



PTT Exploration and Production Public Company Limited

PTTEP Sustainability Reporting Guideline


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0	Water Management Guideline	SSHE – 106-GDL-523	April 2013
0	Energy Efficiency Guideline	SSHE – 106-GDL-524	July 2013
0	Gas Flaring and Venting Reduction Guideline	SSHE – 106-GDL-527	Feb 2013
0	Biodiversity Management Guideline	SSHE – 106-GDL-522	May 2013
0	Corporate Spill Contingency Plan	SSHE – 106-PDR-503	Dec 2011
1	Emergency Management Plan	SSHE – 106-PDR-502	Aug 2011
1	Crisis Management Plan	SSHE – 106-PDR-501	Aug 2011
1	Environmental Performance Reporting Procedure	SSHE – 106-PDR-612	Aug 2012
0	Waste Management Guideline	SSHE – 106-GDL-521	June 2012



Table of Contents

	Page	
1	Introduction	1
2	Developing a Strategy	2
	2.1 Defining Materiality	2
	2.2 Stakeholder Inclusiveness	7
3	Boundary Setting	9
4	Quality of Information	11
5	Report Context	12
	5.1 Reserve-Resource Management and Financial Performance	14
	5.2 Risk and Crisis Management	16
	5.3 People and Process Safety	18
	5.4 Supply Chain Management	21
	5.5 Managing Impact to Community	25
	5.6 Climate Strategy	27
	5.7 Energy Efficiency and GHG Reduction	30
	5.8 Release to the Environment	31
	5.9 Water Related Risk Management	33
	5.10 Biodiversity and Land-Use Management	35
	5.11 Waste Management	37
	5.12 Technology	38
	5.13 Social Impact Management	40
	5.14 Stakeholder Engagement	42
	5.15 Human Rights	44
	5.16 Corporate Citizenship and Philanthropy	46
	5.17 Human Capital Management	48
	5.17.1 Human Capital Development	48
	5.17.2 Talent Attraction and Retention	50
	5.18 Corporate Governance and Business Ethics	52
	5.19 Transparency and Financial Contribution	54
6	Assurance Checkpoints	55
7	Appendix 1: G3.1 Content Index - Oil & Gas Sector Supplement (OGSS)	60



List of Figures

		Page
Figure 1	GRI Materiality Matrix	3
Figure 2	Materiality Determination Process	4
Figure 3	PTTEP 2012 Materiality Assessment Result	5
Figure 4	Suggested Reporting Channels Strategy	5
Figure 5	PTTEP 2012 Sustainability Reporting Strategy	6
Figure 6	Scope and Boundary	9
Figure 7	PTTEP Sustainable Development Framework and Context	12
Figure 8	PTTEP Green Practice Roadmap	23

List of Tables

		Page
Table 1	SD Scope and PTTEP's Responsible Functions	3
Table 2	Stakeholder Groups and Their Aspects of Concern and Communication Channels	7
Table 3	Reporting Basis and Reporting Levels	10
Table 4	Material Socio-economic Aspects	56
Table 5	Material Environmental Aspects	56
Table 6	Material Social Aspects	58



1 Introduction

Sustainability Reporting is a practice of disclosing outcomes and results that occurred within a reporting period in the context of the organization's commitments, management approach, and organizational performance on economic, environmental, and social issues. PTTEP, recognizing the importance of sustainability disclosure, has developed the Sustainability Reporting Guideline. The Guideline is a tool that provides information on various aspects of sustainability reporting starting from the beginning throughout the reporting methods, as well as the principles behind these processes.

Most organizations embark on sustainability reporting as a way to show commitment to transparency, to demonstrate the ability to participate in competitive markets, to plan activities and become more sustainable, and to comply with regulations. The benefits of sustainability reporting include understanding of risks and opportunities, recognition of the link between financial and non-financial performance, ability to create long-term management and business plans, comparability in the benchmarking system, reputation and brand loyalty, and opportunity for stakeholders' involvement.

Based on the principles which will be further discussed, the information reported must be accurate, relevant, transparent, and balanced account of PTTEP's Sustainability performance, in accordance with stakeholder expectations. PTTEP reports its Sustainability performance at the corporate level in general accordance with Sustainable Reporting Guidelines of Global Reporting Initiative (GRI) and standard industry practices, i.e. International Petroleum Industry Environmental Conservation Association (IPIECA). In addition to GRI, Dow Jones Sustainability Indexes (DJSI) is another international benchmarking tool that enables organizations who have already achieved certain levels of financial capability to measure their sustainability performance in all important aspects of the organizations with industry peers.

This Guideline is established to provide a set of principles and framework, focusing on the key steps required for preparing annual Corporate Sustainability Report.



2 Developing a Strategy

Corporate Sustainability Reports are different from company to company, reflecting the uniqueness of the company's strategy and the industry. Materiality guides the company's effort while sustainability KPI provides focus for performance. Both ensure relevance of the activities as well as reporting strategy. This section describes the process involved in defining materiality, report structure, reporting boundaries, and sustainability reporting strategy.

Materiality is an important tool used to assess significance issues based on the company and stakeholders' interest. It is a way of strategic communication that presents issues or factors that are important for both the company and stakeholders. It also plays a role in defining the direction in which the company should be heading. The materiality process should be clearly reported in the sustainability report and /or annual report. It is beneficial for a company to conduct a formal materiality process with regard to GRI's guideline since GRI G4 requires organizations to report out materiality process results as an indicator in contrast to a recommended step in GRI G3.1. Noted that the materiality process is a reporting strategy rather than a business strategy.

2.1 Defining Materiality

The most fundamental decision to make in preparation of the Corporate Sustainability Report is to identify issues and indicators to be included in the report. Establishing materiality will guide the breadth of the content and depth of detail to ensure both clarity and relevance. The term 'materiality' refers to a threshold to determine whether an issue merits inclusion in a report¹, i.e. relevance and significance to an organization and its stakeholders². Beyond the threshold, not all material topics will be of equal importance and the emphasis within the report should reflect the relative priority of these material topics and indicators.

- 3 -/ Figure 1 GRI Materiality...

¹IPIECA, API and OGP, *Oil and gas industry guidance on voluntary sustainability reporting*, 2nd Edition, 2010.

² AA1000

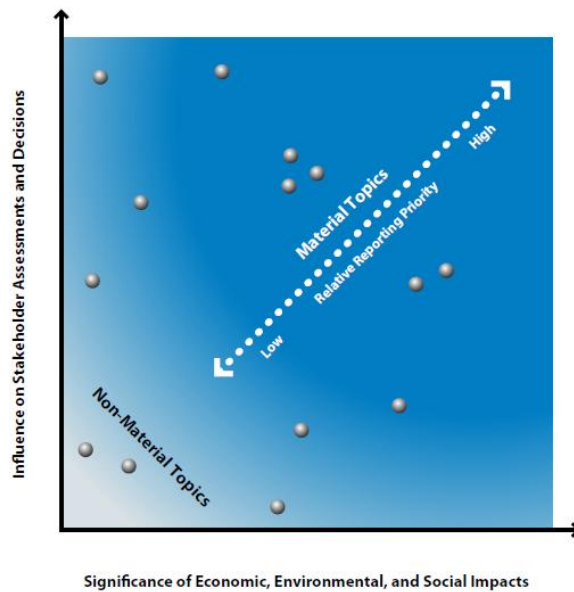


Figure 1 GRI Materiality Matrix

Reference: GRI. Sustainability Reporting Guidelines & Oil and Gas Sector Supplement Version 3.1 /OGSS Final Version 2000-2012, P. 17.

Materiality can be defined through a process of desktop background research, internal discussion and agreement at a ‘materiality meeting’ which is recurrent on a yearly basis. Due to its strategic nature, materiality process should involve cross functional members of core operations at PTTEP. At minimum core parties operating under PTTEP’s Sustainable Development strategy should involve in the process.

Table 1 SD Scope and PTTEP’s Responsible Functions

SD Scope	Division/Department
Economic	FNA, SSP, OSC
Environment	CEM, OSC /O
Social	HRS, CCR, CSH
E&P Specifics	HKM, Operating Assets
Governance	FRM, CCS

To ensure a consistent approach in materiality determinations, PTTEP adopts Materiality Framework outlined in ‘The Materiality Report’ by AccountAbility, November 2006 and Sustainability Reporting Guidelines by GRI, 2000. The process for determining the material issues to be included in the Sustainability Report is summarized in the next diagram.

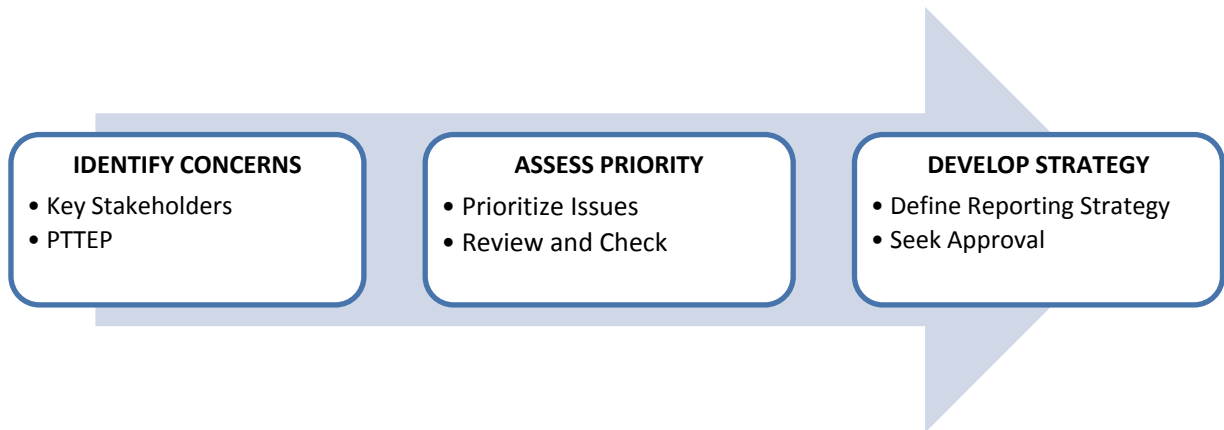


Figure 2 Materiality Determination Process

STEP 1: Identify Sustainability Context and its Significance (Prior to Materiality Meeting)

1. Identify significant issues based on the PTTEP Sustainability Development framework and Corporate Risk Matrix.
2. Rank issues based on the current business strategy as well as performance target.
3. Conduct Stakeholder Mapping and identify key stakeholders.
4. Evaluate key stakeholders' concerns received throughout the years from various engagement channels including direct contact, publically announce, future trend. A survey may be adopted to gain input from stakeholders.
5. Review its relevancy against industry benchmarking information and /or expert review.

STEP 2: Assess Sustainability Context's Priority (during Materiality Meeting)

1. Review and assess sustainability risks and opportunities through the panel materiality process.
2. Use 4x4 Assessment Matrix similar to the risk assessment process to rank each sustainability context by its perceived significance to stakeholders and to PTTEP in the scale of 1-4. Regarding significance an external stakeholder places on sustainability context; PTTEP may consider the significance through the lens of international organization such as DJSI Assessment, WBCSD Vision 2050 Roadmap, UN Millennium Development Goals, and PTT Group Sustainability Framework.
3. Review the ranking of each context and seek an approval from senior management on material context.

Remark: The material matrix derived from this process reflects reporting priority, not PTTEP management priority. All issues evaluated are relevance and material to PTTEP operation. However, for strategic communication purpose, issues fall under high significance to stakeholders and high significance to PTTEP will be reported in the annual sustainability report from management approaches to their performance.

