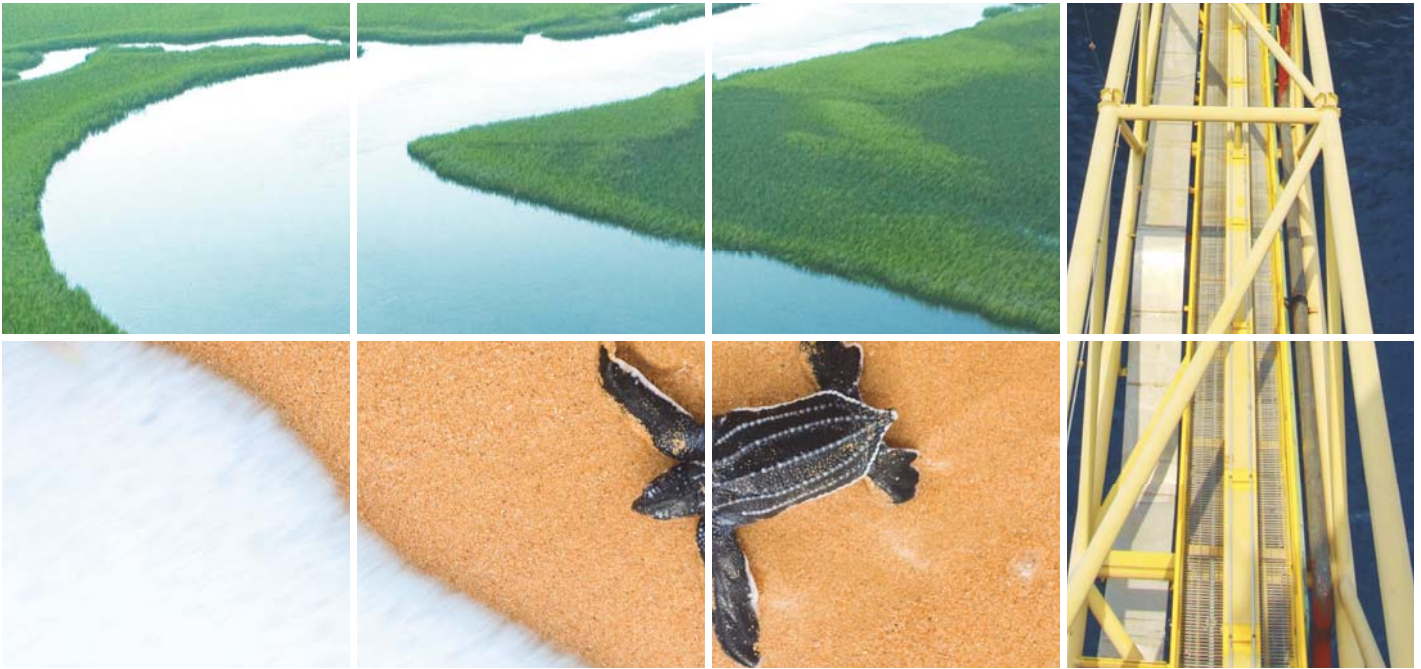




PTT EXPLORATION AND PRODUCTION  
PUBLIC COMPANY LIMITED

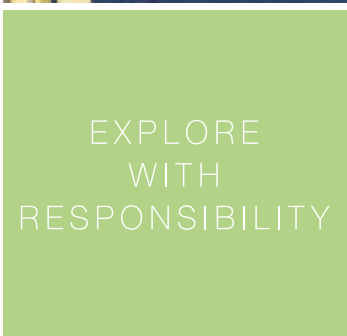
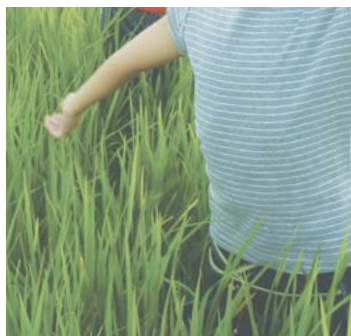
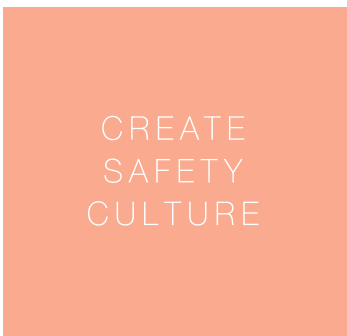
# PASSION TO EXPLORE FOR A SUSTAINABLE FUTURE



2013 SUSTAINABILITY REPORT



DRIVEN BY  
TECHNOLOGY  
AND  
GREEN  
PRACTICES

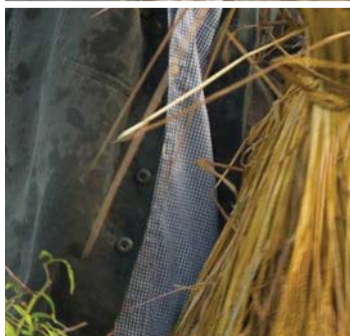




RELIABLE  
ENERGY  
SUPPLY



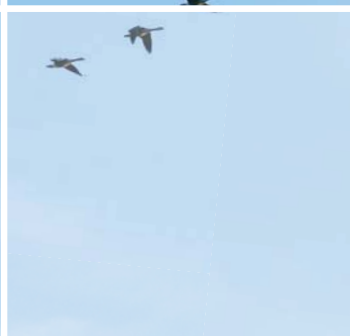
SUSTAINABLE  
SOCIETY



STRONG SSHE  
CULTURE  
FOR TARGET  
ZERO

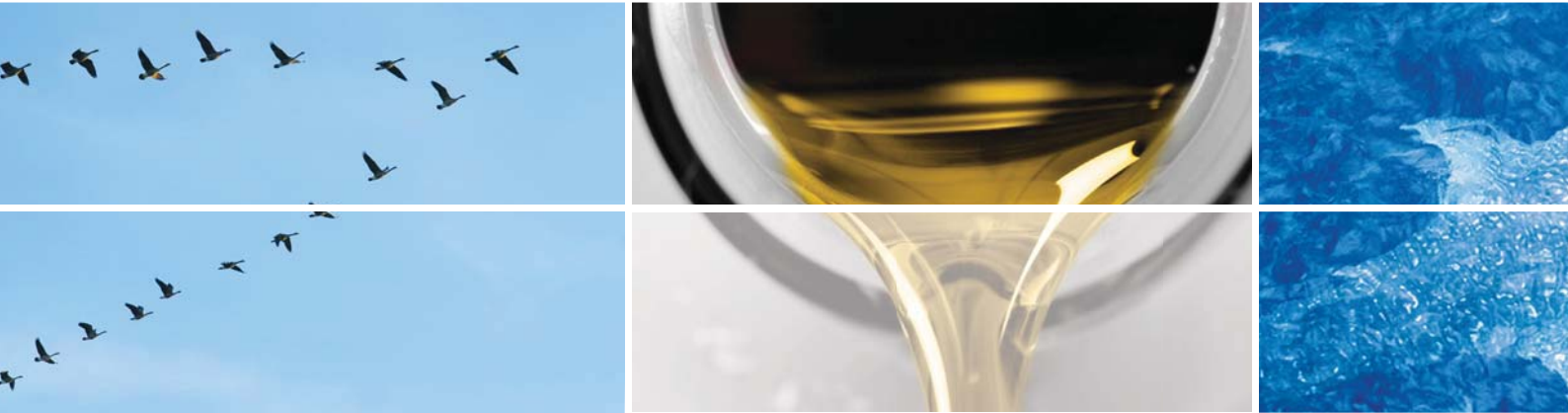


PROTECT  
THE  
ENVIRONMENT





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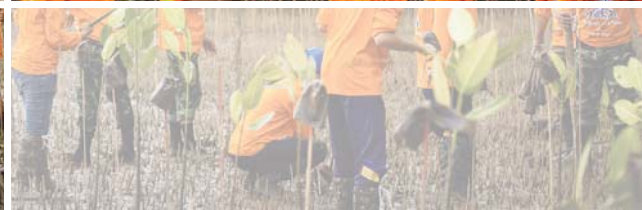
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## PTTEP Business Context

PTTEP is steadily growing through its strong operations in Thailand and as well as through its international expansion in order to create energy security for the society.

- ✦ **Mission:** PTTEP operates globally to provide reliable energy supply and sustainable value to all stakeholders
- ✦ **Vision:** Leading Asian E&P company driven by technology and green practices

### Values

<b>E</b>	<b>P</b>	<b>S</b>	<b>P</b>	<b>I</b>	<b>R</b>	<b>I</b>	<b>T</b>
Explorer	Passion	Synergy	Performance Excellence	Innovation	Responsibility for Society	Integrity and Ethics	Trust and Respect

✦ **DNA :** Passion to Explore with Responsibility

### PTTEP has been growing steadily.

In 2013, PTTEP has proven petroleum reserves of 846 million barrels of crude oil equivalent. The total production rate of crude oil, natural gas, LPG and condensate was 330,000 barrels of crude oil equivalent per day (BOED). Compared to 2012, the production rate increased by 16,000 BOED or 4.8 percent.

PTTEP is a petroleum exploration and production company that is listed on the Stock Exchange of Thailand. Its primary mission is to supply petroleum to meet energy demand domestically and in the overseas countries where it invests. The company's business covers investment in petroleum exploration and production. It is currently investing in a total of 42 projects<sup>1</sup> in 10 countries including Thailand, Indonesia, Myanmar, Vietnam, Oman, Algeria, Australia, Canada, the Republic of Mozambique and the Republic of Kenya. PTTEP has also invested

in 7 projects that are related to the company's core business. These include the PTTEP Petroleum Development Support Base (PSB) in Songkhla and Ranong, the PTTEP Gas Transmission Pipeline project (for Yadana, Yetagun and Zawtika), the Energy Complex investment project, the PTT ICT Solutions project, the FLNG project, the Erawan 2 FSO project and the NST supply base project. The total revenue from all operations in 2013 amounted to USD 7,445 million.

In the past year, PTTEP was successful in several existing projects such as in the production start-up of the Montara oil field in Australia, the successful exploration and appraisal drilling in projects such as Myanmar M3 and Vietnam16-1 as well as Algeria Hassi Bir Rekaiz, and the completed acquisition of the Natuna Sea A Project from Hess Corporation. These achievements demonstrate PTTEP's progress towards its year 2020 production goal of 600,000 BOED.

<sup>1</sup> Excluding Indonesia Sadang, Indonesia South Sageri and the New Zealand Great South projects for which PTTEP has submitted relinquishment documents to the respective governments of each project and is awaiting official approval

Increase in revenue from the previous year by

**+6%**

PTTEP has operations in 4 continents, employing

**4,315** people

## Our Business



### Project Progress

**Thailand** maintains a production rate of 253 thousand BOED, and is regarded as the main share of energy supply for the people of Thailand. The production can be divided into natural gas production from Bongkot Project amounting to 920 million cubic feet per day, or 20 percent of domestic consumption, condensate 32,486 barrels per day (BPD) and oil production from the S1 Project of 32,749 BPD, the highest since it began operations 30 years ago.

**South East Asia** in particular, Myanmar is a high potential source for energy within the region. PTTEP has been in exploration in Myanmar for over 20 years. In 2013, PTTEP generated revenue from the Yadana and Yetagun projects with gas sales of over 1,000 million cubic feet per day. The Zawtika Project has completed installations of the wellhead platform and the main gas transmission pipeline, and is expected to start its operation in the first quarter of 2014 with a capacity of 300 million cubic feet per day.

**Africa and Middle East** is the region where PTTEP's Mozambique Rovuma Offshore Area 1 Project is located. More specifically it is located off the coast of Mozambique, with an estimated 35 to 65-plus trillion cubic feet (Tcf) of recoverable natural gas resources. The project is progressing with the development of offshore natural gas fields, and is planning the development of onshore Liquefied Natural Gas or LNG facilities construction in the industrial zone at Cape Afungi in order to start-up production in 2018-2019 as planned.

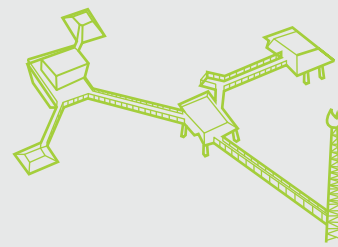
**Australia** is where PTTEP's Montara field, which recently started its first production in June 2013, and sold approximately 1,000,000 barrels of crude oil. The project is currently producing crude oil at an average rate of 17,000 BPD, and plans to gradually ramp up its production rate from additional production wells.

**North America** or more specifically, in Canada, is where PTTEP has invested in the oil sands business. PTTEP through its wholly owned subsidiary PTTEP Canada Limited (PTTEP CA), holds a 40% participating interest in the Canada Oil Sands KKD project while Statoil Canada Limited (SCL) holds the remaining 60% participating interest and is the operator. The KKD project consists of five proximate areas: Leismer, Corner, Thornbury, Hangingstone and South Leismer. The Leismer field produced bitumen at an average rate of 14,800 BPD during 2013. However, in January 2014, PTTEP CA entered into the transaction to restructure the ownership of the five areas of the KKD Project. At the closing of the transaction, PTTEP CA will directly own and operate 100% of the Thornbury, Hangingstone and South Leismer areas (THSL) and receive cash of around 435 million US dollars<sup>(2)</sup> from SCL, while SCL will own and operate 100% of the Leismer and Corner areas (LC).

The oil sands deposits in Canada provide a strong growth platform into unconventional resources for PTTEP. This transaction allows for PTTEP to adjust its portfolio and the timing of its capital expenditures, based on the current market situations, to achieve optimal investment returns. It is also an opportunity for each party to pursue its own strategic direction.

<sup>2</sup> Cash of USD 200 million and plus an additional amount to be calculated from working capital adjustments from 1<sup>st</sup> January 2013 until the closing date (equivalent approximately to USD 235 million as at 31<sup>st</sup> December 2013)

# E&P Projects and Shareholding Structure of PTTEP Group



PTTEP's core business is the exploration and production of petroleum in Thailand and foreign countries. As of 31 December 2013, PTTEP, its subsidiaries and associated companies had 42<sup>1</sup> petroleum exploration and production projects in 10 countries. 17 projects were under the exploration phase, 3 projects were under the development phase, and 22 projects were under the commercial production phase.



- Production
- Development
- Exploration



## Myanmar

- Myanmar M3 Project  
Participation Interest 80%  
Operator PTTEP
- Myanmar M11 Project  
Participation Interest 45%  
Operator PTTEP
- Zawtika Project  
Participation Interest 80%  
Operator PTTEP
- Yadana Project  
Participation Interest 25.5%  
Operator TOTAL
- Yetagun Project  
Participation Interest 19.31784%  
Operator Petronas
- Myanmar PSC G & EP 2 Project  
Participation Interest 90%  
Operator PTTEP
- Myanmar MD-7 and MD-8 Project  
Participation Interest 100%  
Operator PTTEP

## Vietnam

- Vietnam 9-2 Project  
Participation Interest 25%  
Operator HV JOC
- Vietnam 16-1 Project  
Participation Interest 28.5%  
Operator HL JOC
- Vietnam B & 48/95 Project  
Participation Interest 8.5%  
Operator Chevron
- Vietnam 52/97 Project  
Participation Interest 7%  
Operator Chevron

## Thailand

- Bongkot Project  
Participation Interest 44.4445%  
Operator PTTEP
- S1 Project  
Participation Interest 100%  
Operator PTTEP
- PTTEP 1 Project  
Participation Interest 100%  
Operator PTTEP
- B6/27 Project  
Participation Interest 60%  
Operator PTTEP
- Arthit Project  
Participation Interest 80%  
Operator PTTEP
- L22/43 Project  
Participation Interest 100%  
Operator PTTEP
- L53/43 & L54/43 Project  
Participation Interest 100%  
Operator PTTEP
- L28/48 Project  
Participation Interest 70%  
Operator PTTEP
- A4/48 & A5/48 Project  
Participation Interest 100%  
Operator PTTEP
- E5 Project  
Participation Interest 20%  
Operator ExxonMobil
- Contract 3 Project  
Participation Interest 5%  
Operator Chevron
- Contract 4 Project  
Participation Interest 45%  
Operator Chevron
- G4/43 Project  
Participation Interest 21.375%  
Operator Chevron
- Sinphuhorm Project  
Participation Interest 20%  
Operator Hess (Thailand)
- B8/32 & 9A Project  
Participation Interest 25%  
Operator Chevron
- G4/48 Project  
Participation Interest 5%  
Operator Chevron

## Overlapping Area

- G9/43 Project  
Participation Interest 100%  
Operator PTTEP
- MTJDA-B17 Project  
Participation Interest 50%  
Operator CPOC

<sup>1</sup> As of 31 December 2013, there were three projects being submitted for relinquishment to the respective governments of each project and is awaiting official approval. These projects were Indonesia Sadang, Indonesia Sageri, and New Zealand Great South projects.

<sup>2</sup> PTTEP Australasia Project holds many petroleum blocks which have various participation interest from 20 – 100%.

<sup>3</sup> In January 2014, PTTEP CA entered into the Partnership Units Redemption Agreement (PURA) with Statoil resulting in a change of the participation interest of PTTEP CA in KKD Project. However, the change will only take place when all conditions stated in the PURA are met which has been estimated to be completed in the third quarter of 2014.

<sup>4</sup> Block L10A

<sup>5</sup> Block L10B

## General Business Information

PTTEP introduced an END-WAY-MEANS approach to plan its business strategy, whereby “END” refers to setting the strategic goal, “WAY” refers to strategic initiatives and “MEANS” are the success factors.

### Business Strategy

**BIG**  
Production



**LONG**  
Reserves and Resources Life



**STRONG**  
Competitive Performance



#### Goal

Increase production capacity to 600,000 BOED by 2020.

Increase proved reserves life to greater than 10 years and resource life to be longer than 40 years with environmentally friendly operations.

Operate the business to deliver ROCE above E&P industry average and maintain the credit rating of the company in line with Thailand's credit rating.

#### Progress in 2013

- Acquisition of Hess Corporation's interest in the Natuna Sea A project in Indonesia.
- Increased production capacity of projects in Thailand and internationally e.g. the S1 Project was able to produce at a record high rate of 37,890 BOED; the Bongkot Project reached its production mark of 100 million barrels of crude oil on 5th August 2013; the Oman Project produced at a rate of 1,500 BPD.
- Received new concessions for petroleum blocks MD-7 and MD-8 in Myanmar to explore the petroleum potential.
- Issued a bond worth USD 500 million, which was 4.4 times oversubscribed.
- Maintained funding cost of approximately 4 percent.
- Credit ratings outlook was revised from “Negative” to “Stable” after an increase in funding; and now on par with Thailand's sovereign ratings.

To achieve the goals, PTTEP has the following strategic plans:

#### First strategic objective:

To increase production and proved reserves by managing current assets. The projects can be grouped by phases as follows:

- **Producing Assets** include both domestic and international assets, whether self-operated or via joint ventures with other operators, focusing on investment to maintain production capacity by bringing in new technologies to enhance efficiency, accelerating the exploration program to cover the entire concession areas in order to increase the reserves for sustainable production to meet domestic demand as well as generate revenue and add value to the company presently and in the future.
- **Development Assets** include Zawtika Project, Algeria 433a & 416b Project, and Mozambique Rovuma Offshore Area 1 Project. The company focuses on having these projects completed and in operation according to the set plan and budget in order to generate income and add values to the company in the near future, and to supplement the existing projects which will have declining production in the future.
- **Exploration Assets** include the projects that are still in the exploratory stage. These are important to the sustainable growth of the company in terms of both increasing the reserves and production the capacities in the future. Exploration Assets are focused on management of exploration projects appropriately, speeding up explorations of the projects with high

petroleum potential, and risk management for the projects with low petroleum potential by selling or returning the projects, running business on knowledge base, or developing its own technologies (Technologically Advanced - TA).

