



**PTTEP**

# Passion to Explore

with Responsibility

PTTEP  
Sustainability  
Report 2012





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## Sustainability of PTTEP at a Glance

At PTTEP, we believe that business prosperity alone cannot bring our company towards sustainability. However, protecting the environment and contributing to the society will help propel both PTTEP and our nation closer to the stage of sustainability.

We aspire to overcome every challenge in terms of difficult locations, smaller reserves, knowledge development, innovation and technology, and social license to operate. However, the biggest challenge is to find the right balance between exploring energy production, protecting the environment and contributing to the wider society.

Therefore, we commit to provide energy security in parallel with environmental protection and social contribution. This commitment forms our DNA as “**Passion to Explore with Responsibility**” and the PTTEP way “**From Natural Treasure to Intellectual Wisdom and Environmental Conservation**”.

### MISSION

PTTEP operates globally to provide reliable energy supply and sustainable value to all stakeholders.

### VISION

Leading Asian exploration and production company driven by technology and green practices.



# THE COMMITMENT

## ABOUT PTTEP

PTT Exploration and Production Public Company Limited (PTTEP) is a publicly listed company on the Stock Exchange of Thailand and is majority owned by PTT Public Company Limited, a national oil company. PTTEP has a mission to provide reliable energy supply from operations globally and to provide sustainable value to all stakeholders. Therefore, we have set our vision to be a leading Asian exploration and production company driven by technology and green practices.

In order to shape the behaviour and culture of the company in pursuit of our vision, PTTEP's values, "EP SPIRIT", which reflect PTTEP's DNA "Passion to Explore with Responsibility" are the key success factors of our business and PTTEP expects them to be embedded in every employee.

PTTEP is moving towards 600 thousand barrels of oil equivalent per day (KBOED) of petroleum production which 900 KBOED of petroleum production is our aspiration to fulfil our mission to be a provider of reliable energy, in order to meet national demand. To achieve production growth to this aspirational 900 KBOED by 2020, our continued domestic operations will contribute to approximately one third of the production target. A further third will be met through our current international assets as described in the following page. The final third will be through merger and acquisition activities.

## VALUES EP SPIRIT

Explorer  
Passion  
Synergy  
Performance Excellence  
Innovation  
Responsibility  
Integrity and Ethics  
Trust and Respect

Revenue Growth

**+24%**



Best Safety Performance  
in 15 years

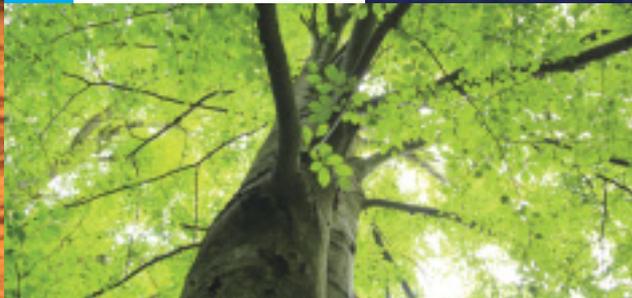
**0.19** LTIF

\*Lost Time Injury Frequency

Operating in Four Continents,  
We are a Team of

**4,080**

Employees



PTTEP has current investment in 44 exploration and production oil and gas projects in 12 countries, including Thailand, Indonesia, Cambodia, Myanmar, Vietnam, Oman, Algeria, Australia, New Zealand, Canada, Kenya and Mozambique



Following are PTTEP operating assets active in 2012.

### Exploration

- G9/43
- A4/48, A5/48 and A6/48
- L21/48 and L28/48
- L22/43
- L53/43 and L54/43

### Production

- B10, B11
- B15, B16, B17, G12/48
- PTTEP 1 Project
- Arthit Project
- S1 Project

During the reporting period we do not have inactive projects or decommissioning project.

Proved Reserves: **901 MMBOE**  
 Reserves Life Index: **8 Years**  
 Reserves Replacement Ratio: **0.91**  
 F&D Cost: **USD 8.97/BOE**

### North America

This region, and in particularly Canada presents opportunities for us to develop oil sands as part of our balanced portfolio going forward into 2020 but brings along with it significant technical challenges and environmental concerns. Key to success will be effective project management and financial controls.

### East Africa

Our recent acquisition of Cove Energy brought with it several licenses to explore offshore and onshore reserves in Mozambique and Kenya. The Rovuma basin off the coast of Mozambique is one of the most exciting natural gas finds this century and has a resource potential of up to 65 trillion cubic feet. We have an 8.5 percent stake in the area and expect production to come on-line by 2018-2019. East Africa offers a great opportunity for further successful exploration.

PTTEP employs a workforce of over 4,080. From WHOQ in Bangkok, we operate 18 offices across 4 continents including solely own operation, joint management and partners.



### Myanmar

We have been operating in the Union of Myanmar for over 20 years. During 2012-2013, we focus on development of Zawtika natural gas field which is expected to come on stream by early 2014. We continue to conduct extensive exploration activities both onshore and offshore and are confident that the operations in the Union of Myanmar, will be a significant part to help us achieve our growth target in 2020.

### Thailand

We are fully committed in continuing strong and sustainable domestic operations. These operations provide us with a stable production output and offer opportunities for further exploration. We are proud of our legacy assets in domestic operations, our contribution to the national economy and to providing energy security for current and future generations.

### Australia

The Montara field is targeted for production in 2013 and will continue making significant contributions to output targets over the next few years. We are aware of the Montara incident in the past which we have intensive biodiversity study programs to ensure that impact is minimized and we will use it as our lesson learned to improve our operation and contractor management across the group.

## Message from the President and CEO

“A good global corporate citizenship E&P company who delivers reliable energy supply and sustainable value to all stakeholders”

Over the past years, our fundamental business performances have been strong and our revenue is expected to be increasing from production activities in several projects. This leaves us in a good position to expand our business to meet 600 thousand barrels of oil equivalent per day (KBOED) of petroleum production by 2020 with our aspiration to achieve 900 KBOED.

However, we understand that the future of the company is not just about business. To sustain the company in the future is about integrating environmental and social consideration while we pursue our business goal and are committed to have all our personnel return home safely and nobody gets hurt in our operations as our aspiration of achieving the LTI free organization. This will make PTTEP the exploration and production company of choice for host government, joint venture, communities and employees.

### 2012 Highlights

This report represents our achievements over the course of 2012, and illustrates the compelling case of our contribution towards the sustainable development of the environment and society along with our business sustainability.

PTTEP's sustainability highlights for 2012 include:

- We contributed more than USD 1,892 million back to the government and society through tax payment, loyalty and concession fee and social investment;
- We had outstanding Lost Time Injury Frequency (LTIF) 0.19 and Total Recordable Injury Rate (TRIR) 1.87 which marked our best safety performance in 15 years;
- We issued our Sustainable Development Policy and Guideline to provide direction for all personnel and our first greenhouse gas emission reduction target was set;
- We are developing our marine biodiversity baseline study program and building artificial reefs in the Gulf of Thailand;
- Our Montara environmental monitoring program with the independent scientific researchers continued to build the body of quality data on the marine life and eco-systems of the Timor Sea.

### Looking Ahead

Apart from illustrating our achievements to date, our Sustainability Report is also looking ahead of how we prepare ourselves for the future challenges in terms of sustainability.

PTTEP is fully aware that the world is changing faster than before in business, environmental and social dimensions. Petroleum reserves today are concentrated in difficult locations in terms of sensitive environmental area, and high political risks or technically challenging conditions. Nevertheless, our mission to serve national energy demand is still the same which energy demand is likely to be increasing due to growing population.

Our newly formulated Sustainable Development Policy or the **G.R.O.W.T.H. Policy** defines the frame for our sustainability management at PTTEP and our commitment to continuously support the United Nations Global Compact and challenging ourselves to be ranked as a top quartile performing company as measured by the credible international ratings program to reflect our practice and performance against the global perspective.

We will explore for not only petroleum reserve but also the way to be the E&P company of choice for our stakeholders including our host government, joint venture, suppliers and contractors, communities and employees. We must continue strengthening our commitment to sustainable development and improving our performance to realize our vision. I want to thank our employees, suppliers and business partners as well as shareholders, agencies, community and wider society for supporting us to create values in a responsible manner and live up to the commitment to sustainable development.



**Mr. Tevin Vongvanich**  
President  
and Chief Executive Officer





## Sustainable Development Policy

PTTEP sets our vision to be a leading Asian exploration and production company driven by technology and green practices which we believe it could be achieved by instituting organization sustainability and business sustainability.

These Principles are designed to be used and applied for:

- **G**ood Governance, Risk Management, Control and Compliance system, Business Code of Conduct and Ethic comprehensively and robustly in place.
- **R**esponsible operation by managing all environmental aspects in particular; greenhouse gas, energy efficiency, water resource, biodiversity and waste throughout project cycle and supply chain.
- **O**ptimum returns on capital, increasing production, and improving proven reserve through embedding Operational Excellence culture.
- **W**ealth contribution to the people of the nations where we operate through our social investment program.
- **T**echnologically Advanced Company through E&P excellence and green technologies.
- **H**igh 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.

Application of this policy is relevant to PTTEP and its subsidiaries, contractors, suppliers and joint venture companies engaged in activities under PTTEP operational control. Joint Venture companies not under PTTEP control are encouraged to adopt similar standards.

This policy will be formally communicated to all employees and contractors of PTTEP Group and be made available to all stakeholders through the Company's website. This policy will be periodically reviewed and updated as required to ensure it remains relevant and accurately reflects our ambition and performance objectives.

Tevin Vongvanich

SD-SSHE Council Chairman & President and Chief Executive Officer

December 28, 2012

# PTTEP SUSTAINABLE DEVELOPMENT CONTEXT



## OVERVIEW ON SUSTAINABILITY AND PTTEP BUSINESS

### World Energy Situation

According to the International Energy Agency in their World Energy Outlook 2012 report, global energy demand will grow by almost one-third as we approach 2035. It is predicted that the global community will achieve success in meeting societies' thirst for cheap and accessible energy. Fossil fuel use from oil and gas reserves will continue to dominate the current global energy mix forecast up until 2020; however, beyond this period, it is expected that a shift in utilization will occur marked by significant increases in approaches of unconventional and alternative extraction.

Many of the world's rich and untapped reserves tend to be concentrated under very deep oceans, landscapes of thick ice, located in ecologically sensitive environments, or in regions of political instability and uncertainty. Competition within the industry to win the rights to access these reserves can only be expected to intensify. Greatest competition will exist for those reserves where efficient operating costs can be achieved and regulatory costs minimized, for example accessing reserves with low carbon dioxide content, therefore limiting exposure to possible future carbon tax liabilities.



## **PTTEP as the World Corporate Citizenship**

PTTEP is committed to contributing to the energy security of Thailand. PTTEP currently contributes 28 percent of energy demand. We have a target to continue to achieve this level of contribution at 30 percent for 2020 and beyond. It is expected that over the next decade, the economic growth in Asia will exceed that experienced in any other region of the world. Moreover, strong growth in domestic GDP signaling creation of wealth and a prosperous future for its people will require PTTEP's due diligence in delivering affordable, clean energy sources.

Increase in population will also result in increase in consumption and demand. Depletion of natural resources and the rate of environmental degradation will likely to be unavoidable if we do nothing to ensure that our future generation can fulfill their needs. Therefore, PTTEP commits to be a responsible company and contribute to the sustainability of the economy, environment and society everywhere we operate.

Our business plan to acquire new reserves also drives us into remote and environmentally sensitive locations, Safety, security, health and environmental excellence, coupled with proactive management of social issues will remain important aspects of energy companies' long-term profitability. Climate change is still the top issue at the global scale.

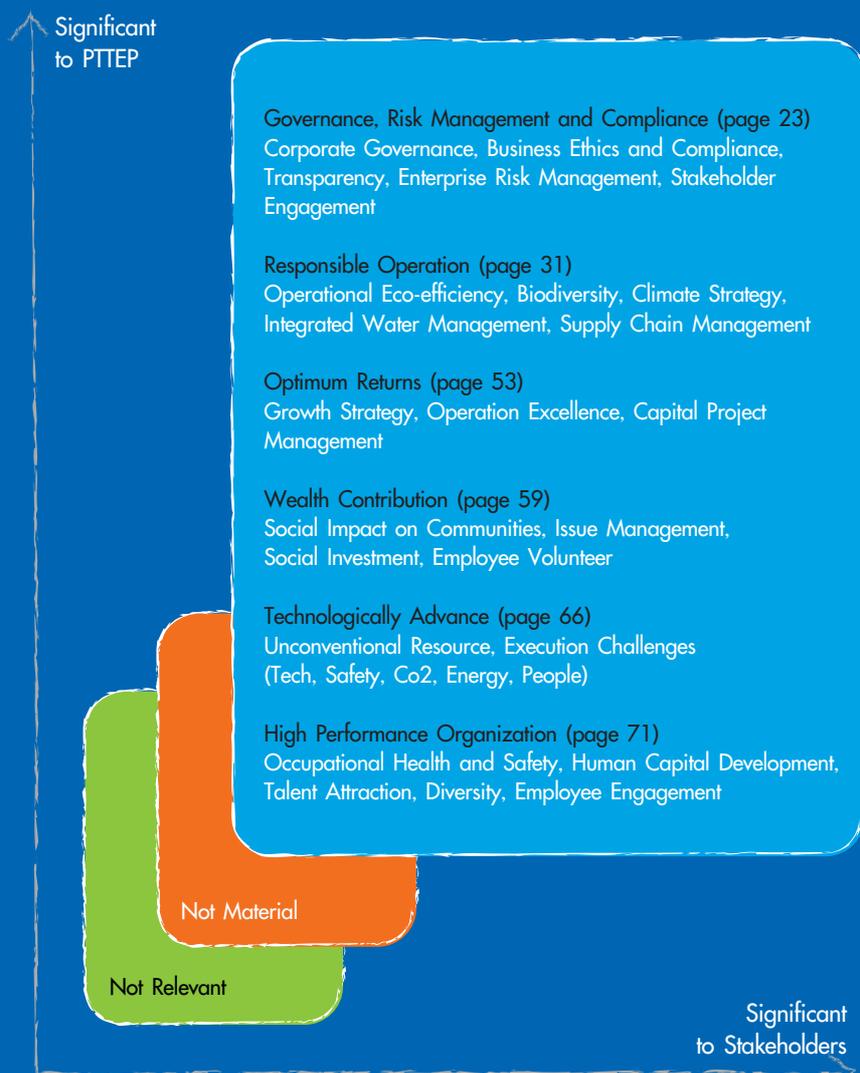
## APPROACH TO DEFINE OUR PRIORITIES

PTTEP uses a process called “materiality assessment” in accordance with Technical Protocol: Applying the Report Content Principles along with AA1000 AccountAbility Principles standard 2008 to identify our priorities.

From the identified material issues, PTTEP categorizes those issues into six areas namely Governance, Risk Management, Compliance; Responsible Operation; Optimum Returns; Wealth Contribution; Technologically Advance; and High Performance Organization.

For this Sustainability Report, PTTEP has leveraged our approach on materiality assessment to be more comprehensive. We are continuously enhancing our materiality assessment process to include more primary data analysis of our diverse stakeholders to ensure our understanding of the materiality of our sustainability factors.

### Priority Matrix for Sustainability Reporting





# SUSTAINABLE DEVELOPMENT MANAGEMENT AT PTTEP

## OUR SUSTAINABLE DEVELOPMENT PHILOSOPHY

At PTTEP, we define Sustainability as our approach to conduct our business in pursuit of our vision that optimizes stakeholder's value by managing risks and capitalizing on opportunities associated with environmental and social issues. Therefore, sustainability at PTTEP consists of two areas: Business Sustainability and Organization Sustainability as outlined in the following picture.

The focus of Organization Sustainability is to build a solid foundation for sustainable growth from becoming a High Performance Organization (driven by performance excellence in every business aspect such as operational excellence; enterprise resource planning; capability development; technology; knowledge management; risk management; control and compliance; and safety, security, health and environment management), Corporate Governance and Care-Share-Respect. Business Sustainability is the execution of the business strategy to be **BIG** (increasing size, growth, span and financial strength); **LONG** (ensure longevity through improvement of integration, synergism, globalization and networking); and **STRONG** (strengthen the organization by inspiring and sustainable, high performance and innovation)

### Business Sustainability

#### 'BIG'

Production

- 600 KBD in 2020 (Base case)
- 900 KBD aspiration by 2020 (Stretch case)

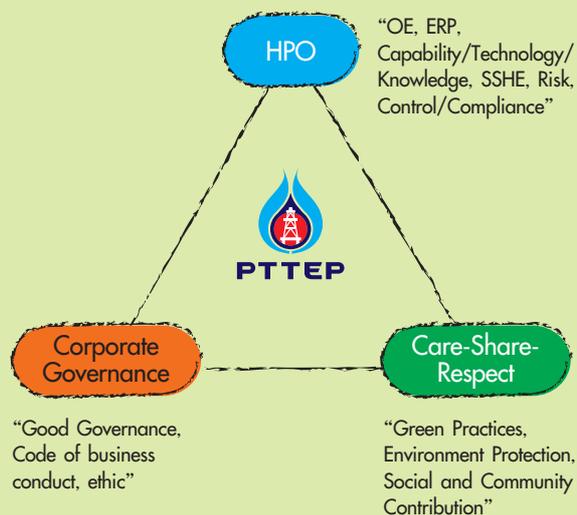
#### 'LONG'