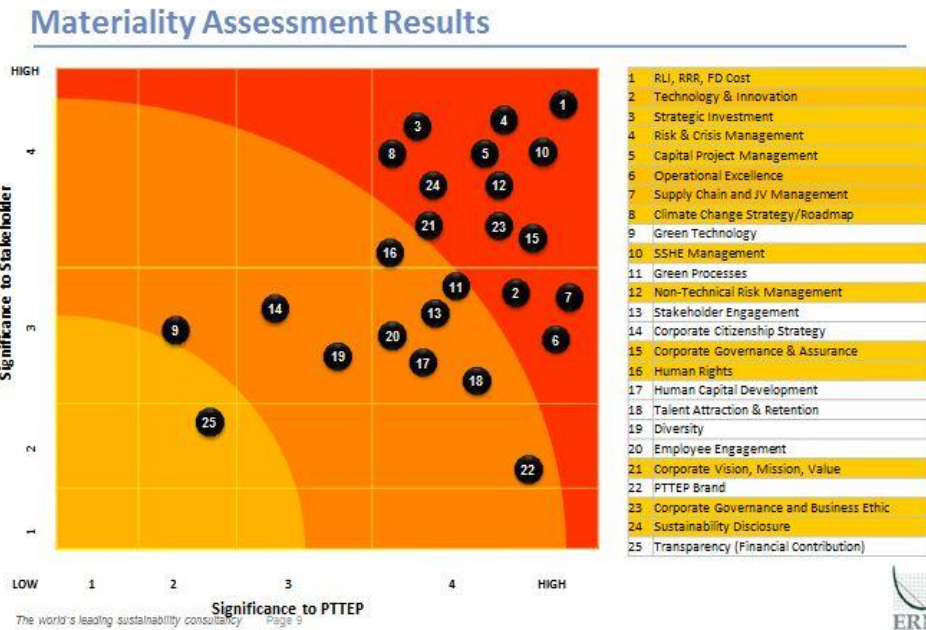


Figure 3 PTTEP 2012 Materiality Assessment Result

Issues with low significance score either from PTTEP’s standpoint or stakeholders’ standpoint are recommended to be reported through website. These aspects may include standard operations and KPIs, sustained programs or practices where PTTEP had been reporting the management approach in prior years. The management approach and policy for these aspects should be hosted on company website and only report progress and performance on a regular basis without repeating the policy or practices.

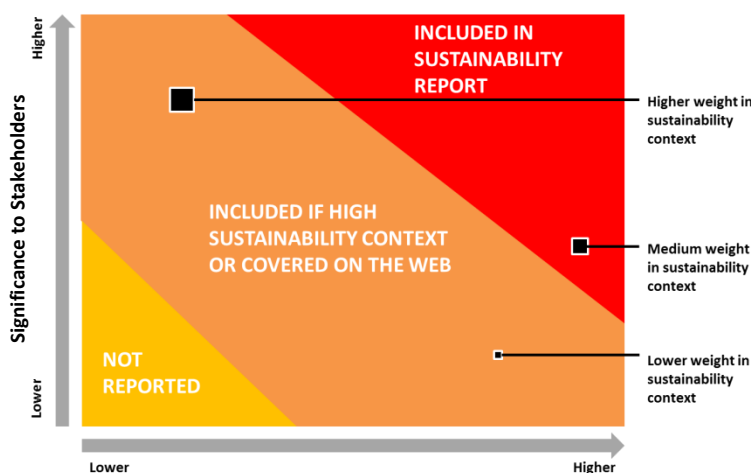


Figure 4 Suggested Reporting Channel Strategy



STEP 3: Develop Reporting Strategy

1. Align the aspects in the reporting zone with PTTEP strengths, vision, current strategy, and target (e.g. DJSI). This includes the review of local and international initiatives as well as key performance results falling under the reporting aspects.
2. Consider external issues, topics of high interest in the E&P sector, list out initiatives and performances pose as opportunity to mitigate PTTEP risks.
3. Develop compelling integrated reporting strategy, theme with supported key case study as evidence of performance.
4. Identify GRI indicators required to describe the performances in those areas. Note that the availability, scope and boundary of accessible data should be considered at this step where story is crafted.

Remark: The numbers of indicators reported will affect the organization's GRI Application Level received. There are 3 Application Levels under GRI G3.1 titled C, B, and A. The reporting criteria at each level reflect a measure of the extent of application or coverage of the GRI Reporting Framework. A "plus" (+) is available at each level (ex., C+, B+, A+) if external assurance was utilized for the report. Under GRI G4, there are two options for the organizations to prepare the sustainability reports. The two options are Core and Comprehensive which designate the content to be included for the report to be prepared 'in accordance' with the Guideline. Reference: Global Reporting Initiative. (2000-2011). GRI Application Levels Version 3.1.

5. Review the reporting strategy by the internal and external advisory panel to ensure relevancy and appropriateness.
6. Seek approval from management.

PTTEP Profile		High Light	Performance	
Growth Strategy Maximize Value of Current Assets Dynamic Portfolio Management	Leading Asian E&P 900kbd by 2020, R/P >=10 years Competitive performance	Access to next generation assets 1 3 2	Success from AA, KKD, Cove • RLI, RRR • FD cost • ROCE	
		Protecting the value of capital projects 4 5 6 7	Evolving role in Myanmar • Reliability • Spills • LTIFR	
	Green Practices Sustainable organic growth Unconventional resources	Licence to operate through ESG excellence, coupled with contribution to communities 10 11 12 16	SD Roadmap Conservation Low Carbon Social Contribution	• GHG Reduction • Energy Efficiency • Flaring • Spill Prevention • Human Right • SROI
		Ability to mitigate carbon risks 8		
Human Capital Organizational Foundation	Technology Competence DJSI by 2014, Top Quartile by OGF World Sustainability Indexes by 2020	Skilled human resources to enable advanced technology and innovation Creating an integrated sustainability performance culture 15 23 24 21	Technology Center / TCL SD Governance & Culture	• Strategic hire in key technical areas • Technology / KM Platform • SD Governance Structure & MS • Fairness & Transparency
Governance		Risk Management	Stakeholder Engagement	

Figure 5 PTTEP 2012 Sustainability Reporting Strategy



2.2 Stakeholder Inclusiveness

The materiality should be aligned with the significant issues from of the stakeholders and the organization. As a result, GRI uses the Stakeholder Inclusiveness as one of the principles for defining report content. An engagement with stakeholders and within the organization itself would allow the organization to acknowledge the viewpoints of the stakeholders and the employees and therefore the level of materiality or priorities of each issue.

The overall approach should be sufficiently effective to ensure that stakeholders’ needs are properly understood. These processes should be capable of identifying direct input from stakeholders as well as legitimately established societal expectations and be able to balance conflicting view in reaching reporting decisions.

To ensure inclusiveness, a variety of communication channels as well as scope of stakeholders’ concerns were included in the external engagement landscape in the 2012 Sustainability Report as the following table. PTTEP should plan and keep record of the concerns raised and action implemented as a baseline for materiality assessment as well as for reporting stakeholder dialogues.

Table 2 Stakeholder Groups and their Aspects of Concerns and Communication Channels

Stakeholders	Aspects of Concerns	Communication Channel
GOVERNMENT & REGULATORS	<ul style="list-style-type: none"> • Energy Policy • Environmental Impact Assessment (EIA) & Permitting Process • Tax • Regulatory requirement 	<ul style="list-style-type: none"> • Formal membership in Advisory Board, Councils • Seminars /conferences /discussion groups • Responses to enquiries • Direct report of public hearing results
LOCAL COMMUNITIES	<ul style="list-style-type: none"> • Environmental Impact Management • Community Development • Effective Issue Management 	<ul style="list-style-type: none"> • Public hearings • Seminars, conferences, lectures at universities • CG hotlines • Surveys, research, external evaluations /assessments • Websites and social media • Site visits, community visits • Partnerships, sponsorships • CSR Activities



Table 2 Stakeholder Groups and their Aspects of Concern and Communication Channels (Continued)

Stakeholders	Aspects of Concerns	Communication Channel
SHAREHOLDERS AND CAPITAL OWNERS	<ul style="list-style-type: none"> • Return on Investment • Sustainable Growth • Good Governance 	<ul style="list-style-type: none"> • Formal meetings: Annual Shareholders' meeting, quarterly webcasts with shareholder participation, dialogues with analysts • Investor Relations: Telephones • E-mail consultations, conferences, investor meetings • Website postings • Speeches with stock market institutions, credit rating meetings
SUPPLIERS, CONTRACTORS	<ul style="list-style-type: none"> • Business Directions & Collaboration • Safety, Security, Health and Environment • Eco-efficiency • Emergency Response Plan 	<ul style="list-style-type: none"> • Technical Exchange Meetings. • Occupational Risk Evaluation Forum • SSHE Training • SSHE Emergency Response Training and SSHE Contractor Forum • Green Procurement System • Site visits, associations, joint projects
EMPLOYEES	<ul style="list-style-type: none"> • Career Management Program • Safety, Security, Health and Environment • Compensation and Benefit 	<ul style="list-style-type: none"> • Internal communications: newsletters, events, intranet, internal magazine • CEO Town Hall • PTTEP Welfare Committee Grievance, Employee Suggestion Box, CG Help Desk, Whistleblower • Surveys: Annual Employee Satisfaction Survey • Welfare Meeting
NGOS, INDUSTRY ASSOCIATION AND MEDIA	<ul style="list-style-type: none"> • Climate Change /GHG • Process Safety /Spill • Human Rights and Diversity • Oil and Gas Industry Challenges • Water Footprint • Biodiversity 	<ul style="list-style-type: none"> • Regular direct contact and meeting as memberships • Active engagement in forum and guideline review • Site SSHE Committee • SD Working Team meeting

3 Boundary Setting

‘Boundary’ refers to the range of entities whose performance is represented by the report which should include the entities (e.g. subsidiaries, joint ventures, subcontractors, supply chain, distribution, customer, etc.) over which the organization has control or significant influence both within and through the relationships with these entities.

GRI has created the decision tree for boundary setting that sets a minimum expectation for the inclusion of entities both upstream and downstream when reporting on indicators and management disclosures.³

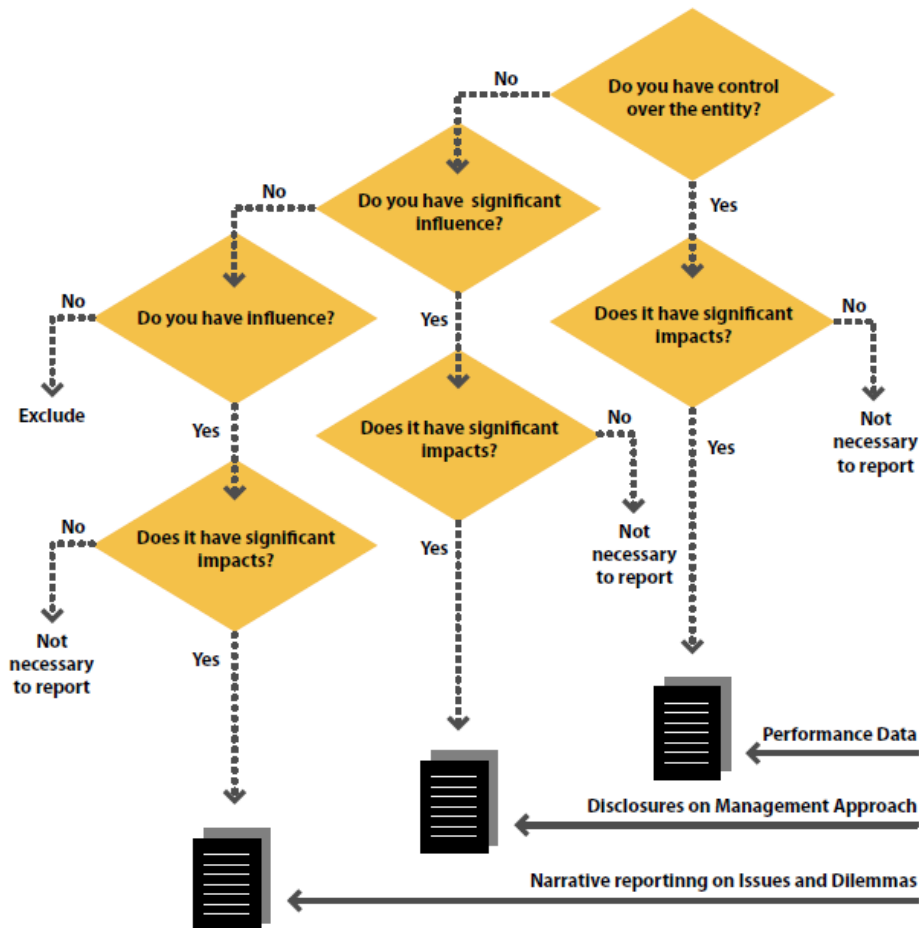


Figure 6 Scope and Boundary

Reference: Global Reporting Initiative. (2000). Sustainability Reporting Guidelines & Oil and Gas Sector Supplement, Version 3.1 /OGSS Final Version 2000 - 2012, Page 27.

³ GRI3.1 – Reporting Guidelines page 26



The Boundary implies that the sustainability report and performance should seek to disclose information from the operational control business unit as follows (Table 3). The reporting level for the operational control and the entities where PTTEP holds 100% shares should cover the management approach, performance data, and narrative reporting on issues and dilemmas (if occur). For entities where PTTEP holds majority share and has a role in managing the operation, the reporting level should cover at least the management approach and narrative reporting on issues. For entities where PTTEP holds a majority share but does not have a role in managing operation, the reporting level covers only the narrative reporting on issues. Information from entities where PTTEP holds a minority share is excluded from the reporting boundary.