### Second strategic objective:

Strategy on sustainable growth and value creation. These include the creation of sustainable growth and balancing stakeholder management, environmentally friendly operation, investment growth in both new exploration acreage and merger and acquisition (M&A) with emphasis on projects in the early stage of production or in the development phase in order to be able to increase production and reserves immediately. In addition, this objective focuses on investment in target areas that are strategically important (Growth Platforms)

### Third strategic objective:

Strategy on creating business-value-added and reducing finding and development costs in order to increase returns on investment. This objective can be achieved by developing capability enablers which are crucial factors for the effectiveness in implementing the company's strategic plan. The capability enablers to be developed are explained as the follows:

- ▶ Financing and financial risk management: The company arranges its financing plan to be in line with investment plan, taking into consideration appropriate financial ratios e.g. debt to equity ratio and debt to reserves ratio in order to maintain its credit rating to be at the same level as Thailand's. The company also manages financial risks in accordance with exchange rates, interest rates, and the liquidity of the company as well as developing its financial and accounting capacities in order to achieve the status of World Class Finance, by, for example, establishing a Treasury Center and In-House Financial Academy.
- ▶ Development of knowledge, technology, research and development of the organization aspect: The development is to be in line with the growth plan of the company (Growth Capability), and can be done by developing both Capability and Technology Development Roadmap to support important work that directly affects the strategic growth plan, and R&D Technology Center to become a source of information for the organization's research and development by using information technology development systems and SAP system to keep pace with rapid changes.
- ▶ Development of systems, work processes and organizational structures: The development must be in line with the strategy and business plan which currently involves more investments and operations overseas, for example, Global Operating Model/Organization.
- ▶ Human resources management and organizational development: In order for the organization to be able to compete internationally, this enabler can be achieved by having adequate number of employees, developing their capabilities as well as leadership skills, and maintaining the employees to work for the company by improving relationship between the company and employees. Corporate structure and work patterns should be standardized in order to support business growth both domestically and of those in overseas. The company should amplify its potential in a sustainable way, and should embed corporate values that are in line with EP SPIRIT to its personnel. Such values are the cornerstone to effective development, and are aligned with PTT Group.
- ▶ Sustainable development: This aspect recognizes roles of PTTEP in response towards social, communities and the environment through its corporate social and quality of life responsibility through sustainable uses of natural resources, Safety, Security, Health and Environment (SSHE). It targets to become a Low Carbon Footprint Organization with a greenhouse gas emission reduction target of 20 percent by the year 2020, an organization concerned with the environmental impact from water use, release of air emissions and waste into the environment. These are also international concerns as well as concerns of the communities neighboring the areas of operation. Sustainable development is thus the "Social License to Operate". The company's sustainability performance will be measured against internationally accepted criteria such as the Dow Jones Sustainability Indices (DJSI) and the Global Reporting Initiative (GRI).

## Message from the President and CEO

“PTTEP is committed to provide sustainable value for all stakeholders everywhere we operate.”

Over the past 28 years, PTTEP has been engaged in petroleum exploration and production activities to serve social and economic development while protecting and conserving the environment. Energy is a key factor in driving economic growth as well as promoting people's wellbeing. In 2013, PTTEP provided 27 percent of petroleum to Thailand to meet domestic demands. Natural gas accounted for 46 percent of the total volume provided.

Currently, many petroleum reserve locations are difficult to access by means of conventional E&P technologies, thus driving numerous E&P companies to enter into more difficult locations which might be sensitive in environmental, social, and political issues. In order to overcome these challenges, PTTEP focuses on creating shared value (CSV) to all stakeholders as maximizing profit is not the only goal of our E&P business. We are living in a smaller world, where the impacts and effects of one organization's action might send ripples throughout the whole industry, and even the world. This proves to be a challenging time for the petroleum exploration and production business to operate without the knowledge and management expertise of climate change issues, occupational safety of employees and contractors, process safety of facilities and the nature of this business, and the environmental, social and business impacts project development and implementation can have on communities. To overcome these challenges, PTTEP conducts its business by considering all aspects of sustainability to promote confidence in efficiency of PTTEP's management and control measures.

I believe that performance of all employees reflects our corporate identity. PTTEP is committed to engage the minds of all employees for the company's value “EP SPIRIT” so eventually a PTTEP identity is created which stands for “Passion to Explore with Responsibility”. The company also operates in line with its sustainable development policy “G.R.O.W.T.H. Policy” which

covers the areas of environmental, social, corporate governance and business growth.

The performance of PTTEP in 2013 was relatively satisfactory across various aspects, with a number of issues still ongoing. Being a member of the Carbon Disclosure Project (CDP), PTTEP disclosed its GHG emission data publicly, and continues to improve efficiency in GHG emission reductions from its operations. PTTEP was awarded the Second Best Year-on-Year Disclosure Score Change in the Region from the CDP Asia Ex-Japan Launch for its performance on GHG risk management and GHG emission reductions. The company was also among the leading companies listed in the CDP Asia Ex-Japan Climate Disclosure Leadership Index (CDLI). In addition, the company initiated a reforestation project that resulted in trees being planted covering an area of 50,000 rais (8,000 hectares) in order to mitigate climate change since forests facilitate bio sequestration of atmospheric carbon dioxide.

PTTEP passed a sustainability assessment by SAM Corporate Sustainability Assessment in the areas of economic, social and environmental sustainability. The company was listed in the group of top 15 percent, meaning its implementation for economic, social and environmental sustainability was recognized internationally.

In terms of implementation of safety, security, health and environment (SSHE), PTTEP's performance is comparable to companies in the same industry at international level with our aspiration of moving towards SSHE excellence and achieving a goal of being a lost time incident (LTI) free or an incident-free organization. In the previous year, PTTEP's SSHE performance was ranked in the top quartile among global oil and gas companies. The company continues to be committed to improve efficiency of its safety implementation, maintain its proven petroleum reserves to last for over 10 years as per its target, and operate according to the sustainable development policy in its focus destinations including Myanmar, Algeria, Australia, Mozambique and Kenya. In addition to expanding E&P operations to overseas locations to meet the petroleum reserve target, PTTEP also emphasizes its merger and acquisition strategy to expand business, by focusing

on companies that work in the development or production phase and are located in a petroleum potential rich, areas such as Myanmar, East Africa, etc. In addition, East Africa will also be our flagship source for LNG in the future.

In terms of CSR, PTTEP is committed to build a sustainable society by growing the philosophy of social responsibility in employees' hearts and opening doors for them to create and participate in social related activities to benefit the communities and wider society. These activities have reflected PTTEP's effort of operating its business sustainably and adding value to the society. The company is also focused on being recognized as a sustainable company which will provide social license to operate in all areas of PTTEP engagement.

I would like to thank our suppliers, business partners, shareholders, related organizations and employees as well as the communities for your cooperation in leading the company. I believe that we all are walking together towards a sustainable future.



Mr. Tevin Vongvanich  
President and Chief Executive Officer



# Sustainability Management



## Corporate Sustainability



### Sustainability Context

The exploration and production industry is unique in comparison with other conventional industries that usually deals with processing of raw materials into finished products and selling them off to consumers. Within this industry, petroleum is extracted from reserves and transported to a gas separation plant and a refinery without being sold directly to consumers. As such, the challenge in operating this industry towards sustainability is clearly visible.

The most important factor affecting sustainability of an exploration and production company is the availability of its petroleum reserves that can accommodate the business in a long run. Realizing this, PTTEP has set up a clear target of proved reserves life (1P) of at least 10 years, and continues searching for other new reserves in Asia, Australia, North America and Africa.

However, PTTEP has foreseen potential risks and opportunities, in the contexts of economic, social and environmental, emerging from investment in these countries due to a clear contrast from Thailand's perspectives. Hence, PTTEP focuses on learning and understanding in every perspective the outlook of localities so that the company is able to introduce its sustainability approaches to address the arisen challenges in the local areas for the local communities and the business of PTTEP as well.



### Corporate Sustainability Governance

SSHE-SD Council is responsible for directing PTTEP's sustainability approach, together with the management of safety, security, health and the environment, with CEO as the

Chairman. The Council is responsible for determining, reviewing and approving guidelines, operations, and projects in relation to sustainable development, and it has an SD Working Team playing a supportive role to the Council's operation. The SD Working Team is made up of representatives from different functional groups and departments working together to determine strategy, directions, and initiatives on SD, key performance indicators, action plans, monitoring programs. The SD Working Team communicates to the SSHE-SD Council on a regular basis.

In 2013, there were 4 SSHE-SD Council meetings, each of which was organized to have the Council review and make decision on a specific agenda (4 agenda in total). The 4 agenda include: Follow-up of SD Key Performance Indicators; Implementation Progress of SD Annual Action Plans; Endorsement of SD Policy and Guidelines; and 2013 Communication Plan on Sustainability. In addition, the SSHE-SD Council has reviewed and approved other key action plans and findings including Energy Efficiency Roadmap, Climate Change Risk Sensitivity Analysis, Progress of Reforestation Program, 5S Performance, Carbon Target, as well as Assessment Result and Action Plan on Dow Jones Sustainability Indices (DJSI).

The SD Working Team organized 7 meetings in total in 2013 with agenda mostly dealing with screening the contexts of issues to be discussed in the SSHE-SD Council meetings, and planning to bring the action plans into practice. In addition to the agenda set for the Council forums, the following issues were being reviewed by the SD Working Team - Long Term Strategy on Social Responsibility, Preparation of Sustainability Report, and Implementation on Human Rights.



## Commitment to and Implementation on Sustainability of PTTEP

PTTEP is emerging as a leading Asian exploration and production company driven by technology and green practices. This concept explains the development path of PTTEP that is highly motivated to move forward with the use of state-of-the-art technologies in exploring and producing petroleum, and, in the meantime, taking into consideration impacts on economic, society and the environment and Creating Shared Value (CSV) for its stakeholders. Eventually, PTTEP anticipates to be a reputable organization which is accepted by communities

within the areas of our operations, to the society at large, and finally being endowed with a Social License to Operate.

PTTEP has established policy on sustainable development, namely SD G.R.O.W.T.H. Policy, to express commitment to run the business to achieve the goal of sustainable growth. The company has also developed Sustainable Development Guideline based on our Sustainability Framework which is a set of expectations and practices for PTTEP and our contractors to attain sustainability in our operations.

The full version of Sustainable Development Policy is publicly available on PTTEP's website.

### Sustainable Development G.R.O.W.T.H. Policy

<b>G</b>	<b>Governance, Risk Management and Compliance</b> Good Governance, Risk Management, Control and Compliance system, Business Code of Conduct and Ethic comprehensively and robustly in place.
<b>R</b>	<b>Responsible Operation</b> Responsible operation by managing all environmental aspects in particular; greenhouse gas, energy efficiency, water resource, biodiversity and waste throughout project cycle and supply chain.
<b>O</b>	<b>Optimum Returns</b> Optimum returns on capital, increasing production, and improving proven reserve through embedding Operational Excellence culture.
<b>W</b>	<b>Wealth Contribution</b> Wealth contribution to the people of the nations where we operate through our social investment program.
<b>T</b>	<b>Technologically Advance</b> Technologically Advanced Company through E&P excellence and green technologies.
<b>H</b>	<b>High Performance Organization</b> High Performance Organization by systematically improving the efficiency of enterprise resource planning, human capital competency, and Safety, Security, Health and Environment (SSHE) management to be competitive in international arenas.

# Sustainability Management

In 2013, PTTEP determined and established key performance indicators on sustainability on a corporate level, in relation to SD initiatives such as greenhouse gas emission reductions, preparation of Sustainability Report in conforming to GRI Guideline, and Progress of Sustainable Development Plan Implementation, and will apply such indicators in the next year's operations that

focuses on the matter of emerging risk management. In addition to the SD key performance indicators, other business key performance indicators were also established to reflect key business progress, for example, key performance indicators on production targets, safety, security, health and environment (SSHE), human resources and capital, and financial indicators, etc.

Key Indicator	Unit	Target	
		Base case	Stretch case
Greenhouse gas reductions	Percentage of carbon emission reduced	2%	3%
GRI Rating	GRI Rating	A	A+
Progress of Sustainability Plan Implemented	Percentage of work done	90%	100%

## Communication and Awareness Building on Sustainability in the organization

PTTEP expects continuous development of sustainability management within the organization. Therefore, the company has introduced and applied Global Reporting Initiative (GRI) Framework and the Ten Principles of United Nations (UN) Global Compact as a guideline in driving sustainability performance in the company. Also, it participated in a sustainability assessment program - the Dow Jones Sustainability Indices (DJSI) organized by Sustainability Asset Management (RobecoSAM), whose assessment scheme encompasses economic, social and

environmental aspects with aims to become a DJSI Listed Company in the near future.

PTTEP's commitment to sustainability is reflected in the company's vision, mission, corporate values "EP SPIRIT", as well as PTTEP DNA's "Passion to Explore with Responsibility". These elements will work to strengthen the organizational behavior and culture and take into consideration sustainable development both within and outside the company to reach the organization's goal - vision and mission - in the future.







### The SD Day 2013 “Green at Heart – PTTEP Ways”

PTTEP’s Sustainable Development Exhibition and Event “Green at Heart - PTTEP Ways” was organized with the focus to communicate to PTTEP personnel regarding the implementation of sustainable development strategies and initiatives, and to build awareness of PTTEP’s SD G.R.O.W.T.H. Policy. Key topics presented at the event included progress of SD initiatives implemented by different aspects of business and operations, results on development of SD enablers that reflect one of the SD G.R.O.W.T.H. policy which is “R-Responsible Operations”. PTTEP has introduced Green Practices within its operations by following such practices as low carbon strategies by reducing and offsetting greenhouse gas emissions, developing its own Green Procurement Guideline, pursuing Energy Efficiency Roadmap and introduced its Low Ecological Footprint Roadmap such as conducting studies on marine biodiversity, creating Biodiversity Management Guideline and Water Risk Tools for Water Management, and endorsing Operational Eco-efficiency practices, etc. The event also served as a means for PTTEP personnel to understand the linkage among its diverse business tools, systems and operations from different business aspects which will drive PTTEP towards a sustainable organization. During the 2-day period of the event, there were more than 1,700 participants, including PTTEP personnel, local regulators, contractors and the public in general that attended the event with presented topics including:

- Adapting Sustainability Philosophy to Business Practices and Operations;
- Implementations in Association with “Vision 2050” by World Business Council for Sustainable Development;
- Obstacles and Challenges Towards Sustainability;
- SD Performances in Comparison with International Standards (GRI and DJSI) and Future Plans; and
- Driving Business towards Sustainability.

In addition to the above activities, the event also provided a range of capacity and awareness building programs on sustainability, such as measuring personal ecological footprints booths, and electricity generating bicycle which calculates how much energy could be produced when bicycling and the amount of energy which can be used in daily life in order to raise awareness amongst PTTEP staffs regarding the organization’s culture on sustainability.

## Our Journey to the First Oil from Montara



“The company has successfully implemented the Montara Action Plan and has met its obligations under the Deed.”

Quoted by The Hon Gary Gray  
AO, MP, and Minister for Resources  
and Energy.

The Montara H1 ST1 well had an uncontrolled-release on 21<sup>st</sup> August 2009. All 69 personnel on the West Atlas drilling rig were evacuated safely. A relief well was successfully drilled and the uncontrolled-release was stopped on 3<sup>rd</sup> November 2009, 74 days later. The oil spill response operations commenced on the day of the incident and lasted until 3<sup>rd</sup> December 2009. No oil reached the coastline of Australia or Indonesia.

Two comprehensive action plans were put in place after Montara incident. The Montara Action Plan (MAP) was for PTTEP AA and the plan for 13 Corporate Lessons Learned covered actions at PTTEP head office in Bangkok. Both plans were completed in December 2011 and November 2012 respectively. MAP Sustainability Audits were conducted to ensure the complete transformation of PTTEP-AA in both good oilfield practice and corporate practice.

Following the ruling by Montara Commission of Inquiry, which was established by Australian Government, PTTEP AA was permitted to retain its license to operate under a binding Deed of Agreement with Australian Government. Under the Deed of Agreement, it required six monthly independent audits to verify the MAP was being complied with. The last audit was conducted in May 2013. On 21<sup>st</sup> June 2013, Australia’s Minister for Resources and Energy announced that “The Deed of Agreement was concluded with best practice in place at Montara”.

“The company had made a transformation in all aspects of its business... it is a very different company and one that exhibits both good oilfield practice and corporate practice.”

Quoted by The Hon Gary Gray  
AO, MP, and Minister for Resources  
and Energy.

An Environmental Monitoring Program was put in place with Australian Government’s approval after the Montara incident. In September 2013, the “Montara Environmental Monitoring Program Report on Research” booklet was issued by PTTEP AA. This summarizes the results of studies and provides a significant new

body of publicly available baseline scientific data on the Timor Sea and northern Australian coastline.

A total of 10 scientific studies have been conducted

A list of the Montara environmental monitoring studies commissioned, developed in consultation with SEWPaC, is outlined in the table below.

To view the full scientific studies visit:  
[www.environment.gov.au/coasts/oilspill/scientific-monitoring.html](http://www.environment.gov.au/coasts/oilspill/scientific-monitoring.html)

Scientific Study	Research Organization
1. S2 - Shoreline ecological assessment aerial surveys (baseline only)	
2. S3 - Assessment of fish for presence of oil	
3. S3A - Olfactory analysis of Timor Sea fish fillets	
4. S4A - Assessment of effects on Timor Sea fish	
5. S5 - Offshore banks assessment survey	
6. S6.1 - Shoreline ecological ground surveys (corals)	
7. S6.2 - Shoreline ecological ground surveys (turtles and sea snakes)	
8. S6.3 - Shoreline ecological ground surveys (seabirds and shorebirds)	
9. S7.1 - Oil fate and effects assessment - trajectory analysis	
10. S7.2 - Oil fate and effects assessment - dispersant oil modelling	

The results of the studies have detected exposure of marine life and eco-systems to hydrocarbons in some areas although it is unclear as to whether this has been from the Montara spill. However, so far there appears to be no discernible impact detected on the health of any species or habitats.



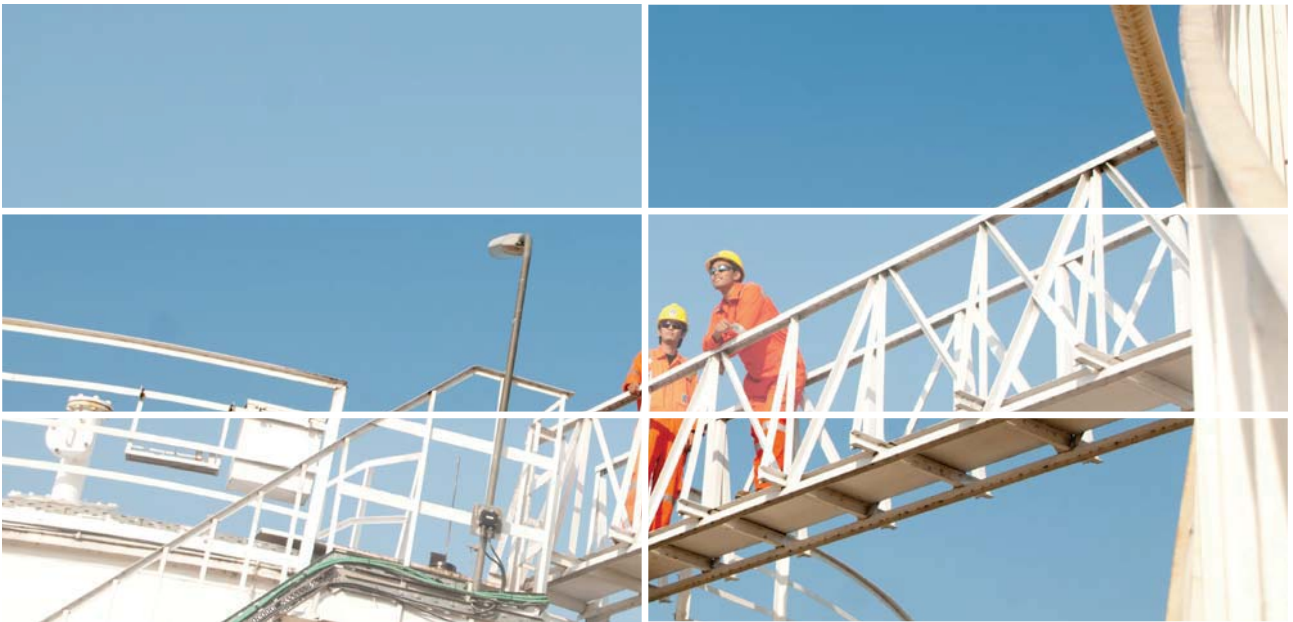
Additional information could be found on our website  
<http://www.au.pttep.com/our-response-to-montara> and  
<http://www.environment.gov.au/node/18259>

In addition, many findings from this survey are now providing scientists, industry and regulators with a benchmarking against which to measure potential future events - natural occurrences such as cyclones, climate change, as well as those instigated by mankind - and better management of the valuable economic, environmental and social resources of the region.

Crude production from Montara field started safely in June 2013. At the end of 2013, approximate production of 10,000 barrels per day (BPD) was achieved. This is expected to increase to 30,000 BPD in 2014 as more wells are put on stream.

## Business Excellence

### Good Corporate Governance, Business Ethics and Human Rights



PTTEP commits to good corporate governance to ensure business continuity, protect the company's reputation and image, and maintain good relationship between the company and each stakeholder group.

PTTEP has the goal to improve the level of corporate governance along with business ethics and performance by continuously monitoring the trend of international guidelines and adopting those in accordance with PTTEP business context. As a result of this approach, PTTEP has been recognized by both national and international institutes i.e. SET Award of Honor in the category of Top Corporate Governance Report Awards by the Stock Exchange of Thailand, NACC Integrity Awards 2012 by the Office of the National Anti-Corruption Commission, Best Managed Company in Thailand and Best Managed Company in Asia for Oil & Gas 2013 by the Euro Money Magazine, Asian Excellence Awards from Corporate Governance Asia, and one of the 50 listed companies in ASEAN recognized in conducting corporate governance practices in accordance to ACMF ASEAN Corporate Governance Scorecard.

