GPSC Supply Chain Management

April 2023





Content: GPSC supplier ESG Program

No.	Content	Page
1.	Introduction	3-6
2.	Supply Chain ESG Risk Management	8-12
3.	Supplier ESG Screening	14-30
4.	Supplier Assessment and Development	32-48
5.	KPI and Performance for Supplier ESG Programs	50-52



Vision & Mission



"Be a Preferred and Trusted Partner of GPSC Group Users"

SUPPLY CHAIN MANAGEMENT Vision 2020 - 2025

- P Process Compliance & Good Governance
- P Proactive Procurement
- **E** Effective Procurement



SUPPLY CHAIN MANAGEMENT Mission



GPSC Group Procurement Practice



Follow GPSC Group Corporate Governance policy & regulation



Fair treatment & transparency to all suppliers



Comply with the procurement obligation

- On-time payment
- Other Obligations



Encourage sustainable supplier development with good performance history

- GPSC's SSHE policy
- ESG development



Supply Chain Management

GPSC's supply chain management includes sourcing of raw materials: natural gas, coal, raw water, and clarified water. PTT PLC is our most critical supplier providing natural gas which is the main raw material. Other suppliers providing non-fuel goods and other services include construction and design service, mechanical equipment, machinery, IT service and many more.

GPSC is committed to the effective procurement and management of supplies, insurance, and other aspects of operations related to business sustainability. The company introduced the Sustainable Procurement and Supplier Management Policy to ensure excellence in procurement with transparency, fairness, and alignment with global practices.





Supplier Sustainable Code Of Conduct

GPSC SUPPLIER SUSTAINABLE CODE OF CONDUCT

- Business Integrity
- · Confidentiality and data portion
- Corporate Social Responsibilites
- · Conflict of Interest

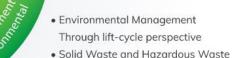




- Freely Chosen Employment
- Child Labor Avoidance
- Wages and Benefits
- WorkingHours
- Non-Discrimination
- Layoffs Practice
- Humane Treatment
- · Freedom of Association

- Safety and Working Environment
- · Security and Emergency Preparedness
- · Occupational Health, Injury, and Illness





- Wastewater
- Air Emissions and Greenhouse Gas
- Soil and Groundwater Contamination

GPSC recognizes the importance of encouraging suppliers to uphold governance principles with social and environmental responsibilities in their business operations.

Therefore, the company created the Supplier Sustainable Code of Conduct to communicate the rules which require strict compliance by suppliers. The content of the Supplier Sustainable Code of Conduct ranges from business ethics, human rights, to safety, and environmental management.



Content: GPSC supplier ESG Program

No.	Content	Page
1.	Introduction	3-6
2.	Supply Chain ESG Risk Management	8-12
	 Supply Chain ESG Risk Management Process 	8
	 Organizational structure – Supply Chain ESG Management 	9
	 Purchasing practice improvement program 2022 	10-11
	 Training for company's buyers and/or internal stakeholders 	12
3.	Supplier ESG Screening	14-30
4.	Supplier Assessment and Development	32-48
5.	KPI and Performance for Supplier ESG Programs	50-52



Supply Chain ESG Risk Management Process

Supplier Screening

Supplier Selection (Pre-Risk Assessment and ESG Risk Self-Assessment) Identification of the significant suppliers (Critical & High ESG risks)



3

Supplier Assessment



Supplier Development

- 1st Party Supplier Selection and Pre-Risk Assessment
- ESG Risk Self-Assessment

- Spending Analysis
- Critical Analysis
- ESG Risk
 Assessment

- Supplier
 Comprehensive
 ESG Risk
 Assessment
 - 2nd party assessment
 - 3rd party assessment

- Supplier corrective action/improvement plans
- Supplier information/trainings
- Supplier access to ESG benchmarks against peers
- Supplier support on corrective/improvement actions
- In-depth technical support programs



^{*}The process covers GPSC Group Tier-1 and Non-Tier 1 Suppliers

Organizational structure – Supply Chain ESG Management Implementing supplier ESG program



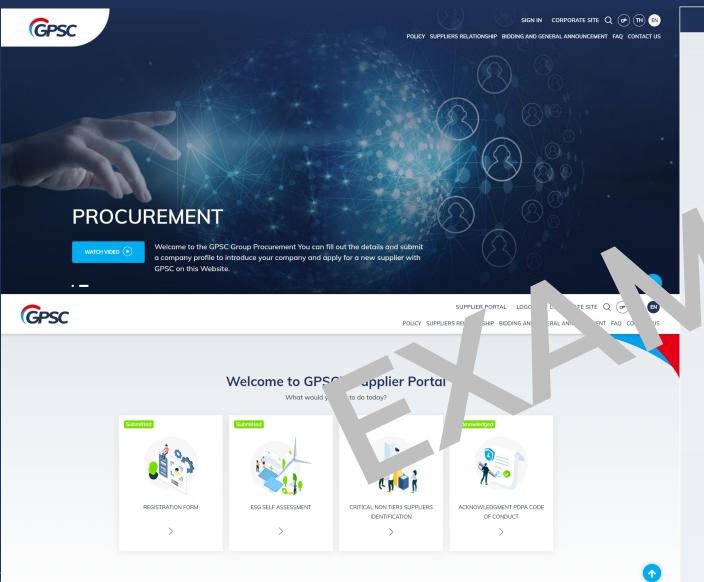
GPSC assigns Board of Directors (BoD) to oversight the overall implementation of the supplier management and supplier ESG program to ensure alignment of vision and implementation which is critical to drive the successful outcomes, and to guarantee maximal priority and focus. Board oversight tasks are delegated to the Corporate Governance and Sustainability Committee as well as Risk Management Committee.

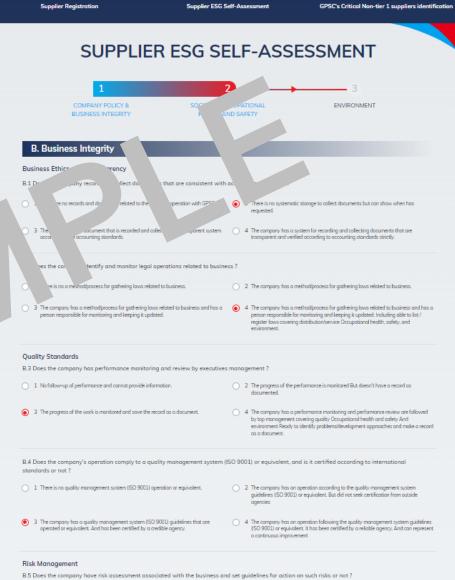
The President and Chief Executive officer (CEO) is responsible to oversee the supplier ESG program implemented under the supervision of EVP-Commercial & Supply Chain Management (CME) and the key responsible function – Strategic Procurement & Supply Chain Contract Management (CSV) and Procurement and Warehouse officer (CSS).

The purchasing practices towards suppliers are also continuously reviewed by CSV&CSS to ensure that the business demands, and expectations are aligned with the GPSC Supplier Code of Conduct, and ESG requirements. After the review process is completed, the progress and results will be reported to CME and higher levels hierarchically.