10+ yrs Reserves Life  
40+ yrs Resources Life  
Green Practices

#### 'STRONG'

ROCE above industry average  
and maintain the current  
credit rating

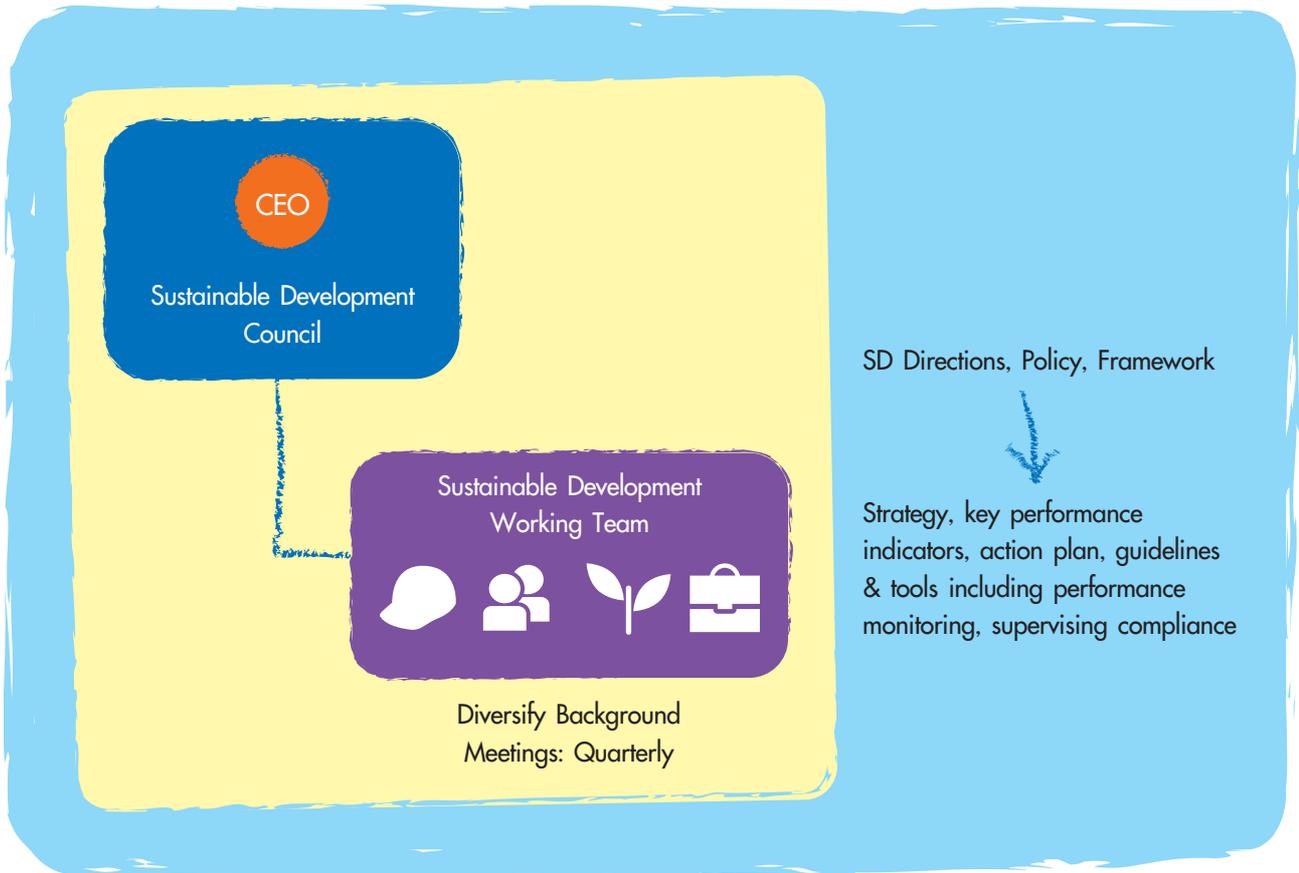
### Organization Sustainability



## SUSTAINABLE DEVELOPMENT AND OUR BUSINESS

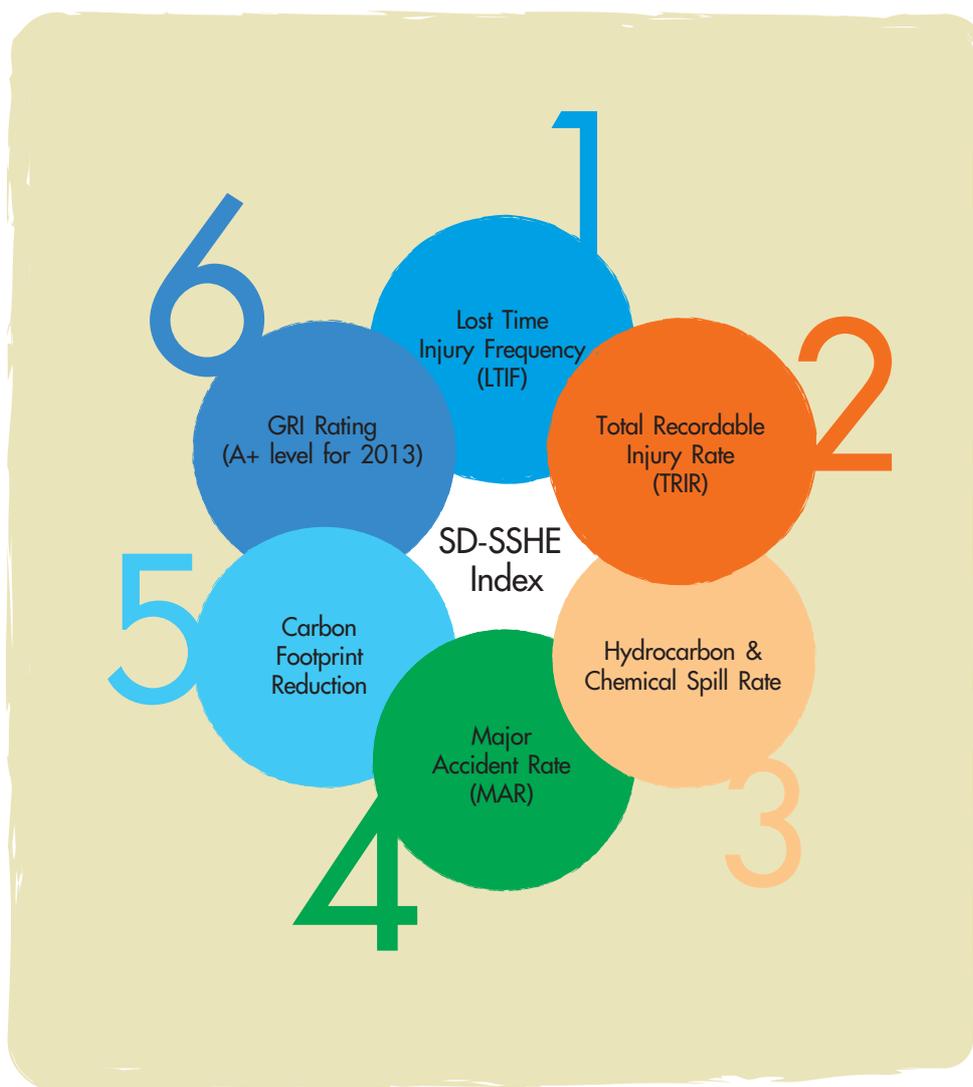
### Sustainable Development Governance at PTTEP

The highest governance body to oversee sustainability of PTTEP is the Sustainable Development Council (SD Council) chaired by the President and Chief Executive Officer (CEO). The SD Council is responsible for defining direction and approving key sustainability related documents, for example SD Framework, SD Policy, SD Guideline, PTTEP SD Roadmap, and PTTEP SD Action Plan.



The SD Council consists of Executives from diverse backgrounds and functional groups and divisions to provide a balanced view on SD approach. To help the Council with the execution of SD initiatives, the Sustainable Development Working Team is formed consisting of representatives from multiple functions. The Working Team is responsible for defining strategy, roadmap, key performance indicators, action plan, guidelines & tools; performance monitoring; supervising compliance; and reporting to the SD Council. In 2012, there were 4 Sustainable Development Council meetings to review and approve of SD Roadmap, SD Policy and SD Guideline.

To ensure the implementation of SD initiatives, the SD initiatives and SSHE Action Plan have been integrated together to become a SD-SSHE plan and KPI, resulting from a number of performance indicators. The SD-SSHE Index was created in 2012, which is targeted to be implemented in 2013. The SD-SSHE plan and KPI, a company KPI which is endorsed by CEO, are cascaded down to each functional group for performance evaluation.

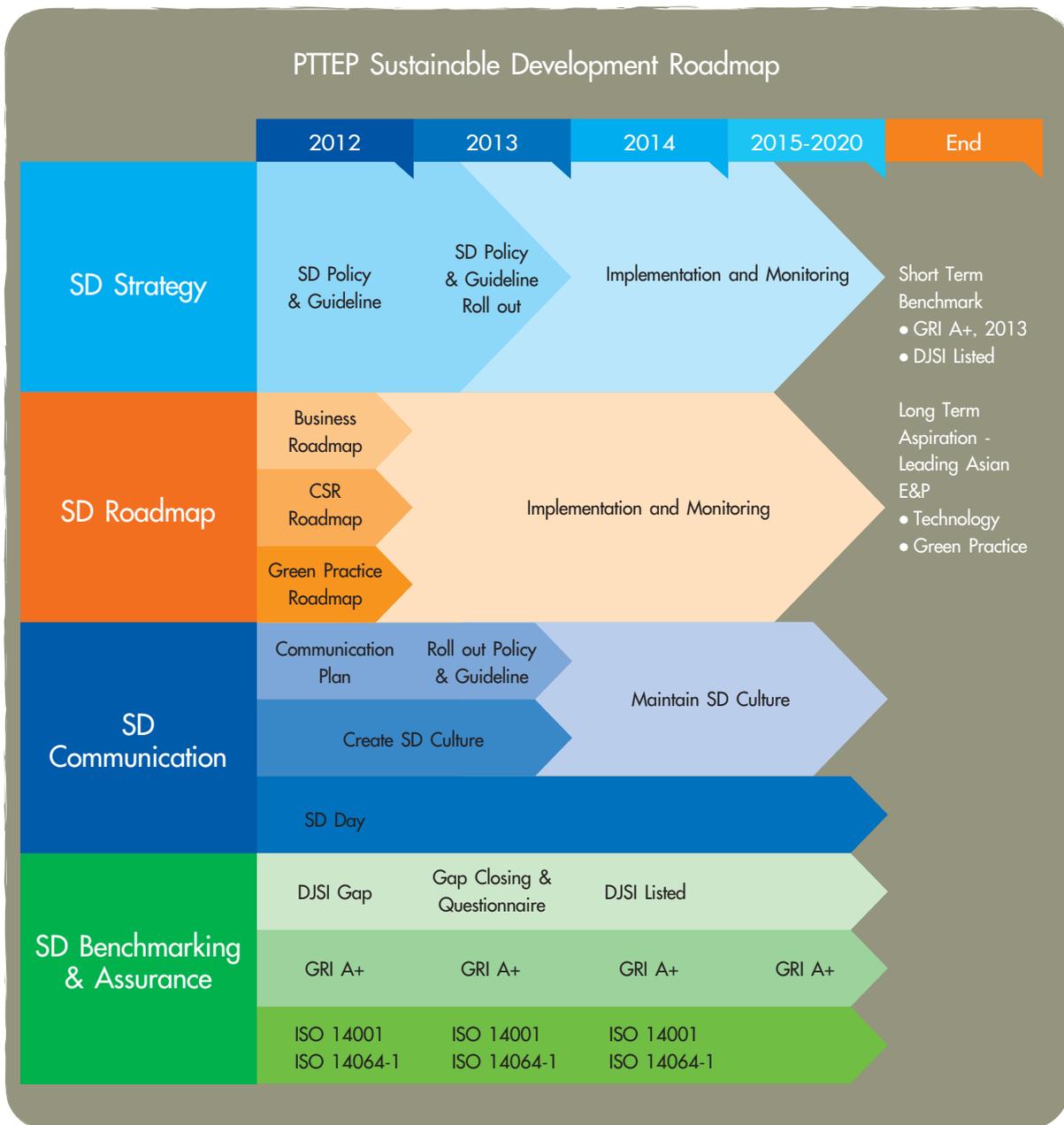


\*Major accident rate is defined as any accident having a real severity level 4 (Major) and above in SSHE risk matrix, measured per million man-hours.

## Sustainable Development Management at PTTEP

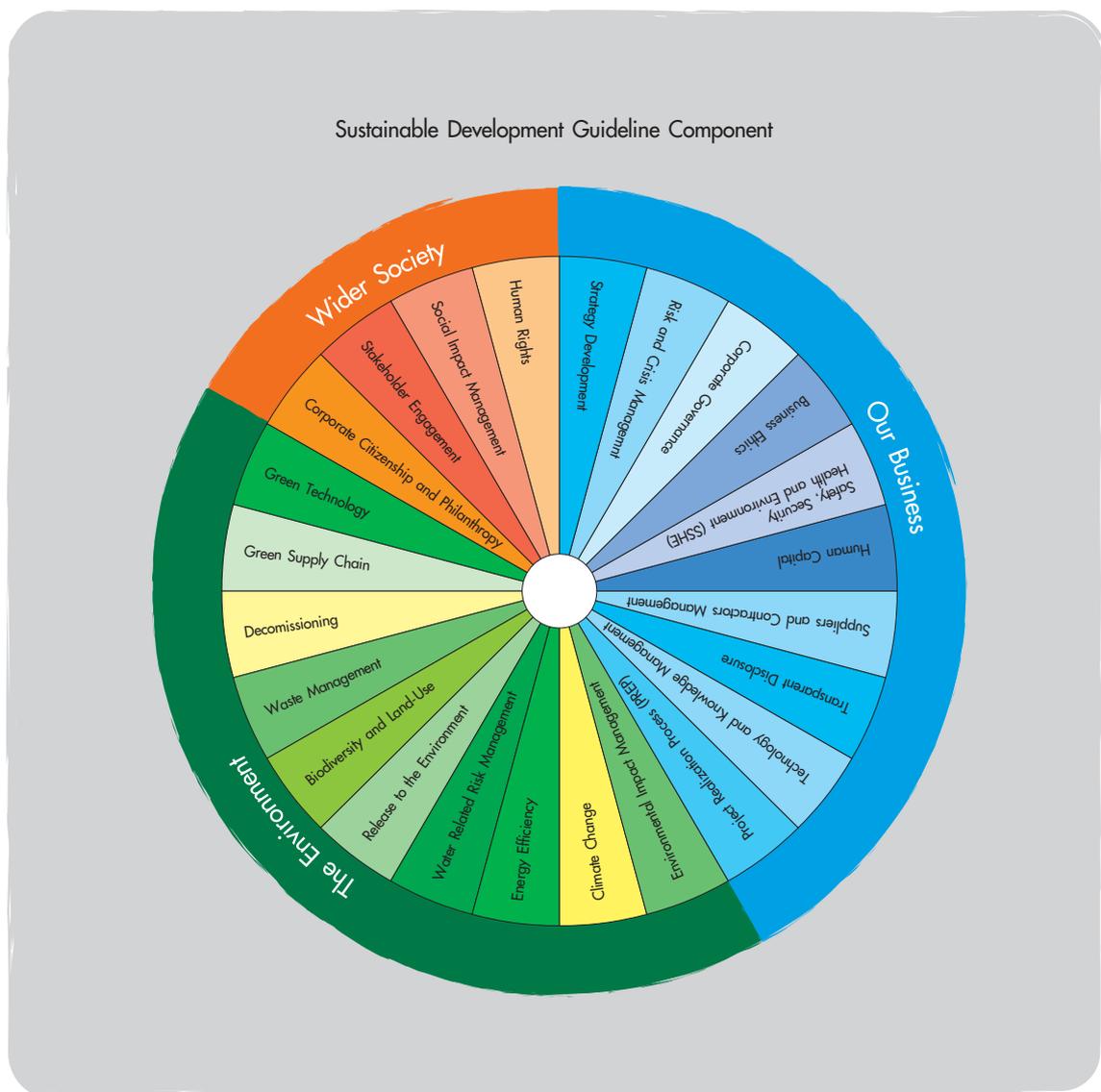
Sustainable Development Roadmap (SD Roadmap) of PTTEP is the master plan for engineering a sustainable company. The SD Roadmap provides short and long term goals along with milestones and key enablers.

PTTEP defines Sustainable Development Policy (SD Policy) or the **G.R.O.W.T.H.** Policy in 2012 to demonstrate our commitment and to unify the understanding of our employees, contractors and other stakeholders on our approach towards sustainable development. The SD Policy consists of six principles and Chapter 4 of this report is structured in the same way.



 Sustainable Development Policy is publicly available on PTTEP's website.

In addition, PTTEP issued the Sustainable Development Guideline (SD Guideline) as a set of expectations regarding sustainable performances and behaviors for PTTEP and for any party engaging in business with PTTEP, to ensure the achievement of our vision. Based on our materiality assessment, the SD Guideline consists of 24 expectations in the Business, Environment and Wider Society Dimensions applied to PTTEP and subsidiaries; contractors of PTTEP and subsidiaries; and Joint Ventures under PTTEP operational control. Joint Venture companies not under PTTEP control are encouraged to adopt similar standards.





# SUSTAINABILITY IN ACTION

## GOVERNANCE, RISK MANAGEMENT AND COMPLIANCE

PTTEP believes that conducting its business guided by rigorous good corporate governance and business ethics along with comprehensive risk management framework, are vital for generating the ultimate success of its operations both efficiently and sustainably.



Further details on board composition, qualification, performance and ownership structure are disclosed in our annual reports or PTTEP's website.

### Our Board of Directors

PTTEP has a mechanism to ensure the effectiveness of the Board of Directors through a nomination process, limitation on other mandate, Board of Directors meetings requirements and evaluation of the Board's performance.

PTTEP believes that diversity of the Board of Directors will provide creativity and different perspectives to ensure a comprehensive and balanced direction. PTTEP has multiple requirements to ensure diversity of the Board of Directors that is used for consideration in the nomination process including a requirement for diversity of skill, experience and background; a requirement that half of the Board of Directors be independent directors; and a requirement that at least three directors are from private sector.

As the Director poses great power and great responsibility, PTTEP limits the number of listed companies in which its Directors can serve as either directors or management to not more than five companies. In addition the attendance of the Board of Directors is required to be publicly available while the Directors who are absent from three consecutive meetings without due reason are implicitly expressing their wish not to remain Directors.

PTTEP employs three methods of performance evaluations that are individual self-assessment, cross-assessment for individuals, and the entire Board's assessment. The performance is assessed against the performance assessment forms. In addition, all sub-committees are evaluated by both the committee member themselves and other directors as well. The Chairmen's performance is also assessed by all directors. These assessments are conducted using the evaluation forms defined by the Nominating Committee.



## External Participation

PTTEP participates in the Board of the Year Initiative of the Thai Institute of Directors Association (Thai IOD) in collaboration with six leading private sector organizations, namely the Stock Exchange of Thailand (SET), the Board of Trade of Thailand, the Federation of Thai Industries, the Thai Bankers' Association, the Thai Listed Companies Association, and the Federation of Thai Capital Market Organizations. The objective is to evaluate efficiency and effectiveness along with commitment to transparency and to the interests of all stakeholders in line with Corporate Governance best practice.

## Enterprise Risk Management

PTTEP effectively manages business, environmental and social risks through our three Lines-of-Defence and to protect our business and stakeholder values.

PTTEP employs the “3 lines of defence” concept in its risk management oversight. The frontline management and staff, as the 1<sup>st</sup> line of defence, are directly responsible for managing risks. A dedicated risk management department was established, as the 2<sup>nd</sup> line of defence, to ensure risk management implementation and its quality. Internal Audit, as the 3<sup>rd</sup> line of defence, provides an independent assurance on the risk management activities implemented.

