
REPORT PROFILE			
G4-28	Reporting period	11	-
G4-29	Date of the most recent previous report	11	-
G4-30	Reporting cycle	11	-
G4-31	Contact point for the questions regarding the report	11	-
G4-32	GRI Content Index for "in accordance" option the organization has chosen	86-93	-
G4-33	Report the organization's policy and current practice regarding external assurance for the report	Not Applicable	-
GOVERNANCE			
G4-34	Governance structure of the organization	http://www.gpscgroup.com/en/about/organization	-
ETHICS AND INTEGRITY			
G4-56	Organization's values, principles, standards and norms of behavior	30-33	-

SPECIFIC STANDARD DISCLOSURES

DMA AND INDICATORS	DESCRIPTION	PAGE / LINK	OMISSIONS / REMARKS
CATEGORY: ECONOMIC			
Economic Performance			
G4-DMA	Disclosure on Management Approach	30-43, 50-55	-
G4-EC1	Direct economic value generated and distributed	19, 77	-
Indirect Economic Impacts			
G4-DMA	Disclosure on Management Approach	22,61	-
G4-EC7	Development and impact of infrastructure investments and services supported	63	-
Procurement Practices			
G4-DMA	Disclosure on Management Approach	52-54	-

DMA AND INDICATORS	DESCRIPTION	PAGE / LINK	OMISSIONS / REMARKS
Availability and Reliability			
G4-DMA (EUSD)	Disclosure on Management Approach	40-42	-
EU10	Planned capacity against projected electricity demand over the long term, broken down by energy source and regulatory regime	42	-
Research and Development			
G4-DMA (EUSD)	Disclosure on Management Approach	38	-
System Efficiency			
G4-DMA	Disclosure on Management Approach	70	-
G4-EU12	Transmission and distribution losses as a percentage of total energy	80	-
CATEGORY: ENVIRONMENTAL			
Organizational Profile			
G4-EU1	Installed capacity, broken down by primary energy source and by regulatory regime	80	-
G4-EU2	Net energy output broken down by primary energy source and by regulatory regime	80	-
Energy			
G4-DMA	Disclosure on Management Approach	67-68	-
G4-EN3	Direct energy consumption	80	-
G4-EN5	Energy intensity	80	-
Water			
G4-DMA	Disclosure on Management Approach	71-72	-
G4-EN8 (EUSD)	Total water withdrawal by source	72, 81	-
G4-EN10	Percentage and total volume of water recycled and reused	72	-
Biodiversity			
G4-DMA	Disclosure on Management Approach	74	-
G4-EN13	Details of all habitat protected areas or restored area including standards, methodologies, and assumptions used	74	-



DMA AND INDICATORS	DESCRIPTION	PAGE / LINK	OMISSIONS / REMARKS
Emissions			
G4-DMA	Disclosure on Management Approach	66-67	-
G4-EN15	Direct greenhouse gas (GHG) emissions (Scope 1)	81	-
G4-EN16	Energy indirect greenhouse gas (GHG) emissions (Scope 2)	81	-
G4-EN17	Energy indirect greenhouse gas (GHG) emissions (Scope 3)	81	-
G4-EN18	Greenhouse gas (GHG) emissions intensity	67, 81	-
G4-EN19	Reduction of greenhouse gas (GHG) emissions	81	-
G4-EN21	NOx, SOx, and other significant air emissions	81	-
Effluents and Waste			
G4-DMA	Disclosure on Management Approach	72	-
G4-EN22	Total water discharge by quality and destination	81	-
G4-EN23	Total weight of waste by type and disposal method	72, 81	-
Compliance			
G4-DMA	Disclosure on Management Approach	70-71	-
G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	82	-
Supplier Environmental Assessment			
G4-DMA	Disclosure on Management Approach	52-54	-
G4-EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken	54	-
CATEGORY: SOCIAL			
SUB-CATEGORY: LABOR PRACTICES AND DECENT WORK			
Employment			
G4-DMA (EUSD)	Disclosure on Management Approach	57-59	-
G4-LA1 (EUSD)	Total number and rates of new employee hires and employee turnover by age group, gender and region	57, 83	-