Table 3 Reporting Basis and Reporting Levels

Reporting Basis		Reporting Level and Proposed Schedule to be Included in Sustainability Report		
		Performance Data	Management Approach	Narrative Reporting
Operational Control		√	√	√
PTTEP Holds 100% Shares		√	√	√
PTTEP Holds Less Than 100% Shares (Majority Share)	Operating Business		√	√
	Non - operating Business			√
PTTEP Holds Minority Share		Not Report	Not Report	Not Report



4 Quality of Information

GRI has defined several principles which are fundamental for effective reporting. These principles enable stakeholders to make reasonable assessments of the organization's performance and the quality of the information that lead to appropriate actions. The principles⁴ that guide choices on ensuring the quality of reported information include:

- **Balance:** The reported information should reflect both positive and negative aspects of the organization's performance.
- **Comparability:** The information should be selected, compiled, and reported consistently and presented in a manner that enables stakeholders to analyze changes in the organization's performance over time. For GRI reporting, a minimum of three - year historical data is recommended for trend analysis, whereas DJSI reporting requires four years of data.
- **Accuracy:** The reported information should be sufficiently accurate and detailed.
- **Timeliness:** The reporting cycle should be on a regular schedule and information is available in time for stakeholders to make informed decisions. For example, PTTEP distributes the Sustainability Reports to the shareholders prior to the annual shareholder's meeting.
- **Clarity:** The information is made available in a manner that is understandable and accessible to stakeholders.
- **Reliability:** The processes used in the preparation of a report should be gathered, recorded, compiled, analyzed, and disclosed in a way that could be subject to examination and that establishes the quality and materiality of the information.
- **PTTEP shall set a formal process for report assurance either by:**
 - **Reported Performance or Corporate KPI:** should be assured by internal units.
 - **Key Material issues for OIX (Oil Index) industry:** Should be assured by third party.

⁴ GRI3.10GSS – Reporting Principles for Defining Quality Page 22-26



5 Report Context

While all aspects identified in materiality meeting are relevant to PTTEP sustainability context, reporting depth and featuring cases for each year reporting strategy should focus on the aspects of high - high quadrant. Since the material reporting context is derived from the operational material context of PTTEP (i.e. consistent with Corporate Risk Management and Sustainable Development Framework), these contexts tend to remain within radars of both PTTEP and Stakeholder through multiple years with changing priority to current interest of stakeholders. For completeness of the guidance, this guideline provides reporting approach on each of the material aspects outlined in PTTEP's Sustainable Development Guideline.

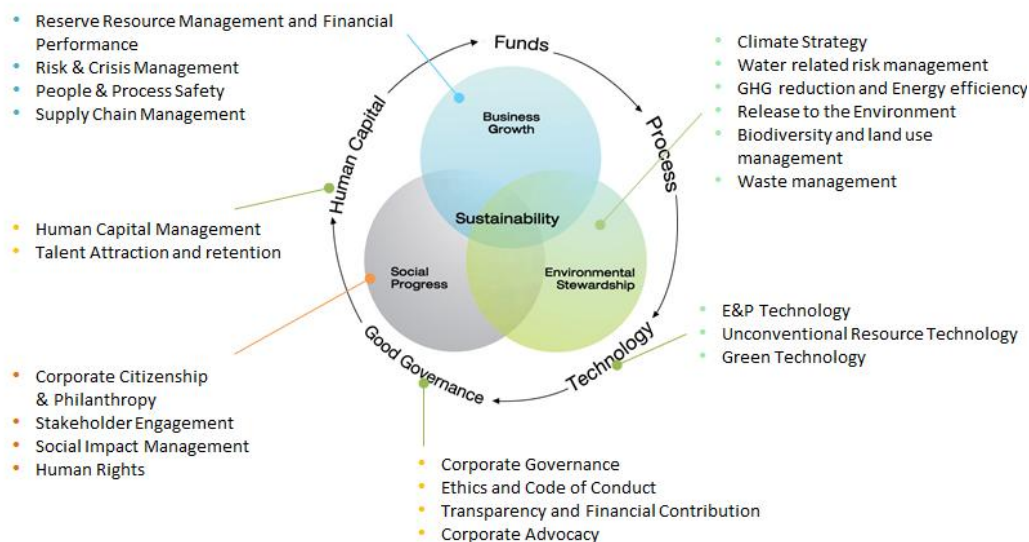


Figure 7 PTTEP Sustainable Development Framework and Context

This section includes guidance on how material sustainability aspects of PTTEP should be addressed in the report which includes:

- Materiality assessment and structure based on PTTEP and /or Expert Panel inputs and definitions.
- Content based on reporting strategy and insight including suggestions from Expert or Review Panels.
- Work - in - progress based on currently available information.
- Basis for further work and refinement based on research, additional information, expert review and PTTEP comments and feedback.



Reporting of the following 11 groups of indicators are governed under Environmental Performance Reporting Procedure (Document No: SSHE-106-PDR-612).

1. Gross Hydrocarbon Production
2. Energy Use
3. Water Withdrawal
4. GHG Emission
5. Air Emission
6. Discharge to Water
7. Waste
8. Spill to the Environment
9. Environmental Non - compliance
10. Environmental Complaint
11. Environmental Expenditure and Investment

Refer to methodologies, scope, definition, and requirements in the Procedure in case of inconsistency with the methodology specified by GRI or DJSI, stating the differences clearly in the report.



Business Growth

5.1 Reserve - Resource Management and Financial Performance

Description:

This section covers Reserve - Resource Management, Reserve Life Index (RLI), Reserve Replacement Ratio (RRR), Finding and Development Cost, and Portfolio Efficiency Management. Strategic Merger & Acquisition refers to acquiring of strategic resource, technology or markets to achieve strong growth and PTTEP's aspiration (900 KBOED).

Key Message:

By integrating global energy challenge and energy outlook into business plan in growing resource enable PTTEP to access to next generation assets. PTTEP should demonstrate a foothold in potential major reserves and gas bias portfolio across the regions.

PTTEP has strategic investment by clearly demonstrating approaches and results of maximized asset value and cost effective acquisition.

Maintaining disciplined in portfolio management enables PTTEP to demonstrate approaches and results to optimize Finding and Development Cost.

Guidance:**Management Approach**

- Explain the context needed to understand complexity & concerns of stakeholders and rationale for strategy.
- Explain the company strategy, policies and initiatives.
- Ensure materiality issues are managed under the strategy.

Practices

- Report progress update regarding strategic investment and portfolio management against plan.
- Highlight numbers for Reserve Growth, Investment, Active Operations, and Return on Investment (ROI).

Suggested Cases:

- Demonstrate strategic partnership with other national or international oil companies to leverage each other's capability to access to new reserve.
- Interview stakeholders, ensure branding, demonstrate collaborative, positive and productive environment.
- Highlight some quotes, statements of other 'aspirations' quoting employees, management, and community.



Performance Measurement:

List of Related GRI Indicators:

- Stakeholder engagement: **4.14 - 4.17**
- Approaches in securing resources for long term business growth:
DMA - EC
- Value distribution & financial performance: **EC1** (Direct Economic Value)
- Reserves replacement ratio (RRR): **OG1** (Reserves & Production)
- Process of site decommission: **OG11** (Decommissioned Sites)

List of Related DJSI Questions:

- 1.5 EXPLORATION AND PRODUCTION
 - 1.5.1 Reserve Life
 - 1.5.2 Reserve Replacement
 - 1.5.3 Finding and Development (F & D) Cost



5.2 Risk and Crisis Management

Description:

Holistic risk and crisis management incorporates key sustainability risks such as SSHE risk, carbon risk, human right and media management requiring certain level of agility to proactively manage emerging risks from environmental regulation, climate change, etc.

Key Message:

PTTEP should demonstrate the ability to recognize risks and be prepared for international expansion tackling on sustainable supply issues i.e. unconventional resource, technology platform and climate change.

Guidance:

Management Approach

- Demonstrate enterprise - wide risk management (governing body, procedure, tool, international standard adopted including graphic).
- Demonstrate corporate risk profile and narrative on risks associated with capital projects in the current reporting year.
- Identify key environmental and social risks and mitigations (narrative).
- Demonstrate Business Continuity Management Plan (narrative).
- Demonstrate Emergency and Crisis Management Plan (narrative).
- Safeguard the fast expansion of operating assets.
 - Demonstrate SSHE and Climate Change issues including management of SD in supply chain through SD risk management.
 - Address the worst case scenarios of the above (Myanmar for Deepwater) through BCM.
 - Manage non - technical risk through Environmental Impact Assessment (EIA) and Social Impact Assessment (SIA) process.
- Apply Carbon and Climate Strategy.
 - Reduce carbon throughout value chain.
 - Set up management approach and key initiatives.
 - Demonstrate the benefits of risk and crisis management in protecting assets (including potential opportunities).
 - Provide proven results in GHG /Energy reduction performance.



Practices

- Demonstrate multi-facet enterprise wide risk assessment and management including Capital Project Management, and Non-technical risk management such as climate change and human right aspects.
- Assess / manage enterprise-wide risk.
- Manage non-technical risk.
- Apply Carbon Strategy and supporting initiatives.
- Demonstrate EIA process and positive impacts resulting from EIA or SIA process.
- Demonstrate stakeholder engagement statistic and positive results.

Key Challenges

- Prepare the future unconventional resources technology in remote environment.
- Provide a healthy environment for employees.

Suggested Cases:

- Demonstrate Business Continuity Management showcases.
- Demonstrate key expansion project with successful Risk and Crisis Management Plan for example Myanmar Deepwater project.

Performance Measurement:

List of Related GRI Indicators:

- Financial Climate Change: **4.11** (Precautionary Approach), **EC2** (Financial Implication)
- Management: **DMA EC, DMA EN, DMA LA**

List of Related DJSI Questions:

1.2 RISK AND CRISIS MANAGEMENT

1.2.1 Responsibility Risk & Crisis Management (incl. Climate)

1.2.2 Analysis of Risks

1.2.3 Risks Correlation

1.2.4 Sensitivity Analysis and Stress Testing

1.2.5 Risk Response Strategy

1.2.6 Crisis and Preparedness

2.5 CLIMATE STRATEGY

2.5.7 Financial Risks of Climate Change

2.7 WATER RELATED RISK

2.7.3 Risk Management – Quantity & Quality

1.4 SUPPLY CHAIN MANAGEMENT

1.4.2 Risk Exposure



5.3 People and Process Safety

Description:

Process Safety is a disciplined framework for managing the integrity of operating systems and processes handling hazardous substances. It is achieved by applying good design principles, engineering, operating and maintenance practices. Asset Integrity is related to the prevention of major incidents. It is an outcome of good design, construction and operating practice while Reliability is the key to safe, predictable, and sustainable production.

Asset Reliability and Integrity Management (ARIM) is a management system which focuses on process safety risk management system to significantly reduce the likelihood of major incidents and minimize its effects.

SSHE Management System (MS) is a principle for operational and risk control throughout the E&P life cycle activities. It outlines the processes to achieve our SSHE vision. SSHE MS is a systematic approach which focuses on occupational safety hazards.

There are three pillars to both SSHE MS and ARIM: People, Plant and Process. ARIM and SSHE MS are fully integrated and aligned to achieve sustained Operational Excellence.

Building a culture of compliance for ARIM and SSHE MS requires a strong SSHE culture. The SSHE climate survey was conducted to examine the status of company SSHE Culture through the levels of maturity on SSHE culture maturity model. As of 2011, PTTEP is between the Calculative and Proactive levels where PTTEP has the system in place to manage all hazards and works on the problem. The ultimate goal is to reach the Generative Level where SSHE is “how we do business around here”.

Key Message:

PTTEP recognizes operation issues and has systematic risk management in place: SSHE MS, Reliability & Integrity Management (Process Safety & ARIMS) to mitigate technical risks (with PREP as defining the business process lifecycle). Proven results in crisis preparedness. Show-case: world-class performance in safety of people, asset and planet.

Robust SSHE Management System integrates the core values in Safety, Security, Health and Environment into every aspect of PTTEP's operation. Vision, Mission, Target and MS are highlighted in website and in prints.



Guidance:

Management Approach

- Demonstrate an overview on Reliability & Integrity Management i.e. Process Safety and ARIM, Operational Excellence, and SSHE MS and SSHE Culture at PTTEP. Highlight the importance of creating SSHE Culture for operational excellence.
- Demonstrate how PTTEP embeds SSHE culture into procedures and practices for existing, new and future employees, for partners, suppliers and other stakeholders. Explain how employees are engaged in a diverse range of roles and responsibilities. Discuss Process Safety - behavioral safety activities and performances.
- Demonstrate the root-cause and trend analysis on lead and lag indicators. Recognize process and personal safety in harsh environment of Deepwater or remote assets (in line with expansion strategy). Describe how PTTEP manages and be prepared for those risks with proven results in crisis preparedness.
 - Describe the emerging risks and challenges from the expansion to remote countries.
 - Describe how PTTEP manages and is prepared for those risks.
 - Demonstrate outstanding results delivered in reporting year(s).
- Demonstrate an evolving role in global business. Highlight challenges and management approaches including human rights, climate change and technology for challenging environment.
- Explain the importance of global integration and emphasize boundary of the report.