### 1<sup>st</sup> Line of Defence:

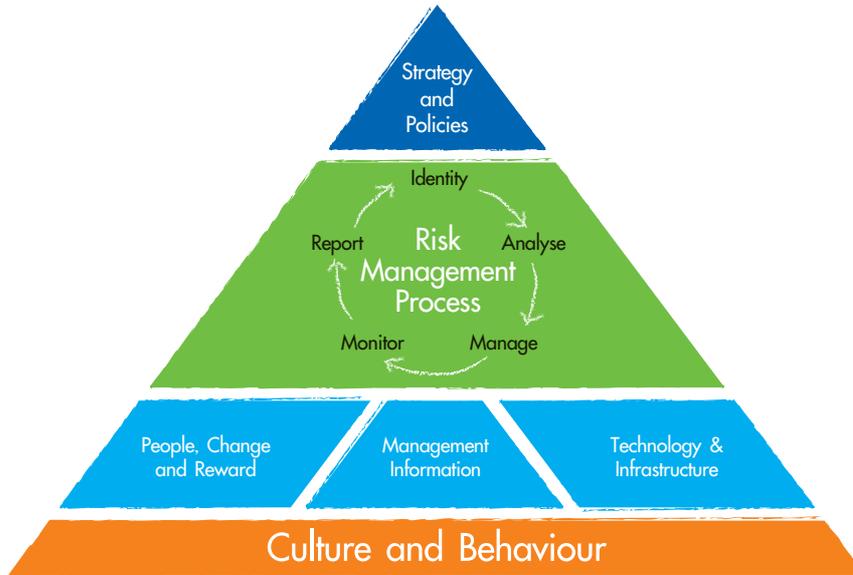
- All PTTEP's business unit management
- Fully responsible for risk management and internal control
- Have the best knowledge on the situation and are best positioned to identify, assess, timely mitigate, monitor and report risks

### 2<sup>nd</sup> Line of Defence:

- Committees and functions that provide an oversight of the effective operation and risk management and internal control
- Responsible for drafting policies, manual, and procedures, provide implementation guidance and directions and ensure the proper execution

### 3<sup>rd</sup> Line of Defence:

- Internal Audit
- Provide independent assurance to board and senior management on the effectiveness of risk management and internal control system implemented by the 1<sup>st</sup> and 2<sup>nd</sup> lines



### PTTEP's Risk Management Framework

In addition to such 3 lines, PTTEP Risk Management Committee (RMC), consisting of 3 independent directors and the CEO, oversee the risk management implementation and culture cultivation. The Committee has established the Risk Management Policy, which exhibits PTTEP aspirations to

- (1) Safeguard all persons and protect the environment and communities where we operate;
- (2) Instill risk management in our day-to-day operation to ensure that all key risks impacting our business will be identified, assessed, and properly managed.

Our risk management approach is based on ISO31000, a widely-accepted risk management standard. We apply such approach at all levels, including the corporate level, business unit level, key project and investment level, and business process level.

Regular risk monitoring through Key Risk Indicators (KRI), an early warning signal, enables us elevate risk to management and respond swiftly to minimize the impact or even prevent the risk from materializing.

At PTTEP, key risks are monitored and reported to our Management Committee, Operational Risk Committee, and the RMC on a regular basis.

## Business Ethics and Compliance

Our people must adhere to the Good Corporate Governance and Business Ethics of PTTEP as the highest standard of practice and we expect equivalent conduct from our business partners.

The bribing and corruption of private or public persons to obtain business advantage is a serious negative impact on the economic and political progress of the societies. Transparency is another key business ethic area, both transparency of political engagement and financial contributions.

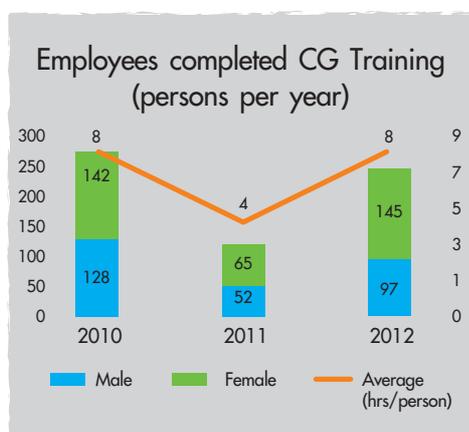
Our Business Ethics define our commitment to appropriate and ethical corporate practices. It provides the business principles in 13 main areas consisting of Respecting the Law and Political Neutrality; Internal Control; Human Resources; Confidentiality; Disclosure of Information; Use of Inside Information; Conflicts of Interest; Procurement and Contracts; Gifts, Entertainment, and Anti-Corruption; Accounting and Finance; Use of Information Technology and Telecommunications; Safety, Security, Health and Environment; and Corporate Social Responsibility. It is based on principles for Listed Companies in the Stock Exchange of Thailand of 2006 and the Organization for Economic Cooperation and Development (OECD) Principles of Corporate Governance since 2004.



The business ethics are covered in Good Corporate Governance and Business Ethics Handbook which is publicly available on PTTEP's website.

Directors, managements and employees of PTTEP and subsidiaries are expected to comply with the Business Ethics. In addition, all contractors of PTTEP will be informed of our business ethics and we expect to work with a company with the same or equivalent standards.

Corporate secretary office is responsible for maintenance of the business ethics those will be reviewed annually to ensure that emerging issues and risks are covered in the business ethics. All directors and employees are required to read and sign as an acknowledgement to comply and orientation and refresher trainings are provided for new and current employees which receiving business ethics training is also one of the conditions for employee promotion.



In 2011 the standard CG course was adjusted to a half-day class to accommodate shorter training hours. However, in 2012, PTTEP rolled back the standard course to a full-day class. In addition, variety of complimentary CG courses are designed to match different needs of employees, for example, induction class for new employees, E-learning class designed for employees revisiting the CG course, Management class for newly appointed executives, and CG visit a hand-on practical class. PTTEP tracked and recorded these training hours for internally use and only report the standard training hours in this sustainability report.

## Anti-bribery and Corruption

Conflict of interest and anti-bribery and corruption are some of the areas of focus which we include as requirements in our business ethics, consideration for Board of Director nomination, training and annual submission of Conflicts of Interest Disclosure Form and Assets or Other Benefits Acceptance Form (if any).

Failure to comply with the Business Ethics is considered as a serious breach of PTTEP's policy and will be investigated, recorded and reported. It may result in disciplinary action, based on the degree of potential impacts. The Business Ethics is supported by PTTEP's Whistleblower Policy. Our CG Hotline is the open channel to report instances of non-compliance and questionable conduct. PTTEP invites a neutral external party to undertake assessment every three years for transparency and discloses the findings to its shareholders and stakeholders. In 2012, four complaints received through CG hotlines are related with misconduct and unfair treatment. None of these cases involves discrimination, collective bargaining violation, child labor, forced labor, Human Rights. We have investigated and managed two cases to completion leaving two cases that are under investigation at the end of 2012. Details of these are disclosed both under 56-1 form and the Annual Report.

To our knowledge, there was no corruptions, anti-competitive behavior, anti-trust, and monopoly practices cases filed against the Company either through our grievance mechanism or through external regulatory bodies.

## Transparency

PTTEP is a neutral in political agenda and prohibited from supporting, either directly or indirectly to any political party or person.

PTTEP share a belief that the prudent use of natural resource should be an important engine for sustainable economic growth that contributes to sustainable development and poverty reduction. However, it has to be transparent to ensure that the wider society could be benefited from income from natural resource use. PTTEP, therefore recognizes that a public understanding of government revenues and expenditure over time could help public debate and inform choice of appropriate and realistic options for sustainable development.

PTTEP publishes information of annual direct contributions to the Governments in countries we operate in our financial report. These payments include all material license payments, fees, royalties and taxes.

## Stakeholder Engagement

As much as we strive to serve energy demand needed to propel the economic development, we take to heart that we will explore with responsibility. PTTEP's business activities are no longer bounded by geographical limit of the country. Our expansion increase interactions with a wide range of stakeholders, for which we have potential impacts and benefits across our operation lifecycle. Our fast growth and increasing complexity of global issues also bring with them an array of intricate challenges. Not only that it is our nature to care for people and to always be open for collaboration; we also truly believe that the answer is all around us - in people and ideas, that through a combination of vision, ability to learn and sheer perseverance – will turn into solution. These are the reason why we put in a lot of effort to listen to what stakeholders have to say and respond to their needs and wants through diverse communication channels for internal and external stakeholders.

GOVERNMENT & REGULATORS	LOCAL COMMUNITIES AND WIDER SOCIETY	SHAREHOLDERS AND CAPITAL OWNERS
<ul style="list-style-type: none"> <li>• Energy policy position advisory and discussions; Energy and Petroleum associations; industry groups; advisory councils;</li> <li>• Public hearings</li> <li>• Seminars/conferences</li> <li>• Information sharing/meetings</li> <li>• Responses to surveys</li> </ul>	<ul style="list-style-type: none"> <li>• Public hearings</li> <li>• Seminars, conferences, lectures at universities</li> <li>• CSR activities</li> <li>• External evaluations/assessments</li> <li>• Site visits, community visits</li> <li>• Partnerships, sponsorships</li> <li>• Activities through Petroleum associations</li> <li>• CG hotlines; surveys; research; focus groups; websites; publications</li> </ul>	<ul style="list-style-type: none"> <li>• Formal meetings: Annual shareholders' meeting, quarterly webcasts with shareholder participation, dialogue with analysts</li> <li>• Investor relations: Telephone/ e-mail consultations, conferences, Investor meetings</li> <li>• Website postings</li> <li>• Speech with stock market institutions, Credit rating meetings</li> </ul>
<ul style="list-style-type: none"> <li>• Concerns and Expectations</li> <li>• Tax</li> <li>• Regulatory requirement</li> </ul>	<ul style="list-style-type: none"> <li>• Environmental Impact Management</li> <li>• Community Development</li> <li>• Effective Issue Management</li> </ul>	<ul style="list-style-type: none"> <li>• Returns on investment</li> <li>• Sustainable Growth</li> <li>• Good Governance</li> </ul>
<p><b>PTTEP's 2012 Responses</b></p>		
<p>Undergo operational activities in compliance with local regulations. Fulfil tax paying duty and obligation to deliver energy security to host countries while endorsing transparency principles.</p> <p>For details, read about our</p> <ul style="list-style-type: none"> <li>• ESHIA and Green Practice</li> <li>• Corporate Governance</li> </ul>	<p>Respect the rights and interests of the communities by listening to them, understanding their needs and managing the environmental, economic and social impacts of our activities.</p> <p>For details, read about our</p> <ul style="list-style-type: none"> <li>• SD-SSHE Workplan</li> <li>• Green Practices Roadmap</li> <li>• CSR Programs</li> </ul>	<p>performance for shareholders by acquiring, developing and operating assets efficiently. Growing reserves and value-creating ventures sustainably.</p> <p>For details, read about our</p> <p>Growth strategy</p>

We focus our engagement efforts on groups and individuals directly impacted by, or who have a direct impact on, our operations.

External stakeholders help us identify issues most material to our business operations. Integrating society's multi-facets feedbacks allow us to better align our financial, social, and environmental goals with the priorities of wider society, and improving our operations to do our part in tackling those challenges. We commit to continually expand communication channels, reinforcing our ability to respond to stakeholder feedback.

**Keys**

- Stakeholders
- Ways of engaging with our stakeholders
- Key issues of interest for our stakeholders
- Our 2012 response/Objectives for 2013

SUPPLIERS, CONTRACTORS AND PARTNERS	EMPLOYEES	NGOS, INDUSTRY ASSOCIATION AND MEDIA
<ul style="list-style-type: none"> <li>Technical exchange meetings</li> <li>Occupational Risk Evaluation forum</li> <li>Safety and health educations/trainings</li> <li>SSHE-Emergency Response Training</li> <li>Green-procurement System</li> <li>Site visits, associations, joint projects</li> </ul>	<ul style="list-style-type: none"> <li>Internal communications: newsletters, events, intranet,</li> <li>Meetings: meeting with CEOs</li> <li>Grievance, Employee Suggestion box, CG help desk, Whistleblower</li> <li>Surveys: Employee Engagment</li> </ul>	<ul style="list-style-type: none"> <li>Memberships: TBCSD, SPE, Thailand Productivity Institute (FTPI), IPIECA SHAWPAT</li> <li>Active Engagement throughout the year: OGP, CDP, TEI, PTIT, OSRL/ IESG, Royal Thai Navy (Security), Port Authority,</li> </ul>
<ul style="list-style-type: none"> <li>Business Directions and Collaboration</li> <li>Safety, Security, Health and Environment</li> <li>Eco Efficiency</li> <li>Emergency Response Plan</li> </ul>	<ul style="list-style-type: none"> <li>Career Management Program</li> <li>Security, Safety and Health</li> <li>Compensation and Benefit</li> </ul>	<ul style="list-style-type: none"> <li>Climate Change/GHG</li> <li>Process Safety/Spill</li> <li>Human Rights and Diversity</li> <li>Oil and gas Industry challenges</li> <li>Water footprint</li> <li>Biodiversity</li> </ul>
<p>Respect the rights and interests of our business partners, by working collaboratively to create safe, valued and rewarding partnerships.</p>	<p>Workplace for our people by valuing their contribution, encouraging personal development, recognising good performance and fostering equal opportunity.</p>	<p>Understand and Respect their concern. Work in partnership to mitigate industry wide sustainability issues. Deliver relevant solution and leading performance in respond to those issues both today and into the future.</p>
<p>For details, read about our</p> <ul style="list-style-type: none"> <li>Supplier's Code of Ethics</li> <li>Green Procurement</li> <li>Strategic Supplier Program</li> </ul>	<ul style="list-style-type: none"> <li>Career Ladder and Talent Management Program</li> <li>Employee Engagement</li> <li>Step Change in SSHE</li> </ul>	<ul style="list-style-type: none"> <li>Energy Challenge</li> <li>Climate Strategy, Green Practices</li> <li>Greening the Supply Chain</li> </ul>

## Our Green Practice

A cornerstone of sustainability is a strong environmental performance. PTTEP's approach to managing its environmental impacts concentrates on eco-efficiency and an aspiration of zero harm to the environment.

PTTEP's sustainable development framework consists of three aspects: business, social and environmental. "Green Practice" is the sustainability strategy for the environmental aspect as it emphasizes on environmental, social and governance excellence. Green Practice for PTTEP is aimed at mitigating environmental impacts from our operations, lowering our ecological, carbon and water footprints, increasing biodiversity, as well as creating value added processes to our business.

Green Practice is designed to take into account both the value added processes to business operations such as decreasing operating costs, increasing operating efficiency, and enforcing PTTEP's reputation, and the ways it could protect the environment and society from our business operations such as mitigating environmental impacts in operating areas; decreasing greenhouse gas emissions; increasing the efficiency of natural resource usages; and decreasing wastes being discharged from our operations into the environment and society. It is also considered as a "license to operate" since Green Practice ensures that we strive for eco-friendly operations.



## RESPONSIBLE OPERATION

PTTEP is committed to operating responsibly through environmental stewardship to mitigate potential impacts to the environment throughout business decision-making and management. We have in place our Safety, Security, Health and Environmental (SSHE) Policy and Management System in which our environmental management system (EMS) complies with the international standard ISO 14001 certification. To ensure that our environmental impacts are mitigated and managed, the ISO 14001 system is implemented and certified for all domestic operating assets, most of which are ISO 14001 certified except for Greater Bongkot South Project (which was commissioned in 2012 and the ISO 14001 system is being put in place and expected to certify in 2014).



PTTEP Safety, Security, Health and Environmental (SSHE) Policy is publicly available on PTTEP's website.

Our Green Practice program is one of the areas in our Sustainable Development Roadmap focusing on driving environmental related performance and initiatives. Together with SSHE MS, those two form a backbone for environmental management at PTTEP.

### Operational Eco-efficiency

Striving to improve the environmental performance of our processes and operations is not only necessary to secure a license to operate but also to create sustainable economic value through increased resource utilization efficiency.

### Energy Efficiency

Most of the energy we use in our operations is generated from the hydrocarbons we produce, mainly natural gas. Energy consumption is one of the indicators that PTTEP is tracking in order to find opportunities to lower environmental emissions that could help to reduce operating costs and additional productions. In addition, PTTEP has conducted benchmarking with peers in the exploration and production industry through the International Association of Oil and Gas Producers (OGP) to understand our position. PTTEP has set an energy efficiency improvement target of 5 percent by 2020.

**3** Consecutive years reduction in hydrocarbon and chemical spill rate

**100%**

Produced Water Reinjection in our domestic assets

**5%**

improving in energy efficiency by 2020

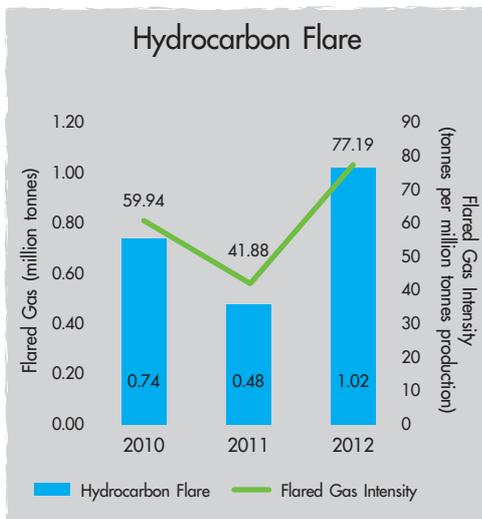
In 2012, energy consumption increased from 18.9 to 20.4 MGJ, a nine percent increase due to the commencement of production at Greater Bongkot South (GBS). On a short note, we are also improving our energy calculation methodology by using more specific-to-source parameters to be more precise in our data reporting.



In addition, we have a plan in place to initiate energy consumption reduction throughout the company. We plan to conduct energy efficiency review according to the ISO 50001 at Greater Bongkot North (GBN), Arthit and PTTEPAA to define opportunities for energy efficiency improvement. Also, programs to increase PTTEP staffs' awareness of energy efficiency in their day-to-day operations via the implementation of Green Meeting and Green Training that will be launched from the Head Office. Additional reduction will be derived from the Green Procurement Program.

### Reducing Air Emissions

Continuous flaring is a major source of air emissions from oil and gas production as it contains carbondioxide along with nitrogen oxides, sulfuroxide, non-methane volatile organic compounds (NMVOCs) into the atmosphere. PTTEP's approach to mitigate and adapt to climate change is to ensure that zero continuous flaring in new significant impact operations is adopted and to explore opportunity and economic feasibility to reduce flaring in existing operating assets in Thailand.



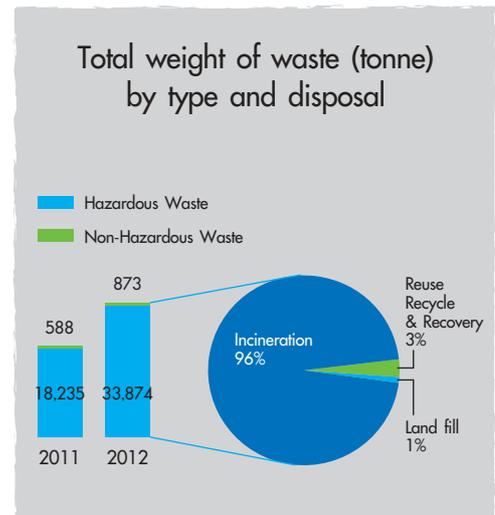
During 2012 our flared gas intensity increased to 84 percent to 77 tonnes per thousand tonnes production. Total hydrocarbon flare was 1.02 million tonnes. 67 percent of this volume resulted from a single newly commenced field. Vent data is not specifically reported in 2012; however we will start to report this volume from 2013 onwards.

## Waste Management

Reduction of wastes does not only reduce management time, costs and potential risks related with hazardous wastes, but also improve our operation efficiency. PTTEP tracks and manages operational waste streams with reduce, reuse, recycle and responsible disposal principle in mind. Majority of waste in upstream operation are drilling mud and cutting waste which are related to the amount of drilling activity, depth of well drilled, and drilling technique. We have designed reusable drilling fluids which benefit both environment and economic objectives. Where feasible, slim-hole drilling is applied to reduce the volume of drill cuttings. Drilling fluids are selected with waste minimization in mind. These waste minimization techniques are integrated into the drilling fluid system portion of the drilling plan. The quantity of onshore cutting waste is reported under hazardous waste management volume. We are enhancing our corporate database and will report this quantity in detail by 2013.