In 2022, GPSC has implemented the projects improving the purchasing practices to keep aligning with ESG trend and also increasing the procurement efficiency, such as a new ERP and Supplier Portal- please also add more details in the next page]

Examples of GPSC purchasing practice improvement program 2022 : Supplier Portal





Examples of GPSC purchasing practice improvement program 2022

- GPSC implemented a Supplier Portal in 2022 to enhance procurement practices in supplier management and ESG Risk Screening. The portal was developed as a single platform for supplier data collection, registration and communication including bidding and general announcement.
- Suppliers can register and login to update their information and be able to perform following actions in the portal;
 - Registration and update information
 - Document submission (e.g. company affidavit, Statement, ISO and other certificates etc.)
 - Perform ESG Risk self-assessment.
 - Critical Non-tier 1 identification
 - Understand and acknowledgement of GPSC Sustainable Supplier Code of Conduct
 - Acknowledgement of GPSC terms and conditions
 - Acknowledgement of GPSC practices toward Personal Data Protection Act (PDPA)
 - Evaluate the need of Data Processing Agreement (DPA)
- Supplier registered to Supplier Portal shall pass through the Pre-Qualification Process and get the approval from related parties and automatically interface register to SAP S4Hana; GPSC's New ERP, directly. This step helps shorten the registration process and ensure the completion of information and document.
- The score of ESG Risk self-assessment shall be summarized and downloaded by supplier in which GPSC shall consider the final score as the pre-risk screening score for supplier pre-qualification process



Training for company's buyers and/or internal stakeholders

Company's purchaser training on Supplier ESG program 2022

No.	Activity	Timeline		
1	Background & Objective	15 mins	10:00 - 10:15	
2	Create google form for all group and Reassign group (if any)	15 mins	10:15 – 10:30	
3	Supply Risk Assessment	30 mins	10:30 - 11:00	
4	Break	5 mins	11:00 – 11:05	
5	Sustainability Risk Assessment	50 mins	11:05 — 11:55	
6	Summary	5 min	11:55 – 12:00	

GPSC provides an internal workshop as the training for the company's buyers and/or internal stakeholders (called "Purchaser"), prepared by Strategic Procurement and Supply Chain Contract Management (CSV), to make understanding on their roles in the supplier ESG program.

Training Agenda

Supplier Risk Assessment

The training is conducted based in annual basis to keep updating the supply chain management policy, supplier code of conduct and other relevant procedures.

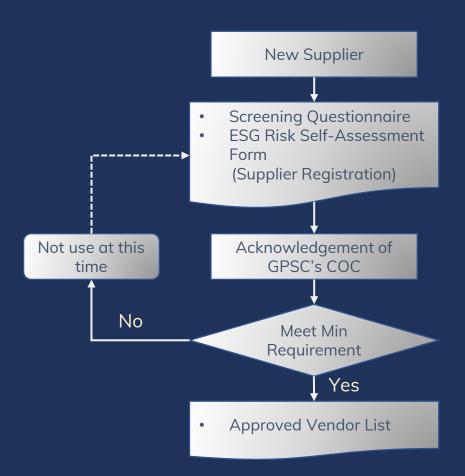


Content: GPSC supplier ESG Program

No.	Content	Page
1.	Introduction	3-6
2.	Supply Chain ESG Risk Management	8-12
3.	Supplier ESG Screening	14-30
3.1.	Supplier selection process: overview	14
3.2.	Supplier selection - 1 st Party Supplier Selection and Pre-Risk Assessment	15-16
3.3.	Supplier selection - ESG Risk Self- Assessment	17-18
3.4.	Identification of the significant suppliers	19-30
	• Overview	19
	Spending analysis	20-21
	Critical analysis	22-23
	ESG risk assessment	24-30
4.	Supplier Assessment and Development	32-48
5.	KPI and Performance for Supplier ESG Programs	50-52



Supplier selection process: overview



GPSC has adopted the system of vendor list and supplier selection to ensure that suppliers deliver products and services that meet the company's requirements. The scope of assessment covers suppliers' capabilities based on GPSC's Criteria laid out in the ESG supplier assessment form (25% ESG weight included*). Suppliers approved through the supplier selection process will be registered on the Approved Vendor List (AVL) in SAP S4Hana system by GPSC's procurement staff via Supplier Portal interface.

*See detail of ESG Weight in the next page



Supplier selection - 1st Party Supplier Selection and Pre-Risk Assessment

GPSC Group evaluates supplier using an evaluation form in the selection process

1st Party Supplier Selection and Pre-Risk Assessment

Criteria	Weight	Туре	Description
Business	10	Business and Governance	This section evaluates nature of business including registered capital, company profile, and financial profile
Product	30	Product and service	This section evaluates source of products and services, production and distribution capacities, stock and resource management
Distribution	20	Product and service	This section evaluates internal policy, management standards on OHS issues including safety record, PPE, and quality control
Occupational Health and Safety (OHS)	15	Social	This section evaluates internal policy, management standards on OHS issues including safety record, PPE, and quality control
After sale service & Technical support	15	Product and service	this section evaluates support on after sale service and technical of the business and product warranty
Corporate Social Responsibility (CSR)	10	Social	This section evaluates CSR policy, environmental management system and human rights

Suppliers shall meet a

minimum of 70%
in order to get approved
into GPSC Approved
vendor List (AVL)

*See next page for an example of Supplier Pre-Qualification Form



Example of 1st Party Supplier Selection and Pre-Risk <u>Assessment</u>

4 การประเมินด้านอาชีวอนามัย ความปลอดภัย และ สิ่งแวดล้อม	15	0	0	0	0
4.1 นโยบายและคู่มือความปลอดภัยในบริษัท	3				
4.2 ประกาศนียบัตรรับรองด้านสิ่งแวดล้อม เช่น ISO 14000, ISO 18000 หรือ อื่นๆ	2				
4.3 การอบรม จัดประชุม และ การมีส่วนร่วมของพนักงานด้านความปลอดภัย	4				
4.4 บันทึกความปลอดภัย (Safety Record) และ มีการใช้อุปกรณ์ PPE	2				
4.5 ระบบคุณภาพ และ การควบคุมคุณภาพผลิตภัณฑ์	4				
5 การประเมินด้านการให้บริการหลังการขาย/บริการ	15			(
5.1 After sale service & Technical support	1				
5.2 นโยบายการรับประกันสินค้า	5				
6 การประเมินด้านความรับผิดชอบต่อสังคม (CSR)	10	0	0	0	0
6.1 นโยบายการรับผิดชอบต่อสังคม					
6.2 ระบบการจัดการด้านสิ่งแวดล้อม					
6.3 ด้านสิทธิมนุษยชน	4				



แบบพ่อร์มการให้คะแนนประเมินคุณสมบัติผู้ค้า

อบริษัท :					วันที่ประเมิน :		
าธอะเอียคการพิจารณา - คักยภาพของบริษัทผู้ค้า (โคยภาพรวม)	Weight	คณะกรรมการ ท่านที่ 1	คณะกรรมการ ท่านที่ 2	คณะกรรมการ ท่านที่ 3	คณะกรรมการ ท่านที่ 4	หน่วยงาน จัดหา	Aver
ารประเมินด้านธุรกิจ	10	0	0	0	0	0	0.0
1.1 สินทุนจะพระเบียน	0						
1.2 เลกสาขนะน้ำเสิษัท (Company Profile) เช่น	0						
1.2.1 หนึ่งสือรับของ	0						
1.2.2 หนังสีขจดทะเบียนภาษีมูลค่าเพิ่ม	0						
1.3 ฐานะทางการเงิน							
กรประเมินทางด้านการผลิต / การจัดจำหน่าย	30	0	0	0	0	0	0
2.1 แหล่งที่มาของเดิดภัณฑ์หรือบริการ	5						
2.2 ความสามารถในการผลิตพัดจำหน่ายปุงคลากร มีเข้างพอต่อความต้องการ	0						
2.2.1 จำนวนสินค้าคงคลังบุคลากร มีศักยภ อจัดส่งหร้อมให้บริการ		1					
2.2.2 จำนวน ตำแหน่ง และรั้งที่คลังสินค์ รุ่มกับการให้บริการ	7 7						
2.2.3 manner*	7						
2.3 และเฮซ์ แห่วงๆ เช่น Over di หรือ Sho.							
ไระเมินด้า ซึ่งสินค้า หรือ เ [*] เรหน้างาน	20	0	0	0	0	0	0
ระสิทธิภาร ริหารรั เหรือ การเข้ามริการ	10						
ระวอาและง	5						
 ขุมมาครฐาน านจัดส่งหรือ พนักงานที่ให้เรียกร 	5						
ประ นอารีวอน ามปลอดภัย และ สิ่งแวดล้อม	15	0	0	0	0	0	0
นใน ซุ่มีลดวาม ในบริษัท	3						
ประกา รูรับรองค้าแสงแวดต้อม เช่น ISO 14000, ISO 18000 หรือ ขึ้นๆ	2						
การขบรง	4						
บันทึกความปละคภัย (Safety Record) และ มีการใช้คุปกรณ์ PPE	2						
4.5 ระบบคุณภาพ และ การควบคุมคุณภาพหลิตภัณฑ์	4						
ารประเมินด้านการให้บริการหลังการขาย/บริการ	15	0	0	0	0	0	0
5.1 After sale service & Technical support	10						
5.2 นใชมายการรับประกันสินค้า	5						
ารประเมินด้านความรับผิดขอบต่อถึงคม (CSR)	10	0	0	0	0	0	0
6.1 นใชมายการรับมีคระบศรณ์เคม	3						
 ยะบบการจัดการด้านสิ่งแวดล้อม 	3						
6.3 ด้านสิทธิมณุษยชน	4						
	100						0.
แหละ บริษัทที่ผ่านการประเมินจะต้องใต้ควนนนรวมอย่างน้อย 70 คะแนน							