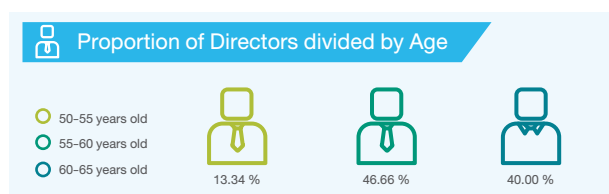
PTTEP has policies in place for fraud and corruption. The company has been a member of the United Nations (UN) Global Compact since 2011. One of the principle 10 is about anti-corruption in all forms including extortion and bribery. PTTEP has become a member of the Collective Action Coalition of Thailand to combat corruption in the private sector and aims to be certified in the second half of 2014.

**Corporate governance provides a framework to control and manage the company in effective, efficient and ethical manner promoting long-term interests of stakeholders; building social acceptance and trust from other stakeholders at the same time.**

PTTEP believes that conducting its business guided by rigorous good corporate governance and business ethics are vital for generating the ultimate success of its operations in a sustainable way. Good corporate governance and business ethics is derived from our organization's values and culture. It is providing guidelines to PTTEP employees, suppliers and business partners.

## Board of Directors

PTTEP Nominating Committee is responsible for nominating suitable candidates for Directors and President and Chief Executive Officer to assume available position or positions. The Nominating Committee presents list of the best qualified candidates from those who are qualified, competent, and experienced to serve the interests of PTTEP at the Board of Directors meeting or shareholder meeting for election. Other mandates as well as conflict of candidates will also be considered. PTTEP aims to have a diverse skill mix within the Board, including knowledge of industry, accounting, finance, business decision, management skills, international market, business strategy, crisis management, corporate governance, and legal matters.



All the Directors serve a three-year term. The nomination of the new Board is elected at the Annual General Meeting. PTTEP also requires the Chairman of the Board and the CEO to be two separate people.

PTTEP conducts an annual Board assessment process according to PTTEP corporate governance and business ethics. The assessment includes performance assessment of the Board in accordance to the board assessment form, the annual board performance target and the chairman and sub-committee annual performance assessment. In 2013, PTTEP participated in the Board of the Year Award, 2012/2013 organized by the Thai Institute of Directors Association (IOD) in cooperation with the Stock Exchange of Thailand, Board of Trade of Thailand, The Federation of Thai Industries, The Thai Bankers' Association, Thai Listed Companies Association, and Federation of Thai Capital Market Organizations. The company received awards in 4 categories including 1) Board of the Year for Exemplary Practices, 2) Board of the Year - Hall of Fame is an award that honors the Board that has been honored by the Board of the Year for Exemplary Practices for three consecutive years, 3) Board with Consistent Best Practices and 4) Audit Committee of the Year for the second consecutive year.

## Business Ethics

Business Ethics (BE) is a part of good corporate governance. It translates corporate value into practices which the Directors, executives and employees shall strictly comply to. Executives and line managers are expected to demonstrate their leadership in obeying to BE.

PTTEP develops training courses for Corporate Governance & Business Ethics (CG & BE) to provide opportunities for the Directors, executives and employees to acknowledge and understand concept and expectation of CG & BE for the company.

PTTEP has a whistleblowing policy in place. The policy ensures confidential disclosure by an individual via direct reporting to the line manager, CG Hotline, CG E-mail and Hotline Box. The Corporate Secretary Office and the department receiving a report of whistleblowing concern are responsible for handling the grievance.

In previous years, eight cases of grievance were reported covering on non-compliance with ethical conducts and unfair practices including misunderstanding of the company's procedure, corruption of operation level employee and inappropriate use of PTTEP's logo. However, these cases have had no significant impact on PTTEP's reputation and properties. These cases were not relevant to the violation of right to exercise freedom of association and collective bargaining, use of child labor and forced labor, bribery or corruption. The Corporate Secretary Office acts as the coordinator; supervisor of the accused person is responsible for the investigation. The President and Chief Executive Officer and the Executive Vice President, Human Resources & Business Services Group approve the actions relevant to every type of confidential whistleblowing disclosure.

PTTEP has set the target to have every filed whistleblowing disclosure incidence be addressed within 10 working days and if validated be resolved within 30 or 60 working days depending on the complexity of the disclosure.

## Business Excellence

In previous year, there were CG & BE training courses for all new management level staff and employees who joined PTTEP less than two years to understand CG & BE and to be aware of the importance to follow CG & BE including application in real life. The total training hours were 34 hours (one class for the new management and four classes for the new employees). Hence, there were 10 new management level staff and 184 new employees participating in the training. The CG & BE course covered all core subjects of CG & BE including anti-bribery and corruption practices and grievance mechanism which focused on learning and understanding of applying BE principles utilizing case studies, workshops and role play. The main objective was to allow the participants to have knowledge and understanding the company's CG & BE and be able to apply the learning in their daily work. In addition, participants were role models during practice and provided correct recommendations to colleagues.



### Compliance Policy

PTTEP is aware of the importance of PTTEP governance to enable efficient business operation, in compliance with all relevant laws and regulations in all of operations and to have appropriate compliance risk management plans in place. The company issues the Compliance Policy to demonstrate the commitment to conduct the business in accordance with the laws and regulations. In addition, the Compliance Policy provides understanding for all level of PTTEP employees on role and responsibility to promote compliance along with other activities and to build awareness of employees using various compliance programs including

- ▶ Compliance Health Check Program
- ▶ Monthly e-mail to provide knowledge for employees on relevant laws and regulations including case studies on non-compliance with anti-corruption laws
- ▶ Alerts about prevention of insider trading, receiving gifts and other benefits and comply with anti-corruption laws and regulations
- ▶ Organized activities and training covering laws which are relevant to employees i.e. anti-corruption in procurement practices and "Introduction to Anti-Corruption and Anti-Bribery Laws"
- ▶ Development of a legislation database and corporate compliance management system

In addition, PTTEP upholds the ten principles of the United Nations (UN) Global Compact which including Principle 10 which states that businesses should work against corruption in all its forms, including extortion and bribery. Anti-corruption is part of PTTEP Business Ethics. In 2013, there was no incident of non-compliance regarding anti-corruption and no grievance filed by external parties regarding.

### Compliance Health Check Program

PTTEP commits to operate the business in compliance with all applicable laws and regulations. In 2013, the company established a compliance department which reports directly to the President and Chief Executive Officer. PTTEP also initiated a compliance health check program as a part of the whole compliance program to collect all applicable laws and regulation including its procedures, compliance risk and risk responses. The results of the program is used as a base line for future actions and compliance control. The ongoing work in 2013-2014 is expecting to build awareness in several important fields of compliance, to verify procurement to control compliance within each function and to manage compliance risk which will ensure secure and sustainable growth for PTTEP business.

PTTEP respects and supports the Universal Declaration of Human Rights. The company is in the process to review current procedures to ensure they are in line with the guiding principles on business and human rights.

 **Human Rights**

The principles of human rights are part of PTTEP Business Ethics in line with business activities such as human resources management, impacts on communities, procurement practice and stakeholder engagement. Applying these principles is the focus of the company when expanding exploration and production activities into developing countries.

PTTEP prevents the abuse of human rights by extending the company’s business conduct to suppliers and contractors covering the full exploration and production development cycle. Further details are provided in the relevant section of this sustainability report.

Approach	PTTEP Practices	Tasks
Environmental and Social Impact Assessment	Managing impact on local communities	Environmental and social impact assessment in accordance with the International Finance Corporation (IFC) and the local laws
Stakeholder Engagement	Local community engagement	Public hearing for local communities and local administration on project development
Contractors and Suppliers Management	Contractors and suppliers management	Included requirements on social, environment and governance in procurement contracts, including contractor safety performance
Human Resources Management	Labor rights	Employment policies in accordance with the Universal Declaration of Human Rights

PTTEP is planning to issue a Human Rights Policy and Guidance to structure and systematize all PTTEP practices to ensure the company protects, respects and remedies human rights. PTTEP expects this approach to advance further human rights to ensure related practices are comparable with best practices in the exploration and production industry. The company’s Human Rights Program will be developed in accordance with Human Rights Due Diligence Processes of IPIECA, the global oil and gas industry association for environmental and social issues. The Human Rights Policy and Guidance will be communicated and implemented in pilot areas.



## Business Excellence

### Organizational Risk Management

Indicator	Target	Result	Status
Risk Culture Survey	3.5	3.45	The result score was up to 3.45 from 3.4 in 2012. However, this was still lower than the target (3.5) as a result of an expansion of survey population. The company adopted the survey result to plan communication campaign and risk management activities to enhance awareness and build culture on risk management.
Completion of Business Continuity Plan (BCP)	3 activities	3 activities	3 BCP activities were completed as follow: <ul style="list-style-type: none"> <li>▶ Warehouse / logistics</li> <li>▶ Human resources management and office management</li> <li>▶ Information technology</li> </ul> The activity included BCP exercise which had satisfactory result.

Reliable and efficient implementation practices play a key role in building sustainability for a business. These include saving all lives, and protecting the environment and neighboring communities.

Management of risk and business continuity is vital for the success of our business in a long run, especially during the present time where more emerging risks are prevailing and likely to affect the business, for example, natural disasters, financial crisis, and corruption and fraud.



#### Governance of Enterprise Risk Management

PTTEP has set up Risk Management Committee, comprised of 6 independent committee members or external experts and PTTEP's President and Chief Executive Officer. The Committee plays an important role in determining company's risk management direction as well as encouraging risk management in everyone's day-to-day duties to ensure that significant risks on the business are identified, assessed and administered approximately.

In addition, PTTEP has created Key Risk Indicators to examine and monitor performance of risk management implementation. These indicators act as precautionary signals in identifying significant risks so that such risks can be managed and reduced at the fastest pace, resulting in relieved impact once the risk become realistic. Accordingly, significant risks are to be monitored, examined, and reported to Operational Risk Committee and Risk Management Committee on monthly basis.



#### Enterprise Risk Management Process

PTTEP has adopted "3 lines of defense" to its risk management process. The first line is comprised of management and staff from different departments who are directly responsible for administrating risks within their departments. The second line is Risk Management Department and Risk Management Committee, together with other committee panels working in association with risk management. The last line is the internal audit team who audit independently the efficiency of risk management activities.



The “3 lines of defense” concept has been practically introduced by following steps stated within the Enterprise Risk Management Manual, based on ISO 31000. Risk management practices are taken into account in various levels within the organization, including company level, departmental level, asset level and

investment level as well as other business process. PTTEP applies different risk management tools, including risk map, bow-tie analysis, risk satellite and sensitivity analysis in analyzing risks, risk correlation and risk sensitivity to ensure completion of risk management process.

### Business Continuity Management

Business continuity management integrates certain tasks, ranging from identification to management of issues that are potentially affecting business continuity. PTTEP has announced a policy on business continuity management, established Business Continuity Committee and integrated enterprise risk and crisis management with additional responsibility on business continuity.

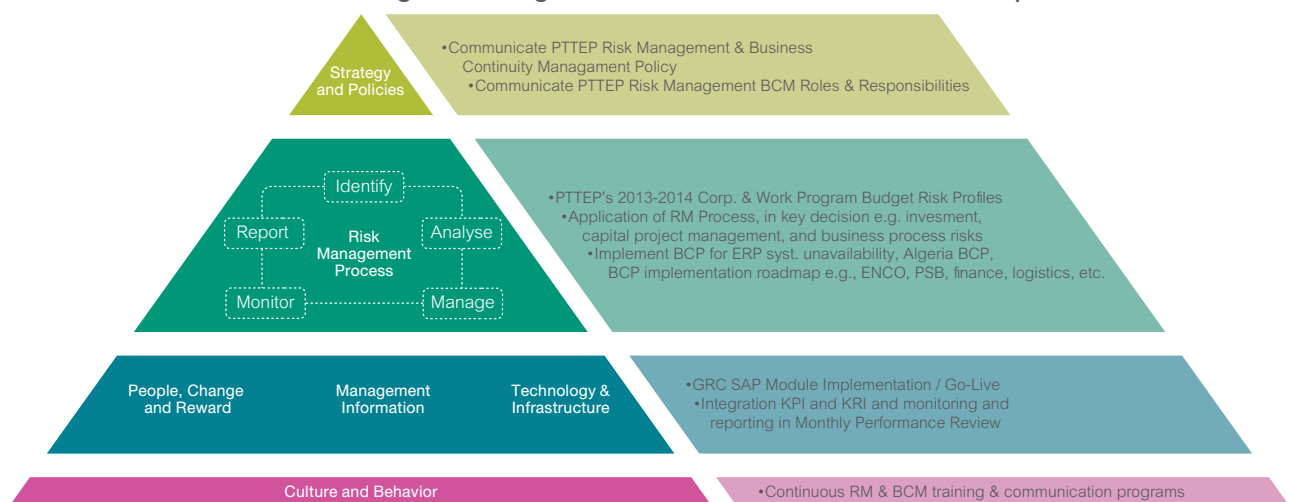
In the past year, business continuity management plans were developed for PTTEP’s strategic locations including: Energy Complex, PTTEP Head Office serving more than 2,000 staff, PTTEP Petroleum Development Support Base (PSB) at Songkhla, a support base for offshore operations at Bongkot Project, Arthit Project, Thailand-Malaysia Joint Development Area Project and all drilling activities; logistics and operation support; information technology (IT) covering 3 areas, i.e. corporate, geology and domestic operations; finance; human resources policy and system; crisis communication; and Algeria Hassi Bir Rekaziz Project in Algeria. The exercise was conducted for all the business continuity management plans to provide understanding

to all involved and responsible parties so that they can be practically implemented.

With business continuity management system, PTTEP was able to relocate its office to an alternate site during 27<sup>th</sup> November to 4<sup>th</sup> December 2013, following the impact from the anti-government protest that made PTTEP Head Office at Energy Complex temporarily out of service. Consequently, with effectiveness of the management and related personnel, PTTEP could continue its business and operations without any impact on its earnings or reputation, except some negligible expense over hotel renting and IT equipments.

In addition, PTTEP has enhanced its competency on Business Continuity Management (BCM) and built awareness of the management team and staff on this respect within international standard by means of training and internal communication. More specifically, the company encourages the staff that is directly responsible for BCM to obtain a BCM license from Business Continuity Institute (BCI), whose BCM program is well recognized internationally.

### Risk Management Alignment with SD G.R.O.W.T.H. Concept



## Business Excellence

### Supply Chain Management

Indicator	Target	Result	Status
Expense decrease as a result from Supply Chain Plus Project	USD 12 million	USD 14.03 million	Completed
Fuel consumption by crew boat	4,000 liters/vessel/day	3,946 liters/vessel/day	Completed
Fuel consumption by Anchor Handling Tug Supply	9,000 liters/vessel/day	7,010 liters/vessel/day	Completed
Progress of Green Procurement Project	To complete guideline preparation and be able to conduct by September 2013	Completed guideline preparation and be able to conduct by September 2013	Completed



### Supplier and Contractor Management

PTTEP expects its suppliers and contractors to have equivalent business operating standards on safety, security, health and environmental aspects for the communities and society, as well as good governance and business ethics.

PTTEP conducts its business globally, including in Thailand. As of 2013, the company has dealt with a total number of 2,105 suppliers and contractors, classified as 1,736 domestic firms and 369 foreign companies. Most of the spent was on drilling contractors and suppliers of drilling equipments and drilling fluid.

#### Procurement Standard

PTTEP has in place the clauses in its general procurement terms and conditions for procurement on business ethics, safety, security, health and the environment to require its suppliers and contractors to conduct their business in conformance with the laws and PTTEP internal requirements of Safety, Security, Health and Environment Management System (SSHE MS) and the company's business ethics. Among the total of 703 procurement

contracts made last year, requirements on human right have been included within all these contracts.

#### Procurement Procedures

- Equal Opportunity** All interested suppliers and contractors could be registered in the company's electronic vendor portal. This system helps increase efficiency for the procurement, and ensures equal opportunity, transparency and fairness of the process. The candidates only need to complete a self-assessment questionnaire via PTTEP's website so that the company can indicate risk levels that might incur from conducting the works. Information on vendor management is publicly available on PTTEP's website at <https://vendorportal.pttep.com/asp/index.aspx>
- Pre-qualification Assessment** PTTEP conducts pre-qualification screening regarding sustainability risk assessment on business ethics and social and environmental responsibilities in addition to the technical and commercial criteria. The pre-qualification assessment allows PTTEP to select appropriate suppliers/vendors and to prioritize the level of engagement with the suppliers/vendors through the suppliers/vendors pre-qualification system.



PTTEP has developed Green Procurement Guideline on environmental-friendly products and services. The purpose of this guideline is to help reduce environmental footprint throughout the supply chain. The Green Procurement Guideline has been issued in the previous year as an option for internal departments to select environmental-friendly products and services for their procurement. Records of applying green procurement were collected for analysis and planning for future approach including disclosure to the public. There are 72 items of products and services included in the guideline, covering such goods as stationeries, IT equipments, appliances, construction materials, cleaning agents, spare parts and various green-label products. The progress of implementation is to be disclosed in the near future.



### Business Efficiency Improvement throughout Supply Chain

In 2013, the company achieved its cost reduction target of USD 12 million by making to the saving figure to as high as USD 14.03 million. This resulted from the company's implementation of its procurement and logistic strategies and operation support, including:

- Procurement of goods from low cost countries (LCC)
- Price agreement on goods with continuous high demand
- Switching procurement strategy taken into account current market situation in order to increase bargaining power and achieve the appropriate prices for goods and services

- Inventory optimization that helps in lowering storage and inventory costs
- Improving efficiency of logistics and operation support by limiting the delay of transportation and improving accuracy of goods inventory

In addition, the company complies with the regulation on anti-corruption to its market price announcement procedure on 11<sup>st</sup> August 2013 in order to ensure transparency and traceability in procurement process.

## Safety, Security, Health and Environment (SSHE)



PTTEP places SSHE as one of the core values which will lead the organization to achieve a goal of zero incident or “Target Zero”.

Safety, Security, Health and Environment Management System (SSHE MS) and Asset Reliability and Integrity Management System (ARIMs).

PTTEP SSHE MS and ARIMs are developed from the best practices broadly recognised within oil and gas industry and the past experiences. They are used as the cornerstone in managing risks associated with our operations and also the foundation of safe working practices within the organization.

SSHE MS and ARIMs are core business functions that strengthen and continuously improve both personal safety and process safety in order to achieve operational excellence and sustainable development.

### Safety, Security, Health and Environment Management System (SSHE MS)

SSHE MS is a systematic approach to manage all associated risks within the organization by focusing on the prevention of any incident, occupational illness and the impact to the environment. Additionally, SSHE MS outlines the minimum requirements applied consistently across PTTEP operations, including all support functions in order to drive continuous improvement.

PTTEP SSHE MS was designed to be in line with the International Association of Oil and Gas Producers (OGP) Management System. Moreover, PTTEP SSHE MS is also in line with other international standards such as ISO 14001, ISO 9001 and OHSAS 18001.

PTTEP SSHE MS comprises seven key elements:

- 1) Leadership and Commitment
- 2) Policy & Strategic Objective
- 3) Organization Resource & Documentation
- 4) Evaluation & Risk Management
- 5) Planning and Operational Control
- 6) Implementation and Monitoring
- 7) Audit and Review

## Asset Reliability and Integrity Management System (ARIMs)

ARIMs is a management system which provides a framework to manage risks of equipment failure to as low as reasonably practicable (ALARP). By focusing on the management of asset reliability and integrity, all assets shall be designed, constructed, operated and maintained to the highest standards in order to reduce potential losses and improve the efficiency of equipment. Furthermore, this is to ensure that preventive maintenance and inspection program are adequate and zero unplanned shutdown of equipment is achieved.

PTTEP ARIMs comprises ten key elements:

- 1) Management, Leadership and Accountabilities
- 2) Hazard Identification and Risk Assessment
- 3) Competence and Training
- 4) Wells and Production Facilities Design Integrity
- 5) Wells and Production Facilities Technical and Operational Integrity
- 6) Management of Change
- 7) Data Management
- 8) Emergency Response and Crisis Management
- 9) Incident Analysis and Reporting
- 10) Performance Assessment, Assurance and Improvement

## SSHE Performance and Statistics

PTTEP strives to achieve OGP top quartile SSHE performance to move towards ultimate goal that all employees and contractors returns home safely and nobody gets hurt.

PTTEP has in place SSHE performance reporting and data management system in line with the OGP guidelines. With this system, work-related injuries, fatalities and near misses are

recorded. Subsequently, possible causes of the incident and corrective actions are determined in order to prevent recurrence. PTTEP SSHE performance is also benchmarked against other oil and gas companies to determine any room for improvement.

SSHE Key Performance Indicators (KPIs) are set from corporate level and cascaded down to individuals. As of 2013, PTTEP LTIF achieved top quartile OGP average LTIF performance. The LTIF is reported as 0.18 which is better than the performances in 2012.

## SSHE Contractor Management

PTTEP is well aware of and gives importance to SSHE related issues of contractors as those of its own employees. With the goal of being an incident-free organization, PTTEP has in place SSHE contractor management standard to enhance a better understanding, awareness and SSHE culture of the contractor to be consistent with PTTEP SSHE management. The SSHE contractor management standard covers contractor requirements, selection criteria, pre-qualification, audit, and inspection. This includes continuously promoting knowledge and understanding to the contractor.