Aside from drill cutting waste stream, PTTEP' activities disposes 34,747 tonnes of waste annually, of which 97 percent is hazardous waste. While we experienced an increase in total waste generation, we identify and adopt reuse, recycle and recovery methods for hazardous waste management as much as possible. In 2012, 3 percent of our hazardous waste was managed through this route.

PTTEP has also implemented stringent requirements and assessments for waste treatment and for disposal contractors who comply with all regulations and requirements, and also in operating responsibly and sustainably. Mercury is one of the by-products resulting from production activities in the natural deposit mercury areas like the Gulf of Thailand. This waste stream is mainly categorized as wastewater, sludge, spent absorbents and PPE, most of them were disposed, through the Retort process where residue mercury is recovered for further industrial and commercial use. By doing so, we opted for a specialized operator in Germany. In 2012 we shipped 429 tonnes to this operator under the Basel Convention.



## Produced Water Management

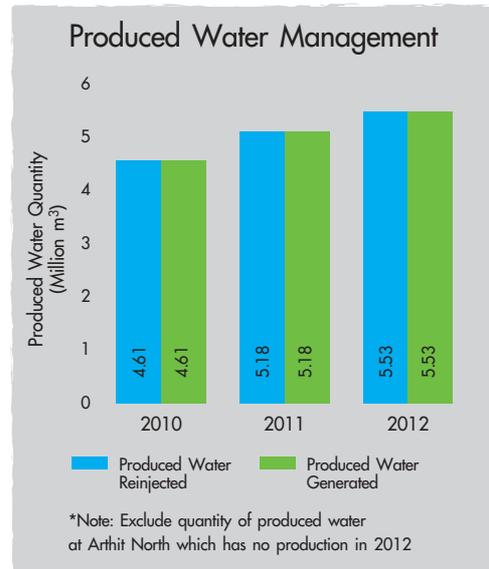
Produced water is the highest volume of liquid discharge that is naturally present in the reservoir and generated during the production of oil and gas when extracted from the ground. It contains hydrocarbon and trace elements specific to each reservoir. To reduce the risk of environmental contamination and manage regulatory compliance, PTTEP has achieved zero produced water discharged overboard for three consecutive years at all domestic assets through the reinjection technique, by reinjecting all produced water back into reservoirs.

We vigorously improve the Produced Water Management System infrastructure to facilitate reinjection from all wellheads. 100 percent reinjection of produced water was achieved at all operating assets in the reporting year.

### Zero Produced Water Discharged Overboard

Zero produced water discharged overboard can be achieved by the reinjection of produced water into the depleted petroleum reservoirs. However, it is not as easy as it sounds, especially for offshore platforms where there is limited available space for reinjection techniques. Therefore, in order to achieve this goal, PTTEP designed a state-of-the-art produced water reinjection process for very limited areas. Although the trend of produced water generated has continually been increasing in accordance with production volume, PTTEP can still sustain asset integrity to achieve the target of 100 percent produced water reinjection.

This best practice of 100 percent produced water reinjection was confirmed as PTTEP received the Environmental Award from BG in 2011.



## Biodiversity

# 100%

of our exploration drilling and production projects conducted Biodiversity Study as a part of EIA Studies

## PTTEP aims at a net positive impact on biodiversity

Not only are biodiversity and ecosystem conservation major global issues, they are also essential issues for the exploration and production industry, which explores energy in remote areas, to take into consideration during business decision making processes. PTTEP's approach towards biodiversity is to understand the biological conditions in the targeted areas as early as possible to allow us to make an informed decision, to avoid sensitive areas or initiate mitigation measures, with the ultimate goal of positive return on biodiversity.

### Integration of Biodiversity Action Plan



Environmental  
Impact Assessment

Environmental  
Management System

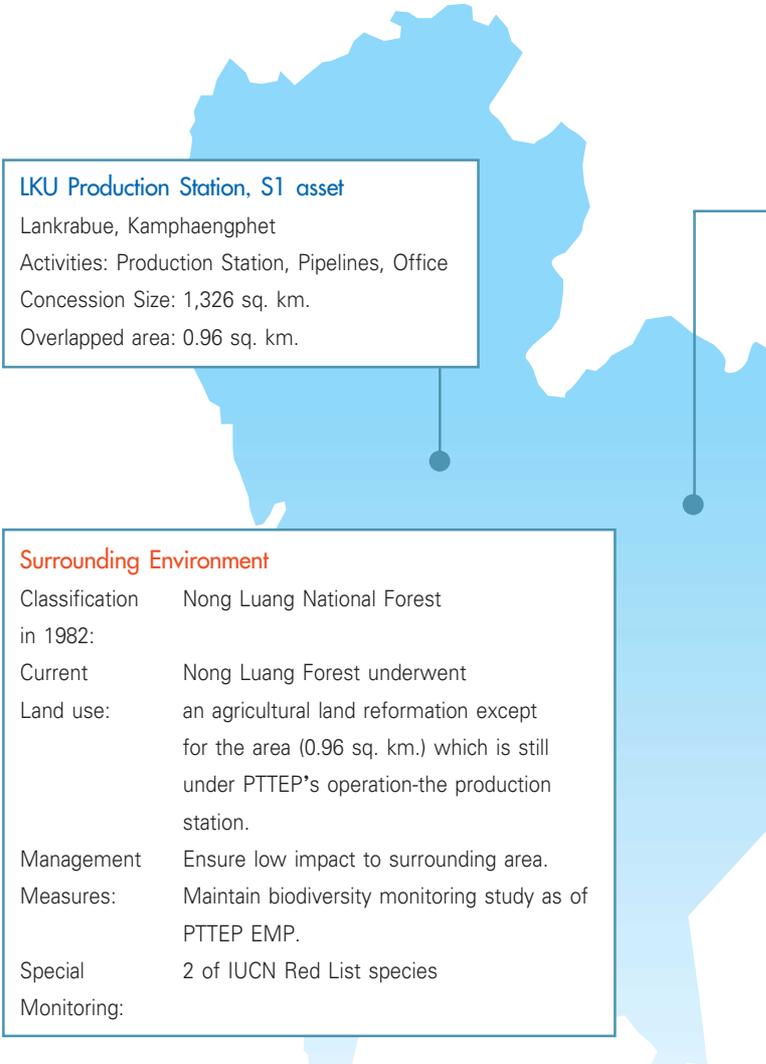
Project Development

Biodiversity Action Plan



PTTEP is in the process of developing the Biodiversity Management Guidelines to enhance the existing Environmental Impact Assessment (EIA) procedures and Environmental Management Plan (EMP), which includes PTTEP mitigation and monitoring programs. It is intended to carry out a review of PTTEP's operations and activities in order to identify challenges relating to biodiversity in the different business areas, including those where PTTEP does or could make a contribution to conserve biodiversity. The guidelines will also elaborate on the Biodiversity Management Plan that is aligned with PTTEP's PREP Process (Project Realization Process which is a project management tool, covering the whole project life cycle) including EIA studies and EMP. The guidelines will be launched in 2013.

All of the 11 new E&P activities commenced in 2012 underwent biodiversity risk assessment as part of the PTTEP EIA guideline. Prior to development, PTTEP conducts environmental assessments, engages local stakeholders, and identifies sensitive ecosystems to develop suitable mitigation plans. At the end of the year, PTTEP's 6 onshore operating sites covering approximately 21,871 sq. km, of which two sites are adjacent to protected areas according to local regulation, including 46 sq. km of zone E and A national forest conservation areas in Khon Kaen (L21/48 Project); and 0.96 sq. km of national park in Lankrabue (S1 Project). L21/48 Project is in the seismic stage where impacts to habitats are minimal. At the S1 site, as PTTEP completed the construction of the production station, the rest of the area that is located in the National Park has been filled, shaped and returned to the DNP for further management. This area has undergone land reformation and was converted to agricultural area except for the land under S1 concession where the original National forest status remains unrevoked. PTTEP has maintained several measures to ensure minimal impacts and offsets as described in our original management plan. This includes monitoring of 2 IUCN Red list species which exist in the adjacent habitats. None of the monitoring results show significant negative impacts on biodiversity from E&P activities. Both of the species remain in stable state. As of 2012, PTTEP does not have any sites that require licensing of operations to undergo environmental rehabilitation. Wastewater was treated and discharged without any impacts to biodiversity. The PTTEP biodiversity management guideline also applies to all operating sites whether or not the law requires it. Thaninthayi area located in Myanmar is another example of where PTTEP environmental mitigation and monitoring program was in effect last year. Significant areas of conserved rainforest were voluntarily monitored and managed. Location and size of land owned, leased or managed within or adjacent to protected areas or areas with a high level of biodiversity lying outside protected areas are shown on the adjacent page.



**LKU Production Station, S1 asset**  
 Lankrabue, Kamphaengphet  
 Activities: Production Station, Pipelines, Office  
 Concession Size: 1,326 sq. km.  
 Overlapped area: 0.96 sq. km.

**L21/48 Onshore block**  
 Khon Kaen and Udonthani  
 Activities: 2D-Seismic Petroleum Exploration  
 Total Project Size: 826 sq. km.  
 Overlapped area: 46.36 sq. km.

**Surrounding Environment**  
 Classification in 1982: Nong Luang National Forest  
 Current Land use: Nong Luang Forest underwent an agricultural land reformation except for the area (0.96 sq. km.) which is still under PTTEP's operation-the production station.  
 Management: Ensure low impact to surrounding area.  
 Measures: Maintain biodiversity monitoring study as of PTTEP EMP.  
 Special Monitoring: 2 of IUCN Red List species

**Adjacent Environment**  
 Location: Non Sa-ard district, Udonthani; Khao Suan Kwang, Nam pong and Muang districts, Khon Kaen  
 Classification in 1977: National Forests: Samran, Ban Nayom, Ban Kut Duk, Huai Seo, Dong Mun, Pohrsisamran, and Tom Kha.  
 Management Measures: Ensure low impact to agricultural areas. Compensation on crops in the Exploration route.

For the S1 Project, the resulting environmental baseline studies concluded that there are a total of 10 fauna species that are registered as a protected species. Along with implementing various mitigation measures to ensure low to no impacts to these sensitive species, we maintain close monitoring throughout our project life by collecting data on mammals, wildlife and endangered species that may be seen in and around the project area related to their breeding habitat, and migration routes and provide to government and related to organization. Our monitoring survey on the two IUCN Red List species indicated that population of those two species is not declined and even increasing.

*Native to North of Thailand, Non-venomous Python and Mekong Snail-eating turtle, IUCN Red List Species, co-habitate in the rich ecosystem around our S1 project since we started activities in 1982.*

Species	Non-venomous python (Python molurus)	Mekong Snail-eating turtle (Malayemys subtrijuga)	Black-winged kite (Elanus caeruleus)	Shikra (Accipiter badius)	Python reticulates (Asiatic reticulated python)	Water monitor (Varanus salvator)	Monocled cobra (Naja kaouthia)	Cattle egret (Bubulcus ibis)	Small Asian Mongoose (Herpestes javanicus)	Yellow-spotted keelback snake (Xenochrophis flavipunctatus)
Significance	● ●	● ●	●	●	●	●	●	●	●	●
Health and Population Size	●	●	●	●	●	●	●	●	●	●

● Protected species ● IUCN Red list ● Population stable-health and population remains at baseline level at project started.

None of our operations located in Ramsar Site

## Climate Strategy

Climate change is a global issue requiring significant resources to meet complex energy, environmental, economic and political challenges. We are aware of the challenges associated with climate change and of our responsibility as a good global citizen to help in reducing global emission levels and prepare ourselves for the changing physical and regulatory landscapes.

### Climate Change Risks Assessment

We understand that climate change presents both risks and opportunities to the organization, our investors and stakeholders. Understanding of climate change implication is marked as the first and foremost step to be undertaken through climate change risk assessment for financial, regulatory and physical aspects. Such instruments to address risks and facilitate adaptation to climate change include tax based incentives, public concerns, legislation and policies, and research into national and regional strategies.

PTTEP has operations in various countries. Some are subject, at a national level, to emission caps associated with the Kyoto Protocol. Although regulations concerning climate change are still developing, we do consider climate change risks and financial implications of operating in carbon-constrained countries. Our risk profile indicates the company is not yet exposed to significant climate change related risks. Nevertheless, PTTEP is further developing climate change strategy to be more in-depth and concrete in addressing risk in potential GHG reduction and financial opportunities.

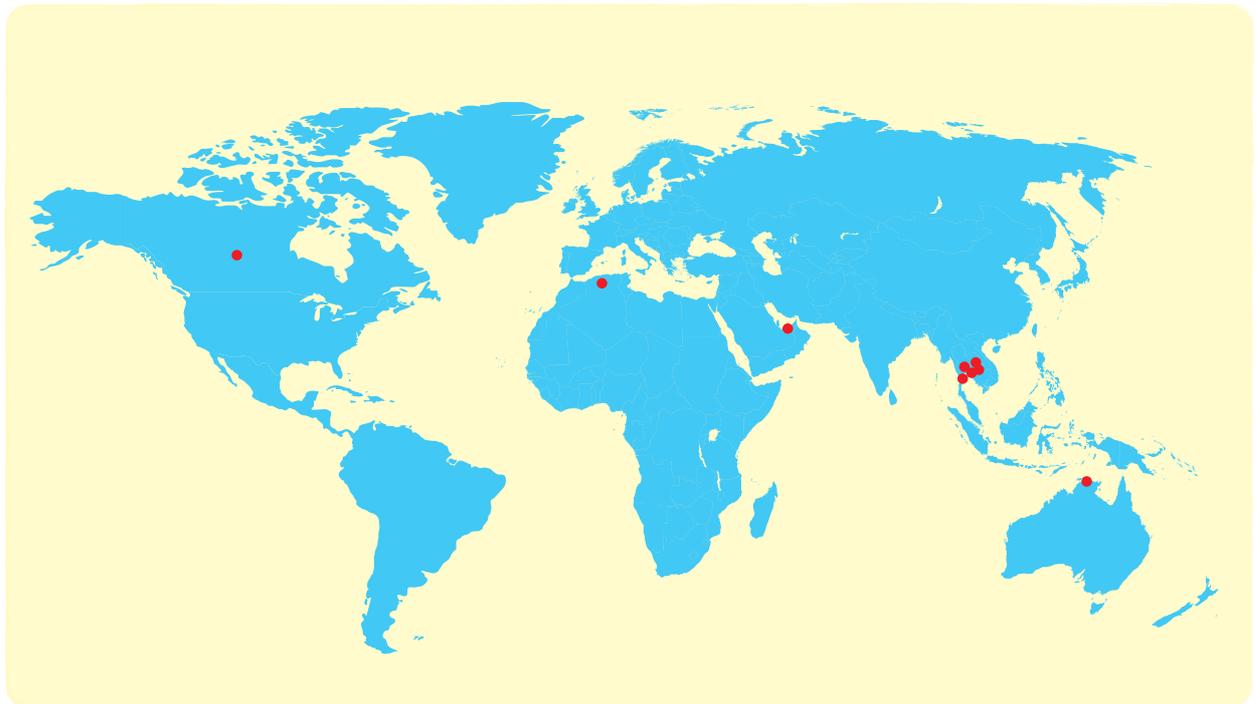
100%

of our operating assets covered in climate risk assessment

20%

reduction of greenhouse gas from business as usual by 2020 is targeted

## Areas being assessed for climate change risk



While domestic operational emissions would not be subjected to direct regulation in the foreseeable future, we may experience increased costs if direct carbon taxes or mandatory emission caps are imposed. For these reasons, we remain committed to managing climate change risks and direct opportunities to improve the energy and carbon footprint of our production, business process and activities. In addition, PTTEP considers climate change as one of the company's environmental management focus as we believe climate change is real and PTTEP, as a good global citizen, should contribute to the fight against climate change for the benefit of mankind and nature.

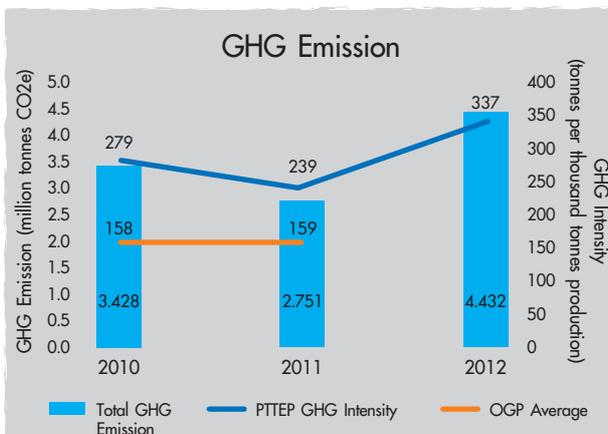
### **Fight against Climate Change**

PTTEP recognizes that we have an important role to play in reducing our own contribution to climate change through a reduction in the greenhouse gas emissions associated with operations as stated in our SD Guideline. PTTEP has been collecting greenhouse gas data in systematic approach. In 2011, we introduced accounting and reporting processes and conducted a gap analysis against ISO 14064-1. In 2012, the process requirements are being implemented in all domestic assets with a plan to expand to overseas assets in the future.

In 2012, we defined our greenhouse gas reduction target to be at least 20 percent from business as usual by 2020. Climate change is one of the aspects in PTTEP's Green Practice initiative that is included in our SD Roadmap.



PTTEP has two approaches for carbon footprint reduction namely greenhouse gas reduction at sources, i.e. flare reduction and energy efficiency improvement; and greenhouse gas removal by reforestation at 200,000 Rais by the year 2020. PTTEP has set a short term and long term GHG targets of 3 percent reduction by 2013 and 20 percent reduction by 2020 from business as usual.



### Greenhouse Gas Emission

The total GHG emission trend in 2012 has increased 61.17 percent from 2011 (especially Scope 1 emission) because of increase in flare gas emissions from the Greater Bongkot South project. The GBS project mainly consists of high CO<sub>2</sub> fields that produced copious amounts of CO<sub>2</sub> upon production. Breakdown of greenhouse gas emission is provided in Chapter 5 Performance Table.