อนุมัติโดย ผู้จัดการส่วนกลยุทธ์จัดชื่อจัดหา	
Taionain	ความเห็นเห็นติม : (กรนีคะแบบในวิจี 70 คะแบบ แต่มีความเห็นอนุมัตินี้แทะเบียนผู้ที่ GPSC (AVL))
อนุมิพิ และ จิ้นทะเบียนผู้กั GPSC (AVL)	
entru	

Supplier selection - ESG Risk Self-Assessment

2 ESG Risk Self-Assessment

Suppliers shall complete the ESG Risk Self-Assessment form for GPSC Group on Supplier Portal to pre-screen the ESG Risk level of supplier in the supplier selection process. The ESG Risk Self assessment comprises of 5 main sections. The self scoring level is considered based on the intensity of the ESG implementation in supplier's company

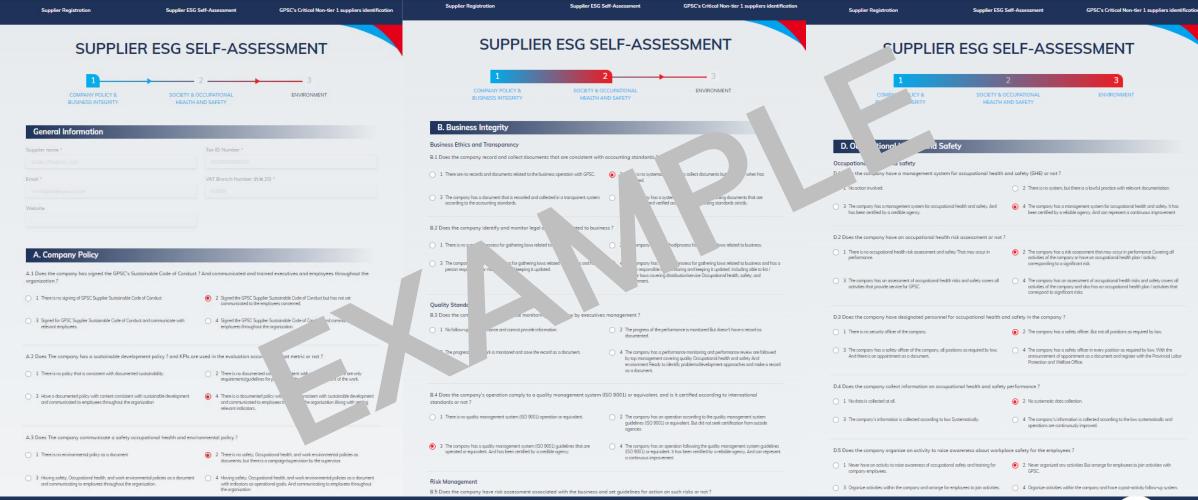
	Туре	Examples of Evaluated Topic
Company System and Policy	Business and Governance	 Sustainable Development Policy Environmental and Other Issues Communication Policy Privacy Protection and Cybersecurity Policy Anti-corruption, discrimination and harassment Policy
Business Integrity	Business and Governance	Business Ethics and TransparencyQuality StandardsRisk Management
Society	Social	Human RightsLabour RelationsSocial Responsibility
Occupational Health and Safety	Social	Occupational Health and SafetySecurity and Emergency Preparedness
Environment 7	Environmental	 Environmental Impact Assessment and Control Measures Work Plans / Projects to Reduce Environmental Impacts Environmental Training for Employees Environmental Performance Data collection Complaints, Lawsuit, or Convictions on Environmental Issues ESG Risk Self-Assessment Form

After self-assessment completed by suppliers, GPSC will review and perform systematic data verification with the selected suppliers in order to validate the submitted information. Suppliers shall provide information upon GPSC request via the following approaches:

- Direct contact Face to Face interview
- Formal Email
- Interview through online and telephone

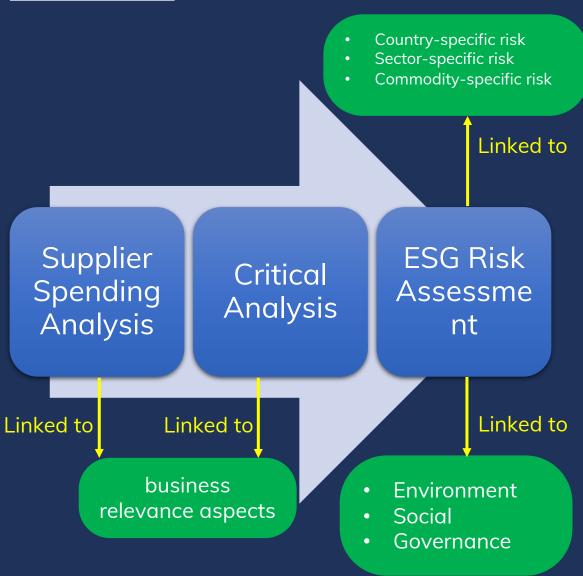


Example of ESG Pre-Risk Self-Assessment Form in Supplier Selection Process





Identification of the significant suppliers: Overview



GPSC Group annually conducts the analysis on supplier spending, Critical Analysis and ESG Risk Assessment to suppliers who are deemed to pose substantial risks of negative ESG impacts or significant business relevance to the company or a combination of both. The analytical results are used as input into formulating appropriate management strategies and mitigation measures

The significant (including critical tier-1 and high ESG risk) suppliers are categorized from comply the following criteria:

- 1. High expenditure
- 2. Critical components
- 3. Non-substitutable
- Strategic Relationship (Parental Company)
- 5. High ESG Risk



Significant supplier (Spending Analysis Results 2022)

No. of Supplier: 1,440 (Y2022)

2022 Total Spend (MTHB): 82,369

GPSC Group's highest spending suppliers in 2022 were in Feedstock Category

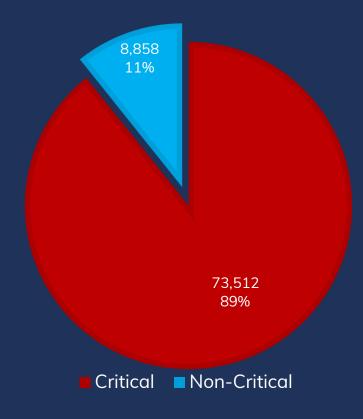
Category	No. of Suppliers	Spend (MTHB)
Raw Material - Gas	2	53,045
Raw Material - Coal & Biomass	6	11,939
Mechanical Equipment	231	3,247
Maintenance service	318	3,118
Construction and Design Service	44	1,186
Raw Material - Water	6	738
Instrument Equipment	137	472
Machinery	56	333
Electrical Equipment	84	278
Process / Production	21	208
Safety	40	71
Admin	17	29
Other Materials	87	4,957
Other Services	392	2,748
Grand Total	1,440	82,369

	•	
Country	No. of Supplier	Spend (MTHB)
Thailand	1,331	80,506
Korea	17	701
United Arab Emirates	2	287
Singapore	24	263
Japan	8	160
China	8	116
United States	11	100
Belgium	3	81
Indonesia	3	52
Finland	1	26
USA	12	20
Australia	3	11
United Kingdom	8	8
Taiwan, Province Of China	3	8
Taiwan	1	6
Malaysia	3	4
Germany	3	4
Hong Kong	1	4
Switzerland	1	3
India	2	3
Hungary	1	1
Austria	1	1
Italy	2	1
Scotland	1	1
Netherlands	2	0.8
France	2	0.7
Denmark	1	0.4
Ireland	1	0.3
Egypt	1	0.1
Grand Total	1.440	82.369