In 2013, the contractor TRIR was improved when compared to the past years. Contractor TRIR in 2013 was decreased by 36%, whilst LTIF was slightly increased. PTTEP, therefore, has developed an audit plan for high-risk contractors to ensure that PTTEP SSHE MS are strictly complied with.

## Green Practices



PTTEP is committed to operational eco-efficiency through the efficient use of natural resources and energy, in congruent with the continuous reduction and mitigation of waste and potential environmental impacts via standardized environmental management system; and the management of future environmental risks and opportunities to bring PTTEP forward towards sustainability.

Indicator	Target	Result	Status
Greenhouse Gas (GHG) Emissions Reductions and Offsetting (forestation) Targets	2% reduction of 2013 emissions	3.51%	Completed
Chemical and Hydrocarbon Spill Rate	7.94 tonnes/million tonnes production	2.92 tonnes/million tonnes production	Completed
Produced water reinjection	100%	100%	Completed

## Environmental Management System and Practices

All PTTEP operating projects shall achieve the ISO 14001 Certification (International environmental management system standard). For an effective execution of exploration and production business.

PTTEP has developed and implemented the Safety, Security, Health and Environmental Management System (PTTEP SSHE MS) in which its integrated environmental management system requirements are in line with ISO 14001 (Environmental Management System Standard), which is adopted to continually mitigate and manage the environmental aspects and impacts. PTTEP's policy requires all operating projects shall achieve the ISO 14001 Certification (International environmental management

system standard). To support this achievement and the compliance with PTTEP SSHE MS and ISO 14001, PTTEP is continuously focusing on the SSHE MS audit and other technical audits every single year as well as conducting the routine environmental monitoring and ensuring its compliance.

Currently, PTTEP has continuously been achieving the ISO 14001 environmental management standard certified by an external organization AJA Registrars Limited, accredited by United Kingdom Accreditation Service (UKAS) for its domestic operating projects and supporting facilities including PTTEP1, S1, Bongkot and Arthit projects, PTTEP Petroleum Development Support Base in Songkhla, and PTTEP Petroleum Core Research Center in Ayutthaya.

PTTEP has continuously developed and deployed the SSHE standards, procedures and guidelines, currently 14 environmental related documents are implemented across the company as the following lists:

## SSHE Standards, Procedures and Guidelines

- | SAFETY, SECURITY, HEALTH AND ENVIRONMENTAL ASPECTS |  |
|--|--|
| 1.   | SSHE Contractor Management Standard  |
| 2.   | SSHE Risk Management Standard  |
| 3.   | Environmental Management Standard  |
| 4.   | Environmental Performance Reporting Procedure  |
| 5.   | Corporate Spill Contingency Plan   |
| 6.   | Environmental Impact Assessment for Exploration and Production                           |
| 7.   | Environmental Aspect Identification and Evaluation Guideline                             |
| 8.   | Waste Management Guideline   |
| 9.   | Gas Flaring and Venting Reduction Guideline  |
| 10.  | Biodiversity Management Guideline  |
| WATER USE EFFICIENCY ASPECT                        |  |
| 11.  | Water Management Guideline   |
| ENERGY USE EFFICIENCY ASPECT                       |  |
| 12.  | Energy Efficiency Guideline  |
| QUALITY AND EFFICIENCY OF PROCESSES                |  |
| 13.  | ISO 14001 Implementation and Checklist Guideline   |
| 14.  | 5S (Sorting, Setting in Order, Systematic Cleaning, Standardizing, Sustaining Guideline) |

# Green Practices

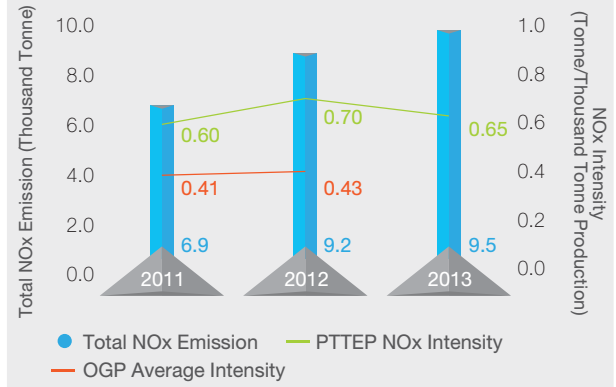
## Operational Eco-Efficiency: Air, Water, Waste

PTTEP is committed to improving environmental performance to be higher than the exploration and production industry's standard in order to minimize the impacts on the environment and community from the strong foundation of our information management system.

PTTEP developed an environmental information management system, and has continuously reviewed and made corrections to the data collection method since 2012. The data collected between 2010 and 2013 was assured by an independent external party.

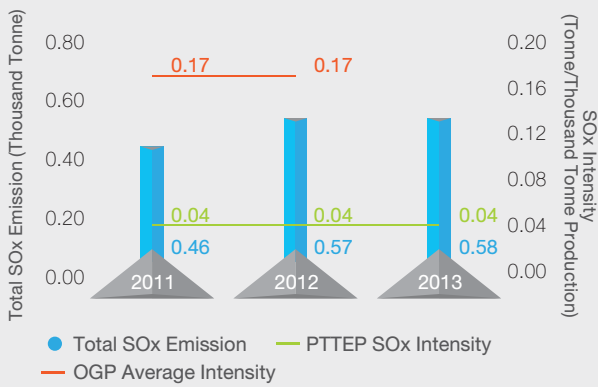
In 2013, the company implemented a number of significant environmental parameters as follow.

### NOx Emission & Intensity vs. OGP Average Intensity



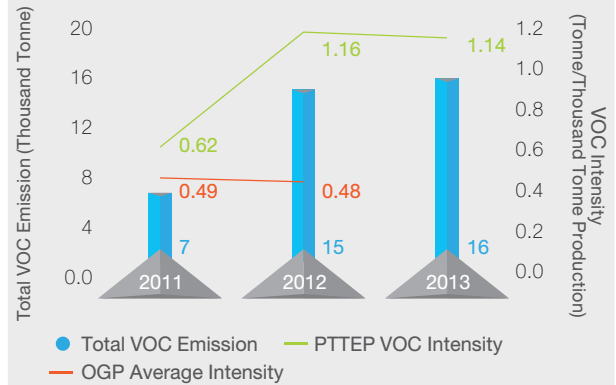
NOx emission intensity was reduced by 7 percent from 2012 which is equivalent to 0.65 tonnes per thousand tonnes of production.

### SOx Emission & Intensity vs. OGP Average Intensity



SOx emission intensity generated in 2013 was reduced by 8 percent compared with 2012 to be 0.04 tonnes per thousand tonnes of production which is equivalent to SOx emission 576 tonnes.

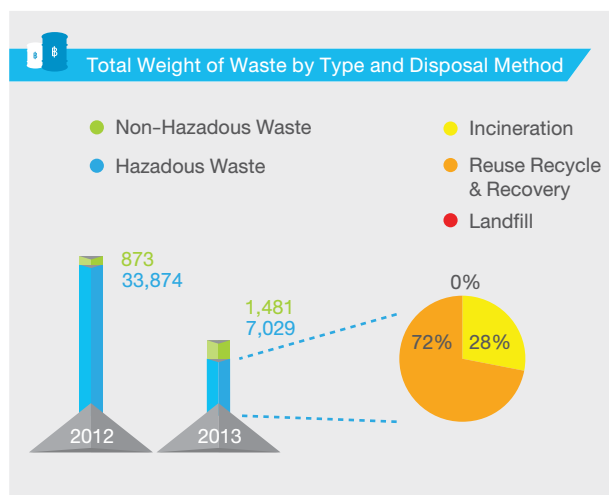
### VOC Emission & Intensity vs. OGP Average Intensity



In 2013, VOC emission intensity was reduced by 2 percent to be 1.14 tonnes per thousand tonnes of production which is equivalent to VOC emission of 16,412 tonnes.



Reduction of NOx, SOx, and VOC emission intensity results from energy efficiency project which is able to decrease energy consumption, resulting in reducing NOx, SOx, and VOC emission from combustion sources.



\*Remark Total waste in the bar graph does not include drill cutting waste.

PTTEP improved its environmental information management system, and has continuously reviewed and made corrections to the data collection method. Waste disposal type was also included in this improvement in which drilling mud and cutting waste were separated from other hazardous wastes and reported. In 2013, onshore drilling mud & cutting wastes amounted up to 84,034 tonnes. For increased efficiency, the drilling mud & cutting waste disposal method relied on the philosophy of reduce, reuse, recycle and treatment where 50 percent of drilling mud & cuttings were transported to cement kilns to be recycled and used as their co-material. In addition, the reduce reuse recycle philosophy was also used in other waste management method, where 72 percent of 8,509 tonnes of hazardous waste were reused and recycled in 2013.

## Climate Change and Efficient Use of Energy

PTTEP believes that climate change will have significant potential effects on the environment, global regulations and financial markets such as increase in severe weather events and rigidity of national and international policies and regulations on climate change.

PTTEP takes into consideration, physical risk, regulatory risk and reputational risk in our climate change risk assessment.

PTTEP aims to be a low-carbon organization by providing cleaner and reliable source of energy through encouraging the production of natural gas which generates lower greenhouse gas emissions than the traditional coal used in power generation; and setting both short term and long term commitments in the reduction and offsetting of our greenhouse gas intensity. By 2020, PTTEP aims to reduce and offset at least 20 percent of our greenhouse gas emissions from 2012 base year and improve energy efficiency by 5 percent.

1. In response to climate change, PTTEP established a low carbon footprint roadmap which includes the following strategies: In-house Low Carbon Footprint Roadmap: establishing plans and targets for greenhouse gas reductions in our operations and improvement of energy efficiency in our facilities and logistics.
2. Low Carbon Footprint Roadmap for Society: promoting exploration and production of natural gas as a cleaner energy resource than oil and coal and implementing reforestation projects to help carbon sequestration and restore the balance of terrestrial ecosystem.

## Climate Change Risks

PTTEP issued an annual GHG emission reduction and offsetting target as part of the company's Key Performance Indicators for GHG management in 2013 in which PTTEP also conducted a climate change risk assessment in the same year. The assessment focused on long-term risks including regulatory risks, financial risks, and physical risks such as frequency of natural disasters,

## Green Practices

and impacts from water scarcity. The results indicate that there are no risks which will have immediate effect on the company's business operations within these few years. However, PTTEP will continue to monitor and review these identified risks on an annual basis, and have already issued long-term mitigation measures. The long-term climate change risks have already been included in the corporate-wide risk profile.

### Energy Efficiency

PTTEP's energy efficiency improvement target is set at 5 percent from 2012 base year by 2020. In 2013, PTTEP developed energy baseline studies in operating assets to assess the initial opportunities for energy efficiency improvement; conducted a study on introducing best available technologies to apply at project level including financial analysis of the feasibility; conducted a study on efficiency improvement on energy use within 7 years; and identified indicators for energy use control. The implementation performance for the study results will be presented in the 2014 report.

#### Flash Gas Recovery Unit Project at Greater Bongkot South, Thailand

The flash gas recovery unit project commenced in 2013 in which it recovers gas from condensate production and it back into the gas production process otherwise it would be flared. The recovery is about 3 million cubic feet per day, or 400 million cubic feet in total for 2013. This is equivalent to reduction of 28,000 tCO<sub>2</sub>e of GHG emission.

### Green Logistics

Under the Low Carbon Footprint Roadmap, PTTEP implemented the Green Logistics strategy to reduce GHG emissions from marine transportation and supply chain. In 2013, the company expanded the New Marine Model project, which was launched in 2012, by increasing the efficiency of marine transportation in the Gulf of Thailand. The project has resulted in cost saving of vessel rents of approximately 10 million USD per year, reducing vessel fuel cost of 10 million USD annually, and reducing GHG emissions by 36,000 tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e) per year.

PTTEP also developed a management improvement program for control and monitoring the vessels that are used in the Gulf of Thailand by selecting fuel-efficient vessels within its fleet of service as a first priority of service planning for the shortest travelling distances, and carrying maximum load. As a result, the average fuel consumption of each vessel has been reduced in 2013 compared to 2012. In overall, PTTEP could reduce its fuel consumption as much as 3.6 million liters per annum, equivalent to GHG emission reductions of 9,800 tCO<sub>2</sub>e per year.

As part of the improvement of management practices, PTTEP has switched to use more fuel-efficient vessels since 2010. Existing conventional diesel engine tugboats were replaced with tug boats of the same capacity which they are using diesel electric engines. Based on the seven diesel electric tug boats in service for 2013, PTTEP was able to reduce the fuel consumption by 7.6 million liters, equivalent to GHG emission reductions of 20,800 tCO<sub>2</sub>e, as compared with the year prior to boat replacement.

GHG Emission Reduction in 2013 (Green Logistics)	Tonnes CO <sub>2</sub> e per year
New Marine Model	36,000
Control and Monitoring	9,800
Diesel Electric Engine	20,800
Total	66,600



### Climate Change Management Program for Society

**PTTEP is committed to exploring natural gas as a clean energy source for society.**

PTTEP is an exploration and production company that possesses the highest production capacity of natural gas in Southeast Asia. It provides society and industries with a clean energy alternative.

Natural gas provides business opportunities as a cleaner fuel option. PTTEP has continued to invest in exploration and production of natural gas amounting 101,040.23 million baht in year 2013.



### Carbon Absorption through Reforestation

In addition to reducing GHG emissions from exploration and production process, PTTEP initiated a reforestation project “PTTEP Reforestation” to increase terrestrial carbon absorption. The project runs from 2013-2020. In the first four years of the project, reforestation is planned to use 50,000 rais (8,000 hectares) per year. By 2020, the project will reach a reforestation area of 200,000 rais. During the lifetime of the project a carbon sink with capacity of 620,000 tonnes CO<sub>2</sub>e per year will be created. Part of the reforestation area in 2013 will be used as a pilot program of Thailand Voluntary Emission Reduction (T-VER) for accounting GHG absorption. The pilot program organized by Thailand Greenhouse Gas Management Organization (Public Organization), or TGO will certify carbon credits from the reforestation program.

### Carbon Disclosure Project

PTTEP gives priority to disclose their carbon emissions and approach to climate change risk management in-depth. PTTEP has participated in the Carbon Disclosure Project (CDP), together with more than 3,500 leading corporations worldwide. In the past year, the company scored 85 (of 100) in disclosing the performance. PTTEP was awarded Second Highest Best Performance Improvement among the Asia-Pacific countries, excluding Japan.

PTTEP's CDP Report is disclosed publicly on [www.cdpproject.net](http://www.cdpproject.net)

## Water Resource Management

PTTEP conducts water risk assessments across the company and is in the process of setting targets for water management for every project within 2014.



### Risk Assessment Framework for Water Resource Management

Water Resource Management is an element listed in the Sustainable Development Guideline. PTTEP conducted risk assessment for water resource management for every operation site covering water scarcity, increase in water prices, laws and requirements for water, conflicts with its stakeholders over water use, etc. A risk assessment tool has been developed for the years 2020-2050 data gathered at sites and data retrieved from internationally recognized prediction tools for water availability (IPIECA Global Water Tool for Oil and Gas, WRI Aqueduct and WWF Water Risk Filter). The results will be used for determining steps, actions, guidelines, and priorities. PTTEP's Risk Guideline was accepted



## Green Practices

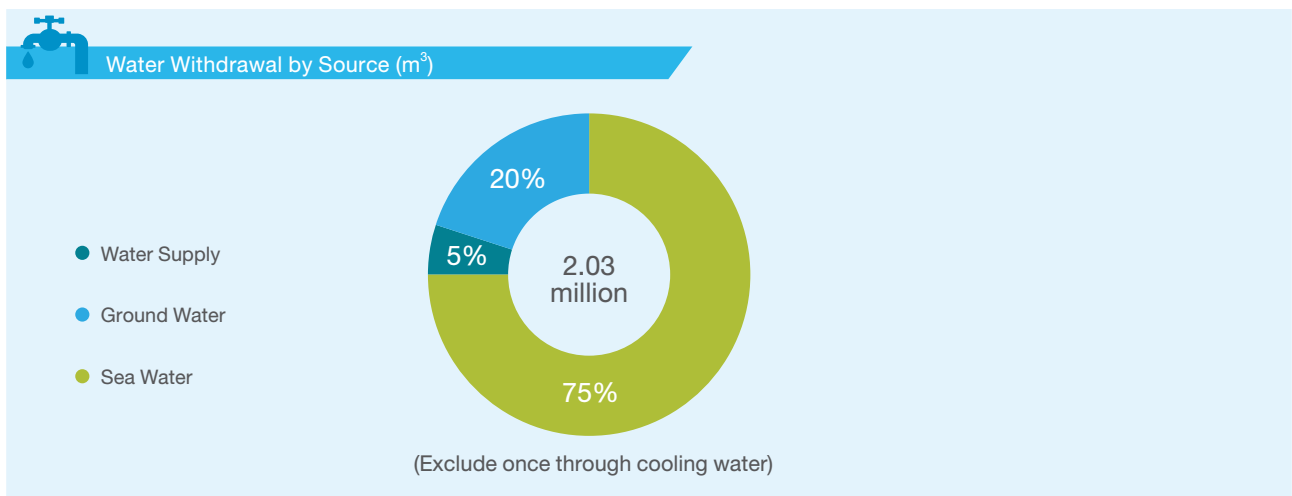
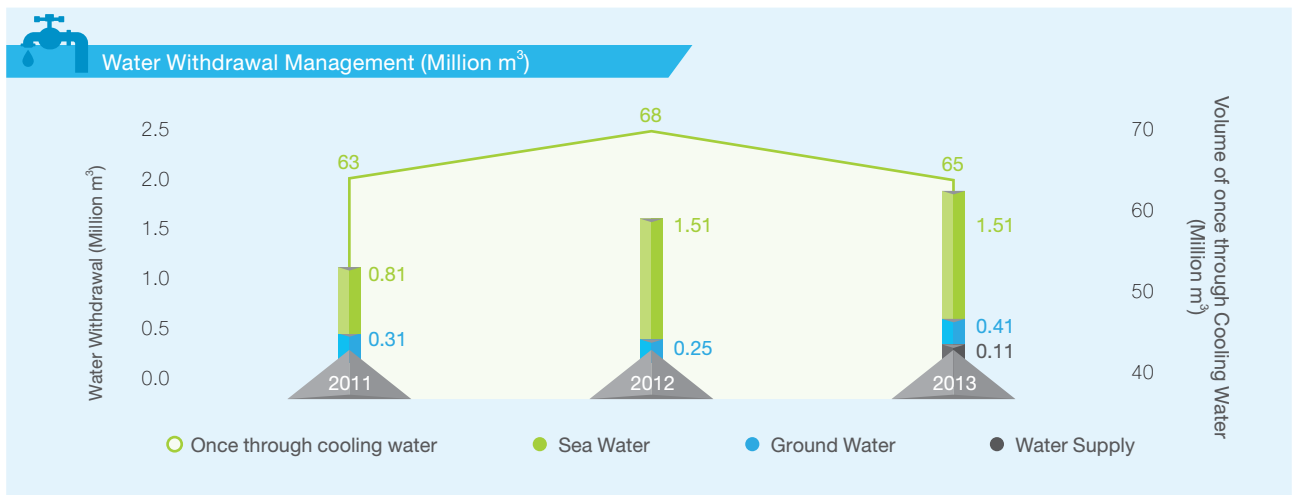
as a presentation by the Society of Petroleum Engineers (SPE) to be delivered at the SPE International Conference on Health, Safety, and the Environment held in March 2013

### Implement Control Measures for Water Use

PTTEP limits fresh water consumption within the criteria that is calculated based on 2012 database. PTTEP focuses on acquiring non-fresh water for the production process, and reusing produced water in order to enhance oil recovery as well as preserving fresh water for community consumption. PTTEP has also initiated a study

project on water efficiency. The project assesses the potential of introducing a water saving technology within the production process.

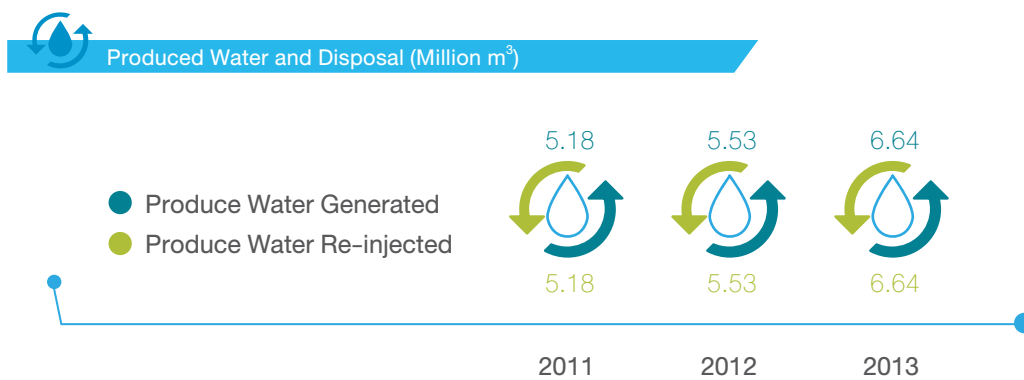
In 2013, the total amount of water consumption used in our operation is at 67 million cubic meters. The amount of water consumption is 4% less than the consumption of 2012, mainly due to the reducing of seawater abstraction for utility purpose. However, the tendency of freshwater consumption (i.e. tap water and groundwater) increased from 2012 to 2013 due to the expansion of onshore production in Thailand.