Practices

- Demonstrate world-class SSHE & ARIM performance at PTTEP's operating facilities.
- Describe how efficiency increases through smooth and safe operations.
- Demonstrate SSHE culture maturity by explaining contractors' and partners' safe behaviors that are matched with the PTTEP standards.
- Provide evidence of ARIM compliance.
- Target zero initiatives and results.
- Decrease potential impacts and incidents.
- Provide SSHE KPI components and KPI setting.

Suggested Cases:

- Demonstrate top 3 outstanding results delivered in reporting year(s).
- Provide case studies supported with successful OE implementation.
- Interview quote demonstrating SSHE excellence.
- Include performance statistics to demonstrate low impacts such as accidents, spills, reduction in release to atmosphere, and process safety (refer to SSHE KPI for safety indices).



Performance Measurement:

List of Related GRI Indicators:

- Reliability: **DMA-EC**
- Productivity Enhancement: **DMA-EC**
- Process Safety: **DMA LA** (SSHE MS and Program)
- Performance: **LA7** (Injury), **LA8-9** (Prevent Serious Diseases), **OG13** (Process Safety)
- Prevention of Release to environment: **EN23** (Spills), **OG6** (Flare and Vent)
- Lifecycle Impact: **PR1** (Health and Safety Impacts Assessment), **PR3** (Safety Information), **EN29** (Impacts on Transportation)

List of Related DJSI Questions:

3.6 OCCUPATIONAL HEALTH AND SAFETY

3.6.1 Lost-Time Injuries Frequency Rate (LTIFR) – Contractors

3.6.2 Lost-Time Injuries Frequency Rate (LTIFR) – Employees

3.6.3 Occupational Illness Frequency Rate (OIFR) Employees & Contractors

3.6.4 Fatalities (Total Number) Employees & Contractors

3.6.5 HIV /Aids, Malaria, Tuberculosis, Treatment



5.4 Supply Chain Management

Description:

This section focuses on the ability to manage risk and drive sustainability framework with contractors and partners by focusing on zero harm to community and environment, driving SSHE practices, Green Procurement, encouraging local content practice, promoting fair treatment, respecting diversity and human rights.

Key Message:

PTTEP should understand supply chain, SSHE, environmental, social and governance risk profile of PTTEP, especially for international expansion. PTTEP should also establish controls to lower those risk profile and improve financial and operational excellence performances to achieve the 2020 goal.

Guidance:

Management Approach

- Demonstrate division structure and spend analysis processes and tools to identify critical suppliers.
- Demonstrate key risks in PTTEP's supply chain (e.g. SSHE risks, Environmental and Social) and the method /tool for analysis, Risk Measurement System, Environmental Social and Governance (ESG) (such as Standard, Codes of Conduct, Corrective Action Plans and Capacity Building Program). Demonstrate the process used to identify risks in PTTEP's supply chain, and the method /tool used to analyze key risks (e.g. SSHE and Social). How PTTEP systematically guards against SD risks in supply chain.
- Manage ESG issues in Supply Chain and strategic approach to integrate ESG factoring /weighting into procurement process in process of adding climate position into supply chain code.
- Align values and principles to those of JV partners – at the highest common denominator.
- Identify challenges in performing at a world-class level, and identify whether or not the PTTEP's performance matches contractor's or others' that signifies PTTEP as a preferred partner of choice.



Practices

- Demonstrate supply chain initiatives that have delivered clear business benefits in terms of cost reduction, risk reduction or revenue growth.
- Define KPI target for Suppliers and Contractor and strategy for improvement.
- Report Public Report on SCM step approaches and performance.
- Highlight good performance, photos, interviews, etc.
- Apart from the business benefits, the consideration should cover SSHE, Social and Green Practice as well (e.g. GHG reduction along the supply chain, increasing number of environmental friendly products procured).
- Demonstrate performance of contractors with regards to SSHE during the SSHE Contractor Forum and offer awards to contractors who demonstrate SSHE excellence.

Suggested Case:

- Demonstrate spending on local suppliers that supports wealth creation through employment and GDP benefits. Focus on capacity building and collaboration.
- Demonstrate case on local procurement, local hiring in the countries where PTTEP operates.
- Demonstrate the linkage between human rights and supplier codes of conduct.
- Demonstrate how positive sustainability initiatives drive PTTEP in collaboration with partners.
- Provide cases on procurement for products and services with environmental certifications (products with Eco-label, and services with Environmental Management System-EMS- in place).

Performance Measurement:

List of Related GRI Indicators:

- Human rights risk management: **DMA-HR, HR1** (HR Clauses in Contract), **HR2** (Screening and Actions)
- Ethical and green procurement: **DMA-EN**
- Local Content: **EC6** (Spending on Locally-based Suppliers), **EC7** (Local Hiring of Senior Management), **DMA-LA** (Local Hiring)
- SSHE KPIs: **LA7** (LTIF, TRIR, OFR)

List of Related DJSI Questions:

- 1.3 CODES OF CONDUCT /COMPLIANCE /CORRUPTION & BRIBERY
 - 1.3.1 Codes of Conduct: Focus
 - 1.3.2 Codes of Conduct: Systems /Procedures
- 1.4 SUPPLY CHAIN MANAGEMENT
 - 1.4.3 Risk Management Measures
 - 1.4.4 ESG Integration in SCM Strategy
 - 1.4.5 Opportunities



The Environmental Stewardship

It is essential to demonstrate that PTTEP recognizes risks and opportunities and is working proactively to improve its readiness for increased environmental complexity in its operations e.g. in access to unconventional reserves, and operating in harsh, remote, or sensitive environment. In response to these challenges and to fulfill PTTEP’s aspiration, PTTEP announced Green Practice Roadmap (Environmental Strategies) which consists of 9 interrelated initiatives. The performances derived from these initiatives align with reporting requirements of GRI3.1 OGSS and DJSI’s expectation.

As a result, the annual reporting aims at relaying clear strategy, short and medium term target as well as well-defined initiatives and milestone towards 2020 goal to the stakeholders. In terms of performance, at a minimum, environmental KPIs are monitored across boundary and reported. Additional case studies and interview are encouraged to explain environmental performance trend. Policy, Standard, and Management system may be provided through website as they are fundamental documents and may not be as dynamic as the activities and initiatives.

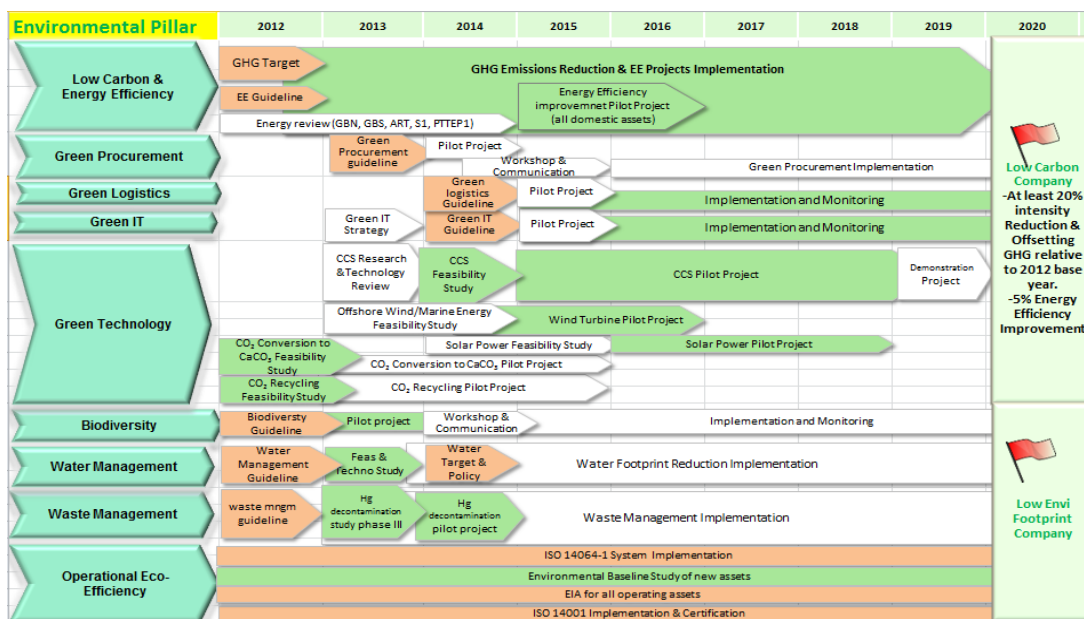


Figure 8 PTTEP Green Practice Roadmap



This section includes guidance on reporting the progress of the Green Practice roadmap by addressing the following:

1. Coordinated sustainability efforts throughout PTTEP.
 - Sustainable Development (SD) roadmap and Green Practice for environmental pillar.
2. Delivering Climate Strategy.
 - Announced official initiatives and targets.
 - GHG reduction and offsetting initiatives.
 - Energy efficiency and flaring practices.
3. Spills & Release to environment.
 - Improved preparedness program and results.
 - Monitoring and mitigation of best practices.
4. Operating responsibly.
 - Environmental Impact Management and Social Impact Management.
 - Improved Eco-Efficiency and waste management throughout project life cycle.
 - Integrated water management.
 - Biodiversity and land-use management.
5. Decommissioning management.
 - Approach on environmental management and on social impact management according to PTTEP Decommissioning guideline (under development).



5.5 Managing Impact to Community

Description:

Effective community impact management is achieved by systematically assessing safety, environmental, and social risks PTTEP's operations pose to surrounding communities and effectively managing those risks by involving appropriate groups of stakeholders in the process. To ensure a positive outcome, PTTEP should understand the needs and expectations of key stakeholder groups as well as involving stakeholders in developing and implementing the program.

Key Message:

PTTEP should demonstrate comprehensive and strong process to assess impact and manage risks through Safety, Security, Health and Environment Management System (SSHE MS) and Issue and Stakeholder Management System (ISMS). In addition, PTTEP should demonstrate holistic and sustainable solution driven from the assessment of impacts to community as well as engagement with stakeholders.

Guidance:

Management Approach

- Emphasize on Enterprise Wide Risk Management.
- Describe benefits of stage-gate methodologies for project management i.e. through PREP process and how this feeds into the above ground /non-technical risk issue.
- Describe how PTTEP meets EIA requirements responsibility (refer to existing PTTEP EIA Procedure under SSHE MS for more information).
- Ensure that climate risks and complex social environment of global expansion are systematically assessed and prepared for. Climate risk assessment must be conducted.
- Manage complex multi-stakeholder projects. Discuss contractor relationship, processes and approaches to managing partnerships, and Stakeholder management.

Practices

- Provide evidence of compliance in SSHE MS and ISMS implementation.
- Provide evidence in mitigated SSHE and Social risks including mitigating major accident events thus emphasis in process safety.
- Provide evidence in mitigated carbon risks.
- Provide evidence of policy, processes, and procedures to manage non-technical risks in multi-stakeholder projects.



Suggested Cases:

- Use a project to demonstrate how capital projects are managed in practice based on PTTEP's procedures on stakeholder engagement (ISMS), EIA, and SIA process which result in a systematic and reliable management plan with shared responsibilities by multiple functions and followed up throughout project's life cycle.
- Describe SSHE Activities, Process Safety & ARIM activities, throughout Project Life Cycle (a stage-gate model), emphasizing on 'proprietary' nature of PREP process approach.
- Demonstrate the principles of collaboration and cooperation in mitigation initiatives with community.

Performance Measurement:

List of Related GRI Indicators:

- Engagement Coverage: **SO1** (Community Engagement, Impact Assessment, and Development Programs)
- Impacts to Society: **SO9** (Impacts), **OG12** (Involuntary Resettlement)
- Prevention of Social Impact: **SO10** (Prevention and Mitigation Measure)



5.6 Climate Strategy

Description:

Climate change is a global issue affecting both business operations and society. The Company should seriously take its responsibilities to the National and International reduction effort, which will also reduce the potential financial liability to PTTEP of a future carbon import. This part also includes GHG reduction target and offsetting target, Reduction initiatives, offsetting initiatives, Carbon Reporting Public Disclosure (CDP), GHG Accounting and Reporting based on international standards.

Key Message:

Long-term climate impacts are factored into risk landscape and PTTEP manages it systematically through Climate Strategy, SD roadmap and Green Practice.