Significant supplier (Spending Analysis Results 2022)

Critical Category

CRITICAL SUPPLIER SPEND (MTHB)



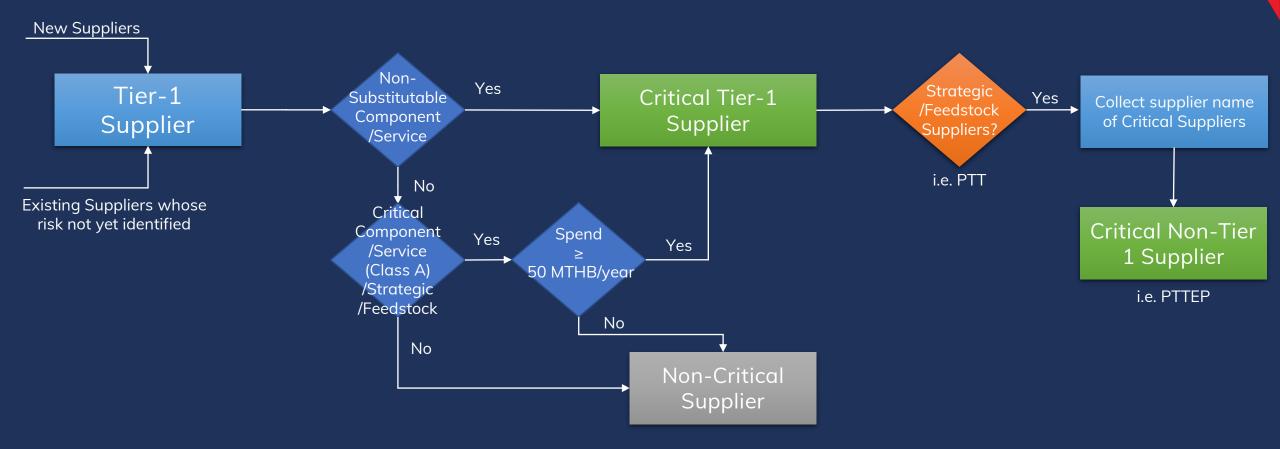
Category	No. of Critical Supplier	% of 2022 Spend
Raw Material - Gas	1	64%
Raw Material - Coal & Biomass	6	14%
Raw Material - Water	5	1%
Mechanical Equipment	5	1%
Maintenance service	10	2%
Construction and Design Service	5	1%
Instrument Equipment	2	0.04%
Machinery	1	0.02%
Electrical Equipment	2	0.03%
Process / Production	7	0.1%
Safety	-	-
Admin	-	-
Other Materials	10	6%
Other Services	9	1%
Grand Total	63	89%

Note: Supplier can supply more than 1 category



Significant supplier (Critical Analysis)

Critical Supplier Identification – Work Flow





Significant supplier (Critical Analysis)

Critical Tier-1 suppliers of GPSC Group refer to those who has high expenditure, are critical components, and non-substitutable to GPSC Group

- High-Volume spending and are critical component/service supplier
 - High-volume spending: More than 50 MTHB
- Critical component suppliers: such as feedstock suppliers and class "A" component and advanced services
- Non-substitutable suppliers: such as advanced construction and engineering and feedstock suppliers
- Strategic Relationship (Parental Company) as GPSC Group's strategy and direction needs to align and comply with parental company's business strategy

*GPSC Group defines Critical Non-Tier 1 from strategic suppliers (i.e. parental company) and Feedstock Supplier

Based on analysis of 2022, the critical supplier are summarized below:

Type of supplier	Absolute number of suppliers	Share of total procurement spent (%)					
	1,440						
Total tier 1 suppliers	Non-Fuel : 1,426	100 %					
	Raw Material: 14						
	63	89%					
Significant (Critical) tier 1 suppliers	Non-Fuel: 51	Non-Fuel: 10%					
	Raw Material: 12	Raw Material: 79%					
Critical non-tier 1 suppliers	1	_					



ESG risk assessment: High Level Desktop based Supplier ESG Screening

- Country-specific risk
- Sector-specific risk
- Commodity-specific risk

Linked to

ESG Risk Assessment Linked to

- Environment
- Social
- Governance

For the ESG risk assessment, GPSC Group conducts the high-level analysis on the Environment, Social and Governance aspect with all the following specific risks separately:

Screening Methodology	Description	Examples of Evaluated Criteria
Country-specific risk:	Risk for negative environmental, social, and governance impacts related to a country's political, social, economic, environmental or regulatory situation.	Risk for natural disasterLaw & RegulationsGeopoliticsOperational Area
Sector-specific risk	Risk related to supplier distinction/characteristic among the sector	Critical ComponentChoice of suppliers in the marketMarket share among suppliersSupply growth rate
Commodity-specific risk	Risk for negative environmental, social, governance and other specific criteria-related to commodity	Technology alternative/switchingSubstitution of products/serviceSource of input



Example of High-Level Desktop based Supplier ESG Screening

0.2.1 is the main supplier's operation in the area/region prone to hurricanes, earthquakes, or other natural disasters? Mark only one oval.	8. O.2.3 Is the supplier in the area/region with geopolitical risk? Geopolitical risk could led to your supely chain in disruption by global political events. The most obvious and high profile are war and revolutions, where the less dramatic such as protest and boycott which can cause serious consequences for businesses. This geopolitical area/region could mean countries/regions with political instability, struggle for relative power and security. Right regionalism, and high nationalism; for examples: Myanmar, Cambodia, North Africa, and Middle East Mark only one oval.	Risk Assessment by	ESG Risk Assessment by sector-specific risk
4 - Yes, with history record of major impact resulting in unable to operate for 3 days or more 3 - Yes, with history record of minor impact resulting in unable to operate for less than 3 days 1 - No		untry-specific risk	O.1.1 Is the supply produced component? Class as per GPSC's de
O - Not applicable 7. 0.2.2 is the supplier in the area/region with different jurisdiction of law with GPSC's Operation? The country that has strictly law which has huge difference to Thai Law or international standard (i.e. working hour of European countries, US that are strictly controlled. The special permit is required for overtime working, and the countries that require special & different permits or standard from manufacturer). The country that has huge difference in jurisdiction of law from Thailand. Mark only one oval.	9. 0.2.4 Are all supplier operation sites in the same region? Geopolitical risk could led to your supply chain in disruption by global political events. The most obvious and high profile are wars and revolutions, where the less dramatic such as protest and boycott which can cause serious consequences for businesses. This geopolitical area-fregion could mean countries/regions with political instability, struggle for relative power and security, high regionalism, and high nationalism; for examples. Myamark_Cambodia, North Africa, and Middle East Mark only one oval. 4 - There is no other operation site 3 - There are other operation sites in the same area/region		Mark only one oval. 4 - Yes, Class A OR 1 - No, Class B or C O. Material or Service for Critical Equipment Not applicable 2. 1.1 A pre only from oppliers in the supply market?
4 - Yes, with significant difference of legal requirement 3 - Yes, with minor difference of legal requirement 1 - No 0 - Not applicable	2 - There is 1 operation site with different area/region 1 - There are more than 1 operation site with different area/region 0 - Not applicable		Mark c val. 4 - Only 1 supplier in the market (Monopoly) 3 - 2-3 suppliers in the supply market 2 - 4-7 suppliers in the supply market
	24. 4.1 Are there a limited number of sure of inputs? Mark only one oval.		1 - More than 7 suppliers in the supply market 0 - Not applicable 13. 1.2 Do a few supplier hold a major market share? * Mark only one oval.
22. 3.2 Are there no alternative technologies provided to products/services? Mark only one oval. 4 - No alternative technology services provided to products/services 3 - 1 alternative technology services provided to products/services 2 - 2-3 alternatives technology services provided to products/services 1 - There are many alternative technology services provided to products/services 0 - Not applicable	4 - Only 1 in the market 3 - 2-3 supp the supply market 2 - 4-7 supplie laket 1 - More than 7 is in the supply market 0 - Not applicable		4 - Suppliers holding 100% of the market share (Monopoly) 3 - Individual supplier holds between 50-80% of the market share 2 - Supplier holds between 50-30% of the market share 1 - Supplier hold max of 30% of the market share 0 - Not applicable 14. 1.3 What is the growth rate of supply?
23. 3.3 If these technologies existed, are there high cost to switch to new ones? * Mark only one oval. Option 1 Option 2 Option 3 Option 4 Option 5		Risk Assessment by modity-specific risk	Mark only one oval. 4 - Growth rate of supply is 5% or less 3 - Growth rate of supply is from 6-15% 2 - Growth rate of supply is from 16-30% 1 - Growth rate of supply is more than 30%
25			On Non-reliable