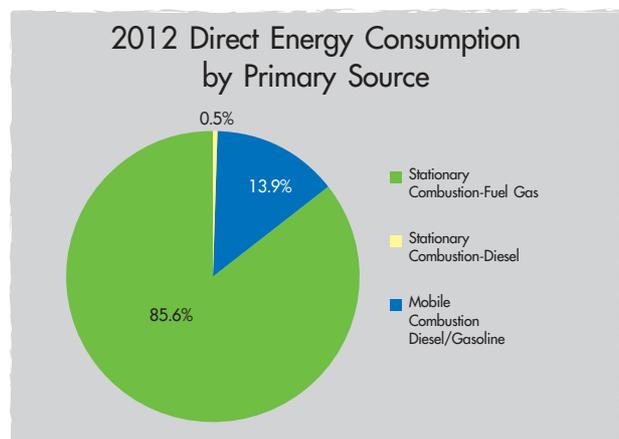
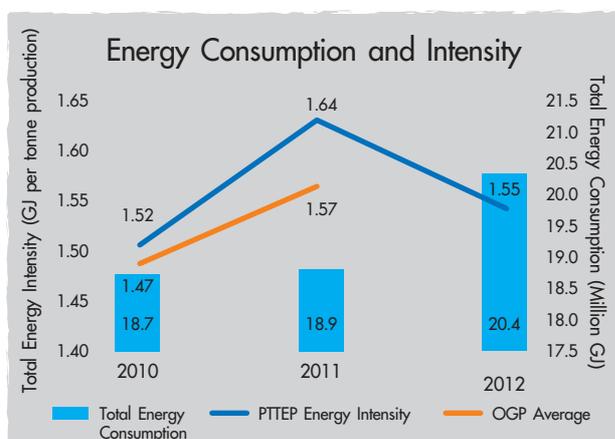
From 2010 onwards, PTTEP has adopted and implemented reporting standards for exploration and production including IPIECA Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions and API Compendium of Greenhouse Gas Emissions Estimation Methodologies for the Oil and Natural Gas Industry 2009, as well as PTT Group GHG standard that was used to calculate GHG emission for all operations.

## Climate Strategy in Actions

### Energy Efficiency

In 2012, the planning and development of the Heat Recovery Steam Generator Project was completed the project is to be implemented in 2013 at our S1 asset. This project is estimated to help reduce our greenhouse gas by 70,000 tonnes of carbondioxide equivalent (CO2e) per year and at the same time, reduce our operating cost for USD 0.3 million per year with the payback period of 7 years.

Another outstanding and continuous endeavor of the PTTEP marine logistics operation during the past year was the implementation of “New Marine Model Projects”. This project aims at improving the as-is vessel management system to achieve a more holistic approach for all marine vessels in the Gulf of Thailand. The implementation of this initiative resulted in a reduction of chartering costs by USD 7 million per year and a reduction of fuel costs by USD 10 million per year or about 76,000 tonnes of carbondioxide equivalent (CO2e) per year.



### Flare Gas Reduction

PTTEP aims to reduce continuous flaring as much as possible through flare minimization initiatives and zero continuous flare for new operating asset. In addition, flare gas reduction guideline will be issued in 2013.

#### Sao-Thien A Oil Field Flare Gas Recovery and Utilization Project in Sukhothai, Thailand

This project is the development of recovering and utilizing the associated gas emitted from oil wells at Sao-Thien A oil field. In the absence of the proposed project, the associated gas would have been flared resulting in the release of GHG to the atmosphere.

Our Sao-Thien GHG reduction project is currently under registration with CDM Executive Board. The project is estimated to reduce approximately 200,000 tonnes CO2e within its lifetime of 8 years.

STN-A produces approximately 1.05 MMscfd of the associated gas as a byproduct of crude oil production. Using the CDM (Clean Development Mechanism) approach as a basis for operation is making the project economically flexible. Starting in January 2012, the project has been operated by utilizing the associated gas

that would otherwise be flared. Then, associated gas is separated from the oil and flows through a fuel gas skid system for liquid removal prior to gas filter. Average of 0.8 MMscfd of recovered gas is supplied to the Rachaburi Power Plant for power generation before distributing to the Provincial Electricity Authority (PEA) Grid. Meanwhile, approximately 0.25 MMscfd of flare gas is utilized as on site consumption.

#### **Delivered Value**

In 2012, the project recovered approximately 200 MMscf per year of flare gas, equivalent to 18,000 tonnes CO<sub>2</sub>e.

#### **Flaring Minimization in Australia**

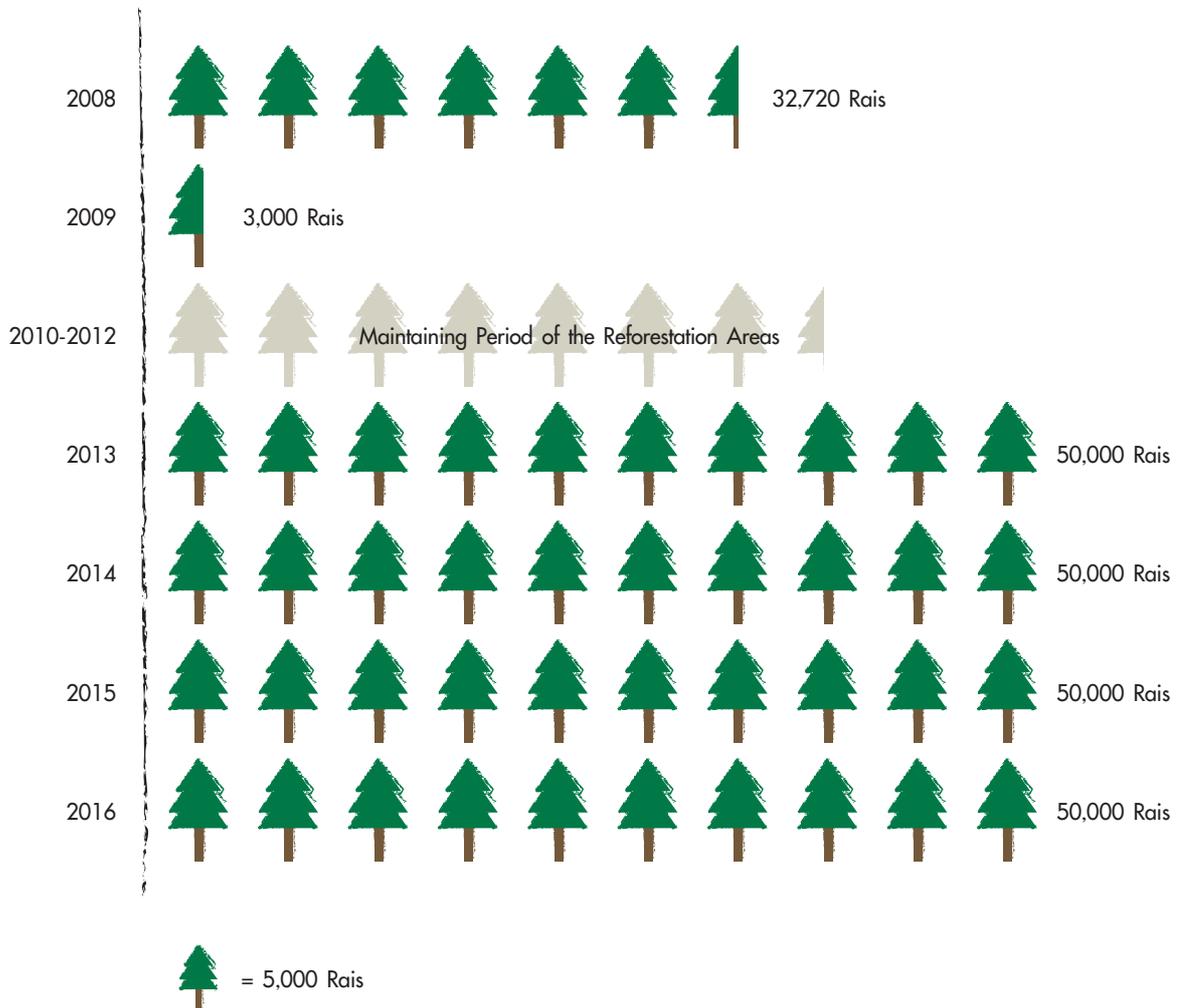
We have committed to minimize flaring associated with our operations by flaring only when required for safety reasons or during short periods of maintenance.

PTTEP believes it is crucial that we build environmental considerations into the design and operations of our new facilities. In planning for Montara production, we developed Flaring Minimization Procedure in 2012.



## Reforestation

PTTEP targets to reforest and maintain 50,000 Rais (8,000 hectares) annually for the next 4 years summing up to 200,000 Rais (32,000 hectares) of healthy forest by the end of 2020.



PTTEP has initiated a reforestation project, namely tree planting, of over 32,720 Rais (5,235 hectares) in 2008 and 3,000 Rais (480 hectares) in 2009; this accounts for more than 30,000 tonnes of carbon dioxide equivalent which is expected to be verified in 2013. Partnership with peers in the industry under the leadership of the Department of Natural Fuel Foundation, PTTEP completed its three-year Mangrove reforestation commitment in Chantaburi province, planting and maintaining 746 Rais (119 hectares) of mangrove forest during 2009-2012. Once deteriorated from pollution, the rehabilitated Weru River mangrove now provides rich and secured sanctuary for marine larvae contributing to our low carbon initiative as well as coastal habitat conservation.

For the rest of the 2020 greenhouse gas roadmap, PTTEP plans to reforest 50,000 Rais (8,000 hectares) annually for four consecutive years, with plans to maintain a healthy 200,000 Rais (32,000 hectares) accumulation until the end of 2020. The total area planted will sum up to 235,720 Rais (37,715 hectares).

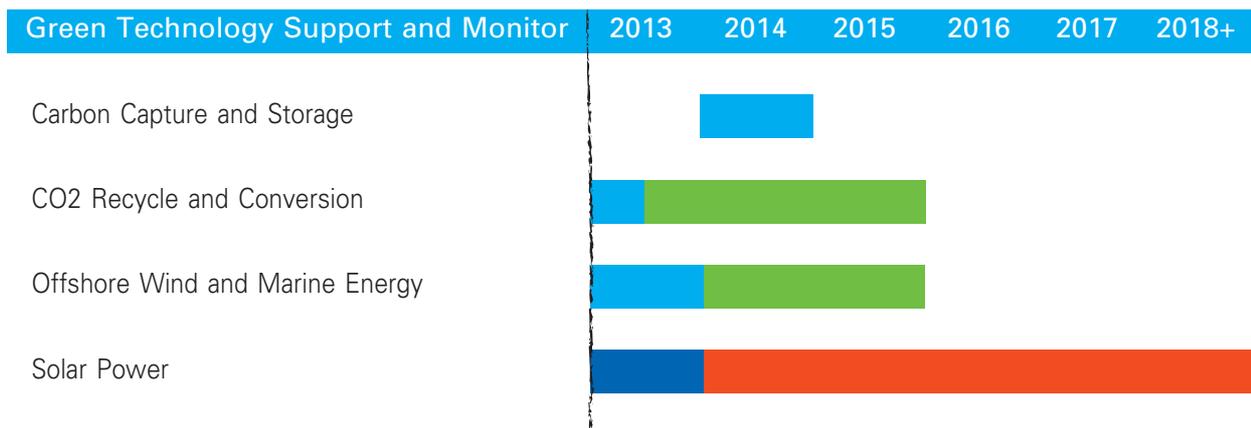
To read more about our Carbon Disclosure Project, visit our CDP response.

## Promoting Climate Change Awareness and Low Carbon Technology Development

PTTEP also gives priority to building awareness of climate change amongst our employees and not just limited to operating assets. We introduced 67 Hybrid cars for company carpool and management transport.

This campaign commenced in October 2011. After implementation, the average ratio of distance travelled per fuel unit consumed of the new car fleet is 11 kilometer per liter which is 35 percent higher when compared to 8.12 kilometer per liter before implementing the campaign. As a result, the total fuel saving is approximately 60,000 liters of gasohol (Gasoline with 10 percent ethanol) per year which accounts to 135 tonnes of carbondioxide equivalent reduction and a saving of USD 80,000. (\*Source: [www.epa.gov/climate](http://www.epa.gov/climate) leaders)

We also realize the importance of, and invest in research and development of low-carbon technologies. Investing in these areas early has put us on an economically sensible path to meeting our long term climate change objectives. Instead of waiting for game-changing breakthroughs to emerge from laboratories to market, we invest in the acceleration and development of those technologies with greatest potential. Not only will this allow us to avoid a situation where we invest in the wrong technologies, which we then must scrap, it focuses our research and engineering capabilities on industries of the future which offer longer term prosperity.



- Feasibility Study
- Pilot Project
- Detail Design
- Implementation

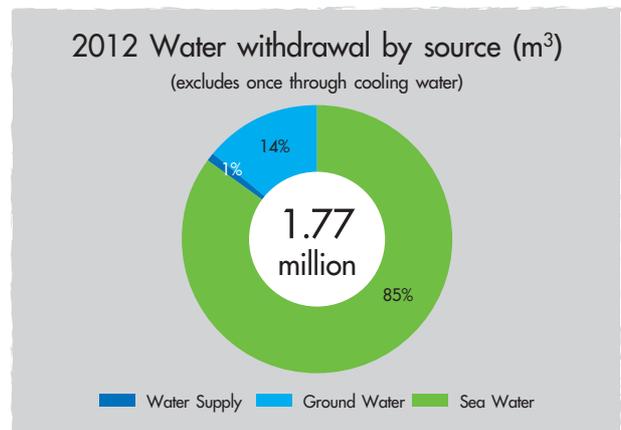
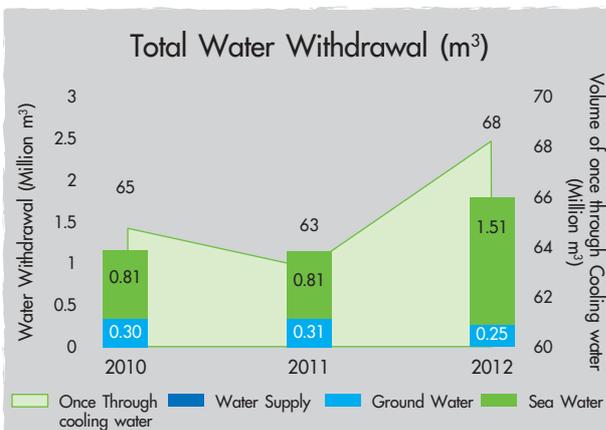
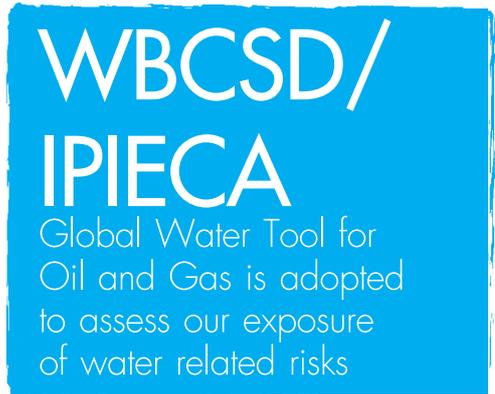
## Integrated Water Management

Exploration and production is not a typically a large water consumer when comparing to food processing or agriculture. However, water related risks are increasingly identified in the recent period and it is closely related with climate change and potential water conflicts between industry, agricultural and communities.

With this awareness, PTTEP have developed a water management programs including identification of assets in water-stressed areas, water footprint established, water consumption reduction program and prevention of water conflicts with stakeholders. Through our assessment, three out of forty four projects that we operate are located in regions with water stress potential, namely Oman and Algeria. Priority was given to apply intensive water management practices to mitigate the impacts in these areas by minimizing water withdrawal and efficiently reuse it. Whenever economically feasible, alternative sources of water such as saline groundwater are selected to ensure balanced needs of the communities, ecology and our business. The three assets aforementioned withdraw about 100-309 m3 per day on average from local water source, a rate at which their consumption is not considered significant withdrawal.

Domestically, our onshore assets acquire fresh water from tap and groundwater, while our offshore facilities use desalinating units to convert seawater to freshwater. Data on water withdrawal for oil and gas production of each asset is regularly reported to the Corporate SSHE in accordance with our procedure on environmental performance reporting. In 2012, we withdrew about 69.9 mega cubic meters of fresh water in our assets. The increase from 2011 was related to seawater withdrawal for water utilities, water maker (desalinating units) and commissioning of water-based firefighting system at Greater Bongkot South. Water management initiatives were conducted in 2012 by minimizing tap water usage in every site. In addition, total tap water supply decreased by 16 percent in 2012.

PTTEP currently conducts water stress mapping by using the WBCSD Global Water Tool for Oil and Gas in all PTTEP operating assets to construct a water risk portfolio. Water related risk assessment is expected to be conducted in 2013 with organizational water footprint assessment targeted to be completed next in line by 2014.



## Supply Chain Management

As the Company set sails into global expansion, we have developed a number of partnerships with oil and gas companies, service companies, and contractors to escalate technical capabilities and initiate access to the regions in which we have never operated before. Our procurement established business relationships with over 4,194 active suppliers, broken down to 3,337 domestic and 857 international companies.

### Embark on Sustainability Journey

Green supply chain consists of green procurement, green logistics and green IT with objectives to promote procurement of environmentally friendly products, enhance information technology, facility management and logistics management to reduce energy consumption resulting in a lower carbon footprint. Environmental Social and Governance policy with reinforced Human Rights and Diversity inclusion focus will also be in the picture.

In 2012, we enhanced our supply chain management approach with a vision to establish positive social and environmental footprint in the value chain. Our people contributed from various angles from Supply Chain Management to formally stating our position against Human Rights abuse through a supplier contracts clause, initiating of a SD taskforce to develop a Green Supply Chain through the Green Procurement roadmap. We conferred with TBCSD and TEI to get our vision off the ground.

Our strategy for prompting contractors and suppliers to address sustainability issues includes:

- **Open-Equal opportunity** Vendor E-Registration. Increase efficiency in sourcing for both candidates and the company. We ensure equal opportunity, transparency and fairness of the process by providing access on the internet where candidates and suppliers can complete a self-assessment questionnaire to help us identify performance risks. Visit our Supplier management system at [pttep.com/vendorportal](http://pttep.com/vendorportal)
- **Pre-Qualification assessments** on top of technical competency and commercial fit, assessing candidates on sustainability risks, and commitment to ethics, social and environmental responsibility helps us select a partner and prioritize on how we engage with suppliers through our supply chain Pre-Qualification program. 713 new vendors underwent pre-qualification assessment in 2012 including SSHE pre-qualification audits for new vendors. In 2012, we carried out a SSHE pre-qualification audit for 22 new vendors.
- **Capability building** Through the Expediting Manual, we help suppliers to get up to speed faster. Further technical forum and partnerships with training partners, governmental organizations and suppliers, we facilitate knowledge management and work to improve people and process safety performance throughout the supply chain. Behavioral based Safety Training for contractors is scheduled for 2013. Read our SSHE Forum case for more information.
- **Measuring performance** Our Contract Holder Audit Program and supply chain performance measurements help suppliers to discover issues and opportunities. This process encourages suppliers to improve sustainability performance by identifying target areas of concern effectively. Suppliers with high-risk activities work closely with PTTEP through daily morning meetings and third party assurance program. At the end of the contract, individual suppliers and contractors receive a Performance Appraisal. This is to ensure performing vendors remain in the list of preferred vendors for future contracts.

- **Stakeholder engagement** We engage with our suppliers to understand and respond to issues of concern regarding supply chain sustainability through various communication channels, vendor relationship management activities and annual SSHE contractor forum. See our Stakeholder Engagement page for more information.

A journey towards a greener supply chain has just begun. We will continue to monitor the emergence of new issues and consider how best we can contribute to a positive change in our value chain.