It emphasizes on PTTEP's commitment in enhancing monitoring system (certified assets, measurement of the carbon footprint in operations) and improving climate performance especially on GHG reduction.

Guidance:

Management Approach

- Refer to SD Guideline, Energy Efficiency Guideline (in SSHE MS), Flare Reduction Guideline (in SSHE MS), and Environmental Performance Reporting Procedure (in SSHE MS).
- Identify sustainable approaches to manage climate change risk on the basis of three timescales; the short, medium and long-term.
 - Explain how PTTEP addresses and mitigates carbon risk throughout value chain from strategy, roadmap, key initiatives, physical risk assessment and management, regulatory risks, reputational risks, and market risks.
 - Explain how PTTEP sets GHG reduction /offsetting target for short, medium and long term and demonstrate the performances against the targets in the reporting year.
 - Explain how Climate Strategy benefits PTTEP (assets protected and potential opportunities-financial terms).



Practices

- Demonstrate that Climate Risk recognized from Risk Management standpoint.
 - Demonstrate strategy for mitigating carbon emission throughout value chain including assessing investment option in reserve /location that has lower risk from climate change (low CO2 fields, location that is not in the cyclone belt, etc.).
 - Demonstrate roadmap and key initiatives to reduce GHG footprint.
 - Provide energy efficiency and GHG reduction initiatives (short-term).
 - Provide climate change planning that involves a process of continuous improvement, adoption of good practices, continuous technological improvements, and efficient market-based mechanisms with a focus on emissions reduction that acquires the least cost and greatest long-term potential (medium-term).
- Implement Climate Strategy.
 - Describe key initiatives to achieve the target.
 - Provide results from GHG Reduction, Energy Efficiency and Flaring practices.
 - Identify the technological solutions developed for climate adaptation plan (Green Technology).
 - Explain how PTTEP collaborates with partners or industry in fighting against Climate Change.
 - Highlight statistics that demonstrate GHG /Energy reduction performance.
- Implement Climate Strategy for Communities.
 - Carry out the offset initiatives such as reforestation.
 - Enhance capacity building and low carbon lifestyle promotion.
 - Demonstrate how PTTEP reduces the carbon emissions across value chain.

Suggested Cases:

- Positive climate change actions, targets, plans. Highlight numbers for achievements and ‘targets’ in relative terms in DJSI requirements (absolute and /or intensity targets).



Performance Measurement:

List of Related GRI Indicators:

- Climate Strategy: **DMA-EN**
- Greenhouse Gas Statistic: **EN16** (GHG), **EN17** (Other Indirect GHG), **EN19** (ODS), **EN20** (NO_x, SO_x), **OG6** (Flared and Vented)
- Programs: **EN18** (Initiatives to Mitigate Impact)

List of Related DJSI Questions:

2.3 OPERATIONAL ECO-EFFICIENCY

2.3.2 Direct Greenhouse Gas Emissions (Scope 1)

2.3.3 Indirect Greenhouse Gas Emissions (Scope 2)

2.3.11 EP - Methane Emissions

2.5 CLIMATE STRATEGY

2.5.1 Climate Strategy – CDP Alignment

2.5.4 Climate Change Strategy

2.5.5 Climate Change Products

2.5.6 Climate Change Impacts

2.5.7 Financial Risks of Climate Change

2.5.8 Financial Opportunities Arising from Climate Change

2.5.9 Exposure: Carbon Targets

2.5.10 Exposure: Scope 3: GHG Upstream



5.7 Energy Efficiency and GHG Reduction

Description:

Energy Efficiency is in part related to GHG reduction, Green Technology, Green Procurement and Green Logistics initiatives.

Key Message:

Long term climate impacts are factored into risk landscape and drive PTTEP to manage energy efficiency and GHG reduction systematically.

Guidance:

Management Approach

- Explain an overview of PTTEP Energy Roadmap including short, medium and long term targets. Describe key initiatives to achieve those targets.
- Demonstrate how PTTEP addresses energy consumption as well as energy source throughout value chain by explaining energy strategy and key initiatives.
- Demonstrate how this initiative benefits PTTEP.

Practices

- Highlight statistics that demonstrate energy efficiency and GHG reduction performance e.g. decrease in energy use per barrel oil production, decrease in GHG emission from energy saving initiatives.
- Present key operational energy efficiency and GHG reduction initiatives.
- Present key corporate efforts in building and logistic energy efficiency program.
- Discuss emerging challenges from business expansion into energy intensive resource such as Oil Sand.
- Provide suggested discussion on renewable energy decision.
- Report quantitative data regarding Direct and Indirect Energy consumption in GJoules (GJ), cost savings from energy efficiency, and other energy efficiency numerical related data.

Performance Measurement:

List of Related GRI Indicators:

- Energy consumption: **EN3** (Direct), **EN4** (Indirect)
- Reduction: **EN5** (Energy Saved), **EN7** (Initiatives), **EN26** (Initiatives to Reduce Impact)
- Renewable energy: **OG2** (Investment), **OG3** (Generated), **OG14** (Biofuels Purchased)

List of Related DJSI Questions:

2.3.4 EP - Energy Consumption



5.8 Release to the Environment

<p>Description: Spills and effluent emission.</p>
<p>Key Message: PTTEP enhances the monitoring system especially for hydrocarbon and chemical spills. PTTEP should demonstrate performance improvement and on-going effort to learn from crisis management.</p>
<p>Guidance:</p> <p>Management Approach</p> <ul style="list-style-type: none">• Describe corporate direction, management approach and best practice according to SD Guideline and Environmental Performance Reporting Procedure (in SSHE MS).• Demonstrate effective spill preventions.<ul style="list-style-type: none">○ Provide preparedness program and results.○ Enhance best practice monitoring.• Demonstrate preparedness in challenging environment.<ul style="list-style-type: none">○ Specify concerns over control of hydrocarbon released from new technologies and unconventional resources such as Oil Sand and hydraulic fracturing.• Refer to existing crisis management plan related to spill emergency.<ul style="list-style-type: none">○ Define Crisis Management Plan and response.○ Refer to emergency response procedure under SSHE MS.• Provide Produced Water Management Approach.
<p>Practices</p> <ul style="list-style-type: none">• Demonstrate beyond compliance mindset throughout description of spill prevention, emission control, water discharge, and effluent monitoring.• Engage proactively with contractor.• Demonstrate Best Practice in biodiversity monitoring for areas that have the potential to be severely impacted.• Describe water discharged to environment with regards to the management and what types of water bodies are impacted.
<p>Suggested Cases:</p> <ul style="list-style-type: none">• Engage proactively with contractor and stakeholders (e.g. government agency, OSRL, Royal Thai Navy) on Spill Preparedness and Management Plan.• Demonstrate case or initiatives to achieve eco-efficiency, initiative and performances related with produced water and used water management, initiative and performance of air emission, flare and vent management.• Demonstrate beyond compliance mindset.• Demonstrate Best Practice in biodiversity monitoring.



Performance Measurement:

List of Related GRI Indicators:

- Environmental management: **DMA-EN**
- Spill: **EN23** (Spills), **EN28** (Fines)
- Water: **EN21** (Discharge), **OG5** (Produced Water), **EN25** (Water Bodies Impacts)
- Air Emission: **EN19** (ODS), **EN20** (NO_x, SO_x), **OG6** (Flared and Vented)

List of Related DJSI Questions:

2.7 RELEASES TO THE ENVIRONMENT

2.7.1 Oil Spills

2.7.2 Natural Gas Leakage

2.3 OPERATIONAL ECO-EFFICIENCY

2.3.8 EP - Volatile Organic Compounds Emissions

2.3.9 EP - NO_x Emissions

2.3.10 EP - SO_x Emissions

2.3.11 EP - Methane Emissions



5.9 Water Related Risk Management

Description:

It is critical for the organization to determine its exposure to water-related risks and determine if the organization has a system in place enabling it to be aware of its own exposure to water related risks.

Key Message:

PTTEP manages water risks holistically as a part of long term climate strategy. PTTEP adopts internationally accepted tools and best practice in defining operations at risks as well as systematically identifies management plan through PTTEP Water Management Guideline.

Guidance:

Management Approach

- Describe PTTEP's integrated water management principle and preparedness for its operations in water stressed area, sensitive environment, harsh environment, and fluctuated climate pattern.
- Demonstrate responsible operation follow process and performance indicators called out in PTTEP Water Related Risk Management Guideline. The topics include but not limited to:
 - Demonstrate responsible consumption (water withdrawal threshold).
 - Demonstrate water usage efficiency initiatives and best practices (reduce consumption, reuse and recycle, reclaim).
- Effectively manage release to environment.
 - Describe produced water reinjection and management.
 - Describe water discharge and receiving environment sensitivity.
 - Monitor Best Practices.
 - Provide spill preparedness program and results.

Practices

- Discuss emerging water challenges from expansion into water stressed areas and water intensive resource such as Oil Sand. Focusing on understanding risks and be prepared for managing impact.
- Demonstrate produced water management and performance.



Performance Measurement:

List of Related GRI Indicators:

- Water Footprint: **EN8** (Withdrawal Volume), **EN9** (Impact to Source), **EN10** (Recycled), **OG5** (Produced Water), **EN21** (Discharge), **EN25** (Receptor Impact)

List of Related DJSI Questions:

2.3.6 EP - Water Withdrawal



5.10 Biodiversity and Land-use Management

Description:

Project site in and adjacent to legally protected biodiversity richness are required to undergo land use management including decommissioning site management.

Key Message:

PTTEP announces the biodiversity position, guideline along with coordinated results in biodiversity management. PTTEP thoroughly assesses surrounding environment if there are any sensitive areas while maintains on-going biodiversity conservation and enhances from home base –Thailand (to international assets). PTTEP also provides collaboration with scientific researches, government, NGOs and communities in enhancement and conservation efforts.

Guidance:

Management Approach

- Demonstrate Environmental Impact Assessment for Exploration and Production Procedure (in SSHE MS).
- Demonstrate biodiversity sensitivity screening and assessment requirements as part of voluntary EIA, Biodiversity Plans required at sites deemed necessary. This can be determined according to Biodiversity Management Guideline.
- Demonstrate Biodiversity Management Guideline and land use procedure.
- Demonstrate program in partnerships with sector experts.

Practices

- Demonstrate systematic approach in mitigating biodiversity risks in countries where it is either required or not required by law. Referring to Environmental Impact Assessment for Exploration and Production Procedure can be found in SSHE MS and Biodiversity Management Guideline for voluntary EIA studies.
- Describe insights from biodiversity initiatives and how PTTEP leverages them to be best practices in biodiversity assessment /management.

Suggested Cases:

- State the recommendations for reporting of the suggested cases.
- Explain about the biodiversity issues that have been integrated into management system and operation of PTTEP.
- Explain about the biodiversity criteria that PTTEP uses when making decision with regards to the area of operation.
- Describe the biodiversity impact measurement and PTTEP's operation that is related to biodiversity (requirements for the assessment, numbers of activities, and results from stakeholder assessment).
- Provide examples to demonstrate the case when PTTEP enhances the benefits for the biodiversity on top of mitigating its impacts.



Performance Measurement:

Suggested Measurement:

- Biodiversity Strategy and management philosophy
- Expenditures versus program result
- Stakeholder Engagement program statistics
- Impact management
- Learning points

List of Related GRI Indicators:

- Biodiversity Management: **EN14** (Strategies)
- Impacts: **EN11** (Location), **EN12** (Impacts), **EN15** (Red List), **EN25** (Water Bodies impacts)
- Management: **OG4** (Ratio of Site Assessed), **EN13** (Protected or Restored)

List of Related DJSI Questions:

2.4 BIODIVERSITY

2.4.1 Policy /Strategy

2.4.2 Assurance

2.4.3 Reporting

2.4.4 Responsibility.

2.4.5 Environmental and Social Impact Assessments

2.4.6 Public Availability of Results



5.11 Waste Management

<p>Description: Solid and hazardous waste management.</p>
<p>Key Message: Organization should have effective management of drilling waste as well as hazardous waste. Operate responsibly and transparently disclose the details of transported waste, and environmental related fines if any.</p>
<p>Guidance: Management Approach</p> <ul style="list-style-type: none">• Demonstrate Waste Management, refer to Waste Management Guideline (in SSHE MS)• Demonstrate operation efficiency initiatives which results in low waste generation throughout project life cycle.• Describe waste management policy and management standard. <p>Practices</p> <ul style="list-style-type: none">• Manage drilling and process waste optimization.• Demonstrate material and energy recovery.• Manage contaminated drilling materials.
<p>Performance Measurement: List of Related GRI Indicators:</p> <ul style="list-style-type: none">• Drilling Fluid: EN1 (Drilling Fluid Used), EN2 (Drilling Fluid Recycled)• Waste: OG7 (Drilling Waste), EN22 (Disposal Waste), EN24 (Hazardous Waste Disposal According to Basel Convention) <p>List of Related DJSI Questions: 2.3.7 EP - Waste Generation</p>



5.12 Technology

Description:

Key Exploration and Production technologies enable PTTEP to access strategic expansion resources e.g. Deepwater related technology and unconventional resource related technologies.