ESG risk assessment

Supplier ESG Risk Evaluation is the evaluation of the risk rating of Supply Risk, Sustainability Risk and other Supply Chain Risk such as Strategic Risk, Country/Geographic Risk, Subcontractor Risk, Technology, performed by purchasers using the questionnaire. The questionnaire comprises of following risk issues;



Questionnaire

- Online Questionnaire (once a year)
- Scoring based on Risk Level, Impact & Likelihood



Risk Evaluation Result

- Analyze the risk evaluation result
 - Sustainability Risk and Supply Risk analysis
 - Critical Supplier Identification
 - Critical & High Risk Suppliers
 - Supplier Categorization
 - Supplier Classification



Evaluated by

Internal Stakeholders (Purchasers)



Evaluation Methodology

- Review and update risk issues related to SCM
- Training Internal Stakeholder (Purchasers)
- Evaluate using ESG Risk Assessment Form



Improvement Strategy

 Set-up strategy for Supplier Relationship Management, Supply Chain Management and Supplier ESG Desktop/Comprehensive Assessment



ESG risk assessment

GPSC Group identify Supplier risk using Supplier Risk Evaluation which comprises of the 3 main risks as follows; Supplier ESG Risk is evaluated in the sustainability risk evaluation section.

Risk		Risk Issue	No. of Questions	Total No. of Questions	Rating Criteria		
	1	Competition among suppliers	5		45.11		
	2	Barriers to entry to the market of new suppliers	5	20	4 Risk Level • Extreme		
Supply Risk	3	3 Substitution products/ Services		Required 17	• High		
	4	Bargaining power of suppliers of inputs	3	Optional 4	Medium Low		
	5	Bargaining power of buyer	4		2011		
	6	Economic	3	20	Impact & Likelihood		
Custoin whility Diale	7	Environment	9	Required 15	Extreme		
Sustainability Risk	8	Reputation	6	Optional 5	High Medium		
	9	Safety	2		• Low		
	10	Strategic Risk	1		4 Risk Level		
	11	Country/Geographic Risk	4	8	ExtremeHigh		
Other Supplier's Risk	12	Subcontractor Risk	2	Required 1 Optional 7	Medium		
	13	Technology Risk	1	optional 7	Low Impact & Likelihood		



Example of ESG Risk Assessment - Form

				<u> </u>								
No.	Risk Issues	Significant	Options for consideration	4 - Critical impact	2 High impact	Level of Impact	1 Lowinnast	0 Not applicable	Remarks			
	Sustainability Risk		consideration	4 - Critical impact	3 - High impact	2 - Normal impact	1 - Low impact	0 - Not applicable				
6	Economic											
			Option 1	Extremely loss in both GPSC's Financial and Business Oppunity	Highly loss in both GPSC's Financial and Business Oppunity	No GPSC's business or operational interruption but there is some costs	No effects on GPSC1 operating cost					
6.1	Pricing Impact level of that Supplier to GPSC's	Required	Option 2	More than 20% reduction in GPSC's Product/Service deliverability	10-20% reduction in GPSC's Product/Service deliverability	5-10% reduction in GPSC's Product/Service deliverability	Less than Luon in GPSC's Product/Service					
	opportunity/Deliverability/Product Pricing		Option 3	Change in price can resulting in increasing of cost per unit of GPSC's product 10% or more	Change in price can resulting in increasing of cost per unit of GPSC's product between 7-9%	Change in price can resulting in increasing of cost per unit of GPSC's product between 5-6%.	of product less 15%.		For pricing more than 5,000,000 million baht only			
			Option 1	Extremely loss in both GPSC's Financial and Business Oppunity	Highly loss in both GPSC's Financial and Business Oppunity	No GPSC's business or operational intermation but there is some costs	No e. Operating cost					
6.2	Project Delay Im pact level of that Supplier to GPSC's	Required	Option 2	More than 20% reduction in GPSC's Product/Service deliverability	10-20% reduction in GPSC's Product/Service deliverability	5-10% reduction in GPSC's Product/Serv 'iverability	Less the reduction in GPSC's Product/Service deliveral					
0.2	opportunity/Deliverability/Planned production or output	печанеа	Option 3	Project delay of more than 10% of GPSC's planned production Resulting in 10% or more different in output against GPSC's planned output	Project delay of between 7-9% of GPSC's planned production Resulting in 7-9% different in output against GPSC's planned output	- Project dela" 'SPSC's ad product' Resulti 6% different in tagains 's anned o.	- Project de of GPSC's planned production - Resulting ir. 3% different in output against GPSC's plan output.		Should focus only on impact on key GPSC's activity			
			Option 1	Extremely loss in both GPSC's Financial and Business Oppunity	Highly loss in both GPSC's Financial and Business Oppunit	GPSC's b s or al interruption	∴ effects on GPSC's operating cost					
6.3	Quality Impact level of that Supplier to GPSC's	Paguired	Option 2	More than 20% reduction in GPSC's Product/Service deliverability	10-20% reduction in GPSC's Prod Prvice deliverability	reduction SC's Product/Service deliverability	Less than 5% reduction in GPSC's Product/Service deliverability					
0.5	opportunity/Deliverability/Planned Production or output	Required	Option 3	- Project delay of more than 10% of GPSC's planned production Resulting in 10% or more different in output against GPSC's planned output	- Project delay of between 7-9% o. 'anned production - Resultin % different in outpu 15 's planned c	Pr 1elay of L n 5-6% of GPSC's planned rod. Resu 5-6% dit in output against GPSC's lanned it	- Project delay of less than 5% of GPSC's planned production - Resulting in less than 5% different in output against GPSC's planned output		efficiency			
7	Environment								Should focus on some specific industry only			
	Air Pollution Impact level of the Material/Service		Option 1	Damaged area is between 5-10 km from the accid	Damaged is less t m from the a nt point	amaged area is only within the operating site	Very slightly effect on damaged area					
7.1	provided by that Supplier to GPSC's Air pollution in terms of damaged/recovery	Required	Option 2	1-2 years recovery time Extremely exceed compliance ant (law:	6-12 mon covery tir	less than 6 months recovery time Slightly exceed compliance requirement (laws and	-					
	time/law and regulation		Option 3	regulations)	Warning l .e governmecy	regulations)	No effect					
7.2	Greenhouse Gas Emission	Required	Option 1	Unknown state pier's manageme approx inplace AND no disclosure o emiss pe 1 & 2	Unknown s of supplier's management approach, m inplace BUT disclose on GHG emission one 1 &	Supplier's Management approach/system is inplace BUT no disclosure on GHG emission scope 1 & 2	Supplier's Management approach/system is inplace AND disclose on GHG emission scope 1 & 2		Check supplier website and their sustainabiltiy report (publicly available)			
	Vibration and Noise Pollution Impact level of the Material/Service		Option 1	Damage is between m from the ent point	area is less than 5 km from the accident point	Damaged area is only within the operating site	Very slightly effect on damaged area					
7.3	provided by that Supplier to GPSC's Vibration and Noise Pollution in terms of	Optional	Option 2		6-12 months recovery time	less than 6 months recovery time	-					
	damaged/recovery time/law and regulation		Option 3	I warning letter form the government agency		Slightly exceed compliance requirement (laws and regulations)	No effect					
	Water Consumption and Wastewater Emission		Option 1	Damaged area iso km from the accident point	Damaged area is less than 5 km from the accident point	Damaged area is only within the operating site	Very slightly effect on damaged area					
7.4	Impact level of the Material/Service provided by that Supplier to GPSC's	Required	Option 2	1-2 years recovery time 6-12 months recovery time		less than 6 months recovery time	months recovery time -					
	Water Consumption and Wastewater Emission in terms of damaged/recovery time/law and regulation		Option 3	Extremely exceed compliance requirement (laws and regulations)	Warning letter form the government agency	Slightly exceed compliance requirement (laws and regulations)	No effect					
	Waste Management Impact level of the Material/Service		Option 1	Damaged area is between 5-10 km from the accident point	Damaged area is less than 5 km from the accident point	Damaged area is only within the operating site	Very slightly effect on damaged area					
7.5	provided by that Supplier to GPSC's Waste Management in terms of	Required	Option 2	1-2 years recovery time	6-12 months recovery time	less than 6 months recovery time	-					
	damaged/recovery time/law and regulation		Option 3	Extremely exceed compliance requirement (laws and regulations)	Warning letter form the government agency	Slightly exceed compliance requirement (laws and regulations)	No effect					