62%

of contracts incorporate Human Rights Clauses

397

of our 636 contracts are updated to reflect our Human Rights commitment

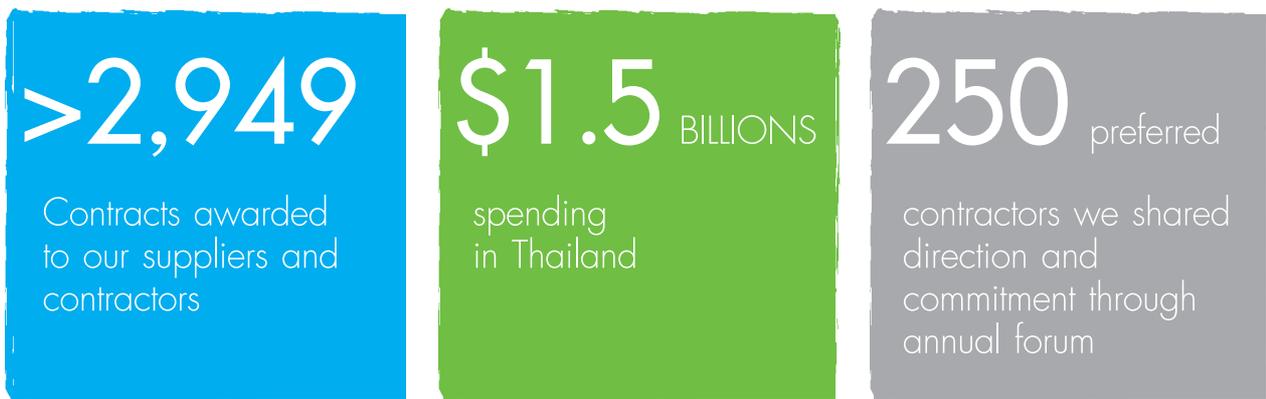
Our suppliers and contractors are bound to PTTEP Good Corporate Governance and Business Ethics, which is founded on the principles of the UN Global Compact, UN Universal Declaration of Human Rights, the International Labour Organization. We stress the importance of Human Rights protection by including clauses underlining our position in contracts. All standard contracts issued from 24 August 2011 have a clause endorsing Human Rights. By the end of 2012, we have signed a total of 397 new contracts with such clause out of a total of 636 contracts. The additional training curriculum was prepared relevant to staff's responsibility in managing Human Rights in supply chain.

Through Supply Chain Plus, we derived 6.95 percent savings, worth USD 110.5 million in 2012 and totaling USD 324.4 million, exceeding our planned savings at USD 300 million when we initiated the program in 2009. Recent strategic supply chain management successes includes:

- Supply boat logistic plan optimization rendered a 33 percent reduction in costs.
- Implementation of “Oil Country Tubular Goods (OCTG) Pipe Management”, a consignment inventory system with a local services company resulted in USD 253,333 savings.
- Improved material inventory management through the new Material and Equipment Standards and Codes (MESCC).
- Low-cost Country Purchase program from China and domestic procurement. One contract sourcing from a new supplier from China procurement saved us USD 4 million.

- Developing the corporate procurement standardization and global procurement contract strategy to gain competitive price, reduce risks and progress to lean management.
- In 2012, the wellhead platform standardization design and bundled phases long-term contract with local contractor alone yielded USD 111 million savings over the 4 year project, with added benefit of 16 months quicker on the EPCI tendering process.

Despite the successes, our endeavor goes on. We commit to deliver sustainable supply chain, improve returns on the bottom line, as well as increase alternative sourcing to expand the pool of qualified vendors - local and international. 2013 challenges are foreseeable but we will strive through all difficulties to achieve these objectives.



### Standards we expected

In addition to the fundamental *Technical, Commercial and SSHE qualifications*, we expect our suppliers and contractors to achieve and maintain high standards throughout the value chain. We ask them particularly to regard to the following:



 For further information, please visit [PTTEP/ethics](http://PTTEP/ethics) for our "Good Corporate Governance & Business Ethic"

In 2012, we suspended 22 contractors due to their performance falling below expected competency. None of them were suspended on ESG violation.

### Safety, Security, Health and Environment (SSHE) Collaboration with Contractors

Safety at work is a top priority for our industry at all times. By stating so, we mean for everyone on our site. Contractor workforce comprises 75 percent of our operations and their safety practices and performance pose significant impacts to PTTEP's. We have made it clear through communicating our Lost Time Injury (LTI) Free commitment to our contractors and suppliers, including SSHE clauses in the contract terms and conditions and emphasizing on integrating contractors' performance to represent overall PTTEP's SSHE KPIs. Aside from regular risk assessment and SSHE contractor management trainings, a series of SSHE Contractor Forums have been arranged to share knowledge and learning among our Top-Spending-Contractor network. Each year we recognize best performers showcasing excellent practices in LTI, Hydrocarbon and Chemical Spills, Total Recordable Injury Rate (TRIR) target and the Transparency of Incident Reporting categories. We awarded 37 prizes in 2012. Since inception in 1999, copious use of best practices, cases and initiatives have been shared. This awareness and collaboration constitutes our Behavioral Based Safety (BBS) culture, rewarding us back with 5 times decrease in Lost Time Injury Frequency (LTIF). At the end of 2012, contractor LTIF was 45 percent reduction from previous year - a rate directly contributing to PTTEP's exceptional performance. Jointly committing to the last phase of our LTI Free challenge by 2013, PTTEP and its contractors have signed up to the Step Change in SSHE program since 2011. Our plan next year includes extending SSHE MS audit coverage to contractors in four high SSHE risks disciplines, i.e. Logistics, Drilling, Maintenance and Construction. In 2013, we have a plan to conduct BBS training for contractors as a train-the-trainer program.



Journey on SSHE is publicly available on PTTEP's website

# 20,272,483

Man-hours of work  
in exploration and production  
activities each year

**Do you know?** PTTEP SSHE Audit Plan covers all safety, security, health and environmental aspects e.g. SSHE MS gap analysis, ISO 14001 and OHSAS 18001 internal audits, Operational Technical Review (OTR), and security audits, etc.

# 100%

of operation covered  
by 26 SSHE Corporate Audits

## Contribution to Local Economic Growth

**\$732** millions  
Local Procurement  
Spending

**53%**  
of Total Spending



With 10% increasing year on year  
\*as of 11 December 2012

Being a National oil company, we always prioritize the importance of contributing to the local country's economic growth and creating human competency to propel development. Everywhere we operate, we contribute to national wealth creation in many forms from employment, GDP benefits, tax and payment to governments and local content practice. While our procurement policy adheres to fairness, integrity and transparency, we promote procurement of local products and services in certain categories we perceive in-country capacities such as manpower, seismic vessel/drill ship, air transportation fleet, and platform construction. USD 732 million or 53 percent of our 2012's procurement expense was awarded to 2020 national suppliers, from which further economy distribution was made.

In Thailand, we have seen our local spending increase 10 percent year on year since 2010. While the number of local candidates with capabilities to compete in the high technology arena is increasing, it is the nature of the oil and gas industry to keep raising the bar for technological advances and level of integrity. Depending on the readiness and availability of technical workforce, we will strive for creating similar contributions in other countries we operate. We will continue to support and strengthen suppliers' competitiveness through collaborative operation workshops, capacity building programs, including educational funding programs in countries with limited pools of local candidates through our corporate citizenship policy.

\* suppliers and contractors are classified as "Local" when they are listed in host companies of operation. The values reported here represent operations in Thailand only.

To achieve our goal of growing business with green practice, we are developing the Green Procurement policy and guideline which will source more environmentally preferred products and demand optimized logistics in our value chain. This program, we believe, will champion more local content in our supplier bases.

## Bundled Phases Engineering Procurement Construction and Installation (EPCI) for Wellhead Platform

Working with Nippon Steel to pilot our Bundled Phases sourcing strategy, we expedited our process by 16 months and saving USD 111.2 million

For the 2010-2014 domestic expansion plan, PTTEP schedules the construction of approximately 8-10 wellhead platforms per year. To ensure the highest safety and integrity of the diversely designed assets, the procurement team decided to tender separately 3-4 wellhead platforms per phase, on a phase by phase basis with 6 phases in a roll. This EPCI tendering process normally last 5-6 months per phase which makes the process last 36 months to completion. On track to enhance operational excellence in our growth strategy, this process was re-engineered through the concepts of wellhead platform standardization and bundled phases contracting initiative. As we introduced the strategy combining 22 Wellhead Platform construction contracts needed during this four-year project at Bongkot and Arthit fields, Nippon Steel & Sumikin Engineering, bid and won the contracts with unique combination of technical capability, experiences and competitive price. Listed in Thailand, Nippon Steel shares our beliefs in hiring and building competency of local workforce. A year spearheading our strategy together the contractor proved to deliver exceptional standard of work, commitment and real value enhancing operation, skillset of local workforce and maintenance efficiency as well as reducing lead time and cost. The project, again, underpinned our confidence in competitive capabilities of our local contractors and suppliers where we will continue to promote further support in local procurement practices.





## OPTIMUM RETURNS ON CAPITAL

PTTEP has a mission to operate globally to provide reliable energy supply and sustainable value to all stakeholders with a strong vision to become a leading Asian E&P company driven by technology and green practices. Our strategy is to balance three fundamental elements. Firstly, Production Growth: Under the current strategic plan, PTTEP has high confidence to increase production to 600,000 BOED by 2020 and has strong aspirations to achieve 900,000 BOED by 2020. Secondly, Sustainability of Petroleum Reserves: to ensure proved reserves life of at least 10 years and resources life of at least 40 years. Thirdly, PTTEP intends to retain Return of Capital Employed (ROCE) above industry average and maintain the current credit rating to sustain competitive performance.

## Growth Strategy

In pursue of our aspiration to be a leading Asian exploration and production company defined by 900,000 barrels of oil equivalent production per day (900 KBOED) and reserve replacement ratio over 10 years, PTTEP defines our Growth Strategy in two approaches: Asset Value Maximization and Strategic Investment.

### Asset Value Maximization

PTTEP intends to continuously maximize the value of our existing both domestic and international assets and accelerate the development of existing projects to be delivered as plan to meet the energy needed of the country.

Vital to PTTEP's sustainable growth, Exploration Assets increase both proven reserves and future production capacity. We ensure appropriate proportion of exploration projects, expediting high petroleum reserve potential fields to realize the Reserves Replacement Ratio, manage project risks and continuously seek Strategic Partner. In 2012, we have made the largest discovery through expediting 7 out of 9 wells at Algeria's Hassi Bir Rekaziz field (HBR), originally planned for late 2011 to early 2013 schedule. The sixth well's First-Exploration-Phase tested at 5,243 BOED and 5 MMscf of gas, the biggest find we ever made. The 1st to 5th wells are also confirmed with successful discovery of crude oil and we are waiting for the results of the 7th well at the end of the year. Proving successful, the HBR block is shaping up to be a key future producer. In the South East Asia region, we partner with Total E&P Myanmar and JX Nippon Oil & Gas Exploration (Myanmar) Limited in M11 joint venture projects in order to manage risks especially in deepwater exploration. The strategic partnership adds to our experiences, knowledge and technology sharing, as well as increases opportunities for future ventures.

**Development Assets:** We focus on completing the development phase and initiating production according to plan in order to generate revenue to the company in the near future and promptly replenishing any declining production curve. This year we focused our efforts to restore PTTEP Australasia's capacity, mobilizing the Montara asset through development and execution of the Operational Efficiency action plan. PTTEP AA also sponsored a research and long-term environmental impact monitoring program in the Timor sea. The Myanmar's Zawtika project construction is also progressing and the production is expected according to plan.

**Producing Assets:** Focus on sustaining current productivity and enhance recovery. We logged another record breaking productivity at the S1 project, the country's largest onshore field. S1 gradually ramped up daily production from 20,000 barrels when it started back in 1985 to 22,000-27,000 barrels level last year and hit 35,000 in December 2012. In addition, Bongkot South delivered 320 MMscfd of gas and 9,000 BOED of condensate, raising the overall productivity of the Bongkot project to 900 MMscfd, a level single handedly fulfilling 20 percent of the country's natural gas demand. Additional boost up came from our international assets through a successful drilling campaign of Munhamir field's development and Shams-E South's appraisal wells added up the overall production of Oman 44 Project from 1,500 BOED to 5,000 BOED, and also natural gas production at around 50 MMscfd.

Further growth in our capacity will be achieved organically through to 2020 as we bring online significant new installations, providing us with the potential for almost doubling today's output. To achieve this we will continue to build strong and long lasting partnerships within the industry, with international governments and with communities to invest strategically in both new exploration acreage and through M&A adding on both Conventional and Unconventional reserves.

Current operations, together with robust organic growth projections provides PTTEP with an enviable balance sheet and cash flow to fund M&A activity which is expected to further support the drive for a global market presence as the foundation to access next generation assets.

### **Merger & Acquisitions Strategy**

We strive to grow and further extend our range of operations and their geographic accessibility. In addition to organic growth, we actively monitor opportunity to acquire profitable reserves in production phase that strengthen our business's capital flow and support our growth vision. Acquisitions are an important element of enhancing our ability to develop and increase the reserve replacement rate. To immediately realize proven reserve and production volume, recognize revenue and free up capital for future reinvestment, our M&A strategy focus on acquiring projects in the early production phase or development phase. We also target projects in the strategically important area with potential for major oil discovery to build up our Growth Platform e.g. in Myanmar, East Africa, and potential fields in Thailand with remaining concession below 10 years.

### **Recent Strategic Achievements**

We finalized COVE acquisition whose estimated gas resources are up to 60 trillion cubic feet and an oil prospect in the block's Black Pearl structure. The acquisition gives us access to two significant gas discoveries in Mozambique, the Rovuma field and Area 1 field. PTTEP also gains access to seven Kenyan offshore blocks. This world class major gas field will serve as PTTEP's critical building blocks to East African exploration, as well as an initiation of FLNG technology.

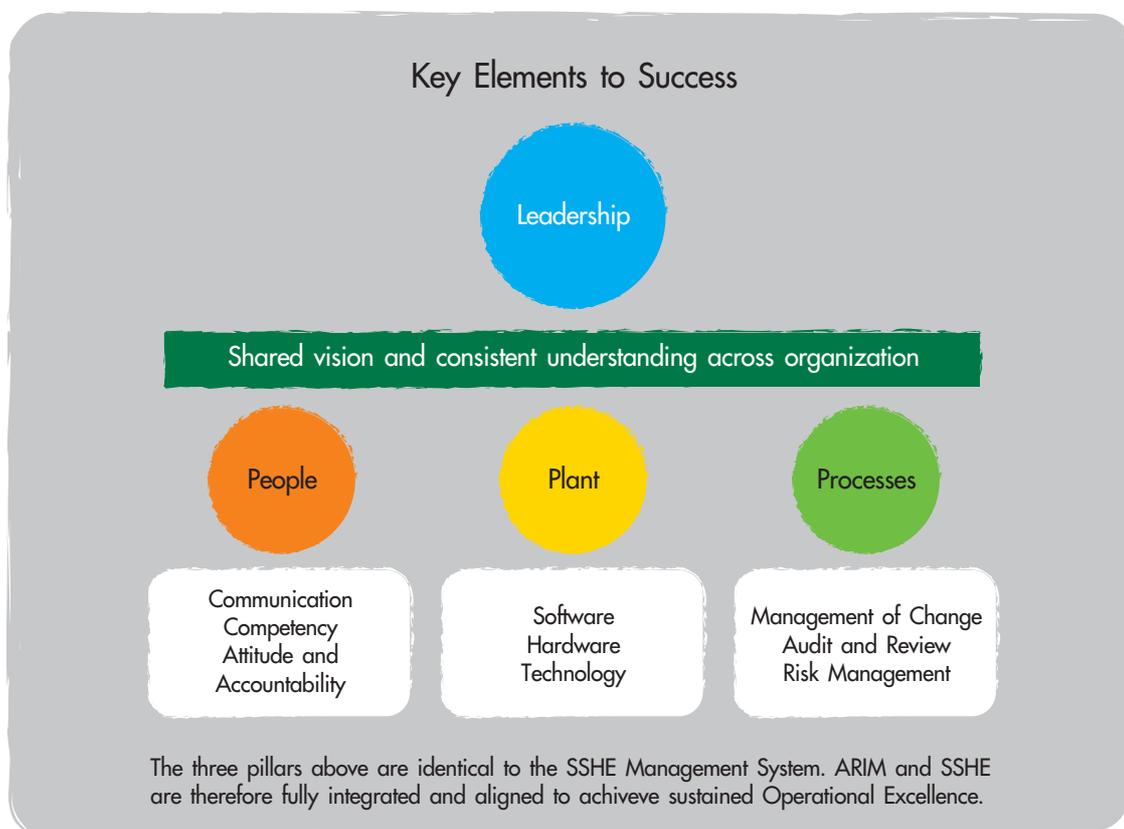
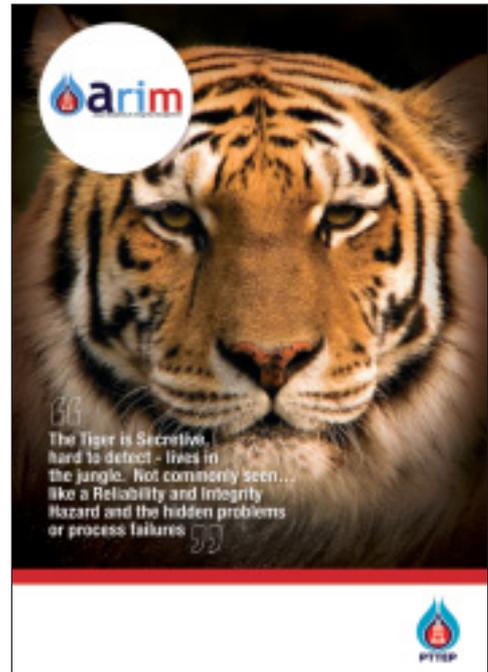
In Myanmar, we won 2 exploration blocks in the PSC-G and EP2 onshore petroleum blocks.

## Operational Excellence

### Asset Reliability and Integrity Management

Apart from SSHE MS, PTTEP Asset Reliability and Integrity Management (ARIM) is a key process to assure safe, predictable and sustainable production while managing integrity as a way to control the level of major incident risks. ARIM consists of 10 Elements, 13 Standards and 15 Guidelines to govern, manage, track & monitor, and continuously improve our People and Process to ensure that safety critical and production critical equipment (the Plant) is always operated within its design capability and performing within its intended function.

The ARIM standard details the minimum responsibilities that Asset Owners shall achieve to comply with the Company Asset Reliability and Integrity Management (ARIM) Policy i.e. to demonstrate that the risks of functional failure to staff, third parties, physical assets, the environment and Company reputation are demonstrably maintained as low as reasonably practical (ALARP). Guidance to Asset Owners and practitioners on defining, implementing and maintaining an Asset Reliability and Integrity Management System that complies with the requirements of PTTEP is given in the ARIM Guideline and other ARIM related Standards and Guidelines as per the ARIM Document Hierarchy.