Key Message:

PTTEP's Technology Roadmap to unconventional resource particularly Oil Sand, Deepwater and unconventional gas inquire key green and enhanced recovery technologies in pipe with a focus on integrated learning platform e.g. technology center as strategic development.

Guidance:

Management Approach

- Technologies for growth:
 - Layout technology roadmap to strengthen capability for growth strategy.
 - Demonstrate readiness in terms of patented technologies, skills or experiences as well as learning agility in Oil Sand, Deepwater and unconventional resources technologies.
 - Demonstrate show cases of continual improvement and innovation for maximizing productivity of marginal /mature field.
 - Call out key technological challenges and how PTTEP overcome it in reporting year(s).
 - Focus on how PTTEP develops and retains technology expertise in the organization.
- Green Technologies:
 - Introduce to Green Technology as an approach to manage climate change risks and opportunities in alternative energy.
 - Explain an overview of PTTEP's approach to low carbon future e.g. Green Technologies, CCS, CO2 recycle, renewable energy.
 - Invest in promising alternatives.
 - Describe key challenges such as cost and feasibility results.

Practices

- Identify new technology patent or research in the reporting year(s).
- Update on feasibility of Green Technology to achieve carbon strategy target: CCS, CO2 recycle, renewable energy.



Performance Measurement:

Suggested Measurement:

- R & D Spending
- Patents or key technology success

List of Related GRI Indicators:

- Investment: **DMA-EC**
- Environmental Protection: **EN30** (Environmental Protection Spending /Invest)



Social Progress

5.13 Social Impact Management

Description:

Positive and negative impacts to communities are associated with PTTEP's operations. These can range from changing socioeconomic patterns, social equality and human rights issues.

Key Message:

This includes Recognizing Sustainability Development issues from risk assessment stage and PTTEP's readiness by turning social risks into opportunity, engaging effectively with the stakeholder to mitigate social risks (ISMS), and report proven results in CSR programs.

Guidance:**Management Approach**

- Safeguard the fast expansion through effective non-technical risk management including:
 - Recognize social risks in sensitive environment.
 - Ensure social risk management calls out on human rights and diversity.
 - Manage social risks for new projects through community engagement.
 - Report proven results in issue and stakeholders management through governance structure, mechanism, communication protocol and community engagement programs.
- Social Roadmap.
 - Explain Social Roadmap introduction.
 - Explain strategy and approach, as well as enhanced evaluation process (SROI).
 - Evolve roles in social development such as in Myanmar and Social Reporting Guideline.
 - Demonstrate how Stakeholder Engagement Management System governs Social Investment.
 - Report Social targets (optional).
 - Describe performance in community development contribution.
 - Contribute to global SD megatrend such as access to clean energy, biodiversity conservation, and reforestation.
- Describe engagement activities undergone during the reporting year as well as results and requests (refer to existing procedure under Issue and Stakeholder Management System).
- Expand the circle of influence through partnership and community network resulting in less non-technical risks to operation.



Suggested Cases:

- Demonstrate how PTTEP uses risk assessment to identify and mitigate social risks e.g. cross reference to policies and procedures, codes of conduct for anti-corruption, transparency, etc.
- Demonstrate successful stakeholder engagement to managing social risk. BCM showcases such as Myanmar and indigenous communities.
- Discuss vulnerability of sites. Show the context of the places where PTTEP is seeking opportunities e.g. indigenous people in areas, sensitive environment, etc.
- Demonstrate benefits realized at the project site in reporting year(s) (may consider update a long term program on website).

Performance Measurement:

List of Related GRI Indicators:

- Stakeholders: **4.11-17**
- Managing impact to local community: **SO1** (Engagement Coverage), **SO9** (Impacts), **SO10** (Prevention), **OG12** (Involuntary Resettle)
- Impact from the operation: **OG11** (Decommissioned Sites), **OG10** (Disputes with Local and Indigenous), **SO8** (Fines), **EC10** (Indirect Economic Impact)
- Safeguarding policies: **HR6** (Child Labor Risk), **HR7** (Forced)
- Labor Rights: **LA4** (Union), **LA5** (Notice Period)
- Respect local community: **OG9** (Presence of Indigenous), **HR10** (Reviews and /or Impact Assessments)
- Training: **HR3** (Training), **HR8** (Security)
- Grievances: **HR4** (Discrimination), **HR5** (Violated Freedom of Association), **HR9** (Violations Involving Rights), **HR11** (Grievances Remediation)

List of Related DJSI Questions:

3.2 LABOR PRACTICE INDICATORS AND HUMAN RIGHTS

3.2.1 Labor KPIs

3.2.2 Business and Human Rights

3.7 SOCIAL IMPACTS ON COMMUNITIES

3.7.1 Contractor /Service Providers in non-OECD Countries: Languages (Extractives)

3.7.2 Contractor /Service Providers in non-OECD Countries: Communication

3.7.3 Relocation Programs



5.14 Stakeholder Engagement

Description:

Having process to assess, involve and manage all stakeholders systematically and strategically ensure that the key performance programs and the results are understood and well-received. The engagement programs cover social impact assessment guideline, community consultations, indigenous peoples, involuntary resettlement and compensation.

Key Message:

By understanding complexity & concerns of communities and society through stakeholder engagement program, PTTEP is well received by communities and people it works with.

Guidance:

Management approach

- Define Issue and Stakeholder Management System (ISMS).
- Demonstrate community engagement activities and summary of concerns.
- Report the collaborative initiatives and results.

Practices

- Bring out effectiveness throughout project life cycle. Selecting project /asset with sensitive ecology or sensitive culture. Suggested Case: Challenges in Myanmar.
 - Demonstrate on the understanding of human rights, fair labor and inequity context from decades of working in Myanmar.
 - Describe how PTTEP manages challenges.
- Demonstrate Transparency, Openness and Fair Practices.
 - Explain grievance mechanism.
 - Provide results from grievance system.
 - Provide action or case that demonstrate effective resolution of complains.
 - Demonstrate lessons that turned into Guideline with planned implementation in 2013.
- Demonstrate performance.
 - Demonstrate satisfactory – trust – partnership for People.
 - Demonstrate performance indicator based on SI strategy for Business.



Performance Measurement:

List of Related GRI Indicators:

- Stakeholder Engagement Program: **4.14-4.17**
- Impacts to community: **OG11** (Decommissioned Sites),
EC9 (Indirect Economic Impacts)

List of Related DJSI Questions:

3.8 STAKEHOLDER ENGAGEMENT

3.8.1 Stakeholder Engagement - Governance

3.8.2 Stakeholder Engagement – Implementation

3.8.3 Stakeholder Engagement - Review



5.15 Human Rights

Description:

This covers policies and mechanism to promote, protect, and respect dignity and equality of all individuals including minority, and indigenous peoples while maintaining transparency in managing equality and security practices.

Key Message:

PTTEP acknowledges a responsibility to protect human rights and to avoid complicity in abuses committed by others.

Guidance:

Management Approach

- Commit to the UN Global Compact's 10 principles relating to 4 core areas: human rights, labor, the environment and anti-corruption.
- Demonstrate mechanism to detect incidents of human rights violations with respect to people, communities, contractors or suppliers under PTTEP's control over the reporting period.
- Demonstrate effective policy on human rights, code of conduct and training.
- Conducts appropriate risk assessment and due diligence on human rights, including managing relationships with contractors, suppliers and operating partners, as operation expands internationally.

Practices

- Conduct human rights training and keep records of training hours, coverage and effectiveness.
- Report the PTTEP's human rights approach and aware of the differences of the countries of operation. The internal and external stakeholders' point of view is part of the description which addresses the following issues:
 - Political risk assessment.
 - Transparency in the process.
 - Transparency in payments.
 - Employment of local workforce.
 - Application of code of conduct (available in local language).
- Avoid of complicity through engagement with stakeholders.



Performance Measurement:

List of Related GRI Indicators:

- Safeguard Policies: **HR6** (Child Labor Risk), **HR7** (Forced Labor)
- Labor Rights: **LA4** (Union), **LA5** (Notice Period)
- Respect Local Community: **OG9** (Presence of Indigenous), **HR10** (Review and /or Impact Assessments)
- Training: **HR3** (Training), **HR8** (Security)
- Grievances: **HR4** (Discrimination), **HR5** (Violated Freedom of Association), **HR9** (Violations Involving Rights), **HR11** (Grievances Remediation)

List of Related DJSI Questions:

3.2 LABOR PRACTICE INDICATORS AND HUMAN RIGHTS

3.2.1 Labor KPIs

3.2.2 Business and Human Rights



5.16 Corporate Citizenship and Philanthropy

Description:

This includes framework and practices related to corporate spending on CSR activities i.e. social investment, philanthropic donation, and local content practices.

Key Message:

PTTEP's CSR strategy and social investment drive positive changes with communities it operates. PTTEP should contribute to meaningful and lasting development of host countries by adopting collaborative approach; mutually define community-centered programs, and respecting diversity and culture.

Guidance:

Management Approach

- Demonstrate understanding context of the host communities through
 - Demonstrate engagement programs and learning from key communities.
 - Define contextual issues differences from different regions - Australia, Myanmar, Oman, Indonesia, and Thailand.
- Demonstrate articulate strategy, goal, roadmap and social return on investment principle.

Practices

- Describe how PTTEP stands and operates by CSR Framework
 - Explain Social Investment Strategy /focus.
 - Explain key initiatives and results (Global).
 - Demonstrate local content practice and local hiring.
 - Contribute to global issues such as access to clean energy, biodiversity conservation, low carbon societies, reforestation, etc.
 - Disclose engagement survey results such as satisfaction rating.
- Report quantifiable performance of corporate initiatives e.g. GHG reduction through reforestation.
 - Emphasize on partnerships and stakeholder engagement.
 - Emphasize on return on investment.
 - Focus on progress against target and trend analysis.

Suggested Cases:

- Demonstrate health and well-being including access to clean energy.
- Demonstrate cases of reforestation, marine biodiversity conservation.



Performance Measurement:

List of Related GRI Indicators:

- Social Investment Strategy: **4.14-4.17** (Stakeholder Engagement Program)
- Public Benefit: **EC8** (Public Benefit Spending), **LA8** (Prevent Serious Diseases), **EN30** (Environmental Protection Spending /Invest)
- Local suppliers: **EC6** (Spending on Locally-based Suppliers)

List of Related DJSI Questions:

3.5 CORPORATE CITIZENSHIP AND PHILANTHROPY

3.5.1 Group-wide Strategy

3.5.2 Type of Philanthropic Activities

3.5.3 Input

3.5.4 Measuring Benefits



5.17 Human Capital Management

5.17.1 Human Capital Development

Description:

Human Capital Development covers developing talent track and deploying developmental program and resources to support our people to achieve knowledge based, technology-driven organization.

Key Message:

Skilled human resources enable advanced technology and innovation. Strategic hiring in combination with career development program both for technical and non-technical job families ensure PTTEP to acquire and develop talents to their best possibility. Technology and knowledge management platform also supports in retaining and synergizing core expertise of both people & knowledge to create innovation.

Guidance:**Management Approach**

- Build Corporate Values and Corporate DNA.
 - Demonstrate how Corporate Values encourage performance towards 2020 target.
 - Focus on core values signifying PTTEP employees e.g. safety behaviors, diversity and equality (gender, culture, and nationality).
- Develop strategies and system underpinning HR performance.
 - Develop strategic hiring and human capital planning.
 - Demonstrate technical career ladder and performance management.
 - Develop technology center and KM platform.
- Create inclusive environment to engage workforce.
 - Create environment of diversity inclusion, open to change, and performance oriented.
 - Resonate fair and transparent evaluation and rewarding practices.
 - Create effective communication channels and results.
- Demonstrate key challenges faced.
 - Hire locals in technical area.
 - Develop lead-time versus business expansion target.
 - Demonstrate diversity management, sensitive human right areas.
 - Demonstrate Safety and Health in frontiers environment.