## Produced Water Treatment

Produced water is water that is retained in a petroleum source and produced as a by-product along with the oil production process, or it can be water that is injected to enhance oil recovery. In order to prevent the negative impact from contamination of produced water into the environment, PTTEP operates its activities by complying with the regulatory requirements of every area where we operate.

For the implementation of projects in Thailand, the zero discharge scheme has been continuously applied since 2010. The scheme uses efficient techniques to inject the produced water back to expired petroleum fields. Despite increasing trend of produced water generation following the increased production rate, PTTEP remains successful in injecting all the produced water created in the oil production back into the expired fields.



## Biodiversity Management Plan

PTTEP introduced the Biodiversity Management Plan for all operating projects that are located in biodiversity sensitive areas in order to mitigate and manage impacts from our operations especially areas with endangered species.



### Biodiversity Management Practice

PTTEP is committed to creating positive outcome for biodiversity. The company believes that the private sector should play an important role in preventing the loss of biodiversity, as well as restoring the habitats on a large scale to improve health of the ecosystem including biodiversity and wildlife. The biodiversity management practice is regarded as one of the elements in the company's G.R.O.W.T.H. Policy, and the SD Guideline.

In order to ensure the SD Guideline is being adopted correctly, PTTEP developed the Biodiversity Management Guideline that is in line with "A Guide to Developing Biodiversity Action Plans for the Oil and Gas Sector" produced by IPIECA (International Petroleum Industry Environmental Conservation Association). This guideline has now been implemented across PTTEP's operation sites.

PTTEP is required to conduct Environmental Impact Assessment studies and Public Participation reports for every exploration and production projects. In addition to conducting environmental impact assessment for the projects developed in 2013, the company also initiated a Biodiversity Action Plan (BAP) to be implemented for projects that potentially pose high level impacts to biodiversity within that operating area. The BAP is an internationally recognized program addressing threatened species and habitats and is designed to protect and restore biological systems. In 2013, there were no development projects that were in the high level impact criteria; PTTEP therefore conducted BAP for development projects that posed medium to low level impacts on biodiversity which included the following projects: Bongkot Project, Arthit Project, B 6/27 Project and S1 Project.

## Green Practices

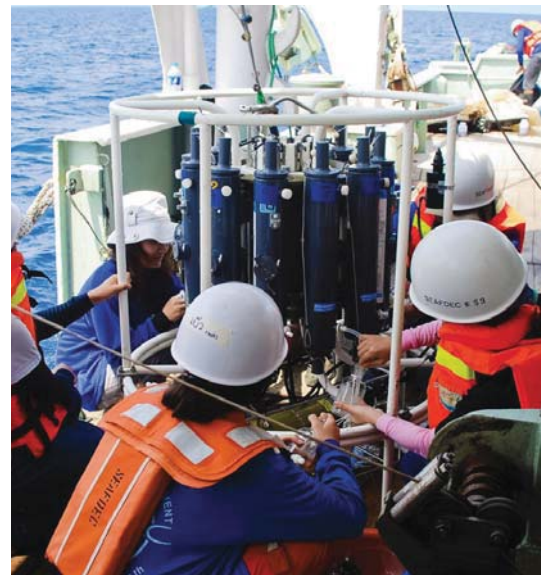
### Preparation of a Marine Biodiversity Database

Marine biodiversity is equally important to terrestrial biodiversity. In-depth information on marine biodiversity in Thailand is considered insufficient and a survey study in the Gulf of Thailand has never been conducted in the last 15 years. As a result, PTTEP initiated a survey project for preparing a marine biodiversity database of the Gulf of Thailand and the sea water and sea beds underneath PTTEP's platforms in order to study the diversity of

species and ecosystems. A number of survey and studies projects on biodiversity initiated by PTTEP include marine survey and training project, projects on biodiversity study at sea under PTTEP's production platforms, related workshops, etc. The database is being used as a reference source for preparing Environmental Impact Assessments. It is contributing to generate positive results to marine biodiversity.

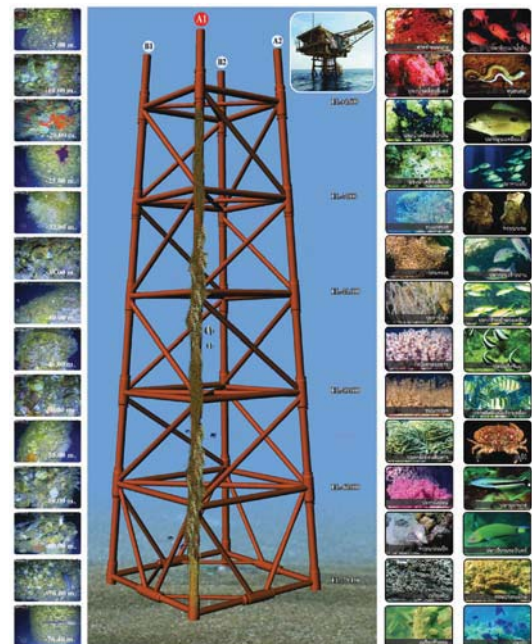
#### Marine Survey and Training Project

The objective of the marine survey and training project is to study research survey on fisheries resources and marine environment of the Central Gulf of Thailand. The project was conducted on board of a research vessel, called SEAFDEC, over 33 days, from 14<sup>th</sup> March to 12<sup>nd</sup> April 2013. The project was opened to researchers as well as students in related fields, providing opportunities to those with experiences in using survey equipment in the field. It was a collaborative research project between a number of related research institutes and organizations. PTTEP and the project participants expect that the research and survey results will enable management to use natural resources in the Gulf of Thailand in a sustainable way.



#### Biodiversity Study at Sea under the Production Platforms of Bongkot Project, Arthit Project and B6/27 Project

PTTEP in collaboration with Institute of Marine Science, Burapha University, Thailand developed project on biodiversity at sea under PTTEP production platforms (Bongkot Project, Arthit Project and B6/27 Project in the Gulf of Thailand). The objective was to build a marine biodiversity database. The new biodiversity database will assist with environmental management at operation sites.



### Training Workshop on “Utilizing Net Environmental Benefit Analysis (NEBA) as A Tool to Evaluate Environmental Management Technologies and Projects”

The workshop was held 21-22 November 2013 with the objectives to introduce the NEBA tool to evaluate the proper environmental management and to enhance the knowledge on the important of ecosystem service to our environmental management system. This is also useful for environmental management planning for events like oil spill, decommissioning of a petroleum platform, preparation of biodiversity action plan, etc. There were 40 participants including representatives from Department of Mineral Fuels, PTTEP personnel, and representatives from other PTTEP affiliates that attended this workshop.



### Cost Saving from Environmental Initiatives Saving Electricity, Water and Paper in the Offices

PTTEP has introduced a Green Office concept to focus on reductions in electricity, water and paper consumption in the office. The company created energy saving tips to be applied at the office including: set the air conditioner temperature at 25°C, switch off lightings during lunch break and in unoccupied zones, label stickers, allow to promote energy saving campaign, allow to switch on the air conditioner after normal office hours only when necessary, etc. As a result, the electricity consumption at the Head Office reduced by 500,000 kW per hour in 2013 as compared to the previous year, and this made the bill lowered by 2,750,000 baht.

In terms of water management, the company has initiated reuse of rainwater and recycled water to reduce tap water consumption in the head office. In 2013, a water volume of 26,000 m<sup>3</sup>, or 27 percent of total water use, was replaced by rainwater and recycled water, enabling a decrease in water expense by 520,000 baht.

In addition, PTTEP promotes efficient use of paper by applying a paper reuse program. In 2013, the amount of paper being reused increased by 4,000 kg from 2012 data resulting in 29,000 kg of reused paper, thereby saving approximately 12,000 trees. Furthermore, the use of toilet paper which is made from recycled



paper (instead of the conventional one), increased in length by 200,000 meters from 2012 to 3,700,000 meters in 2013.



### Revenue Generating Environmental Initiatives Projects under Clean Development Mechanism

PTTEP is committed to mitigate environmental impacts emerging from its exploration and production activities. It has initiated a project to recover associated gas generated from a petroleum production process for utilizing at S1 Project, Sukhothai province. Besides the benefits obtained from the gas recovery, the project has also contributed to GHG emission reductions.

Above project type and methodologies is eligible under the Clean Development Mechanism (CDM) by the CDM Executive Board (EB) which is one of the flexible mechanisms defined in the Kyoto Protocol. Effective on 17<sup>th</sup> January 2013 the CDM Project has been successfully registered as a CDM project.

As of end of 2013, the project resulted in emission reductions equivalent to 12,000 tCO<sub>2</sub>e. In 2014, PTTEP aims to have those emission units verified by DOE and issued Certified Emission Reduction (CER) by CDM Executive Board. The project is expected to result in the issue of 12,000 tCO<sub>2</sub>e certified emissions reductions (CER)

## Contribution for Wider Society

PTTEP is committed to create progress in the business while building good relationship with the communities surrounding the operation sites in the long term. This progress is based on the foundation of reliability and trust from operating with responsibility and with care for the communities.

### Managing Environmental and Social Impacts on Communities

In order to ensure the energy security for society, PTTEP has expanded petroleum exploration and production within and outside Thailand. At the same time, PTTEP also gives priority to prevent negative impacts on communities surrounding the operation sites.



#### Environmental Impact Assessment (EIA) and Stakeholder Engagement Program

In the past year, PTTEP prepared seven EIA reports, developed four safety and environmental management plans (SEMP) for the seismic survey activities. The company also conducted a stakeholder engagement program as part of the EIA preparation process for every project. It is required that for the preparation of a project's EIA report to have two public hearings and a number of focus group meetings depending on the complications of social impacts close to the site. In 2013, PTTEP conducted 1,506 stakeholder engagement sessions with communities and representatives from local authorities. PTTEP follows environmental laws and performs to higher standards than the requirements of the environmental monitoring program with the aid of the environmental authority in managing the environmental grievances. PTTEP ensures the compliance with laws prior to the operations, during and after the operations working with the local authorities and communities in the surrounding area of the operation sites. PTTEP has an effective grievance mechanism in place for managing and

solving impacts on the communities resulting from PTTEP's and contractors' operations. In 2013, there were four grievance cases received all of which have been resolved. All cases were related to the misunderstanding of communities in blaming the operations as the source of operational impacts.

#### Issue and Stakeholder Management

PTTEP visits operation sites and arranges stakeholder engagement activities on a regular basis during the exploration and production phase. The focus of the engagement is to gather information about issues that are important to stakeholders. By using this information the company is able to develop an approach to prevent and minimize such impacts. Communities are briefed of the plans in order to prevent any misunderstandings and concerns of not being informed. PTTEP in association with communities, government agencies and private organizations outline development plans for the areas with the aim to build good relationship between PTTEP and the communities and to conduct stakeholder engagement regularly. As a result, the relationship between PTTEP and the communities create an understanding based on the respects for each other's rights and equality. The communities are encouraged to express opinions towards the mitigation measure, to join PTTEP's community development projects, and contribute to the grievance system to share their concerns regarding PTTEP's operations. Communication channels include talking directly to the staff and submitting opinion letters to opinion boxes available at all PTTEP's sites and Subdistrict Administrative Organization (SAO). PTTEP emphasizes that the company is following-up received grievances which reflects the quality of PTTEP response to the stakeholders' issues. The findings help PTTEP to improve the stakeholder engagement program in the future.



List of stakeholder engagement activities in 2013 includes the following.

Stakeholders	Engagement Approaches / Communication Channels	Stakeholder's Interested Issues	Actions in Response to the Issues
<b>Government</b> <ul style="list-style-type: none"> <li>➤ Officers at provincial, district, municipal and sub-district levels</li> <li>➤ Government agencies</li> <li>➤ Ministry of Energy</li> </ul>	<ul style="list-style-type: none"> <li>➤ Monthly meetings with local authorities</li> <li>➤ Site visits with government officers for data collection</li> <li>➤ Face to face visits</li> <li>➤ Jointly conducted social support activities</li> </ul>	<ul style="list-style-type: none"> <li>➤ Plans for exploration drilling</li> <li>➤ Impacts on communities across various aspects</li> <li>➤ Mitigation measures prior to, during and after the operations</li> <li>➤ Safety measures and emergency plan</li> </ul>	<ul style="list-style-type: none"> <li>➤ Meet with government agencies to create understanding of impacts and mitigation measures</li> <li>➤ Verification of mitigation measures and implementation of programs by government agencies to ensure transparency</li> </ul>
<b>Social &amp; Community</b> <ul style="list-style-type: none"> <li>➤ Local business associations, e.g. fishery, farming</li> <li>➤ Communities adjacent to the operation sites</li> </ul>	<ul style="list-style-type: none"> <li>➤ Monthly meetings with local associations and organizations</li> <li>➤ Attending traditional activities</li> <li>➤ Site visits to collect information and communicate project progress to community leaders</li> <li>➤ Communicate and participate in activities held by local business associations</li> <li>➤ Attending community dialogue events</li> <li>➤ Hiring local people to work in operating areas</li> <li>➤ Initiating social support activities</li> </ul>	<ul style="list-style-type: none"> <li>➤ Exploration drilling plans</li> <li>➤ Safety measures</li> <li>➤ Potential impacts on community's lifestyle and occupations</li> </ul>	<ul style="list-style-type: none"> <li>➤ Conduct emergency response drills at different levels in cooperation with the government sector and communities</li> <li>➤ Visit sites for data collection and reporting project progress to community leaders</li> <li>➤ Initiate community economic development project, educational development, learning center, safety project and natural resources conservation</li> <li>➤ Establish indicator stations and conduct an ecological survey program</li> </ul>
<b>Contractor / Supplier</b> <ul style="list-style-type: none"> <li>➤ PTTEP service providers and product suppliers</li> </ul>	<ul style="list-style-type: none"> <li>➤ Technical meetings</li> <li>➤ Health risk assessment meeting</li> <li>➤ Safety and health training</li> <li>➤ SSHE emergency plan training and practices</li> <li>➤ Green procurement</li> <li>➤ On-site and project visit that are jointly operated</li> <li>➤ PTTEP Vendor Portal</li> </ul>	<ul style="list-style-type: none"> <li>➤ Procurement process</li> <li>➤ Business directions and cooperation</li> <li>➤ Safety, security, health and environment (SSHE)</li> <li>➤ Resource utilization efficiency</li> <li>➤ Emergency response plan</li> </ul>	<ul style="list-style-type: none"> <li>➤ Respect rights and decision of joint-ventures by mutually and systematically work towards the goals of safety, value, and return on investment</li> <li>➤ Disclose policies and requirements of procurement as well as related procurement information on website</li> </ul>

## Contribution for Wider Society

Stakeholders	Engagement Approaches / Communication Channels	Stakeholder's Interested Issues	Actions in Response to the Issues
<p>Independent Organization, Industry Association and Press and Media</p>	<ul style="list-style-type: none"> <li>▶ Participate as a member of Thailand Business Council for Sustainable Development (TBCSD), Society of Petroleum Engineering (SPE), Thailand Productivity Institute (FTPI), Safety and Health at Work Promotion Association (Thailand) (SHAWPAT)</li> <li>▶ Engage annually with International Association of Oil and Gas Producers, Carbon Disclosure Project, International Spill Control Organization - Singapore, Oil Industry Environmental Safety Group Association, Thailand Environment Foundation, and Port Authority of Thailand</li> </ul>	<ul style="list-style-type: none"> <li>▶ Climate change / greenhouse gases</li> <li>▶ Safety for production process / chemical or oil spill</li> <li>▶ Human rights and corporate diversity</li> <li>▶ Challenges in oil and gas exploration and production industry</li> <li>▶ Water footprint</li> <li>▶ Biodiversity</li> </ul>	<p>Understand and respect concerns, cooperate with other parties in reducing broad impacts on sustainable development resulting from the industry sector, attending problem solving program, and be a leader in corresponding to both the current and future sustainable development-related issues such as:</p> <ul style="list-style-type: none"> <li>▶ Energy challenges</li> <li>▶ Climate strategy and green practices</li> <li>▶ Green supply chain</li> </ul>



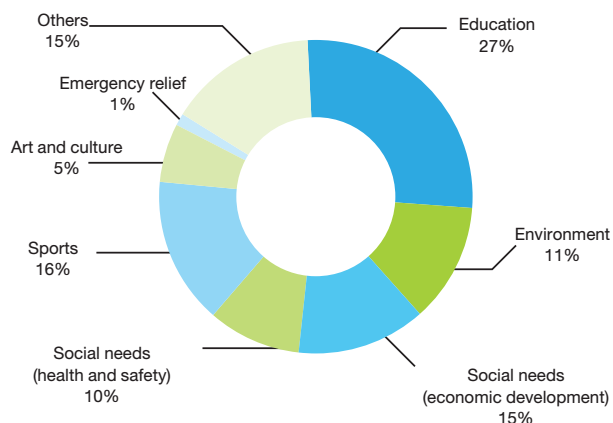
Total Contribution

19.76\*

Million USD

\*Remark This includes corporate philanthropic spending and philanthropic spending from S1 Project and Myanmar projects.

Corporate Philanthropic Spending by Types of Activities in 2013 (%)



### Community Development Program (CDP) Developed from the Co-consultation of Communities

#### Mini Farm Project in Northeastern Thailand, Suphanburi Province, and the Area Neighboring PTTEP Petroleum Development Support Project

Mini Farm Project has been created in collaboration with three parties: PTTEP, Khon Kaen University and selected schools surrounding the operation areas. A team from the Faculty of Agriculture, Khon Kaen University provided knowledge on applied agricultural practices to the schools involved. The project received a good response from the schools and nearby communities for sharing new agricultural practices.

#### PTTEP Project on Sustainable Agriculture Development at Waengyai District

Majority of people in Waengyai district are farmers. PTTEP provides supports to the community by building facilities such as sanitary toilets, kitchens, meeting halls, etc. The training program participants for the project on agricultural knowledge advancement

was taught by a local expert "Por Noo Gan" from Waengyai district and other districts of Khon Kaen province. This program was partly sponsored by the PTTEP Project on Sustainable Agriculture Development and Bank for Agriculture and Agricultural Co-operatives, Khon Kaen branch. The project recruits approximately 2,000 people every year to participate in the training program.

#### PTTEP Project on Development of Water Reservoirs for Agriculture at Waengyai District

PTTEP in association with local authorities initiated the project with the aim to clean-up the water canals to support the use of water for agricultural activities. The project will help local people living around the PTTEP operation site at Waengyai during the dry season. The project also reduces the impact of PTTEP's drilling activities of the Rattana II. and allows the area to be used for agriculture by locals.

# Contribution for Wider Society



## Corporate Responsibility in Myanmar

PTTEP is one of the companies to be operating in Myanmar, thus the company focuses in fostering socioeconomic development as part of our sustainability commitment. In 2008, we established a specialized unit “Socioeconomic Department” with an aim to enhance the quality of life of local people towards a systematic path of sustainable development. PTTEP has established a community development action plan which is categorized into 3 aspects including community development, health and hygiene and education. The action plan is being implemented both within and outside PTTEP operational areas such as Kanbauk area, Dawei District, Thanintharyi Division covering 28 villages. The area is PTTEP’s operational area under Zawtika project.

## Community Development

PTTEP has improved, procured and built a variety of basic infrastructures for community such as school building, drinking water filtration system, hygienic toilets, hospitals, community clinics, temples. The company also equipped electricity generator for villages in remote areas without electricity access to enhance the quality of life of surrounding communities. We engaged and built meaningful dialogues between officers from PTTEP’s a community economy department and community leaders and local people on a quarterly basis. The process allows all groups of people to be part of their own community development as perceived from community participation in village volunteer while engaging in proactive activities with PTTEP. The results of the project are as follows:



“Back then, I had to bring water from the well located opposite to the school as the water was not clean enough. Now that water comes from the filter in the school, I believe it is clean and good for my health”

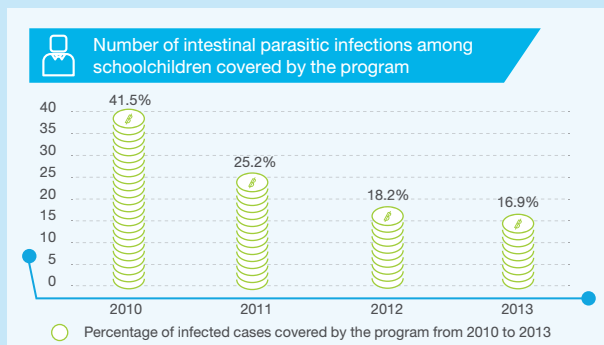
Myo Sat Paing

student at Kaung Mhu Post Primary School

one of the schools PTTEP installed the drinking water filtration system.