ESG risk assessment

Risk Evaluation Result of suppliers shall be used to classified suppliers into groups for Inventory Management, Operational Strategy Set-up and Supplier Relationship Management

Sustainability Risk E4 E3 **E2 E**1 M11 **H7** E6 E5 L14 M12 H9 **H8** L16 L15 M13 H10 **Supply Risk**

The risk rating of suppliers are put into risk matrix to finalize the combined risk of the suppliers for further Supplier Categorization and Classification

Bottle Neck

Critical

Routine

Expenditure

Suppliers are categorized into groups based on their risks and expenditures for Inventory Management and operational strategy identification i.e. Sourcing strategy Key Strategy

Managed Key

The risks and expenditures are also used to identify the Relationship that GPSC should have with the supplier i.e. Partnership

Expenditure



ESG risk assessment

The identification of high ESG Risk Suppliers

- High ESG Risk Suppliers refer to Supplier who has high risks on ESG issues that can cause significant both financial and non-financial impact on GPSC Group. This includes the following 3 aspects:
 - Environmental: Air Pollution, Greenhouse Gas Emission, Vibration and Noise Pollution, Water Consumption and wastewater emission, Waste
 Management, Energy Consumption Management, Biodiversity, Environmentally Friendly materials, and Law and Regulations related to other Environmental issues.
 - Social: Anti-corruption, Fair Competition of Supplier, Labor Relations, Human Rights, Privacy and Intellectual Property, Impact on Health and Safety including security of surrounding community, Emergency Preparedness, Accident Linked to Environmental and social Impact
 - ☐ Governance: Business Ethics and Integrity, Cybersecurity and privacy protection
- Suppliers who has total sustainability risk score = 4 (High) will consider as High ESG Risk Supplier

Sustainability Risk Level	Total score	Risk Management Measures
Normal	1	Internal monitoring and assessment
Low	2	Self ESG-Assessment by supplier
Medium	3	 Internal monitoring and assessment Self ESG-Assessment by suppliers
High	4	 Comprehensive ESG-Audit with corrective action plans External Sustainability Audit Supplier Performance Follow-up



Content: GPSC supplier ESG Program

No.	Content	Page
1.	Introduction	3-6
2.	Supply Chain ESG Risk Management	8-12
3.	Supplier ESG Screening	14-30
4.	Supplier Assessment and Development	32-48
4.1.	Supplier Assessment	32-38
	 Supplier on-site assessments (2nd and 3rd party assessment) - Comprehensive ESG Risk Assessment 	32-38
	Standards and methodologies for supplier Assessments	34
4.2.	Supplier Development	39-48
	Supplier corrective action/improvement plans	39-42
	Supplier information/trainings	43
	Supplier access to ESG benchmarks against peers	44
	Supplier support on corrective/improvement actions	45-46
	In-depth technical support programs	47-48
5.	KPI and Performance for Supplier ESG Programs	50-52



Supplier on-site assessments (2nd and 3rd party assessment)

Supplier Comprehensive ESG Risk Assessment (Methodology)

Supplier who has no decent ESG Comprehensive ESG management approach (e.g. ESG relevant standards) in place Assessment Frequently: Annually (Site-visit/Online) GPSC Group's Critical and high ESG Risk Supplier Other external audit on Governance. Frequently: Every three years Environmental and Supplier who has decent ESG Social Performance management approach (e.g. ESG relevant

standards) in place

GPSC Group perform a comprehensive ESG Assessment (site-visit and online) using two main programs:GPSC Group's Supplier ESG Assessment by company

- GPSC Group's Supplier ESG Assessment by company staff or external consultant (2nd party assessment) and independent accredited party (3rd party assessment)
- PTT Group's Supplier ESG Assessment (Joint-Program) by co-assess with PTT Group's staff or external party assessment

GPSC Group also accept other comprehensive assessment verifications performed through international standards/ third party certification/ audit / verification by specialist including:

- Financial Audit
- ISO 9001
- ISO 14001
- ISO 45001

Assessment

- OHSA 18001
- Other ESG relevant standards

This ESG assessment uses to identify the existing external party assessment on ESG issues via company desktop review, direct follow-up, e-mail, telephone etc.

Supplier on-site assessments (2nd and 3rd party assessment)

Supplier Comprehensive ESG Risk Assessment (Methodology - Site Visit)



To support the sustainable development of suppliers, GPSC Group performs a comprehensive company online and on-site to access environmental, social, and governance risks on suppliers. The assessment is carried out purchasing company employees or external consultant (2nd party assessment) and independent accredited auditing body (3rd party assessment) such as MASCI (Management System Certification Institute(Thailand)) Accredited auditor of ISO Standard, Eco Factory, Green Industry, and KPMG (KPMG Phoomchai Business Advisory Itd).

The audit results are used as input into identifying solutions or ways to improve suppliers' efficiency and compliance with the Supplier Sustainable Code of Conduct. The details of the minimum audit criteria are as follows:

- Supply Chain Management
- Quality Standard
- Law and Regulation Compliance
- Business Continuity Management
- Supplier Code of Conduct and Anti-Corruption
- OHS
- Environmental Management
- Human Rights
- Emergency Preparedness and Response
- Social Responsibility

Findings, gaps, and recommendations will provided to supplier for improvement to meet GPSC Group's expectation where GPSC Group conducted a monitoring follow-up based on annual basis

Standards and methodologies for supplier Assessments

GPSC adopts and applies multi recognized standard questionnaires for carrying out the comprehensive ESG Assessment. These standards are;

- ISO 26000
- ISO 9001
- ISO14001
- OHSAS18001
- ISO45001
- SA8000ISO27001

- ISO37001
- ISO22301
- ISO31000
- GRI Standard
- ISO20400
- AA1000

The assessment is performed by the accredited auditors using Evidence-based assessment methodology.



Supplier on-site assessments (2nd and 3rd party assessment)

Score Level and Definition

GPSC Group defines supplier assessment with the full score of 4 where suppliers must earn more or equal to 2.5 point in order to pass GPSC Group's ESG assessment. Suppliers who has score less than 2.5 point will be excluded from Bidding invitation and contracting if they cannot join the improvement program and improve ESG performance to meet higher score within 1 year of improvement. The process ensure that GPSC incorporate ESG performance in suppliers' selection which is to guarantee that sustainability is embedded into supplier selection and contract awarding.