Performance Measurement:

Suggested Measurement:

- Engagement score

List of Related GRI Indicators:

- Employee statistics: **DMA-LA**, **LA1** (Workforce), **LA2** (New Hire and Turnover)
- HCD /HRP Programs and Results: **LA3** (Full Time Benefit), **EC5** (Ratio of Entry Level Wage), **LA14** (Equal Remuneration), **LA10** (Training Hours), **LA11** (Skill Management), **LA12** (Performance and Career Development Reviews), **LA13** (Equal Opportunity), **LA15** (Return After Parental Leave)
- **Safety LA6** (Safety Committee), **LA9** (H & S in Union), **LA8** (OSH Training), **HR5** (Union)
- Labor: **HR6** (Child Labor), **HR7** (Forced Labor), **HR10** (% Operation Assessed)
- Training: **HR3** (Human Right Training), **HR8** (Security Practices)
- Grievance system and results: **HR9** (Indigenous), **HR4** (Discriminate Incidents), **HR11** (Incident & Action)

List of Related DJSI Questions:

3.3 HUMAN CAPITAL DEVELOPMENT

3.3.1 Human Resource Skill Mapping and Developing Process

3.3.2 Human Capital Performance Indicators

3.3.3 Personal and Organizational Learning and Development



5.17.2 Talent Attraction and Retention

Description:

Strategy and practice can ensure PTTEP's organizational sustainability through human resource planning and maintaining morale and happiness in the work place.

Key Message:

To retain talents, PTTEP implements talent management programs to attract the right people, aligned to the right tasks, roles and responsibilities. Keep them motivated, challenged and incentivized to perform strongly and continually develop them personally and professionally.

Guidance:

Management Approach

- Provide overview of workforce breakdown.
- Describe talent attraction approach including leadership program, succession planning, and remuneration principles.
- Demonstrate how PTTEP attracts and develops people to enable growth strategy focus on core technology expertise and knowledge management.
- Demonstrate how PTTEP creates transparency, integrity, non-discrimination and equal treatment across PTTEP operations regarding recruitment and career management. Emphasize on local hiring.
- Describe proactive initiatives to support equality and diversity (e.g. maternity benefits and return to work policy, part-time options, flexible working hours, re-skilling programs).

Performance Measurement:

List of Related GRI Indicators:

- Talent Pool: **LA1** (Workforce), **LA2** (New Hires)
- Diverse workforce: **LA13** (Governance Bodies Composition), **EC7** (Local Hiring)
- Remuneration: **LA14** (Equal Remuneration)
- Competitive remuneration: **LA14** (Remuneration), **EC5** (Ratios of Entry Level Wage), **EC3** (Benefit Plan)
- Engagement: **LA15** (Return to Work); **EC1** (Voluntary Hours)



List of Related DJSI Questions:

3.4 TALENT ATTRACTION & RETENTION.

3.4.1 Coverage of Employees through Pre-defined Performance Appraisal Process.

3.4.2 Percentage of Performance Related Compensation for each Employee Category.

3.4.3 Balance of Variable Compensation Based on Corporate and Individual Performance.

3.4.4 Corporate Indicators for Performance-Related Compensation.

3.4.5 Type of Individual Performance Appraisal.

3.4.6 Payout Type of Total Performance-Related Compensation .

3.4.7 Employee Turnover Rate.

3.4.8 Trend of Employee Satisfaction.



5.18 Corporate Governance and Business Ethics

Description:

Systematic and ethical framework can ensure integrity, transparency, diversity and equity in business practice. Sustainability Governance Structure should be integrated into corporate structure.

Key Message:

Board is effective in overseeing each of sustainability dimensions. Transparency and integrity are demonstrated through implementation of Code of Conduct, check and balances across PTTEP operations.

Guidance:

Management Approach

- Governance Body: Demonstrates approach and evidence on Board Effectiveness in:
 - Optimum board structure and committees.
 - Diversity (skill-mix, practices, and gender).
 - Effectiveness in driving commitment and transparency.
 - Endorsement of Sustainable Development Target and KPIs (as Management KPIs) and leadership role.
- Code of Conduct: Demonstrate effective governance structure and clear connection between Corporate Code of Conduct /Ethics - actions and performances.
 - Transparency: Identify major risks averted successfully from governance standpoint (e.g. through sustainability disclosure and government relation).
 - Anti-Corruption: Focus on coverage, specialized training and evidences.
 - Non-discrimination and Human rights.
 - Activities and mechanism: Ensure that employees understand and follow the Business Ethics.
 - Approach and mechanism: Ensure that contractors, suppliers and JVs conducting business in the same or equivalent standard on business ethics.
 - Corporate whistle bowering policy and mechanism.
- Channels and Sustainability: Disclose cases and evidence to support successful implementation of Code of Conduct across PTTEP operations.
 - Communication Channels: Whistle blowing or other grievance mechanism, Results from grievance system, Action or case demonstrating effective communication, available Anti-Bribery Channels.
 - Performance Disclosure: Financial Transparency (EITI), and contribution to host countries (tax).



Suggested Cases:

- Focus on performance through third party recognition, assurance, publically disclosed cases.
- Use principle and policy call-outs and provide web link to full documents on internet to increase sustainability disclosure.
- Report compulsory data: Board Composition, Qualifications and Effectiveness.
- Focus Area: Financial transparency, Anti-Bribery and Corruption.
- Use cases and quotes to demonstrate Fair operating practices, Human rights, Non-discrimination.
- Emphasize channels for communicating anti-corruption.

Performance Measurement:

Suggested Measurement:

- Commitment from managements in key areas
- Number of employee trained in CG
- Percentage and total number of business units analyzed for risks related to corruption (if available)
- Percentage of employees trained in corporate governance and business ethics
- Number of breach against the business ethics and actions taken in response to incidents (if any)

List of Related GRI Indicators:

- Board effectiveness: **4-1-4.10** (Governance), **LA13** (Board's Composition)
- Corruption: **SO2** (Corruption risk analysis), **SO3** (Anti-corruption Training), **SO4** (Response), **SO7** (Legal)
- Advocacy: **SO5** (Public Policy), **SO6** (Political Financing)

List of Related DJSI Questions:

1.1 CORPORATE GOVERNANCE



5.19 Transparency and Financial Contribution

Description:

In order to ensure transparent information regarding financial contribution of the company's supply chain to host governments, the organization should provide such information for the public domain.

Key Message:

PTTEP should be able to demonstrate awareness and practices to promote anti-bribery and corruption, EITI, and contribution to host community.

Guidance:

Management Approach

- Demonstrate commitment in anti-bribery and corruption principle through policy on financial transparency included in CG Handbook, Code of Conduct and management statement.
- Volunteer to report on direct and indirect support for wealth creation and the economic development in Thailand and overseas operations.
- Publically disclose annual direct contributions to the Governments in those countries' PTTEP operation. These payments include license payments, fees, royalties and taxes.
- Demonstrate transparency in transactions and contributions to governments and other stakeholders.
- Demonstrate plans for implementing best practices such as commitment to future audits or other assurance on accountability and transparency.

Performance Measurement:

List of Related GRI Indicators:

- Economic Contribution: **EC1** (Tax)

List of Related DJSI Questions:

1.1.8 Transparency of Senior Management Remuneration



6 Assurance Checkpoints

A list of assurance checkpoints will be provided. The purpose of these checkpoints is to help clarify the scope, process and requirements of assurance, including the respective responsibilities of corporate; assets; and the assurance provider.

Proposed topics for assurance will focus around the report contents and material issues and indicators as per GRI G3.1. The assurance checkpoint will be developed in the form of checklists.

- Scope the audit boundary.
- Financial, Environment and Social data included.
- Alignment with the GRI and IPIECA guideline.
- Framework process adoption of AA1000 and ISAE3000.
- Tool for mitigating risks associated with the potential disclosure of inaccurate /misleading information.
- Feedback given to the reporting business units.
- Increased confidence for the board of directors and the senior management team to approve the accuracy and credibility of publicly disclosed performance data and associated information.
- Considering independent assurance to disclose performance data and information.

This section provides guidance for those responsible for day-to-day implementation of PTTEP's Sustainability Reporting to ensure validity of the key material context identified in Section 2.1, which are summarized in Tables 4 - 6.



Table 4 Material Socio-economic Aspects

SD Material Aspects	Check Points
Local Content Practices	<ul style="list-style-type: none">• Policies and guidelines to encourage local content to exist and updated.• Regular evaluation of supplier competency and evidence of local supplier capacity building programs.

Table 5 Material Environmental Aspects

SD Material Aspects	Check Points
Compliance with SSHE Policy and Management System	<ul style="list-style-type: none">• SSHE policies are clearly and regularly communicated to the organization.• Dedicated SSHE Audit team with evidence of monitoring, and reporting performances of operating units.• Evidence of active management and improvement of SSHE system (e.g. corrective action plans, gap assessments).
Environmental, Social, and Health Impact Assessment	<ul style="list-style-type: none">• Evidence that ESHIA Guidelines are applied to all new major capital projects, including decommissioning and abandonment.• Dedicated management plan and monitoring program are in place to follow up with ESHIA requirements.



Table 5 Material Environmental Aspects (Continued)

SD Material Aspects	Check Points
Operational Eco-Efficiency	<ul style="list-style-type: none"> • Environmental performances are tracked, reviewed and communicated regularly within business unit and with corporate. • Benchmarking is performed on environmental performance either against industrial best practices or against PTTEP targets. • Evidence of action plans and continual improvement made to the substandard performances.
Climate Change	<ul style="list-style-type: none"> • Business unit measures, records and reports on its material GHG emissions and energy consumption in accordance with PTTEP Environmental Performance Reporting Guideline on a quarterly basis. • GHG reduction and Energy Efficiency initiatives are tracked and improved to meet Corporate KPIs.
Integrated Water Management	<ul style="list-style-type: none"> • Evidence of water related risks were assessed as part of its risk assessment and business continuity management plan. • Water consumption, efficiency, recycle, and discharge quality are regularly monitored, managed, and reported. • Evidence of programs for water efficiency, recycling, and treatment in place to reduce water consumption and impact to receptor water bodies.
Biodiversity	<ul style="list-style-type: none"> • Biodiversity management plan is developed as a part of risk assessment and EIA process. • Sample risk assessment documents for evidence of biodiversity considerations. • If significant and imminent biodiversity related risks have been identified, proactive response to managing, maintaining or re-establishing biodiversity is in place and regularly updated.
Security, Safety and Health (Personal and Process)	<ul style="list-style-type: none"> • SSHE Performance Measurement and Reporting System is in place for recording, monitoring and reporting SSHE performance data. • Evidences of SSHE performance data communicated internally on a regular basis. • Evidences of SSHE Performance Measurements and action plans are audited against PTTEP standards to ensure asset integrity and process safety.



Table 6 Material Social Aspects

Material Aspects	Check Points
Human Capital Development	<ul style="list-style-type: none">• Samples of employee skill mapping, development plans, and evaluation for different job families, level and gender consistency across organization.• Evidence of employee participation in the annual development plan (based on employee interview).• Training material /document for employees who act as coaches or mentors.• Samples of succession plans are in place for all essential /critical positions.• Records of performance reviews to ensure that it was conducted for all employees.
Talent Attraction and Retention	<ul style="list-style-type: none">• Evidence of regular benchmarking to ensure that the company adequately rewards and remunerates its employees.• Evidence of supervisors proactively engages with employees and encourages upward feedback.• Evidence of regular review and engagement with employees.
Stakeholder Engagement Activities and Results	<ul style="list-style-type: none">• Stakeholder identification and mapping are undertaken and appropriate management plans are developed and implemented.• Evidence of stakeholder consultation in social and community investments (e.g. meeting minutes, questionnaires) which are carried out on an on-going basis.• Engagement process and results are tracked and communicated to relevant stakeholders.



Table 6 Material Social Aspects (continued)

Material Aspects	Check Points
Human Rights, Labor Rights including Grievance	<ul style="list-style-type: none">• Evidence of clear communication of Labor Rights Policy to employees, contract workers, and suppliers.• Review on helpdesk and other reporting mechanisms to ensure accessibility and usability.• Cases of grievances reported whether they were resolved and tracked to closure.• Evidence that management is responsible for ensuring that satisfactory resolutions are achieved within a reasonable time frame and that the process is independent and confidential.
Corporate Citizenship	<ul style="list-style-type: none">• Social strategy and community partnership documents.• Philanthropic budget documents: the giving and contributions were subjected to standard financial management approval and philanthropic guideline.• Social investments were based on supported business case are subject to formal management approval.• Financial and non-financial evaluation of social investment and philanthropic spending.



7 Appendix 1: G3.1 Content Index - Oil & Gas Sector Supplement (OGSS)

1. Strategy and Analysis	
Profile Disclosure	Description
1.1	Statement from the most senior decision-maker of the organization.
1.2	Description of key impacts, risks, and opportunities.