## Health and Hygiene

PTTEP implemented health programs in 29 primary schools in Kanbawk area. Of these schools, 14 of them have just participated while 15 are being visited and monitored continuously. The number of student participants continues to increase to 5,957 from only 622 students when the program launched in 2010.



In 2013, PTTEP was able to continue the Parasite Free School program to cover 35 schools in 29 villages in Kanbawk area while creating a “Health Report”, a book to record health conditions for 5,957 students. PTTEP also plans to initiate new programs in the future to expand the success of such programs as Healthy School Competition.



“We want to create health trend in society comparable to a moral competition where the award is the robust health”

Dr. Kalayar Htun  
“Parasite Free School”  
program leader

## Education

PTTEP continues to support and develop educational programs by providing a wide range of scholarships. Since 2005, the company has provided scholarship for Myanma Oil and Gas Enterprise (MOGE) officers to pursue graduate studies in petroleum exploration and production field in Thai educational institutes. Undergraduate scholarship is also provided to high school

students in PTTEP operating areas. Meanwhile, scholarship for Myanmar students in the vocational level to study mechanics at IRPC Technological College (IRPCT) in Rayong is also given. PTTEP further provides oil and gas business training to officers from Myanmar Ministry of Energy. The curriculums serve to enhance competency and skills of these officers. In addition, Training is also given to local villagers to develop and promote community economy.



“I do not have to worry about anything now because I receive support from PTTEP. I am determined to do my best for my future and my family. I believe I will succeed in life.”

Thiri Wai  
teaching trainee who received  
long-term scholarship from PTTEP

## Environmental Conservation in Myanmar

Apart from socioeconomic development, PTTEP also stresses the importance of environmental conservation in operational areas including project development of onshore natural gas pipeline from Zawtika field to transport natural gas from offshore Zawtika project to Thai-Myanmar border at Ban E-tong. These onshore pipelines stretch 70 kilometers in length encroaching 35 kilometers into Tanintharyi Nature Reserve. This pipeline is being operated in addition to the original pipeline from Yanada project operated by Total and Yetagu project operated by Petronas.

PTTEP conducts the Environmental Impact Assessment to prevent and mitigate environmental impacts while conserves the fertility of the forest. The company collaborates with Total and Petronas in supporting the Tanintharyi Nature Reserve Project (TNRP), a forest and wildlife conservation program with dissimilation of knowledge to local people. PTTEP, Total and Petronas serve as technical director in the meeting to propose ideas and suggestion for a yearly management plan.

## Contribution for Wider Society

### PTTEP 200,000-Rai Reforestation Project

620,000 tonnes CO <sub>2</sub> equivalent	Expected GHG emission reductions in 8 years
5,145 people	Number of people employed by the project
190 million Baht	Economic value given to the communities in the previous year

Currently, climate change is impacting human and the environment. PTTEP has recognized the urgency of the issue and the need to reduce GHG emissions. The company has initiated a reforestation project in depleted forest areas. The project helps to mitigate global warming since forests facilitate biosequestration of atmospheric carbon dioxide and provides opportunities for PTTEP employees to take part in forestry activities, which helps build awareness of responsibility to society. PTTEP set objectives and targets for business, social and environment aspects with a focus on maximizing values for all stakeholders both internal and outside the organization. The company signed a Memorandum of Understanding with the Royal Forest Department, Department of National Parks, Wildlife and Plant Conservation, and Faculty of Forestry, Kasetsart University agreeing that PTTEP is responsible for the project for a 3-year period during the planting season, before handing the areas over to the Royal Forest Department and Department of National Parks, Wildlife and Plant Conservation

for further maintenance. Taking into account communities located nearby, PTTEP selected areas for reforestation which provide benefits for the community such as creating jobs to stimulate the local economy. The company has hired local people to work for the project as tree growers.



### Objectives and Targets

#### Business Aspect

1. Absorb approximately 620,000 tonnes CO<sub>2</sub> equivalent.
2. Encourage participation of employees in activities relating to forestry.
3. Build awareness of global warming mitigation practices in communities, society and related parties.
4. Build public awareness of PTTEP's role as a driver of sustainable development in Thailand by initiating reforestation projects.

#### Social Aspect

1. Generate income for communities by planting and maintaining the reforestation area.
2. Increase additional sources for food and medical herbs in community forests.
3. Build awareness of reforestation and encourage participation in nearby communities.
4. Build awareness of reforestation and encourage employees and the public to participate in activities relating to forestry.



**Environmental Aspect**

1. Restore depleted forest to cover areas of 200,000 rais.
2. Help mitigate global warming.



**Implementation in 2013**

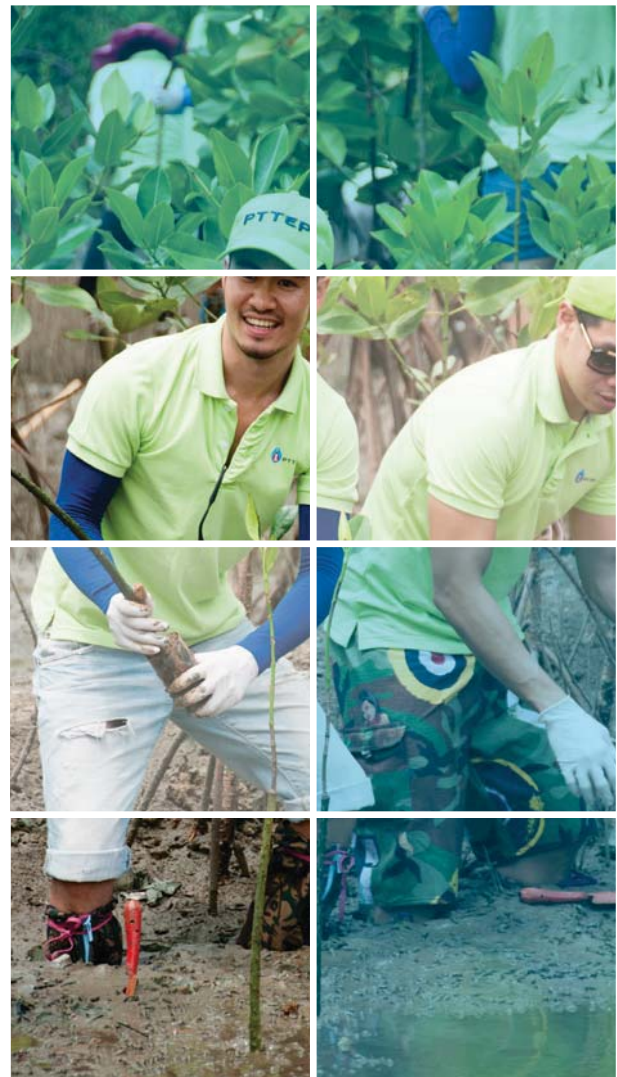
- Undertook reforestation in 30 provinces, accumulating to 50,000 rais, divided into national parks (13,500 rais), wildlife sanctuaries (11,900 rais), royal project areas (4,500 rais), national conserved forest (14,555 rais), and community forest (5,545 rais).
- Followed-up and maintained the reforested areas which showed a survival rate of over 85 percent in every plot.



**Employee Engagement:  
PTTEP GREEN UP Campaign**

Besides focusing on communities to participate in the reforestation project, PTTEP also encouraged its employees to take part in activities relating to forestry with the objective to build awareness of social responsibility, foster them to care for and benefit the communities and society at large, promote team working and provide opportunities to develop personal skills such as problem solving and team working. Subsequently, the company initiated a project “PTTEP Green Up” with the aim to encourage the employees

as well as their families to take part in reforestation-related activities. PTTEP set a corporate KPI requiring the employees to volunteer in social activities for at least 3 hours annually per person. The KPI is included in the personal SSHE-SD work plan and is considered to pursue the corporate value of “EP SPIRIT” in terms of “R = responsibility for society”. Throughout 2013, there were 2,173 volunteers, comprising of employees and their family, participating in the project activities, including cultivation of 2,400 seedlings, moving 300 seedlings, and planting terrestrial forest, mangroves and forage crop adding up to a total of 6,050 trees. For the year 2014, PTTEP is continuing with the GREEN UP campaign by maintaining the respective KPI. PTTEP believes that restoring green areas not only benefits the world’s environmental quality, but also brings happiness to our hearts.



## Our People



PTTEP is committed for doing its best for human resources. The company promotes employee development tailored to one's potential and capacity, appropriate remuneration structure, and corporate diversity that foster an optimum working environment for employees, leading the company to its goal achievement.

### Corporate Human Resources Management Structure

PTTEP recruits candidates who are applying for positions at PTTEP based on their expertise, skills and experience. In this context, having staff with the same committed value "EP SPIRIT" as PTTEP is a paramount, thus forming the basis for the creation of a corporate culture that leads to success. As a result, PTTEP diversity is reflected by its employees of various fields of knowledge, skill, gender, age, race.

PTTEP's human resources management policy specifies applicant searching and screening, staff evaluation, training and development, career ladder, remuneration and welfare, and staff retention.

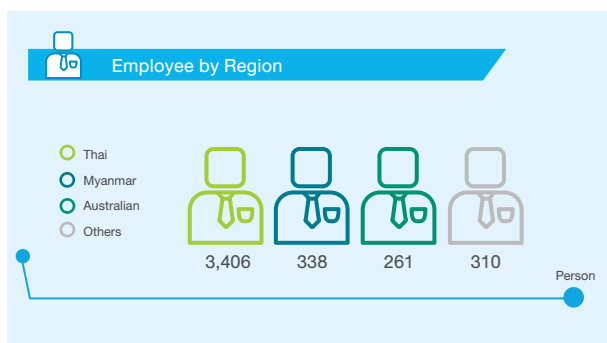
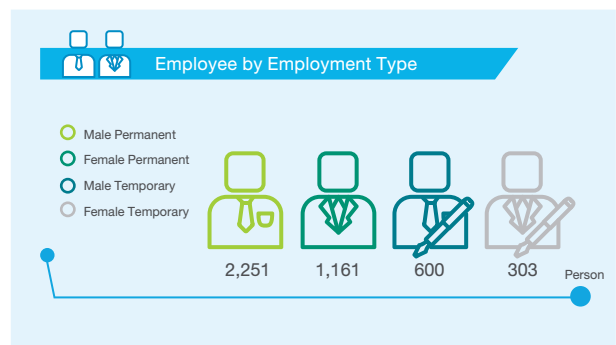
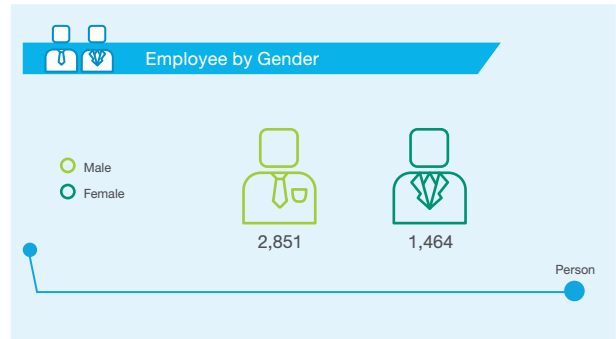
The Remuneration Committee is responsible for determining remuneration of the President and Chief Executive Officer (CEO), and determine the company's salary structure to maintain



an appropriate and competitive remuneration structure. The Welfare Committee is made up of representatives from both the management team and the employees. This committee functions as a communicator to the employees with regards to the welfare and benefit management to ensure fairness of the practice. In addition, the performance evaluation, remuneration and promotion processes are conducted by different committees with fairness and transparency.

PTTEP is committed to seeking for personnel in line with the corporate value and culture as well as business characteristics. PTTEP expects its employees to be inquisitive, excited to explore new things, ready for mobility which are fundamental profiles of professionals in the petroleum exploration and production sector. Employees receive trainings and skill development to prepare for professional growth in overseas positions. In addition, employees are informed of the knowledge on laws, requirements and cultures of those countries where they are being relocated.

In 2013, the recruitment rate rose by 26 percent in comparison to 2012 (317 new recruits in 2012 and 467 in 2013). The turnover rate dropped further 4.9 percent (206 turnovers in 2012 and 196 in 2013). The numbers of employees working overseas rose by 294 percent from 2012 (231 held overseas positions in 2012 and 909 in 2013). Based on the 2013 result, PTTEP has met its target for the implementation of human resources management.



## Training and Competency Development

Employee development is a priority for PTTEP. In 2013 over 300 million baht of budget was allocated for employee development programs. Various training programs were implemented including in-house and external training courses, workshop of both theoretical and practical exercises to enrich their professional growth and well-being. On the other hand, PTTEP also focuses on building the integrity of its employees through communication of good corporate governance, human rights and social responsibility.



## Our People

PTTEP builds capabilities of the staff to be ready in career growth through these 4 projects as follows.

<p>PTTEP Accelerated Development Program (ADP)</p>	<p>ADP was initiated by PTTEP with an aim to build capability of the staff newly graduated in key technical fields. These include geology, geophysics, reservoir engineering, well engineering, drilling engineering and other engineering related fields. Ultimately, staff are equipped with knowledge fundamental to petroleum E&amp;P business and skills to perform their functions. This preparedness helps in boosting their professional operations.</p>
<p>PTTEP Competency Management System (CMS)</p>	<p>PTTEP Competency Management System (CMS) is a performance assessment system for technical employees based on Job Competency Profile (JCP). The CMS also includes Individual Competency Development Plan (ICDP), which is designed to identify areas for individual improvement to meet related standards and business requirements. PTTEP is planning to expand the ICDP for all career groups for effective competency development, and therefore leading better.</p>
<p>PTTEP Leadership Development Program</p>	<p>An accelerated leadership development program is in place to support corporate growth in the future. All management staff are assessed for the baseline evaluation at the Assessment Center. The results then are compared to success profiles in order to craft the development plan with their supervisors to strengthen the management and leadership skills. PTTEP has introduced a 360° evaluation system for executives in which they receive feedbacks from their co-workers. The results can help reflect areas for improvement from other people's perspective. In addition, the company has introduced a customized business administrative leadership program developed in cooperation with the leading world-class education institutes in order to support the corporate growth in overseas.</p>
<p>General Training</p>	<p>General training refers to training courses which apply to all levels of company staff in order to their competencies for the achievement of corporate goal. The objectives of general training provided are as follows.</p> <ol style="list-style-type: none"> <li>1. To comply with PTTEP's own standard on safety, security, health and environment, and those required by law.</li> <li>2. To help employee perform their function better.</li> <li>3. To prepare for future assignments.</li> <li>4. To develop basic skills as well as improving self-capability.</li> <li>5. To develop employees' English proficiency and information technology skill.</li> </ol>

PTTEP's knowledge management process is designed to incorporate KM tools with operation process in order to extend and broaden the knowledge accessibility by all the employees. Various KM tools have been put in place including technology, conference and competency development program.

PTTEP KM Guideline is available to standardize KM practices being used throughout the company. Sources of knowledge captured include:

1. Knowledge retention - is capturing of experiences from employees approaching retirement which have been with PTTEP for decades. This kind of knowledge is undiscoverable from any other books.
2. Knowledge sharing and capturing session - is a monthly session for employees to share learning and in turn building a company culture centering on learning. In addition, the session helps bonding among employees and more open minded to exchange their expertise with others, and leverage their own strengths.
3. Knowledge transfer from expatriates to Thai staff - is a mechanism to systematically record expertise gained from expatriate employees and specialists.

PTTEP establishes KM classification system in the form of Knowledge Mapping and Taxonomy to identify key critical knowledge areas and specialists in each area. Lessons learned were gathered in a category that is easily accessible. PTTEP in association with other companies in PTT Group have developed a knowledge collecting structure for each business unit in order to accommodate inventory and traceability of the knowledge since 2012. Thus, the company also has developed a self-learning system in the form of E-learning for its new employees.

PTTEP builds awareness on KM through KM Quiz, posters and Winspiration projects. These projects are intended to provide communication channels between the management and the employees in the form of e-mail or PTTEP's KM Web Portal. The

management is to express their expectation on corporate KM and communicate success stories as role models for other employees. The KM activities also include questionnaire on KM issues and KM exhibitions to promote knowledge exchange culture and disseminate the information related to PTTEP operations.

In addition, the company generally conducts an assessment on its KM capability as follows.

1. KM Culture Maturity Assessment - This assessment evaluates the performance of KM implementation in PTTEP. The weakness found is managed through an improvement plan in order to reach the ultimate goal of "Innovation" level.
2. COP Maturity Assessment - This assessment aims to discover what obstacles cause the failure in knowledge exchange among the employees, and what factors drive the staff to apply the KM at work at individual, departmental and organizational levels.

## Employee Retention



### Rewards and Recognition

PTTEP is one of the highest compensation and best benefit providing companies, able to compete with any other organizations in Thailand. Its remuneration policy relies on 3 mechanisms as follows.

1. In-house equality - The similarities in work type, responsibility and work condition are justified to be equality in reward offering.
2. Inter-organizational equality - The annual adjustment of remuneration takes into account the rates employed by other oil and gas companies domestically.
3. Incentive provision – Individual employee's performance in the previous year is evaluated before incorporated into the annual merit increase.

## Our People

According to the above 3 mechanisms, the employee are proposed with appropriate compensation as a driving force to operate their tasks to achieve the business goals, for example, business expansion, SSHE operations, sustainable development, etc. Besides the compensation in the form of salary, PTTEP also rewards based on the achievement of corporate financial performance, business unit and individual KPIs, regardless gender or work type.

PTTEP also provides assistances to the employees through a number of projects such as housing assistance by contributing partly to the interest incurred from the housing loan. Other assistances include scholarship for employee development to enhance corporate potential, preparing the retiring employees for future retirement, and the Employee Joint Investment Program (EJIP). The EJIP, from 2012-2018, is intended to encourage the employees to co-invest with PTTEP by purchasing the company's shares at a market price so that the employees are motivated to work efficiently and effectively. The company is proud to run business with fairness and creativity, encouraging all the employees to grow together with the company.

PTTEP is convinced that staff participation plays a significant role in driving corporate strategy, motivating the inspiration to accomplish the company goal. PTTEP regularly conducts employee engagement survey to analyze work satisfaction, reward, quality of life, overall corporate management, career opportunity and working conditions. In 2013, over 2,400 employees participated in the survey, accounting for 85 percent of total employees, via a number of channels including on-line, paper and small group interview.

In 2013, PTTEP conducted employee engagement survey for the second time of the company which Aeon Hewitt's technique was adopted for the first time. The level of engagement was 49 percent comparing to an average of 58 percent in the same industry in Asia Pacific<sup>1</sup>. PTTEP uses the result to develop

employee engagement improvement plan at the organizational level and function group level. The organizational level plan consists of 4 sub-plans: 1) creating work environment to promote organizational values, "Trust & Respect" and "Synergy", 2) developing personnel management skill for supervisors, 3) providing consultation service on team management for supervisors, 4) improving service excellence of human resource management department and 5) improving work process to be more concise. The function group level plan is tailor made in accordance with employee engagement results of such function group. PTTEP is in the process to implement the plans and periodically monitor progress of the execution. The next employee engagement survey will also be conducted in 2014.

PTTEP is one of the leading companies in Thailand which provides attractive remuneration and benefits package which are comparable to other companies in the petroleum industry.

<sup>1</sup> Source: Aeon Hewitt  
In 2011, Mercer's technique was adopted resulting in the average score of 83.60

## Labor Rights

PTTEP respects the rights of its employees by pursuing good corporate governance and business ethics of the company, and compliance with labor laws of the countries in which it operates business. This is to ensure that PTTEP personnel, contractors and suppliers implement their duties in conforming to PTTEP's human rights policy which is in accordance with international practices. The company has introduced a policy on grievance management including providing protection to the complainant. PTTEP is a member and actively promotes the implementation of the Ten Principles of United Nations (UN) Global Compact.

PTTEP manages labor welfare through the Welfare Committee which made up of representatives from the employees and the management team. The committee meets a monthly basis to review the provision of welfare and benefits in order to constantly meet the dynamics of social and economic perspectives and the need of business in different aspects.

The recruitment policy is open to the applicants graduated from either domestic institutes or overseas. It focuses on expertise, experience and potential of the applicants. Working at PTTEP, the employees are open to scholarship opportunities for further study or attending in a training program abroad, or assigned to work in rotation with its joint venture partners in overseas. This aims to prepare employees with global mindset. In addition preparation program on foreign culture learning are provided for employees prior being relocated overseas. With these trainings being provided can help reduce the risk of violations to human rights, corporate governance and business ethics of PTTEP.



"The Principles of PTTEP Human Rights are embedded in PTTEP's good corporate governance and business ethics. The scope of commitment extends beyond our employees but to our contractor and suppliers. PTTEP has established fundamental work expectations in line with human rights principles. Communications are carried along with training programs for employees. Security personnel are required to strictly pursue the human right policy which is stated as a part of the contracts."