DMA AND INDICATORS	DESCRIPTION	PAGE / LINK	OMISSIONS / REMARKS
G4-LA2	Benefits provided to full-time employees	58	-
G4-EU15	Percentage of employees eligible to retire in the next 5 and 10 years broken down by job category and by region	85	-
G4-EU17	Days worked by contractor and subcontractor employees involved in construction, operation & maintenance activities	79	-
Labor/Management Relations			
G4-DMA	Disclosure on Management Approach	59	-
G4-LA4	Minimum notice periods regarding operational changes, including whether these are specified in collective agreements	59-60	-
Occupational Health and Safety			
G4-DMA	Disclosure on Management Approach	44-47	-
G4-LA6 (EUSD)	Types of injury and rates of injury, occupational diseases, lost days, absenteeism, and total number of work-related fatalities	44, 77	-
Training and Education			
G4-DMA	Disclosure on Management Approach	46-47, 57	-
G4-LA9	Average hours of training per year per employee	58	-
G4-LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	59-60	-
G4-LA11	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category	85	-
Diversity and Equal Opportunity			
G4-DMA	Disclosure on Management Approach	59-60	-
G4-LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity	82	-
Equal Remuneration for Woman and Men			
G4-DMA	Disclosure on Management Approach	56	-

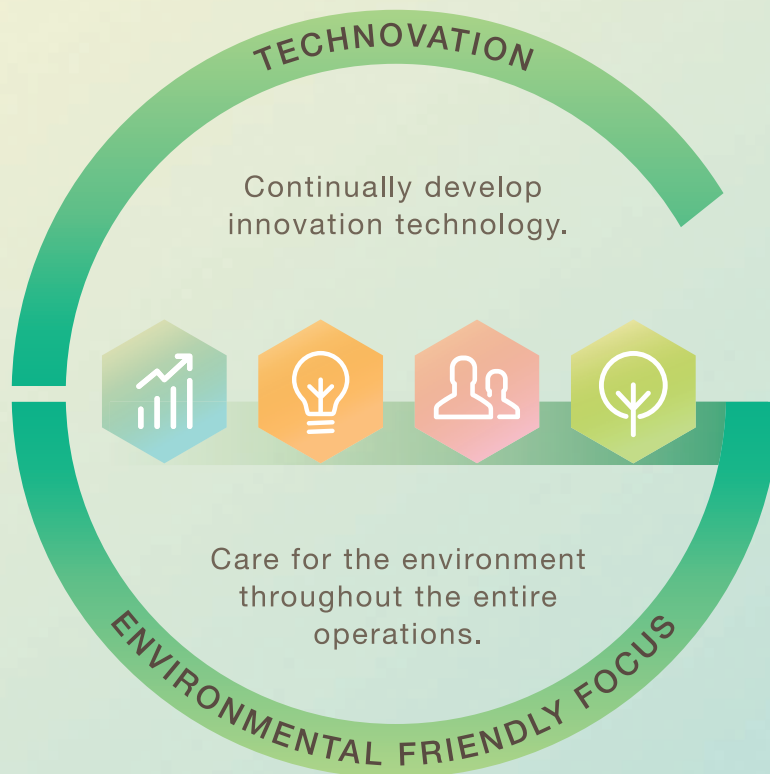


DMA AND INDICATORS	DESCRIPTION	PAGE / LINK	OMISSIONS / REMARKS
Supplier Assessment for Labor Practices			
G4-DMA	Disclosure on Management Approach	52-54	-
G4-LA15	Significant actual and potential negative impacts for labor practices in the supply chain and actions taken	53-55	-
SUB-CATEGORY: SOCIETY			
Local Communities			
G4-DMA (EUSD)	Disclosure on Management Approach	22-24, 61-62	-
G4-SO2	Operations with significant actual or potential negative impacts on local communities	61-62	-
Anti-Corruption			
G4-DMA	Disclosure on Management Approach	33	-
G4-SO4	Communication and training on anti-corruption policies and procedures	33, 76	-
G4-SO5	Confirmed incidents of corruption and actions taken	33, 76	-
Anti-Competitive Behavior			
G4-DMA	Disclosure on Management Approach	32	-
G4-SO7	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes	76	-
Compliance			
G4-DMA	Disclosure on Management Approach	31-33	-
G4-SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	76	-

DMA AND INDICATORS	DESCRIPTION	PAGE / LINK	OMISSIONS / REMARKS
SUB-CATEGORY: PRODUCT RESPONSIBILITY			
Product and Service Labelling			
G4-DMA	Disclosure on Management Approach	50-51	-
G4-PR5	Report the results or key conclusions of customer satisfaction surveys	51, 77	-
Access			
G4-EU27	Total number of residential disconnections for non-payment, broken down by duration of disconnection and by regulatory regime	77	-
G4-EU28	Power outage frequency	77	-
G4-EU29	Average power outage duration	77	-
G4-EU30	Average plant availability factor by energy source and by regulatory regime	42	-

Remark :

EUSD - Electric Utilities Sector Disclosures



SURVEY OF READERS' OPINIONS

Your views and suggestions after reading GPSC Sustainability Report 2016 will be incorporated to improve the company business performances and future Sustainability Report.