2. Organizational Profile	
Profile Disclosure	Description
2.1	Name of the organization.
2.2	Primary brands, products, and /or services.
2.3	Operational structure of the organization, including main divisions, operating companies, subsidiaries, and joint ventures.
2.4	Location of organization's headquarters.
2.5	Number of countries where the organization operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the report.
2.6	Nature of ownership and legal form.
2.7	Markets served (including geographic breakdown, sectors served, and types of customers /beneficiaries).
2.8	Scale of the reporting organization.
2.9	Significant changes during the reporting period regarding size, structure, or ownership.
2.10	Awards received in the reporting period.



Appendix 1: G3.1 Content Index - Oil & Gas Sector Supplement (OGSS) (continued)

3. Report Parameters	
Profile Disclosure	Description
3.1	Reporting period (e.g., fiscal /calendar year) for information provided.
3.2	Date of most recent previous report (if any).
3.3	Reporting cycle (annual, biennial, etc.)
3.4	Contact point for questions regarding the report or its contents.
3.5	Process for defining report content.
3.6	Boundary of the report (e.g., countries, divisions, subsidiaries, leased facilities, joint ventures, suppliers). See GRI Boundary Protocol for further guidance.
3.7	State any specific limitations on the scope or boundary of the report (see completeness principle for explanation of scope).
3.8	Basis for reporting on joint ventures, subsidiaries, leased facilities, outsourced operations, and other entities that can significantly affect comparability from period to period and /or between organizations.
3.9	Data measurement techniques and the bases of calculations, including assumptions and techniques underlying estimations applied to the compilation of the Indicators and other information in the report. Explain any decisions not to apply, or to substantially diverge from, the GRI Indicator Protocols.
3.10	Explanation of the effect of any re-statements of information provided in earlier reports, and the reasons for such re-statement (e.g. mergers /acquisitions, change of base years /periods, nature of business, measurement methods).
3.11	Significant changes from previous reporting periods in the scope, boundary, or measurement methods applied in the report.
3.12	Table identifying the location of the Standard Disclosures in the report.
3.13	Policy and current practice with regard to seeking external assurance for the report.



Appendix 1: G3.1 Content Index - Oil & Gas Sector Supplement (OGSS) (continued)

4. Governance, Commitments, and Engagement	
Profile Disclosure	Description
4.1	Governance structure of the organization, including committees under the highest governance body responsible for specific tasks, such as setting strategy or organizational oversight.
4.2	Indicate whether the Chair of the highest governance body is also an executive officer.
4.3	For organizations that have a unitary board structure, state the number and gender of members of the highest governance body that are independent and /or non-executive members.
4.4	Mechanisms for shareholders and employees to provide recommendations or direction to the highest governance body.
4.5	Linkage between compensation for members of the highest governance body, senior managers, and executives (including departure arrangements), and the organization's performance (including social and environmental performance).
4.6	Processes in place for the highest governance body to ensure conflicts of interest are avoided.
4.7	Process for determining the composition, qualifications, and expertise of the members of the highest governance body and its committees, including any consideration of gender and other indicators of diversity.
4.8	Internally developed statements of mission or values, codes of conduct, and principles relevant to economic, environmental, and social performance and the status of their implementation.
4.9	Procedures of the highest governance body for overseeing the organization's identification and management of economic, environmental, and social performance, including relevant risks and opportunities, and adherence or compliance with internationally agreed standards, codes of conduct, and principles.
4.10	Processes for evaluating the highest governance body's own performance, particularly with respect to economic, environmental, and social performance.
4.11	Explanation of whether and how the precautionary approach or principle is addressed by the organization.
4.12	Externally developed economic, environmental, and social charters, principles, or other initiatives to which the organization subscribes or endorses.
4.13	Memberships in associations (such as industry associations) and /or national /international advocacy organizations in which the organization: * Has positions in governance bodies; * Participates in projects or committees; * Provides substantive funding beyond routine membership dues; or * Views membership as strategic.
4.14	List of stakeholder groups engaged by the organization.
4.15	Basis for identification and selection of stakeholders with whom to engage.



Appendix 1: G3.1 Content Index - Oil & Gas Sector Supplement (OGSS) (continued)

4. Governance, Commitments, and Engagement	
Profile Disclosure	Description
4.16	Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group.
4.17	Key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting.



Appendix 1: G3.1 Content Index - Oil & Gas Sector Supplement (OGSS) (continued)

G3.1 OGSS DMAs	Description
DMA EC	Disclosure on Management Approach EC
Aspects	Economic performance
	Market presence, including local content
	Indirect economic impacts
	Reserves
DMA EN	Disclosure on Management Approach EN
Aspects	Materials
	Energy
	Water
	Ecosystem services including biodiversity
	Emissions, effluents and waste
	Products and services
	Compliance
	Transport
Overall	
DMA LA	Disclosure on Management Approach LA
Aspects	Employment
	Labor /management relations
	Occupational Health and Safety
	Training and education
	Diversity and equal opportunity
	Equal remuneration for women and men
DMA HR	Disclosure on Management Approach HR
Aspects	Investment and procurement practices
	Non-discrimination
	Freedom of association and collective bargaining
	Child labor
	Prevention of forced and compulsory labor
	Security Practices
	Indigenous rights
	Assessment
Remediation	
DMA SO	Disclosure on Management Approach SO
Aspects	Local communities
	Corruption
	Public policy
	Anti-competitive behavior
	Compliance
	Emergency preparedness
	Involuntary resettlement
	Asset integrity and process safety



Appendix 1: G3.1 Content Index - Oil & Gas Sector Supplement (OGSS) (continued)

G3.1 OGSS DMAs	Description
DMA PR	Disclosure on Management Approach PR
Aspects	Customer health and safety
	Product and service labeling
	Marketing communications
	Customer privacy
	Compliance
	Fossil fuel substitutes



Appendix 1: G3.1 Content Index - Oil & Gas Sector Supplement (OGSS) (continued)

Economic	
Performance Indicator	Description
Economic performance	
EC1	Direct economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments, retained earnings, and payments to capital providers and governments.
EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change.
EC3	Coverage of the organization's defined benefit plan obligations.
EC4	Significant financial assistance received from government.
Market presence	
EC5	Range of ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation.
EC6	Policy, practices, and proportion of spending on locally-based suppliers at significant locations of operation.
EC7	Procedures for local hiring and proportion of senior management hired from the local community at significant locations of operation.
Indirect economic impacts	
EC8	Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind, or pro bono engagement.
EC9	Understanding and describing significant indirect economic impacts, including the extent of impacts.
OG1	Volume and type of estimated proved reserves and production.



Appendix 1: G3.1 Content Index - Oil & Gas Sector Supplement (OGSS) (continued)

Environmental	
Performance Indicator	Description
Materials	
EN1	Materials used by weight or volume.
EN2	Percentage of materials used that are recycled input materials.
Energy	
EN3	Direct energy consumption by primary energy source.
EN4	Indirect energy consumption by primary source.
OG2	Total amount invested in renewable energy.
OG3	Total amount of renewable energy generated by source.
EN5	Energy saved due to conservation and efficiency improvements.
EN6	Initiatives to provide energy-efficient or renewable energy based products and services, and reductions in energy requirements as a result of these initiatives.
EN7	Initiatives to reduce indirect energy consumption and reductions achieved.
Water	
EN8	Total water withdrawal by source.
EN9	Water sources significantly affected by withdrawal of water.
EN10	Percentage and total volume of water recycled and reused.
Biodiversity	
EN11	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.
EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.
EN13	Habitats protected or restored.
EN14	Strategies, current actions, and future plans for managing impacts on biodiversity.
OG4	Number and percentage of significant operating sites in which biodiversity risk has been assessed and monitored.
EN15	Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk.



Appendix 1: G3.1 Content Index - Oil & Gas Sector Supplement (OGSS) (continued)

Environmental	
Performance Indicator	Description
Emissions, effluents and waste	
EN16	Total direct and indirect greenhouse gas emissions by weight.
EN17	Other relevant indirect greenhouse gas emissions by weight.
EN18	Initiatives to reduce greenhouse gas emissions and reductions achieved.
EN19	Emissions of ozone-depleting substances by weight.
EN20	NO _x , SO _x , and other significant air emissions by type and weight.
EN21	Total water discharge by quality and destination.
EN22	Total weight of waste by type and disposal method.
OG5	Volume of formation or produced water.
EN23	Total number and volume of significant spills.
OG6	Volume of flared and vented hydrocarbon.
OG7	Amount of drilling waste (drill mud and cuttings) and strategies for treatment and disposal.
EN24	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally.
EN25	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and runoff.
Products and services	
EN26	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation.
EN27	Percentage of products sold and their packaging materials that are reclaimed by category.
OG8	Benzene, Lead and Sulfur content in fuels.
Compliance	
EN28	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations.
Transport	
EN29	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce.
Overall	
EN30	Total environmental protection expenditures and investments by type.



Appendix 1: G3.1 Content Index - Oil & Gas Sector Supplement (OGSS) (continued)

Social: Labor Practices and Decent Work	
Performance Indicator	Description
Employment	
LA1	Total workforce by employment type, employment contract, and region, broken down by gender.
LA2	Total number and rate of new employee hires and employee turnover by age group, gender, and region.
LA3	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by major operations.
LA15	Return to work and retention rates after parental leave, by gender.
Labor /management relations	
LA4	Percentage of employees covered by collective bargaining agreements.
LA5	Minimum notice period(s) regarding significant operational changes, including whether it is specified in collective agreements.
Occupational health and safety	
LA6	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs.
LA7	Rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities by region and by gender.
LA8	Education, training, counseling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases.
LA9	Health and safety topics covered in formal agreements with trade unions.
Training and education	
LA10	Average hours of training per year per employee by gender, and by employee category.
LA11	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings.
LA12	Percentage of employees receiving regular performance and career development reviews, by gender.
Diversity and equal opportunity	
LA13	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity.
Equal remuneration for women and men	
LA14	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation.



Appendix 1: G3.1 Content Index - Oil & Gas Sector Supplement (OGSS) (continued)

Social: Human Rights	
Performance Indicator	Description
Investment and procurement practices	
HR1	Percentage and total number of significant investment agreements and contracts that include clauses incorporating human rights concerns, or that have undergone human rights screening.
HR2	Percentage of significant suppliers, contractors and other business partners that have undergone human rights screening, and actions taken.
HR3	Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained.
Non-discrimination	
HR4	Total number of incidents of discrimination and corrective actions taken.
Freedom of association and collective bargaining	
HR5	Operations and significant suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and actions taken to support these rights.
Child labor	
HR6	Operations and significant suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor.
Prevention of forced and compulsory labor	
HR7	Operations and significant suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor.
Security practices	
HR8	Percentage of security personnel trained in the organization's policies or procedures concerning aspects of human rights that are relevant to operations.
Indigenous rights	
HR9	Total number of incidents of violations involving rights of indigenous people and actions taken.
Assessment	
HR10	Percentage and total number of operations that have been subject to human rights reviews and /or impact assessments.
OG9	Operations where indigenous communities are present or affected by activities and where specific engagement strategies are in place.
Remediation	
HR11	Number of grievances related to human rights filed, addressed and resolved through formal grievance mechanisms.



Appendix 1: G3.1 Content Index - Oil & Gas Sector Supplement (OGSS) (continued)

Social: Society	
Performance Indicator	Description
Local communities	
SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs.
SO9	Operations with significant potential or actual negative impacts on local communities.
SO10	Prevention and mitigation measures implemented in operations with significant potential or actual negative impacts on local communities.
OG10	Number and description of significant disputes with local communities and indigenous peoples.
OG11	Number of sites that have been decommissioned and sites that are in the process of being decommissioned.
Corruption	
SO2	Percentage and total number of business units analyzed for risks related to corruption.
SO3	Percentage of employees trained in organization's anti-corruption policies and procedures.
SO4	Actions taken in response to incidents of corruption.
Public policy	
SO5	Public policy positions and participation in public policy development and lobbying.
SO6	Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country.
Anti-competitive behavior	
SO7	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes.
Compliance	
SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations.
Involuntary resettlement	
OG12	Operations where involuntary resettlement took place, the number of households resettled in each and how their livelihoods were affected in the process.
Asset Integrity and Process Safety	
OG13	Number of process safety events, by business activity.



Appendix 1: G3.1 Content Index - Oil & Gas Sector Supplement (OGSS) (continued)

Social: Product Responsibility	
Performance Indicator	Description
Customer health and safety	
PR1	Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures.
PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services during their life cycle, by type of outcomes.
Product and service labeling	
PR3	Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements.
PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes.
PR5	Practices related to customer satisfaction, including results of surveys measuring customer satisfaction.
Marketing communications	
PR6	Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship.
PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship by type of outcomes.
Customer privacy	
PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data.
Compliance	
PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services.
Biofuels	
OG14	Volume of biofuels produced and purchased meeting sustainability criteria.