## Emergency and Crisis Management

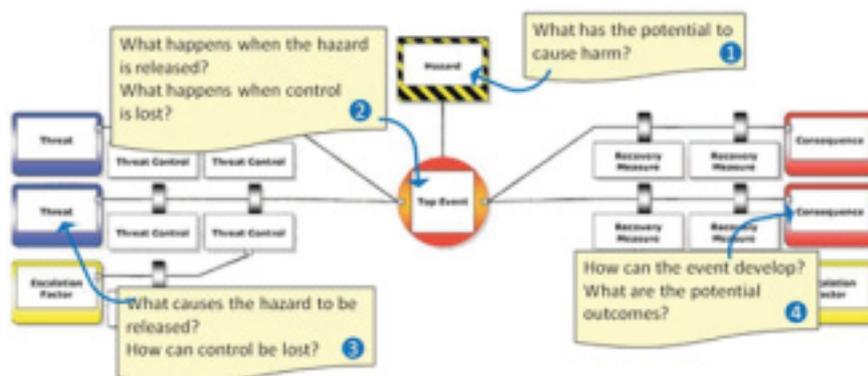
With full awareness that E&P is a high-risk business, together with requirements of the SSHE Management System, PTTEP has developed the Emergency and Crisis Management plan that outlines a systematic structure to ensure its readiness for emergency situations at all operating sites. The Corporate Emergency & Crisis Management Standard and Plan set a key structure which links the Emergency and Crisis Management plans of all (existing and new) operating assets (domestic and international) to the key support center at the corporate head office. Emergency and crisis management is classified into 3 tiers depending on the severity level and the response capability of each asset and it covers all scenarios, i.e., Safety (fire, explosion, well pressure controls, etc.), Security (bomb & terrorist threats, thief, etc.), Health, Illness, injury, MEDEVAC and Environment (spills, complaints, etc.) The Emergency & Crisis Plans at all assets and corporate are tested and exercised on a regular basis. Results and feedback from all exercises are systematically provided to both the asset and corporate sides for continuous improvement of the plans and competency of the resources.

## Major Accident Event (MAE) Prevention

### Demonstrating Risk Control Using Bow Tie Analysis

MAEs are accidents that have high impact but may have a low likelihood of occurrence e.g. blowouts. They are identified and risks are mitigated using a number of techniques. Hazard Identification studies are the first stage in identifying MAEs. Bow Tie diagrams are used to graphically show the prevention and recovery barriers that need to be in place to control hazards. The continual effectiveness of the barriers that are identified in Bow Ties is achieved by Asset Integrity and Reliability Management.

A holistic approach is taken when preventing Major Accidents. It starts with ensuring that safety is taken into account at concept selection, through engineering and construction, to operation and abandonment. Various techniques are used such as HAZIDS, HAZOPS, safety studies, Bow Ties to identify Safety Critical Elements and QRA. PTTEP also have a requirement to develop Safety Cases for main Project, Assets and Activities. Safety Cases are systematic documented evidences to demonstrate that major risks are identified and managed to ALARP. They also link with the Asset Reliability and Integrity Management System (ARIMS) to ensure that Safety Critical Equipments are property managed. Regular Audits and Reviews programs are implemented to ensure compliance of the system to prevent Major Accident Events.



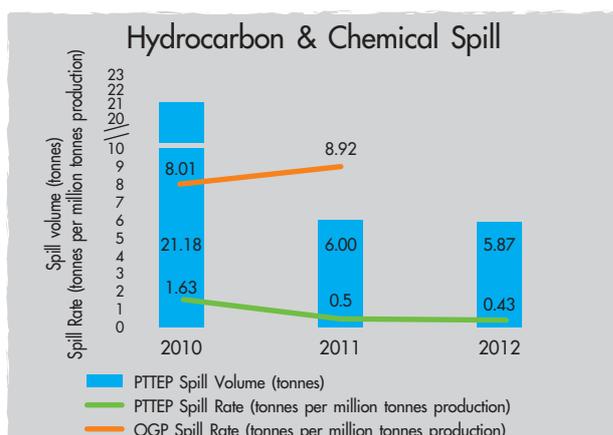
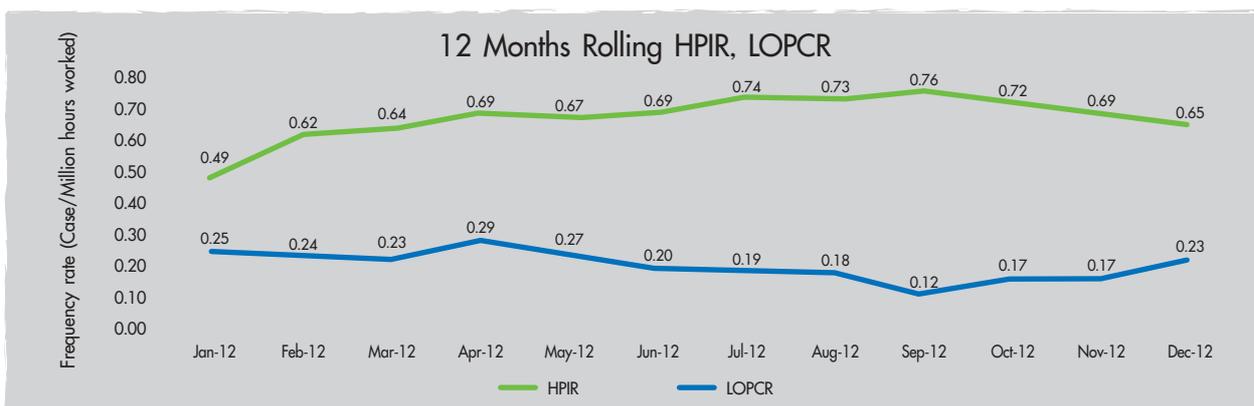
In addition, specialist techniques are used to ensure that risks from oil and gas processing - which can be significant - are eliminated (inherent safety) or reduced to acceptable levels by applying the principles of Process Safety. This includes Hazard and Operability studies, Safety Integrity Level assessments, layout reviews, Pre Start-up Safety Reviews etc.

## Defining MAE Indicators and Targets

To achieve our Target Zero (nobody gets hurt in our operations), SSHE and Key Risk Indicators (KRI) and targets are defined, covering both leading and lagging indicators responsible by the relevant heads of functional group.

Key Risk Indicator (KRI)	Target	Tolerance
HPIR 12 months rolling average	≤ 0.7	+ 10%
LOPCR tier 3 12 months rolling average	≤ 8.0	+10%
ARIM completion	100%	-10%
% Completion of corrective action (High risk items: PTR 1-4, OTR)	100% within agree time frame	-10%

Our performance against the defined KRIs in 2012 is shown below:



Spill is defined as any loss of containment (hydrocarbon and chemical spill) that reached the environment. Our spill rate has been significantly decreasing from the year 2010. There was no major spill that occurred in 2012. PTTEP continually commits to maintain and improve this good performance.

Our Asset Reliability and Integrity Management (ARIM) plays a key part to support SSHE MS in preventing of significant incident from occurring.

## Collaboration with Our Contractors on Process Safety

PTTEP's expectations of contractors are clearly defined and communicated to our contractors via several channels, including SSHE Contractor Forum, in which the MAE Prevention Program is one of our expectations.

### PTTEP Contractor SSHE Requirements - MAE Prevention

- Contractors shall demonstrate positive MAE prevention leadership and commitment.
- Contractors shall provide details of their MAE prevention programs as part of Contractor Selection.
- HAZID, Contractor SSHE Plan, SSHE Monitoring Plan are required during the Contract Execution.
- Contractors shall communicate risks to personnel e.g. Job Safety Analysis (JSA) at Safety Meetings.
- Contractors shall participate in MAE prevention process e.g. HAZIDS, SimOps.
- Contractors shall develop Safety Cases to demonstrate MAE ALARP for activities, e.g. drilling, etc.
- Bridging documents between PTTEP and Contractor SSHE MS shall be developed.
- Contractors shall develop Inspection and Maintenance Program on their assets.
- Contractors shall develop audits and management visits program that focus on MAE prevention.
- Contractors shall help compile MAE Indicator data.

## WIDER SOCIETY

With PTTEP way “From Natural Treasure to Intellectual Wisdom and Environmental Conservation”, we have long invested in the community development programs. We are striving to work as partner of local stakeholders to help improving people quality of life and education, whilst preserving environment and culture.

By PTTEP Way, our corporate responsibility approach is structured around three areas, which reflect the key priorities of our business and our stakeholders.

### Enriching our communities

We play an important role in driving economic capacity in the communities where we operate.

### Investing in people

We contribute to support society’s human capital to propel the sustainable development.

### Conserving heritage

We promote sustainable well-being by conserving natural and cultural heritage in parallel through technology and knowledge management.

9 THB for every 1 THB invested in Reforestation

13 THB for every 1 THB invested in Thai Heritage World Heritage

17 THB for every 1 THB invested in Artificial Reef

## Our Contribution

### Investment in Community

Sponsorship of community programs and Donations to organizations and voluntary groups increase to USD 4.67 million in 2012.

### Investment in Heritage

We sponsor key biodiversity conservation program as well as supporting the management and enhancement of world heritage sites in Thailand through long term commitment. Our supporting sites range from rich rain forest, marine park, and historical site.

### Investment in People

Apart from scholarship support in key development areas, we focus our effort in creating knowledge base community through Educational Center, Fundamental Research and Baseline Study and Educational Materials. This is how our people, communities and wider society educate ourselves and share knowledge about natural and cultural heritage.



## WEALTH CONTRIBUTION

PTTEP faithfully values socially responsible business conduct that incorporates the welfare of all concerned parties not only within all its exploration and production areas, but also within the larger society in order to achieve economically, socially and environmentally sustainable development.

PTTEP takes care of the surrounding communities because we believe we are a part of the communities in which we operate our business. PTTEP adheres to its strong commitment to corporate social responsibility under the concept of “From Natural Treasure to Intellectual Wisdom and Environment Conservation”.

### Social Investment Strategy

To deliver our commitments, PTTEP developed an SI Strategy in three areas in 2012. The objective of the strategy is twofold: (1) to build its brand and reputation and strengthen its relationships with key stakeholders, and (2) support positive socio-economic and environmental benefits for communities (and broader society).

PTTEP's SI Strategy	Area	Objectives
	Society	Enhance brand and reputation and conserve culture and environmental resources
	Community	Strengthen relationships with community members and improve local socio-economic conditions
	Employee	Cultivate CSR mindset and provide opportunities of employees to contribute in a positive way to communities

Social innovation increasingly requires social enterprises to collaborate with multiple partners. Developing and sustaining multifaceted relationships with government, corporate partners, and philanthropic funders often requires an initial leap of faith from both not-for-profits and businesses. But the benefits can extend way beyond traditional ROI measures.

### Social Investment

Social investment (SI) refers to the voluntary contributions made by companies to help communities (and broader society) sustainably address their development priorities<sup>1</sup>. When done well, it can contribute to long-term community improvements and help create an environment that is conducive to a company's operations<sup>2</sup>.

We aim to make our social investment projects beneficial to society in measurable ways and to be sustainable beyond PTTEP's involvement.

<sup>1</sup> International Finance Corporation. 2010. Strategic Community Investment Guide.

<sup>2</sup> Social investment should be designed to complement a company's efforts to mitigate its environmental and social impacts, not replace its mitigation obligations.

Social Return on Investment (SROI) describes the social impacts (or changes) resulting from a company’s SI done by comparing the social impacts usually in terms of monetary value to the financial cost of the investment. It is one of the tools for identifying the SI program that provide good returns for company, society and the environment.

Our success as a business is inextricably linked to the well-being of our employees and our communities. Social investments at PTTEP aim to foster economic stability and improve quality of life. They are delivered through participatory partnerships that build foundations for positive, lasting results. We invest in health, education and economic development.

In 2012, we contributed approximately USD 6.49 millions in social investment to help build programs that we believe can make a sustainable local impact even after we no longer operate. PTTEP spent around USD 1.95 million for philanthropic funds.

The following section illustrates key social investment projects of PTTEP and summarizes the project inputs (i.e. resource and effort), outputs and outcomes (the changes that have occurred as result).



### Thai Heritage World Heritage

PTTEP has launched a Thai Heritage World Heritage program, in recognition of the important values that are housed within World Heritage sites in Thailand. The program aims to protect and conserve, as well as increase community awareness and understanding about Thai Heritage World Heritage sites, in particular Thung Yai Naresuan - Huai Kha Khaeng Wildlife Sanctuaries and Dong Phrayayen - Khao Yai Forest Complex.

PTTEP has funded a number of projects, the outputs of which have included interpretation materials, two new improved visitor centers, eight nature trails, training for Department of National Parks, Wildlife and Plant Conservation staff, increased support for community volunteer networks and hornbill and tiger research programs.

It is anticipated that the program will not only enhance community appreciation (through increased visitation to the Thai Heritage World Heritage sites) but also support the protection and conservation of key biodiversity values, such as the hornbill and tiger.

In addition, the program includes opportunities for PTTEP staff to volunteer at the sites.

Project	Input	Output	Outcome	SROI (impact)
<b>Thai Heritage World Heritage</b>	<ul style="list-style-type: none"> <li>• Interpretation system</li> <li>• Nature trails and visitor centers</li> <li>• DNP officer training</li> <li>• Promotional materials</li> <li>• Volunteer program</li> <li>• Ecological research</li> </ul>	<ul style="list-style-type: none"> <li>• Development of interpretation materials</li> <li>• Establishment of nature trails</li> <li>• Research program</li> <li>• Trained DNP officers</li> <li>• Enhancement of visitor centers</li> </ul>	<ul style="list-style-type: none"> <li>• Increased awareness and understanding</li> <li>• Improved protection and conservation</li> <li>• Enhanced visitor experience</li> <li>• Increased focus on tiger and hornbill research</li> <li>• Improved reputation and brand</li> </ul>	Return of 13 THB for every 1 THB invested

### Artificial Reef

In collaboration with a local community, PTTEP is in the process of establishing an artificial reef system, the funding for which has been raised through local fundraising and a donation by PTTEP.

1,000 cement blocks per year, over a three year period, are being placed on the seabed. This will form the reef. Over time the reef will attract fish to the local area. The long-term goal is to support the sustainability of the local fishing industry. A side benefit has been an increase in the income amongst local fishermen, which has primarily been attributed to a reduction in fuel costs.

Also, as a result of the project, PTTEP has strengthened its relationships with local communities.

Project	Input	Output	Outcome	SROI (impact)
<b>Artificial Reef</b>	<ul style="list-style-type: none"> <li>• Cement blocks</li> <li>• Management/staff costs</li> <li>• Travel costs</li> </ul>	<ul style="list-style-type: none"> <li>• Establishment of new reef system</li> <li>• Improved fish stocks</li> <li>• Increased marine flora and fauna</li> </ul>	<ul style="list-style-type: none"> <li>• Increased income and reduced travel costs for local fisherman</li> <li>• Improved sustainability of local fishing industry</li> <li>• Increased biodiversity</li> <li>• Enhanced relationships with community</li> </ul>	Return of 17 THB for every 1 THB invested

### Reforestation

PTTEP is planning to invest the reforestation project. The project will contribute towards global warming mitigation measures by removal of carbon dioxide from the environment. This will largely be done through reforestation of approximately 200,000 Rais (32,000 hectares) by 2020 according to our SD roadmap, which will be supported through on-going maintenance and development of a water supply dam.

In addition to reducing carbon emissions, the project will enhance local biodiversity values by creating new habitat and establish a food source for local communities.

Project	Input	Output	Outcome	SROI (impact)
<b>Reforestation</b>	<ul style="list-style-type: none"> <li>• Reforestation and maintenance</li> <li>• Survey of potential sites</li> <li>• Research</li> <li>• Management</li> <li>• Evaluation</li> </ul>	<ul style="list-style-type: none"> <li>• Reforestation of approximately 200,000 Rais (32,000 hectares)</li> <li>• Development of promotional materials</li> <li>• Establishment of dam for water storage</li> </ul>	<ul style="list-style-type: none"> <li>• Reduction in carbon dioxide</li> <li>• Increased awareness and understanding</li> <li>• Enhanced biodiversity</li> <li>• Habitat creation</li> <li>• Establishment of income for local communities</li> </ul>	Return of 9 THB for every 1 THB invested

### Issue and Stakeholder Management

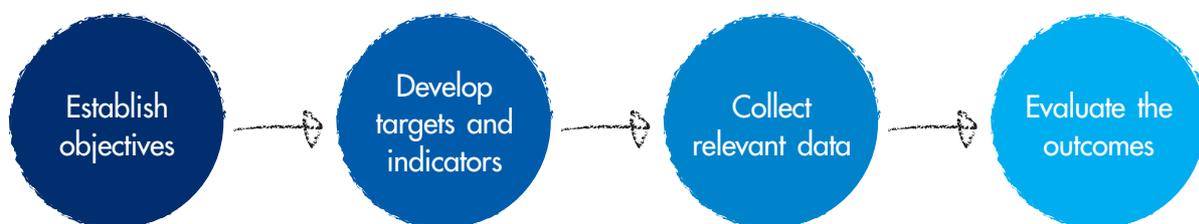
PTTEP has to work with many groups in carrying out its business operations. Some of them are those affected by the company’s business operations, while others have influence on the company’s operations. These groups are considered PTTEP’s “stakeholders”.

Engaging with local communities is a vital element of our work. At our local sites, we aim to establish and maintain open communication with local communities. Where appropriate, this includes setting up formal grievance channels and using a variety of engagement techniques from workshops and meetings to distributing literature.

Different stakeholder groups take an interest in different elements of the value chain, and impacts may either be direct or indirect. PTTEP will need to seek feedback on how it has described the contributions that it is making and consider incorporating additional socio-community metrics in the future.

A conventional evaluation tool has been developed. The tool helps to assess whether the objectives (or intended outcomes) of an investment have effectively and efficiently been achieved.

### Conventional Evaluation



PTTEP invests in a variety of programs and initiatives. These programs range from large scale projects to local community activities.