Global Power Synergy Public Company Limited (GPSC) appreciates your valuable feedbacks.

1. Please fill in the basic information Gender ☐ Female ☐ Male ☐ Unspecified

2. Which of the following stakeholder groups applied to you?

- ☐ Financial Institutions, Investors & Shareholders ☐ Government Agencies ☐ Employees
☐ Partners/ Suppliers & Contractors ☐ Customers ☐ Society & Community
☐ Other (Please describe.....)

3. How did you find out about GPSC Sustainability Report?

- ☐ GPSC Website ☐ Seminar/Lecture/Exhibition ☐ GPSC Employees ☐ Other Websites
☐ Other (Please describe.....)

4. What is the reason for your interest in GPSC Sustainability Report?

- ☐ To obtain investment information ☐ In purpose of research and education ☐ To gain information about GPSC
☐ To obtain specific information (Please describe.....)
☐ To prepare a Sustainability Report (or Corporate Social Responsibility Report)
☐ Other (Please describe.....)

5. Please rate your satisfaction in the presentation of GPSC Sustainability Report 2016

- | | | | | |
|---|----------------------------|------------------------------|---------------------------|---|
| Completeness of the report | <input type="radio"/> High | <input type="radio"/> Medium | <input type="radio"/> Low | <input type="radio"/> Needs Improvement |
| Relevance of issues presented in the report | <input type="radio"/> High | <input type="radio"/> Medium | <input type="radio"/> Low | <input type="radio"/> Needs Improvement |
| Interesting content | <input type="radio"/> High | <input type="radio"/> Medium | <input type="radio"/> Low | <input type="radio"/> Needs Improvement |
| Report design | <input type="radio"/> High | <input type="radio"/> Medium | <input type="radio"/> Low | <input type="radio"/> Needs Improvement |
| Overall satisfaction of the report | <input type="radio"/> High | <input type="radio"/> Medium | <input type="radio"/> Low | <input type="radio"/> Needs Improvement |

6. Which chapter of the Sustainability Report 2016 do you find most interesting? (Please describe)

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7. Which chapter of the Sustainability Report 2016 do you find least interesting? (Please describe)

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8. Does this report include all material issues for the sustainability of GPSC?

- ☐ Yes, it does. ☐ No, it does not. (If not, please specify which issues should be added.)

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9. After reading this report, do you recognize the commitment of GPSC in sustainability? (Please describe)

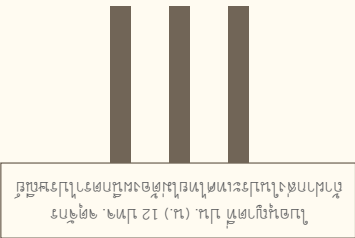
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10. Additional suggestions for GPSC future Sustainability Report.

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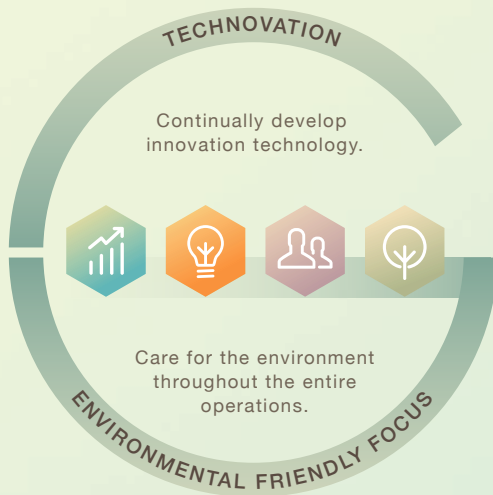


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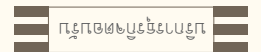
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SUSTAINABILITY REPORT 2016

SUSTAINABLE GROWTH



บริษัท ก่อสร้างและพัฒนาระบบสาธารณูปโภค จำกัด



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