The definition of score level is summarized as follows:





Supplier on-site assessments (2nd and 3rd party assessment)

Supplier ESG Comprehensive Assessment (Medium Term Plan)

Objective: To migrate SCM risks and creating sustainable value of Supply Chain Management through ESG Risk Evaluation and Assessment Framework

Total Supplier (Fuel & Non-Fuel): ~1,600
Critical Supplier & High Risk Supplier: ~60
Target to complete 60 suppliers ESG Assessment: Y2024

#	Activity	2021			2022				2023				2024			2025 Onward			ard
1	Supplier Risk Evaluation by Purchaser									Evaluate on S4			e on S4Hana						
2	Supplier ESG-Self assessment																		
3	Critical Non-Tier 1 Identification Workshop																		
4	Supplier ESG Assessment				17	17					15			13					
5	Follow-up Improvement Plan																		
6	Accumulative Critical Suppliers being Assessed			444	17		443	34			44	17		#	160			4 460	D+

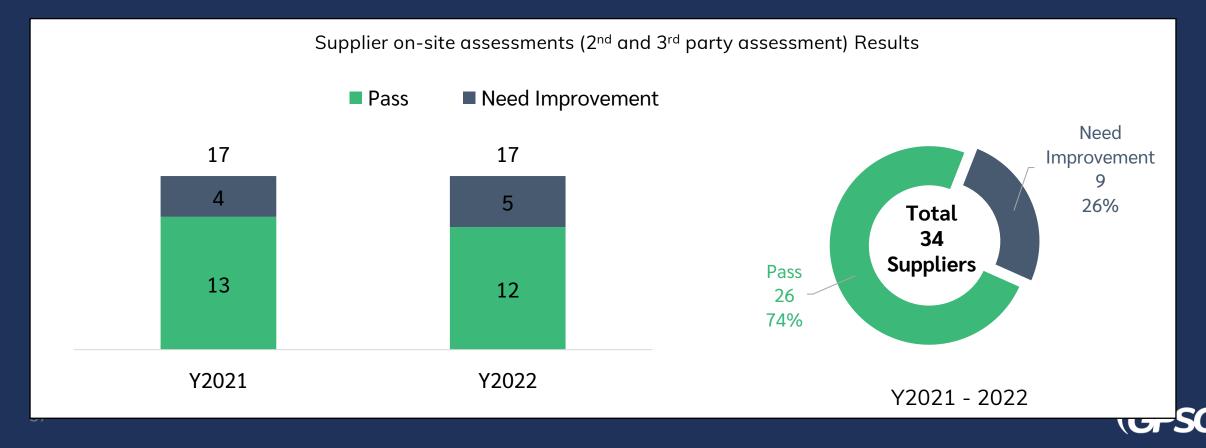


Supplier on-site assessments (2nd and 3rd party assessment)

Supplier ESG Comprehensive Assessment (Result, 2021 – 2022)

Assessment Result (2021 – 2022)

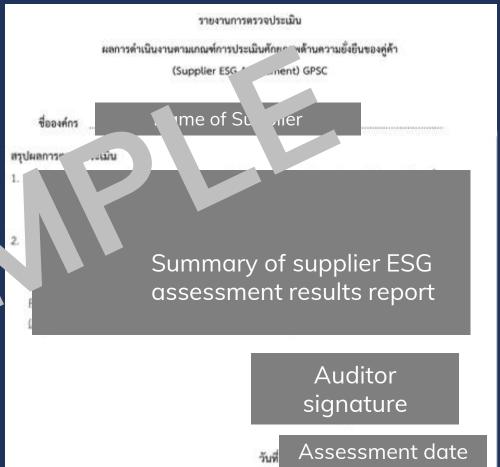
GPSC Group has done the ESG comprehensive assessment of 34 suppliers in 2021 – 2022. 74% of Assessed suppliers pass the required score of 2.5 points while 26% (9 suppliers) are processed to the improvement program *See next slide for Example of ESG Comprehensive Audit Result



Supplier on-site assessments (2nd and 3rd party assessment)

Example of Supplier ESG Comprehensive Assessment Report







- The corrective action plan shall be proposed by suppliers who are interested to improve their ESG Performance based on the findings, gaps, and recommendations GPSC Group provided in Supplier Feedback of the assessment result.
- GPSC Groups conducts a monitoring and follow-up based on monthly and quarterly basis by 3rd Party using online assessment.
- Suppliers shall submit their evident of actions via email to GPSC Group to evaluate.
- The advisory service are provided to the suppliers during the improvement program until suppliers reach the expectation score.



Monitoring and Follow up Process

- Online Assessment
- Monthly and/or Quarterly Basis



Assessor / Advisor

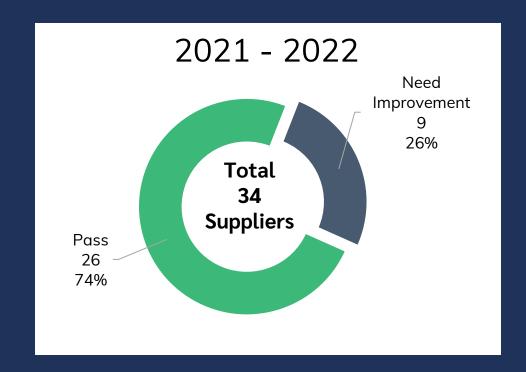
External Auditor (3rd Party)

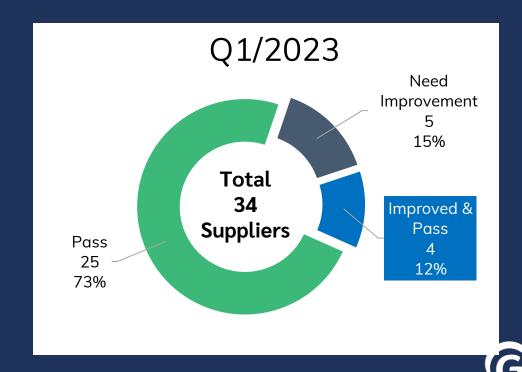


Updated Result as of Q1 2023

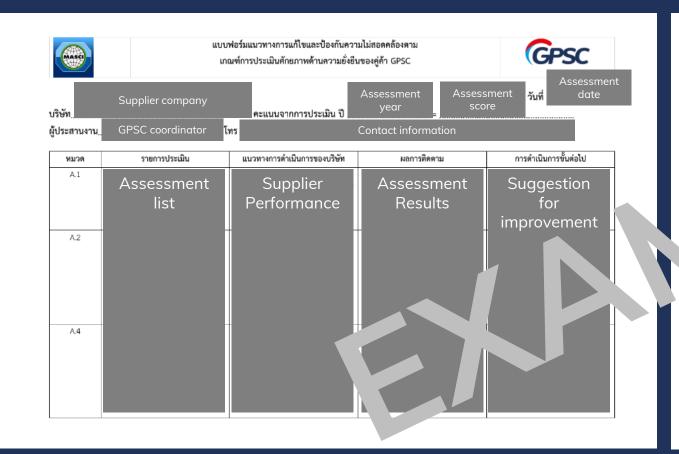
- In 2021 2022, all suppliers whose did not meet GPSC's expectation have joined the improvement program (9 Suppliers)
- 44% (4 Suppliers) have improved their score and pass GPSC Group's expectation
- The improvement result is as show below;

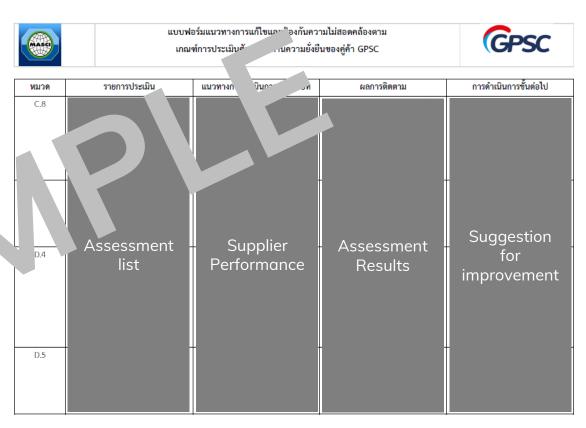
*See next page for the example of improvement plan and follow-up report





Example of Follow-up Report

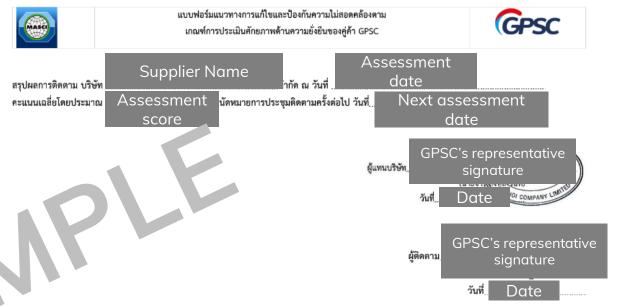






Example of Supplier Performance Monitoring report







Supplier information/trainings

GPSC conducts the supplier day for providing information/trainings on company's supplier ESG program, process and requirements. These sessions were conducted on 8 November 2022 with more than 350 suppliers participated through online channel.