Yupawadee Valayapetre  
Senior Vice President, Human Resources Division  
Human Resources & Business Service Group

## SD Performance Summary

ENVIRONMENT					
	Unit	2010	2011	2012	2013
<b>Hydrocarbon Production</b>					
Production from domestic operating asset	BOE	90,508,275	84,441,889 <sup>(6)</sup>	96,282,938 <sup>(6)</sup>	105,924,646
	Tonnes	12,266,547 <sup>(6)</sup>	11,531,232	13,151,812 <sup>(6)</sup>	14,452,553
<b>Energy Consumption</b>					
Total direct energy consumption <sup>(1)</sup>	GJ	18,642,201	18,886,907	20,377,244	20,825,094
Total indirect energy consumption by primary energy source					
Electricity purchased <sup>(2)</sup>	GJ	29,910 <sup>(6)</sup>	29,440 <sup>(6)</sup>	29,231 <sup>(6)</sup>	34,167
Total energy intensity	GJ/tonne production	1.52	1.64	1.55	1.44
<b>Greenhouse Gas Emissions (GHGs)</b>					
Direct total GHGs <sup>(3)</sup>	Tonnes CO <sub>2</sub> equivalent	3,426,599	2,751,323 <sup>(6)</sup>	4,431,144 <sup>(6)</sup>	4,459,039
Indirect total GHGs	Tonnes CO <sub>2</sub> equivalent	1,455	1,675	1,649	1,830
Other relevant indirect GHG emission <sup>(4)</sup>	Tonnes CO <sub>2</sub> equivalent	7,623	10,978	12,817	12,470
GHG intensity	Tonnes CO <sub>2</sub> equivalent/1,000 tonne production	279	239	337	310
<b>Flare</b>					
Total flaring	MMscf	31,982	20,812	44,050	47,946
Hydrocarbon flaring	Tonnes	735,314	482,983	1,015,134	1,101,526
Hydrocarbon flaring intensity	Tonnes/1,000 BOE	8.10	5.70	10.50	10.40
<b>Emissions<sup>(9)</sup></b>					
Volatile organic compounds (VOCs)	Tonnes VOC	-	7,160 <sup>(6)</sup>	15,265 <sup>(6)</sup>	16,412
VOC intensity <sup>(7)</sup>	Tonnes VOC/million tonne production	-	0.621	1.161	1.136
Nitrogen oxides (NOx)	Tonnes NO <sub>2</sub>	-	6,940 <sup>(6)</sup>	9,228	9,454
NOx intensity <sup>(7)</sup>	Tonnes NO <sub>2</sub> /million tonne production	-	0.602	0.702	0.654

	Unit <sup>(7)</sup>	2010	2011	2012	2013
Sulfur oxides (SOx)	Tonnes SO <sub>2</sub>	-	457 <sup>(11)</sup>	570 <sup>(8)</sup>	576
SOx intensity <sup>(9)</sup>	Tonnes SO <sub>2</sub> /million tonne production	-	0.040	0.043	0.040
Methane (CH <sub>4</sub> ) emissions	Tonnes	10,049	6,872	9,858	10,593
<b>Significant Spills and Discharges</b>					
Operational significant spills	Cases	13	14	7	15
	Tonnes	21.18	6.00	5.87	27.5
Hydrocarbons	Cases	12	13	7	10
	Tonnes	21.18	0.75	5.87	18.80
Non-hydrocarbons	Cases	1	1	0	5
	Tonnes	0.000001	5.25	0	8.7
Loss of primary containment (LOPC)	Cases	-	-	4	6
	Per million man-hours	-	-	0.23	0.34
<b>Water</b>					
Water withdrawn excluding once through cooling water	Cubic meters	1,132,319	1,133,491	1,772,324	2,027,523
Once through cooling water	Cubic meters	64,663,784	63,136,840	68,214,995	65,004,518
Total water reused / recycled	Cubic meters	5,850	7,300	7,440	0
Produced water injection	Cubic meters	4,609,101	5,330,736	5,559,511	6,640,290
<b>Waste Disposal<sup>(6)</sup></b>					
Hazardous waste	Tonnes	19,563	18,235	33,874	44,559
Drilling mud and cutting waste	Tonnes	16,795	16,999	32,430	41,894
Other hazardous waste	Tonnes	2,768	1,236	1,444	2,665
Non-hazardous waste	Tonnes	532	588	873	1,234
Transported hazardous waste under the Basel Convention	Tonnes	972	515	429	469
<b>Environmental Management</b>					
Investing in managing environmental impacts	Million USD	6.21	4.44 <sup>(8)</sup>	5.96	10.48
Treatment and disposal expenses	Million USD	4.66	2.44	3.77	2.37
Protection, management and investments	Million USD	1.55	2.00	2.19	8.11
Percentage of prevention cost in total environment expense	%	25	45	37	95
<b>Legal compliance</b>					
Fines, penalties and settlements	Case	-	0	0	0
Fines, penalties and settlements	Million AUD	-	0	510,000 <sup>(10)</sup>	0

## SD Performance Summary

### Remarks

- (1) In 2013, direct energy consumption by primary energy source included stationary combustion (fuel gas 17,896,320 GJ and diesel 819,156 GJ) and mobile combustion (diesel / gasoline 111,979 GJ).
- (2) Conversion factor for amount of primary fuel consumed from indirect sources 0.0096 GJ/kWh.
- (3) Direct energy consumption by primary source consisted of flare, stationary combustion, mobile combustion, fugitive emissions and fugitive of fluorinate gas in the amount of 2,845,390, 1,298,275, 143,338, 171,683, and 353 tonnes CO<sub>2</sub> equivalent, respectively.
- (4) Scope 3 GHG emission is emitted from product transfer by train. It was estimated on the same assumption. Distance travelled was 43,740 km per months.
- (5) NO<sub>x</sub>, SO<sub>x</sub> and VOC were calculated based on OGP emission calculation factor (mostly from USEPA). No purchasing of CFCs / halons / trichloroethane or hydrochlorofluorocarbons containing materials.
- (6) Waste from non-routine operation (e.g. construction, spill clean-up) cannot be separated. Waste storage in PTTEP for 2013 amounts to 6,011 and 353 tonnes for hazardous and non-hazardous waste respectively. PTTEP has internal requirement to ensure proper storage of wastes onsite. Valid permits issued by the authority have been obtained.
- (7) BOE: barrel of oil equivalent, USD: U.S. dollars, AUD: Australian dollars, MMscf: million standard cubic feet, GJ: gigajoules (109 joules).
- (8) Restatement
- (9) The reduction of intensity of SO<sub>x</sub>, NO<sub>x</sub>, and VOC emission is the result of energy efficiency program and management of accessed gas from the production process. As a consequence, the energy consumption intensity and the intensity of SO<sub>x</sub>, NO<sub>x</sub>, and VOC emission decreased as the combustion is more efficient.
- (10) PTTEP Australasia (PTTEP AA) has accepted fines handed down by the Darwin Magistrates' Court for its responsibility in the 2009 Montara incident.
- (11) Environmental performance data is updated and revised.

### HEALTH & SAFETY

	Unit	2010	2011	2012	2013
<b>Fatalities</b>					
Total number		1	0	0	1
Employees <sup>(1)</sup>		0	0	0	0
Contractors <sup>(2)</sup>		1	0	0	1
Fatal accident rate (FAR) - employees and Fatalities	Per 100 million hours worked	5.93	0.00	0.00	2.55
<b>Injuries</b>					
Total recordable incident rate (TRIR) <sup>(3)</sup>	Per million hours worked	2.43	2.07	1.87	1.12
Lost time injury frequency (LTIF) <sup>(3)</sup>	Per million hours worked	0.59	0.35	0.19	0.18
Near Miss	Cases	228	127	142	165
<b>Illnesses</b>					
Total recordable occupational illness frequency (TROIF) - employees	Per million hours worked	0.17	0.23	0.06	0.15
Restricted work case (RWC)	Cases	11	14	24	22
Medical treatment case	Cases	20	30	30	15



### Remarks

- (1) Employee means employee of PTTEP and its subsidiaries within the reporting boundary.
- (2) Contractor means an individual or a company carrying out work under the supervision, instructions and SSHE Management System of PTTEP or subsidiaries within the reporting boundary.
- (3) TRIR and LTIF are calculated as total including employee and contractor.
- (4) For Health and Safety performance data in the above table, the scope includes Australia as well as domestic data. Health and safety data in Thailand are listed as follows: LTIF (0.54, 0.29, 0.17, 0.02), TRIR (2.29, 1.77, 1.38, 0.21), restricted work case (9, 8, 10, 13), medical treatment case (17, 23, 19, 12), and near miss (212, 100, 85, 106) for 2010, 2011, 2012 and 2013 respectively.

## HUMAN CAPITAL

	Unit	2010		2011		2012		2013 <sup>(1)</sup>	
		Male	Female	Male	Female	Male	Female	Male	Female
<b>Workforce</b>									
Total Workforce	Persons	2,055	1,008	2,479	1,160	2,732	1,348	2,851	1,465
Staff by region									
Thailand (PTTEP and PTTEP Services)	Persons	1,868	947	2,166	1,076	2,340	1,233	2,155	1,252
Australia	Persons	122	33	186	43	217	59	204	57
Oman	Persons	50	8	59	6	55	6	68	6
Myanmar	Persons	15	20	29	23	66	34	246	92
Others	Persons	-	-	39	12	54	16	178	58
Staff by age <sup>(1)</sup>									
<30 years	Persons		740		909		1,148	869	563
30 - 50 years	Persons		1,768		2,004		2,102	1,603	824
>50 years	Persons		307		329		323	379	78
Staff by employment type									
Permanent <sup>(2)</sup>	Persons	-	-	-	-	-	-	2,251	1,162
Temporary <sup>(3)</sup>	Persons	-	-	-	-	-	-	600	303
<b>Average Training Hours</b>									
Average all employees <sup>(4)</sup>	Hours/person/year	53.9	73.5	40.9	48.6	52.0	43.3	57.1	65.4
<b>Composition of Governance Bodies</b>									
Board of directors	Persons	15	1	14	1	14	1	14	1
Executives	Persons	38	6	45	8	57	9	29	7
Middle management	Persons	261	9	282	70	312	84	66	23
Senior	Persons	400	188	478	234	536	274	672	213
Employee	Persons	1,169	694	1,361	764	1,435	866	2,084	1,221
<b>New Employee Hire by Age Group</b>									
<30 years	Persons	140	111	194	141	152	168	291	226
30 - 50 years	Persons	81	33	181	54	131	59	230	104
>50 years	Persons	14	1	26	1	19	2	42	3
Total	Persons	235	145	401	196	302	229	563	333

## SD Performance Summary

	Unit	2010		2011		2012		2013 <sup>(1)</sup>	
		Male	Female	Male	Female	Male	Female	Male	Female
New hire rate	% of total employees	12.6	15.3	18.5	18.2	12.9	18.6	19.8	22.8
<b>Turnover by Age Group</b>									
< 30 years	Persons	23	30	28	47	33	51	42	42
30 - 50 years	Persons	29	23	48	18	74	19	57	33
> 50 years	Persons	17	5	20	3	27	2	20	2
Total	Persons	69	58	96	68	134	72	119	77
Turnover rate	% of total employees	3.7	6.1	4.4	6.3	5.7	5.8	4.2	5.3
<b>Turnover by Type</b>									
Voluntary resignation	Persons	62	55	86	66	127	72	108	76
Dismissal	Persons	0	0	0	0	0	0	0	0
Retirement	Persons	6	3	10	2	5	0	8	1
Death - not related to work	Persons	0	0	1	0	2	0	3	0
<b>Parental Leave</b>									
Employee entitled to parental leave	Persons	1,650	945	1,950	1,074	2,109	1,221	2,242	1,310
Coverage	%	80	77	79	93	77	91	79	89
Employee taken parental leave	Persons	18	16	23	32	15	29	0	27
Employee returned to work after parental leave	%	100	100	100	100	100	100	100	100
Employee returned to work and still employed 12 months after return to work	Persons	18	16	23	32	15	29	0	27

Gender Diversity and Equal Remuneration	2010		2011		2012		2013	
	Persons	%	Persons	%	Persons	%	Persons	%
Women in workforce	947 <sup>(5)</sup>	34 <sup>(5)</sup>	1,076	33	1,233	35	1,465	34
Women in professional positions	188	32	234	33	274	34	1,222	37
Women in management positions	9	3	70	20	84	21	30	24
Women in senior leadership positions	7	12	9	13	10	12	213	24
	Male	Female	Male	Female	Male	Female	Male	Female
Ratio basic salary women/men	1	0.73	1	0.74	1	0.76	1	0.87

Integrity	Unit	2010		2011		2012		2013	
		Male	Female	Male	Female	Male	Female	Male	Female
Training hours concerning human rights, anti-bribery, and corruption	Hours	1,024	1,149	208	260	784	1,170	420	833

#### Remarks

- (1) PTTEP starts reporting human capital data at the global level in 2013. PTTEP has improved the human capital reporting system based on SAP system.
- (2) Permanent means full time employment contract with indeterminate period. PTTEP does not have part-time employee.
- (3) Temporary means employment contract with limited duration and terminated by a specific event, including the end of a project or work phase or return of replaced personnel.
- (4) Average training hours for PTTEP and PTTEP Services employees are 60.72 and 70.01 hours/person/year, respectively.
- (5) Restatement

## CORPORATE SOCIAL RESPONSIBILITY

Total Contribution	Unit	2010	2011	2012	2013
Total contribution	Million USD	-	-	6.49	19.76 <sup>(1)</sup>
Volunteer	Hours	-	-	-	9,083

#### Remarks

- (1) This includes corporate philanthropic spending and philanthropic spending at the project level.

## DIRECT ECONOMIC VALUE GENERATED

Economic Value Distributed	Unit	2010	2011	2012	2013
Total revenue	Million USD	4,532	5,685	7,021	7,445
Employee wages and benefits <sup>(1)</sup>	Million USD	115	151	109 <sup>(2)</sup>	133 <sup>(2)</sup>
Operating expense	Million USD	458	625	706	827
Payments to governments <sup>(3)</sup>	Million USD	1,303	1,615	1,886	2,151
Dividend payments	Million USD	380	560	588	783
Interest payments	Million USD	63	123	178	174

#### Remarks

- (1) Employee wages and benefits include salary, bonus, provident fund (including CEO and secondee from PTT), and post-employment benefits. The bonus was paid in January and February 2014.
- (2) The scope includes employees from PTTEP and PTTEP Siam (a subsidiary of PTTEP) and CEO and top executives from PTTEP.
- (3) Payment to government covers petroleum royalties, remuneration for the petroleum and tax payments.

## Awards and Recognition



Accomplishments PTTEP received from both Thai and international institutions can demonstrate its commitment to be an excellent organization and contributing to confidence and trust from stakeholders.

### Corporate Governance

- ▶ Best CEO and the Best CFO Awards
- ▶ Prestigious Platinum Corporate Award
- ▶ NACC Integrity Award 2012
- ▶ Asset Triple A CFO of the Year 2013
- ▶ Asia's Best CEO (Investor Relations) Award
- ▶ Asian Corporate Directors 2013

Securities Analysts Association

The Asset Magazine

National Anti-Corruption Commission

The Asset Magazine

Corporate Governance Asia Magazine

Corporate Governance Asia Magazine

### Social Responsibility

- ▶ Honoring Outstanding Achievement in the category of Corporate Social Responsibility Excellence
- ▶ Asia's Best CSR Award
- ▶ Best Strategic Corporate Social Responsibility
- ▶ Most Improved CSR

Thailand Management Association (TMA) in corporation with Sasin Graduate Institute of Business Administration of Chulalongkorn University

Corporate Governance Asia Magazine

Alpha SEA Magazine, Hong Kong

Corporate Social Responsibility Institute (CSRI)

### Investor Relations

- ▶ Best Investor Relations Company Award
- ▶ 2013 Most Organized Investor Relations

Corporate Governance Asia Magazine

Alpha SEA Magazine, Hong Kong



## Best Practices

- ▶ PTT Group OpEx Award 2013 in category of “Best Practice Sharing”
- ▶ Best Public Companies 2013 Resources Industry Award
- ▶ PTT Group “Center of Excellence Award 2013”
- ▶ The Winner Award of the SPE Thailand Annual E&P Award 2012
- ▶ Thailand Top Company Awards
  
- ▶ Best Managed Company in Thailand and Best Managed Company in Asia for Oil & Gas 2013
- ▶ The Best Secondary Deal of the Year in Southeast Asia and Alternative Long-Term Savings Hybrid Debt Capital Instrument
- ▶ The Best Secondary Offering
- ▶ Thailand Capital Markets Deal of the Year
- ▶ Asia’s Outstanding Company
- ▶ Renewal of OHSAS 18001 certificate for Sirikit Oil Field, S1 Project
- ▶ Regional’s best improving score from the previous year for its CDP Asia Ex-Japan Disclosure Leadership Index
- ▶ Listed in the group of top15 percent to the DJSI’s World Universe group of Oil and Gas sector
- ▶ Achieved 10-million-hour Lost Time Injury Free Award under PTTEP & Thai Nippon Steel (TNS) Bundled Project
- ▶ The first E&P company in Thailand that its CDM Project, using flare gas recovered from crude production from Sirikit Oil Field of S1 Project, was approved to register.

PTT Group  
 Money and Banking Magazine  
 PTT Group  
 Society of Petroleum Engineers (SPE) Thailand  
 University of the Thai Chamber of Commerce  
 incorporation with Business+ Magazine of ARIP Public  
 Company Limited  
 Euro Money Magazine  
  
 Alpha Southeast Asia Magazine  
  
 The Asset Magazine  
 International Financing Review Asia (IFR Asia)  
 Corporate Governance Asia Magazine  
 TUV NORD (Thailand) Co., Ltd.  
 CDP  
  
 RobecoSAM  
  
 PTTEP Public Company Limited  
  
 United Nations Framework Convention on Climate  
 Change (UNFCCC)

## LRQA Assurance Statement

Relating to PTT Exploration and Production Public Company Limited's environmental and occupational health and safety indicators within the Sustainability Report for the calendar year 2013

This Assurance Statement has been prepared for PTT Exploration and Production Public Company Limited in accordance with our contract but is intended for the readers of this Report.

### Terms of Engagement

Lloyd's Register Quality Assurance Ltd. (LRQA) was commissioned by PTT Exploration and Production Public Company Limited (PTTEP) to provide independent assurance on its Sustainability Report 2013 ("the Report") to a limited level of assurance using LRQA's verification procedure. LRQA's verification procedure is based on current best practise and uses the principles of AA1000AS (2008) - Inclusivity, Materiality, Responsiveness and Reliability of performance data and processes defined in ISAE3000.

Our assurance engagement covered PTTEP's production operations in Thailand and specifically the following requirements:

- Confirming whether the selected environmental and occupational health and safety indicators: EN3, EN4, EN8, EN16, EN20, EN21, EN22, EN23, and LA7 were compiled according to GRI G3.1's Oil and Gas Sector Supplement (OGSS), and
- Evaluating the reliability of the data and information for the above selected environmental and occupational health and safety indicators.

Our assurance engagement excluded the data and information of PTTEP's production operations outside of Thailand. All of PTTEP's exploration operations and petroleum development support bases, both inside and outside of Thailand were also excluded.

LRQA's responsibility is only to PTTEP. LRQA disclaims any liability or responsibility to others as explained in the end footnote. PTTEP's responsibility is for collecting, aggregating, analysing and presenting all the data and information within the Report and for maintaining effective internal controls over the systems from which the Report is derived. Ultimately, the Report has been approved by, and remains the responsibility of PTTEP.

### LRQA's Opinion

Based on LRQA's approach nothing has come to our attention that would cause us to believe that PTTEP has not:

- Met the requirements above, and
- Disclosed reliable performance data and information for the selected environmental and occupational health and safety indicators. as no errors or omissions were detected.

The opinion expressed is formed on the basis of a limited level of assurance and at the materiality of the professional judgement of the verifier.

Note: The extent of evidence-gathering for a limited assurance engagement is less than for a reasonable assurance engagement. Limited assurance engagements focus on aggregated data rather than physically checking source data at sites.

### LRQA's Approach

- LRQA's assurance engagements are carried out in accordance with LRQA's verification procedure. The following tasks though were undertaken as part of the evidence gathering process for this assurance engagement: Auditing PTTEP's data management systems to confirm that there were no significant errors, omissions or mis-statements in the Report. We did this by reviewing the effectiveness of data handling procedures, instructions and systems, including those for internal verification. We also spoke with those key people responsible for compiling the data and drafting the Report.
- Visiting the Petroleum Development Support Base (PSB) in Songkhla to sample evidence for the selected environmental and occupational health and safety indicators to confirm its reliability. The PSB was visited because this is where data from all off-shore production operation assets in Thailand is collected. No off-shore production operation assets were visited during this assurance engagement.

Note: LRQA did not verify the data back to its original sources, nor did it assess the accuracy and completeness of the data reported by individual locations.

### Observations

Further observations and findings, made during the assurance engagement, are:

- Reliability: A centralized system collects and gathers the data for the selected environmental and occupational health and safety indicators. PTTEP carries out its own internal data verification process to look for any errors in the data and information provided from the off-shore production operation assets. However we believe that PTTEP should encourage all the off-shore production operation assets to be more involved in reviewing the accuracy of their data.
- Future Reports: PTTEP should consider using the Global Reporting Initiative G4 Guidelines (GRI G4) which would position them with other companies in their sector at providing sustainability performance data and information. GRI G4 requires Reports to focus on material aspects i.e. the issues which are significant to PTTEP and its stakeholders. When looking at its material aspects, PTTEP should extend their current reporting scope to cover not only aspect from their production operation but also include exploration operations and petroleum support base both inside and outside Thailand.

### LRQA's competence and independence

LRQA ensures the selection of appropriately qualified individuals based on their qualifications, training and experience. The outcome of all verification and certification assessments is then internally reviewed by senior management to ensure that the approach applied is rigorous and transparent.

This verification is the only work undertaken by LRQA for PTTEP and as such does not compromise our independence or impartiality.

Signed

Dated: 09 May 2014



Paveena Hengsriratwat  
LRQA Lead Verifier  
On behalf of Lloyd's Register Quality Assurance Ltd.  
Lloyd's Register International (Thailand) Limited  
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LRQA Reference: BGK6019746

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The English version of this Assurance Statement is the only valid version. Lloyd's Register Group Limited assumes no responsibility for versions translated into other languages.

This Assurance Statement is only valid when published with the Report to which it refers. It may only be reproduced in its entirety.

# GRI Content Index

## Strategy and Profile

GRI Index	Description	Page	IPIECA/OGP	UNGC (Principles)
1.1	CEO statement	10-11		
1.2	Key impacts, risks and opportunities	12, 22		
2.1	Name of the organization	Web <sup>(1)</sup>		
2.2	Primary brands, products and/or services	4		
2.3	Operational structure	Web <sup>(1)</sup>		
2.4	Location of organization's headquarter	Web <sup>(1)</sup>		
2.5	Countries where the organization operates	4		
2.6	Nature of ownership and legal form	Web <sup>(2)</sup>		
2.7	Markets served	4		
2.8	Scale of the company	55, 57		
2.9	Significant changes during the reporting period	5		
2.10	Awards	58-59		
3.1	Reporting period	67		
3.2	Date of most recent previous report	Web <sup>(3)</sup>		
3.3	Reporting cycle	Web <sup>(3)</sup>		
3.4	Contact point	67		
3.5	Process for defining report content	66-67		
3.6	Boundary of the report	67		
3.7	Limitations on the scope/boundary of the report	54-57, 67		
3.8	Basis for reporting on other partners	39		
3.9	Data measurement techniques and calculations	33, 60		
3.10	Re-statements	54-57		
3.11	Significant changes from previous reporting periods	67		
3.12	GRI content index	61-65		
3.13	Independent assurance	60		
4.1	Governance structure	Web <sup>(4)</sup>		1-10
4.2	Chair of the highest governance body is executive officer	Web <sup>(5)</sup>		
4.3	Number and gender of board members that are independent and executives	Web <sup>(5)</sup>		
4.4	Mechanisms for providing recommendations	39, Web <sup>(6, 7)</sup>		1-10
4.5	Linkage between compensation and performance	49, Web <sup>(8)</sup>		
4.6	Conflicts of interest	19, Web <sup>(9)</sup>		
4.7	Qualifications of the governance body members	19		
4.8	Mission or values, codes of conduct and principles	4, 13		
4.9	Procedures to identify and manage of ESG performance	12		
4.10	Evaluating board effectiveness	19		



GRI Index	Description	Page	IPECA/OGP	UNGC (Principles)
4.11	Precautionary principle	22		7
4.12	External initiatives on economic, environmental and social	23, 26, 33		1-10
4.13	Memberships in industry associations	10, 18		
4.14 <sub>COMM</sub>	Stakeholder groups	39		
4.15	Basis for identification and selection of stakeholders	38-40		
4.16	Approaches to stakeholder engagement	39-40		
4.17 <sub>COMM</sub>	Stakeholders' topics and concerns	39-40		

#### Remarks

- (1) [http://www.pttep.com/en/aboutPttep\\_PTTEPGroup.aspx](http://www.pttep.com/en/aboutPttep_PTTEPGroup.aspx)
- (2) [http://www.pttep.com/en/InvestorRelations\\_ShareholderInformation.aspx](http://www.pttep.com/en/InvestorRelations_ShareholderInformation.aspx)
- (3) [http://www.pttep.com/en/CSR\\_Publication\\_5.aspx](http://www.pttep.com/en/CSR_Publication_5.aspx)
- (4) [http://www.pttep.com/en/aboutPttep\\_Overview\\_3.aspx?CatID=1](http://www.pttep.com/en/aboutPttep_Overview_3.aspx?CatID=1)
- (5) [http://www.pttep.com/en/CSR\\_CorporateGovernance\\_TheCommittee.aspx?CatID=1](http://www.pttep.com/en/CSR_CorporateGovernance_TheCommittee.aspx?CatID=1)
- (6) [http://www.pttep.com/en/CorporateGovernance\\_PolicyDetail.aspx?ContentID=62](http://www.pttep.com/en/CorporateGovernance_PolicyDetail.aspx?ContentID=62) (09. Making Inquiries, Giving Information, Suggesting Recommendation and whistle blowing)
- (7) <http://www.pttep.com/en/ContactUs.aspx?Section=1>
- (8) [http://www.pttep.com/en/CorporateGovernance\\_TheCommittee.aspx?Type=2&CatID=5](http://www.pttep.com/en/CorporateGovernance_TheCommittee.aspx?Type=2&CatID=5) (Remuneration Committee Charter B.E. 2551)
- (9) [http://www.pttep.com/en/CSR\\_CorporateGovernance\\_CodeofBusinessConductDetail.aspx?ContentID=87](http://www.pttep.com/en/CSR_CorporateGovernance_CodeofBusinessConductDetail.aspx?ContentID=87) (07. Conflicts of interest)

#### Economics

GRI Index	Description	Page	IPECA/OGP	UNGC (Principles)
DMA EC	Disclosure on Management Approach - Economic	8		1, 4, 6, 7
EC1 <sub>COMM</sub>	Direct economic value generated and distributed	57	SE4, SE13	
EC2 <sub>COMM</sub>	Implications of climate change	31, 32		7
EC3	Defined benefit plan obligations	50		
EC4	Financial assistance	Not Applicable <sup>(1)</sup>		
EC5	Ratio of standard entry level wage to minimum local wage	49		1
EC6 <sub>COMM</sub>	Locally based suppliers	24	SE5, SE7	
EC7 <sub>COMM</sub>	Local hiring	55	SE5, SE6	6
EC8 <sub>COMM</sub>	Indirect economic impacts	41-43	SE4	
EC9 <sub>COMM</sub>	Description of direct economic impacts	42	SE6	
OG1	Volume and type of estimated proved reserves and production	52, Web <sup>(2)</sup>		

#### Remarks

- (1) PTTEP did not receive financial assistance from the government.
- (2) [http://www.pttep.com/en/ourBusiness\\_Reserves.aspx](http://www.pttep.com/en/ourBusiness_Reserves.aspx)

## GRI Content Index

### Environment

GRI Index	Description	Page	IPECA/OGP	UNGC (Principles)
DMA EN	Disclosure on Management Approach - Environment	29		7, 8, 9
EN1 <sub>COMM</sub>	Materials used by weight or volume	Not Applicable		8
EN2 <sub>COMM</sub>	Percentage of materials recycled	Not Applicable		8, 9
EN3	Direct energy consumption	52	E2	8
EN4	Indirect energy consumption	52	E2	8
OG2	Total amount invested in renewable energy	Not Applicable		
OG3	Total amount of renewable energy generated by source	Not Applicable		
EN8 <sub>COMM</sub>	Water withdrawal	34	E6	8
EN9 <sub>COMM</sub>	Water sources affected by water withdrawal	33	E6	8
EN10	Water recycled and reused	53	E6	8, 9
EN11	Location of land adjacent to high biodiversity areas	35	E5	8
EN12	Description of significant impacts on biodiversity	35-36	E5	8
EN13	Habitats protected or restored	35-36	E5	8
EN14 <sub>COMM</sub>	Strategies and plans for managing impacts on biodiversity	35-36	E5	8
OG4	Operating sites with biodiversity risk assessment	35		
EN15	IUCN Red List species	35-36	E5	8
EN16 <sub>COMM</sub>	Direct and indirect GHG	52-53	E1, E4	8
EN17 <sub>COMM</sub>	Other relevant indirect GHG	53-54	E1	8
EN18 <sub>COMM</sub>	Initiative to reduce GHG	31-33	E1	7, 8, 9
EN19	Emission of ODS	54	E7	8
EN20 <sub>COMM</sub>	NOx, SOx, and other emissions	53-54	E7	8
EN21	Water discharge	35	E9	8
EN22 <sub>COMM</sub>	Waste disposal	53-54	E10	8
OG5	Volume of formation or produced water	35		
EN23	Spills	53	E8	8
OG6	Volume of flared and vented hydrocarbon	53		
OG7	Amount of drilling waste	53		
EN24	Weight of transported Waste under Basel Convention	53		8
EN26 <sub>COMM</sub>	Initiatives to mitigate environmental impacts of products	28-35		7, 8, 9
EN27	Percentage of products sold and packaging reclaimed	Not Applicable		8, 9
OG8	Benzene, Lead and Sulfur content in fuels	Not Applicable		
EN28	Environmental fines and sanctions	54		8
EN30	Environmental protection expenditures and investments	54		7, 8, 9

### Labor Practices and Decent Work

GRI Index	Description	Page	IPECA/OGP	UNGC (Principles)
DMA LA	Disclosure on Management Approach - Labor Practice	26, 46-47		1, 3, 6
LA1	Total workforce	55		
LA2	New hires/turnover by age, gender, region	47, 55-56		6
LA3	Benefits for employees	50		
LA4	Employees covered by collective bargaining	Not Applicable		1, 3
LA5	Minimum notice for operational changes	51		3
LA6	Workforce represented in health and safety committees	51		1
LA7 <sub>COMM</sub>	Rates of injury, occupational diseases, lost days, fatality	54-55		1
LA8	Training regarding serious diseases	43-48		1
LA10	Employee training	48, 55-56		1
LA12	Employee performance review	100%		1
LA13	Composition of governance bodies	56		1, 6
LA14	Men to women salary ratios	56		1, 6
LA15	Return to work	56		

### Human Rights

GRI Index	Description	Page	IPECA/OGP	UNGC (Principles)
DMA HR	Disclosure on Management Approach - Human Rights	20-21		1-6
HR1	Agreement that include human rights clauses	24	SE8, SE9	1-6
HR2	Suppliers/contractors undergone HR screening	24	SE8, SE9	1-6
HR3	Employee training on HR issues	56	SE8	1-6
HR4	Non-discrimination	19 <sup>(1)</sup>	SE18	1, 2, 6
HR5	Freedom of association and collective bargaining	Remark <sup>(1)</sup>		1, 2, 3
HR6	Child labor	Remark <sup>(1)</sup>		1, 2, 5
HR7	Forced and compulsory labor	Remark <sup>(1)</sup>		1, 2, 4
HR8 <sub>COMM</sub>	Percentage of security personnel trained in the organization's policies or procedures concerning aspects of human rights that are relevant to operations.	51		
HR9 <sub>COMM</sub>	Violation involving rights of indigenous people	Remark <sup>(2)</sup>		1, 2
HR10	Human rights review and/or impact assessment	21		1, 2
OG9	Operations where indigenous are present or affected	Remark <sup>(3)</sup>		
HR11	Grievances related to human rights	38		1, 2

#### Remarks

- (1) This year there was no case that had come to PTTEP's attention of child labor, forced labor, or obstruction against assembly of employee for negotiation purpose.
- (2) No violation of indigenous people's rights occurred.
- (3) No operations where indigenous are present of affected.

## GRI Content Index

### Society

GRI Index	Description	Page	IPIECA/OGP	UNGC (Principles)
DMA SO	Disclosure on Management Approach - Society	38	SE1, SE2, SE3, SE4, SE5	10
SO1	Programs on impacts of operations	38, 42-43	SE1, SE2, SE3, SE4, SE5	-
SO2	Business units analyzed for risks related to corruption	18, 22	SE11, SE12	10
SO3	Anti-corruption training	56	SE11	10
SO4	Response to corruption incidents	19	SE11	10
SO5 <sub>COMM</sub>	Public policy on lobbying	Web <sup>(1)</sup>	SE14	1-10
SO6	Political contribution	Web <sup>(1)</sup>	SE14	10
SO8 <sub>COMM</sub>	Fines/penalties for noncompliance	54		
SO9 <sub>COMM</sub>	Operations with potential/actual impacts	38, 43		
SO10 <sub>COMM</sub>	Preventions and mitigations measures	38, 43		
OG10	Significant disputes with local and indigenous peoples	38		
OG11	Numbers of sites that have been decommissioned	Remark <sup>(2)</sup>		
OG12	Operations where involuntary resettlement took place	None		
OG13	Number of process safety events, by business activity	Remark <sup>(3)</sup>		

#### Remarks

(1) [http://www.pttep.com/en/CorporateGovernance\\_CodeofBusinessDetail.aspx?ContentID=81](http://www.pttep.com/en/CorporateGovernance_CodeofBusinessDetail.aspx?ContentID=81)

(2) Zero sites have been decommissioned.

(3) There was no process safety event in 2013.

### Product Responsibility

GRI Index	Description	Page	IPIECA/OGP	UNGC (Principles)
DMA PR	Disclosure on Management Approach - Product Responsibility	12-13		1, 8
PR1	Life-cycle stages evaluations of products and services	Not Applicable	HS4	1
PR3	Product information requirements	Not Applicable	HS4	8
PR6	Programs for adherence to laws on marketing	Not Applicable	HS4	
PR9	Fines/penalties for noncompliance with product use laws	Not Applicable		
OG14	Biofuels produced and purchased	Not Applicable		

## About this Report

This Sustainability Report demonstrates PTTEP's commitments on sustainability practices and transparency in our disclosure in the previous year.

### Reporting Approach

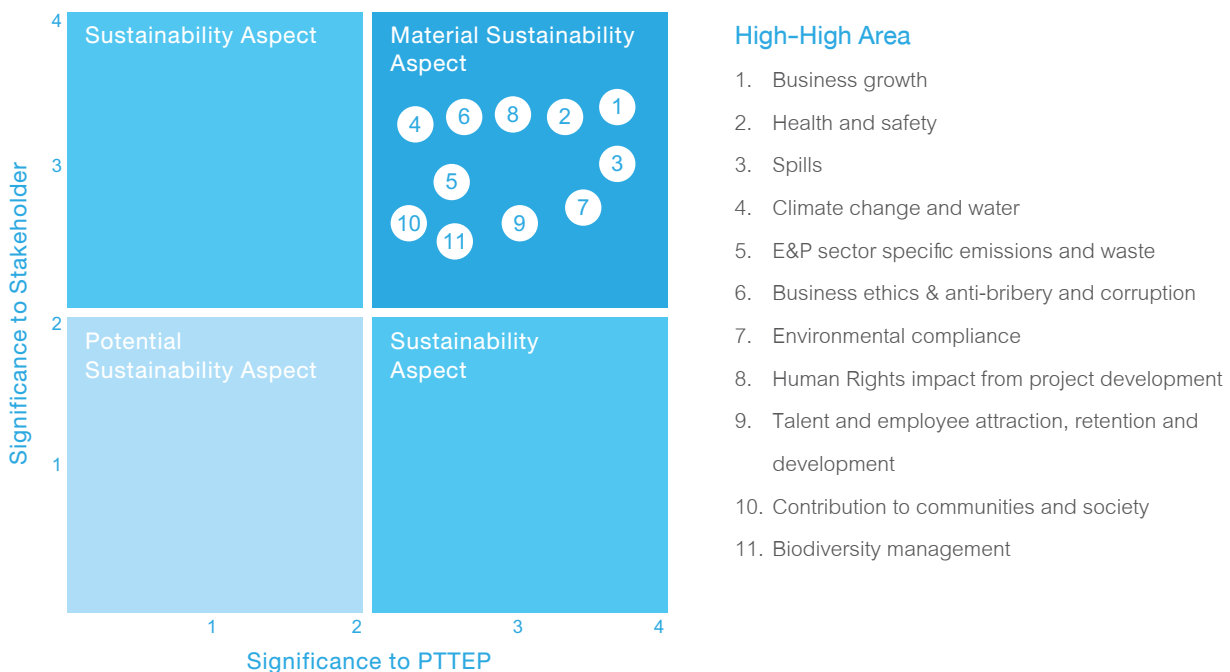
PTTEP adopts Sustainability Reporting Guidelines: Oil and Gas Sector Supplement (OGSS) G 3.1 of the Global Reporting Initiative (GRI) to provide sector sustainability specific information of PTTEP business. GRI Sustainability Reporting Guideline is the most internationally accepted and widely used guideline for disclosure of economic, social and environment information. PTTEP prepares this Sustainability Report in accordance with GRI Level A with the independent assurance from an external party.

GRI Content Index is provided in the page 62 - 66 of this Report.

### Approach to Define Report Content

GRI Principles for Defining Report Content is used to conduct sustainability materiality assessment to identify material sustainability issues from the perspective of PTTEP business and stakeholders. The process is based on consideration of PTTEP's strategies and activities, risks and challenges, expectations from the society, applicable laws and regulations, future trends and stakeholder feedbacks. The company uses focus group meetings approach with relevant functions to get the result and present to the Sustainability Report Working Team for verification.

Material sustainability issues in 2013 includes business growth, health and safety, oil spills, climate change and water use, E&P sector specific emissions and waste, business ethics & anti-bribery and corruption, environmental compliance, human rights impact from project development, talent and employee attraction, retention and development, contribution to communities and society and biodiversity management. The material sustainability issues in 2013 are slightly difference from the issue in 2012. The materiality matrix could be illustrated as follows:



## About this Report

### Scope and Boundary

This Report summarizes management approaches, practices and performances those materials to the sustainability of PTTEP within 12 months of 2013. In-depth information on financial management is disclosed in Annual Report 2013.

Boundary for sustainability reporting in safety, security, health and the environment covers projects under PTTEP's operational control including exploration, development and production of petroleum (about 98% coverage) which with the extended scope and boundary comparing to PTTEP 2012 Sustainability Report. This Report uses US Dollar (USD) as financial unit if no other currency unit is provided.

PTT Exploration and Production Public Company Limited is a subsidiary of PTT Public Company Limited and also included in the boundary of PTT's Sustainability Report.

### Verification of Data

PTTEP has internal process to verify the disclosed information by management staff of each responsible function. In addition, PTTEP uses external expert to conduct independent environmental and safety data verification which the certificate is provided in the page 60 - 61 of this report.

### Contact Points

#### Sustainability Practices

[www.pttep.com/en/CorporateSocialResponsibility.aspx](http://www.pttep.com/en/CorporateSocialResponsibility.aspx)

#### Employment and Intern Opportunities

[www.pttep.com/en/Career.aspx](http://www.pttep.com/en/Career.aspx)

#### Investors and Shareholders

[www.pttep.com/en/investorRelations.aspx](http://www.pttep.com/en/investorRelations.aspx)

#### General inquiry

+ 66 (0)2 537 4000



# Readers' Feedback

Your suggestions will be used as inputs to improve the quality of the Sustainability Report. Please be a part to our development

**1. Please rate your satisfaction in the contents of PTTEP Sustainability Report 2013**

Completeness	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Dissatisfied
Topics	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Dissatisfied
Interestedness	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Dissatisfied
Easy to understand	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Dissatisfied
Report design	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Dissatisfied
Overall satisfaction of the report	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Dissatisfied

**2. Please rate your interest in the contents of PTTEP Sustainability Report 2013**

PTTEP Business Context	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Dissatisfied
Sustainability Management	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Dissatisfied
Our Journey to the First Oil from Montara	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Dissatisfied
Business Excellence	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Dissatisfied
Safety, Security, Health and Environment	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Dissatisfied
Green Practices	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Dissatisfied
Contribution for Wider Society	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Dissatisfied
Our People	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Dissatisfied
SD Performance Summary	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Dissatisfied
About This Report	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Dissatisfied

**3. What additional contents would you like to find in PTTEP Sustainability Report 2014?**

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**4. Please provide additional comments to improve our report.**

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**5. Please provide personnel information**

Gender	<input type="checkbox"/> Male	<input type="checkbox"/> Female	
Age	<input type="checkbox"/> Less than 20	<input type="checkbox"/> 20-30	<input type="checkbox"/> 31-40
	<input type="checkbox"/> 41-50	<input type="checkbox"/> 51-60	<input type="checkbox"/> Higher than 60

**6. Please specify types of reader's perspective?**

<input type="checkbox"/> Shareholder / Investor	<input type="checkbox"/> Governmental agency	<input type="checkbox"/> Media
<input type="checkbox"/> Supplier	<input type="checkbox"/> Employee	<input type="checkbox"/> Research / Academic institution
<input type="checkbox"/> Student	<input type="checkbox"/> NGO	<input type="checkbox"/> Communities surrounding PTTEP's operation areas
<input type="checkbox"/> Other. Please specify : .....		

PTTEP would like to thank for your cooperation





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## บุกเบิกพลังงาน เพื่อโลกที่ยั่งยืน

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