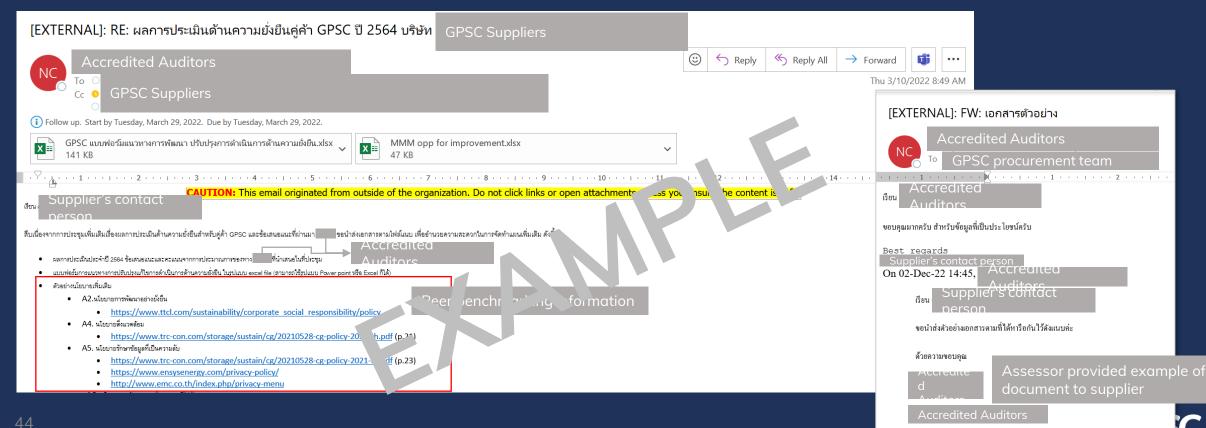






Supplier access to ESG benchmarks against peers

GPSC has developed the peer benchmarking information platform for providing an opened performance information on specific areas and case studies for improving the supplier ESG performance. Moreover, suppliers can request more detailed information form GPSC for the more specific information for more insight.



หัวหน้านักวิชาการ

Supplier support on corrective/improvement actions

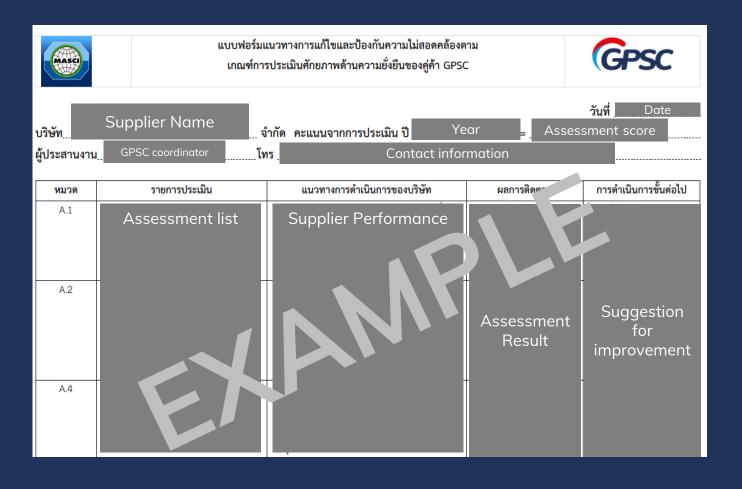
GPSC supports, both remote and on-site, suppliers on implementation of corrective/improvement actions in term of keeping monitoring their performance and giving feedback for further improvement





Supplier support on corrective/improvement actions

Example of the supplier support on implementation of corrective/improvement actions





In-depth technical support programs

GPSC regularly provides in-depth technical support programs to build capacity and ESG performance for suppliers, such as occupational health and safety (OHS) training for supplier and contractor who have to work in the operation site with the expectation to Zero incident at work that GPSC places the issue at the key priority.

In 2022, several in-depth technical support programs were delivered to the selected suppliers to raise knowledge on the following topics with more than 350 suppliers joined in the sessions:

- Quality, Security, Safety Health and Environment
- Corporate Cyber Security Awareness
- Sustainability and Climate Change









In-depth technical support programs

GPSC also encourages and supports suppliers to apply for Green Industry (GI) Level 1-2 Certification through the medium-term program (5 years). Selected group suppliers shall be invited to join the program based on the type of their products and services, and their ESG risk level. The objective of the program is to support suppliers in continuous improvement and enhance the sustainable development of suppliers. The definition of GI Level 1 and 2 are as follows;

Gl Level 1 Green Commitment: Commitment demonstrated by policy, goals and action plans to reduce environmental impacts, and effective organizational internal communication

Gl Level 2 Green Activity: Activities in compliance with policy, goals and plans which have been set to reduce substantially environmental impacts as commitment states

No.	Activity	2022	2023	2024	2025	2026	2027
1	Supplier Selection and Grouping						
2	Support Suppliers to achieve GI L1 Certification with all PTT Group						
3	Support Suppliers to achieve GI L2 Certification						
3.1	Supplier Selection						
3.2	Supplier GI2 Training by accredited consultant (GI2 Importance, benefit and application methodology)						
3.3	Implementing Period (supplier arrange plans and update progress						
3.4	Consulting Period and Document Review						
3.5	Suppliers apply for GI L2 Certification						
48 4	Annual Summary						G

Content: GPSC supplier ESG Program

No.	Content	Page
1.	Introduction	3-6
2.	Supply Chain ESG Risk Management	8-12
3.	Supplier ESG Screening	14-30
4.	Supplier Assessment and Development	32-48
5.	KPI and Performance for Supplier ESG Programs	50-52
5.1.	KPIs for Supplier Screening	50
5.2.	KPIs for Supplier Assessment and Development	51-52
	 KPIs for Supplier Assessment 	51
	 KPIs for Suppliers with Corrective Action Plans KPIs for Suppliers in Capacity Building Programs 	52



KPIs for Supplier Screening

KPIs for Supplier Screening	2022
1.1 Total number of Tier-1 suppliers	1,440
1.2 Total number of significant suppliers in Tier-1	63
1.3 % of total spend on significant suppliers in Tier-1	89%
1.4 Total number of significant suppliers in non Tier-1	1
1.5 Total number of significant suppliers (Tier-1 and non Tier-1)	64

Notes:

significant suppliers includes suppliers who are classified as critical, high ESG risk suppliers or both



KPIs for Supplier Assessment and Development (1/2)

KPIs for Supplier Assessment	Performance 2022	Target 2022
1.1 Total number of suppliers assessed via desk assessments/ on-site assessments*	64 (100%)	64 (100%)
1.2 % of significant suppliers assessed	100%	100%
1.3 Number of suppliers assessed with substantial actual/ potential negative impacts	5	5
1.4 % of suppliers with substantial actual/potential negative impacts with agreed corrective action/improvement plan	100%	100%
1.5 Number of suppliers with substantial actual/potential negative impacts that were terminated	0	0

Notes: * For suppliers which were identified as significant in the supplier screening process.



KPIs for Supplier Assessment and Development (2/2)

KPIs for Suppliers with Corrective Action Plans	Performance 2022	Target 2022
2.1 Total number of suppliers supported in corrective action plan implementation*	5	5
2.2. % of suppliers assessed with substantial actual/potential negative impacts supported in corrective action plan implementation	100%	100%
KPIs for Suppliers in Capacity Building Programs	Performance 2022	Target 2022
3.1 Total number of suppliers in capacity building programs*	64	100%
3.2 % of significant suppliers in capacity building programs	100%	100%

Notes: * For suppliers which were identified as significant in the supplier screening process.



THANK YOU