Area of Output/Impact	Project	Beneficiaries	Outputs/Impacts
<b>Education</b>	<ul style="list-style-type: none"> <li>• PTTEP Scholarships</li> <li>• PTTEP Tutor Camps</li> <li>• PTTEP Smart Center</li> </ul>	<ul style="list-style-type: none"> <li>• Students and teachers within and outside operation areas</li> </ul>	<ul style="list-style-type: none"> <li>• Create career opportunities for high school students</li> <li>• Increase educational skills to students and teachers</li> </ul>
<b>Health and Safety</b>	<ul style="list-style-type: none"> <li>• PTTEP We Love Sports</li> <li>• Sports Professional Promotion</li> <li>• Futsal Competition</li> <li>• Helmet School</li> <li>• Promoting Reflex Tags for Safety Driving</li> <li>• PTTEP Health Care</li> <li>• Healthy Garden</li> </ul>	<ul style="list-style-type: none"> <li>• Children</li> <li>• Agriculturists</li> <li>• General people</li> </ul>	<ul style="list-style-type: none"> <li>• Increase awareness about safety</li> <li>• Promote sport activities</li> <li>• Improve health and well-being</li> <li>• Improve in healthcare service and access</li> <li>• Reduce in health related expense</li> </ul>
<b>Community</b>	<ul style="list-style-type: none"> <li>• Children's Day</li> <li>• Love Your Neighbors</li> <li>• Fishery Career Development in 5 Districts</li> <li>• Sustainable Agricultural Career Development</li> <li>• Water Reservoir at Wang Ya</li> </ul>	<ul style="list-style-type: none"> <li>• People in communities within and outside operation areas</li> </ul>	<ul style="list-style-type: none"> <li>• Create career opportunities for communities</li> <li>• Promote good relationships between people in communities and staff in PTTEP</li> </ul>
<b>Environment</b>	<ul style="list-style-type: none"> <li>• Biodiversity Indicator Station Lang Suan and Sawee</li> <li>• Mangrove Conservation Learning Center</li> <li>• Research Underwater Learning Center</li> <li>• Mini-farm</li> <li>• Water Bank</li> <li>• Songkhla Lake Conservative</li> <li>• Increases Marine Organism</li> <li>• Energy Seed</li> </ul>	<ul style="list-style-type: none"> <li>• People in communities within and outside operation areas</li> </ul>	<ul style="list-style-type: none"> <li>• Enhance PTTEP's reputation</li> <li>• Promote activities in the communities</li> <li>• Increase awareness about reserving natural resources</li> <li>• Get better environmental conditions</li> </ul>

## Operating in Myanmar

“Myanmar is a country with high potential of energy capacity that hasn’t been developed. PTTEP is aware of the importance of sustainable growth and investment in Myanmar; as a result, PTTEP wishes to make Myanmar a second major operation base, apart from Thailand. PTTEP also has attention on the social and environmental aspects through CSR projects within and outside operating areas and aims to increase the recruitment of the locals. Even though operating in Myanmar is very challenging in many ways, the foundation of our operation is based on our commitment, honesty, and transparency which would enable PTTEP to gain trust from the stakeholders and successful in the business.”

*Kanok Intharawijitr, Senior Vice President, Myanmar Asset*



Myanmar is a land endowed with natural resources, pristine environment and preserved cultural heritage. Its estimated oil production capacity in 2010 was at 21,000 barrels a day and natural gas production of 11.54 billion cubic feet. The first time we set foot in Myanmar was in 1989 through the joint venture gas pipeline project running 410 kilometers cross border. Since then, we have operated three offshore and two onshore blocks in addition to the original two joint venture assets at Yadana and Yetagun. After years engaging with a score of communities neighboring our assets we came to understand Myanmar’s complex environment while accumulate experiences dealing with political instability, volatile regulations, transparency risks, and potential Human Rights abuses. PTTEP promotes the employment of local communities as security personal. Recognizing these latent risks, strategic responses and initiatives were developed and strictly implemented to respond and mitigate the identified risks in order to maintain Myanmar in our list of growth engine in the Asia Pacific region.

### Corporate Shared Value

Despite recent reforms and increase in regulatory development, the regulations for oil and gas sector in Myanmar do not require EIA, public participation nor local community contribution for an exploration and production project. Adhering to our standard practices and inclusiveness philosophy, PTTEP conducted a voluntary environmental impact assessment studies for our operations following Corporate EIA guidelines. Whether in Myanmar, Thailand, or Australia, we recognize the value to implement a stringent standard as safeguarding policy. Apart from ensuring our license to operate, we also consider the stakeholder engagement and CSR operations as a process to help us recognize and manage risks effectively ahead of time. Our commitment to the process applies both at our operating assets and at joint venture operations. Following the engagement guideline, we establish connection to community early on the project to inform of our operating procedures. Community’s needs and concerns are assessed and integrated into our operating plan and CSR projects to ensure identified concerns are eliminated and our positive contribution answers actual needs of the communities. The engagement process repeats throughout our project phase with performances evaluated through expert survey and public involvement activities. Furthermore, we support the evolution of Human Rights, democracy and leadership by creating mechanisms for community representatives to design CSR programs and vote on the most critical communities to receive the development projects for the year. While our intention is to maintain operations with zero harm and make positive contributions, we make it a priority to ensure adequate, available and accessible grievance channels for stakeholders to voice their concerns and comment regarding impacts from our operation. All inputs from stakeholders are managed through Complaint Handling and Grievance Procedure until resolved.

## PEOPLE CAPACITY

### Our People

PTTEP IMA employs 100 employees. One third within the business are female.

We provided similar induction and training for all employees including CG, health, safety, Anti-bribery corruption and Human Rights protection. Job related training as well as employee scholarship are also allocated for our Myanmar staffs.

### Higher Education Assistant for Development

10 Scholarships per year in the areas of medical doctor, teaching, nursing, midwife, and technical.

### Promoting Education

During 2012, PTTEP IMA supported 14 students and disadvantaged families, to gain access to higher education previously been inaccessible to them.

Our scholarship holders serve as community tutors for local children and adolescent, thereby providing much needed educational support and literacy for children.

## ENVIRONMENTAL MANAGEMENT

### Voluntary EIA & Follow up

Zawtika Construction phase

Daminsek - Dawei: Agricultural and Communities

Dawei - Boundary: Pristine National Reservation Forest

Conducted the additional ESHIA study and report preparation for rerouting onshore pipeline

- Conducted the EIA of abandoned soil disposal area of Zawtika Metering Station (ZMS)
- Conducted the ESHIA compliance audit as stated in ESHIA Zawtika onshore gas transportation pipeline (both mitigation measures and monitoring measures). There is 1 environmental site representative conduct the daily environmental checklist and prepare the daily environmental report.
- Participated in the Executive Workshop on conceptual framework of Tanintharyi Nature Reserve

## COMMUNITY DEVELOPMENT

### Public Infrastructures and Special Project

Support with critical infrastructure for communities:

Utilities, Electricity and Clean Drinking Water for School Children  
Renovate/New school building, ridge, Roads, Hygiene Toilets.

### Village Development Committee

Mechanism in managing social investment project. The mechanism require community leaders to form a committee and work on defining intrinsic needs for their own communities, designing appropriate solution fits with culture and way of lives and finally vote to select which community shall receive the funding or the developmental program for the year. This mechanism is our effort to foster and promote Human Rights within communities we operate in. Developmental projects in which the Village Committee worked on successfully in reporting year are listed on our website.

## HEALTH AND WELL-BEING

### Public Health

Health commitment is extended to communities focusing on improving the health of children and increasing the number of children surviving their first five years. The program consists of three parts: the health projects involve immunization, establishment of health care units; and the water and sanitation projects aiming at ensuring food safety at school. In 2012, the PTTEP IMA invested USD 1 million in public healthcare center.

### Infectious Diseases

Surrounding our operations in Thailand, Myanmar and Indonesia, HIV/AIDS, tuberculosis (TB) and malaria are infectious diseases that are risks to employees, their families and the local community. Through the PTTEP Health program, our people receive training, prevention, counseling, diagnosis and treatment.

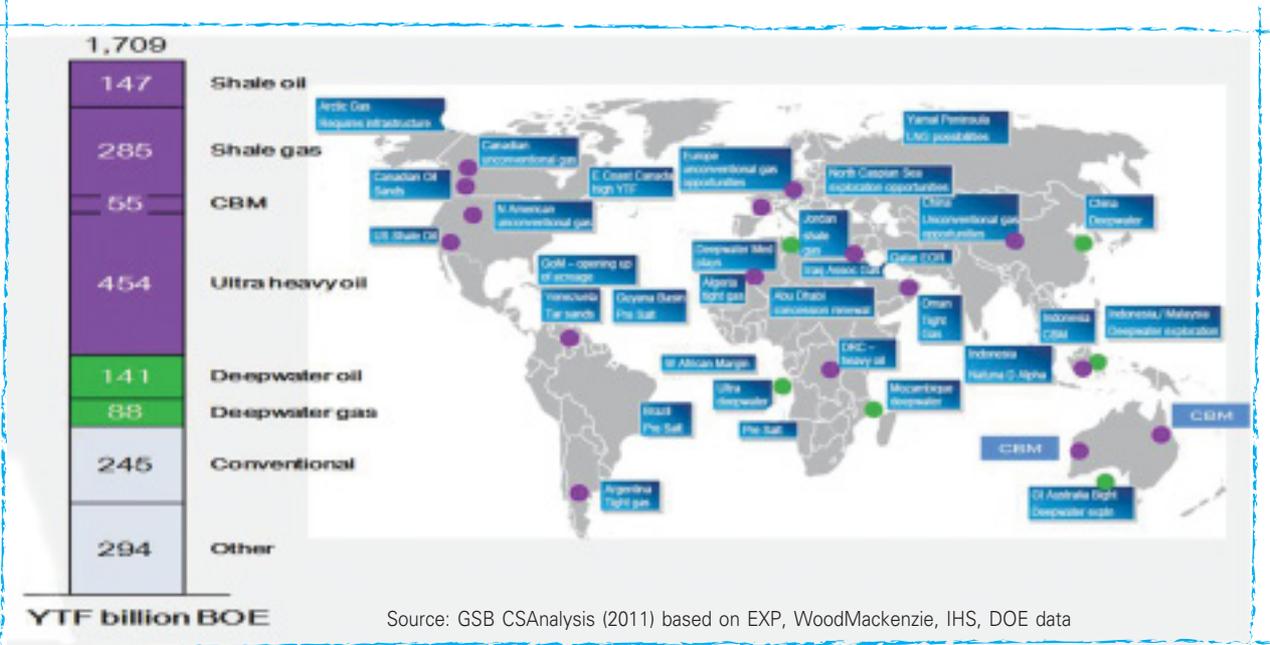
### Parasite Free School

To uplift the health condition of populace in the community as well as to promote personal hygiene and health knowledge, medical check up, Intestinal parasitic infection diagnosis and treatment and Health Education Training were organized at Kanbauk area, Yephyu Township, Dawei District, Tanintharyi Division. 2,906 children received vaccination. So far we have protect 5,502 children around the vicinity.

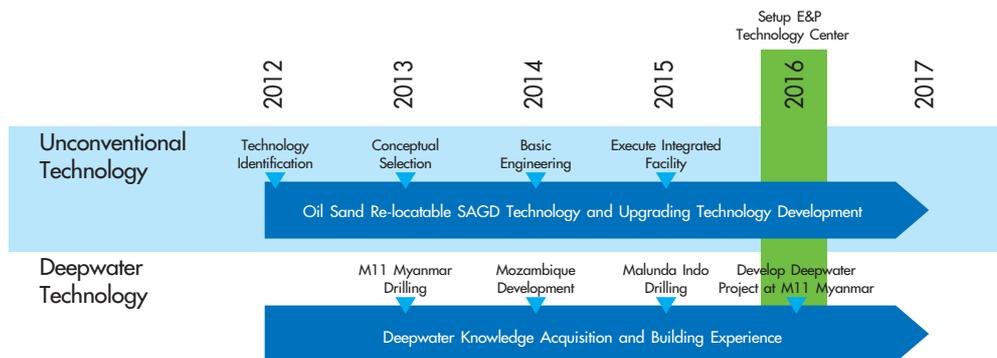
## TECHNOLOGICALLY ADVANCED

Technologies supplying energy from Unconventional Resources (i.e. oil sand, shale oil/gas) and Deepwater could profoundly transform not just the world's energy supplies, but also its geopolitics. With growth in energy demand and supply comes great stresses on the environment, not least in respect to climate change. This presents significant practicality and technical challenges for our industry. While energy resources remain relative in abundance, these concerns must be considered.

### Unconventional Resource



Technology advances in exploration and production today have created an opportunity for the industry to access oil and gas deposits and extract the once inaccessible resources. Though presenting us with many complex challenges, more and more focus is being placed on the development of unconventional reserves, including oil and gas shales, tight sands and coal-bed methane. PTTEP has started our venture into exploring unconventional assets by operating in joint ventures at a major oil sand reserves in Canada. With this structure, we have developed the capability essential to tap into a vast accessible resource potential and continue our growth strategy. We have contributed not only in operating this asset but also initiating technology and operating solutions to ensure continuous improvement in operating efficiency, and management of health, safety and environmental risks associated with unconventional assets.



PTTEP Technology Development Roadmap of Unconventional and Deepwater

## OILSAND

One of the greatest challenges when considering unconventional energy reserves is the ability to access the highest grade and most accessible deposits and to produce energy with the greatest energy efficiency. Efficiency in extracting oil from bituminous reserves in the ground (referred to as oil sands, or tar sands) has seen some material improvements since the first generation facilities with currently levels of efficiency reaching low 80 percent levels.

Oil sands extraction requires energy for steam injection and refining. The process is energy intensive and as a result generates around 12 percent more GHG per barrel than conventional oil production. However, global reserves are considered significant and will make up a vital proportion of future global energy supply.

PTTEP is currently engaged in planning for the development of oil sand operations in Canada.

## DEEPWATER

It is estimated that around 10 percent of world proven oil reserves exist in deepwater reserves. This represents roughly 100 billion barrels. As indicated by the name, these reserves are located further out to sea and deeper under the ocean floor than conventional oil reserves. Previously neither the technology nor the economic incentive has been present to access these reserves, but this is gradually changing. Both these aspects bring significant levels of risk to any deepwater opportunity. Firstly, technology is still in its trial phase, with incidents such as that in the Gulf of Mexico demonstrating the challenges faced in avoiding accidents, and then responding to crisis situations. Moreover, an unstable oil price means that a viable project one day may turn out very unattractive the next. PTTEP is currently engaged in exploration of deepwater reserves and expects to partner with experienced industry leaders in developing deepwater opportunities over the next few years. PTTEP is also currently monitoring technological developments with shale gas but only considering exploring opportunities with shale energy post 2020.

## Execution Challenges

The challenge to execute our growth strategy into the deepwater and unconventional resources are foreseeable. PTTEP anticipates these challenges in two dimensions: delivering the growth proficiently and managing the potential increase in our footprints to environment and society effectively. Meeting that challenges requires PTTEP to make a step change in the way we work and communicate. Starting from vigorously applying our Asset Reliability and Integrity Management (ARIM) to our Project Realisation Process (PREP), the stage-gate capital project management model that environmental and social consideration are fully integrated throughout project development cycle. This will help us identify risks related to environment and social such as political risk, financial liability from climate change, as well as public concerns over management of environmental issues from planning stage. Strengthen SSHE Management System (SSHE MS) will protect our people and the environment in harsher and resources intensive operation. On top of these, a matching technology and human capability development roadmaps as well as organizational alignment are in plan to facilitate the evolution into our new phase of exploration and production.

## Capital Project Management

100%

of our new project included in our environmental and social assessment

We commit to Environmental Impact Assessment (EIA) for a new project of exploration and production, or when there are any significant deviations from the activities and details of social impact assessment are also addressed in the approved original anywhere we operate even though it is not required by local law

The exploration and production business is known as the risk-takers. However, the difference between a successful company and substantial company is the ability to recognize risks related to capital project development, including determination the acceptable level and implementing avoidance or mitigation of such risks.

At PTTEP, we employ the holistic approach of the stage gate model, Project Realisation Process (PREP), throughout the capital project lifecycle. The nature of influence over cost over the project lifecycle is high at the beginning and decreases throughout the project development. Therefore, PTTEP's PREP has comprehensive stage gates at the beginning of the project to allow informed decision making at the point where influence is significantly over cost. Environmental and social measures are also integrated in the earliest stage to understand environmental and social context and identify risks and risk mitigation measures.

### Impact Assessment and Planning

Key elements in managing impacts on the environment and local community are assessment and planning in order to understand the potential and actual adverse impacts and effective community engagement program in order to understand their concerns and expectations.

PTTEP defines our procedure on Environmental Impact Assessment which is adopted from World Bank and the International Finance Corporation (IFC) Environmental, Health, and Safety Guidelines. The procedure covers seven steps throughout the project lifecycle and is fully integrated as one of the stage gates in the PREP Process; the mitigation measures are also integrated into the asset SSHE Management System and corporate SSHE audit program.

Over the past year, PTTEP has undergone 11 EIA\* which involved 22 formal public participations in the communities we operate.

Environmental and Social Impact Management			
Total Capital Projects 2012	11 Active operating sites in Thailand		
Projects undergoing EIA	100 percent Public Participation coverage 100 percent of operations <b>(We have undergone voluntary EIA and PP in Myanmar)</b>		
Projects in Decommissioning	None is under decommission neither is any in the process of decommission in the next five years		
Project in Biodiversity sensitive areas	2 sites	Project in Social sensitive areas such as indigenous communities or of cultural heritage value	Neither of PTTEP domestic operations locate in or adjacent to where indigenous communities are present nor involve interaction with indigenous communities as defined by relevant UN agreements.
Non-technical risks identified and mitigations  (Water Stress, Biodiversity, Indigenous communities, and Involuntary resettlement)	Please see our biodiversity section.	<b>Water Bank</b>  Recognizing water stress concerns in the new concession block, PTTEP has voluntary started a long term program constructing a network of small scale reservoirs as water bank for the communities.	<b>Working in our community</b>  Some of our operations, as listed out on page 6-7, overlapped with agricultural areas. There was neither relocation nor involuntary resettlements that took place in 2012. PTTEP had no significant disputes with local communities in 2012.
Underwent the stakeholder public participation with results		As we commenced our operation, no water deficiency impacts occur due to our operation. Communities derive direct benefit from the reservoir.	Regular ongoing meetings with communities. Complains are recorded and described on page 70. All compensations for the use of communities' area are completed.

\* "UN Definition of indigenous: practicing unique traditions, they retain social, cultural, economic and political characteristics that are distinct from those of the dominant societies in which they live"

We operate in countries where the indigenous are present. As a result, our political risks categorizes and identifies potential risks in this area as a part of risk management. Domestically, none of our operations involve interaction with indigenous communities. 5 km from S1 site, we identify a community maintaining an ethnic culture of Thai Song Dam. PTTEP's activities do not interfere with the community's way of life. All assets adopt the PTTEP EIA Guidelines and are asked to report any incidents of indigenous rights violations. No such incidents were reported in 2012.

## Community Engagement in Capital Project Development

PTTEP places highest priority on community engagement and understanding of the community concerns and expectations. We engage local stakeholders early in capital project development stage to understand their expectations and concerns for all capital project development unless there is the concern for safety and security of our employees or our contractors.

The PTTEP Issue and Stakeholder Management Planning Process consist of stakeholder analysis, issue analysis, stakeholder mapping and engagement strategic planning. All of these processes happen prior to commencing exploration activities. We continue to implement, assess and improve the community development activities and the mitigation measures alongside with company's E&P activities throughout the project life. This process applies to all of our domestic assets and is replicated to other international operating sites under the Issue Management Process.

For various stakeholders which include the required stakeholders in accordance with the EIA, we provide multiple channels to ensure timely and accurately information are communicated. These channels include through formal hearing, CSR activities, publicized through the local media, and organized exhibitions. Through these channels, the following are top three concerns we received from stakeholders across regions:

1. The company has measures to prevent impacts on the environment.
2. The company keeps supporting community development activities and solving the issues effectively.
3. The company adheres to transparency in information disclosure and provides them through channels which are easily accessible by communities.

Once the asset enters the production phase, comprehensive community engagement program is implemented including an on-going stakeholder engagement, community development program based on local communities' needs and channels for filing grievances at the local level.

Villagers near our onshore supporting center in the district of Songkhla related to our community relation staffs during the community surveys that majority of their communities are well informed of PTTEP operations and gain more understanding on the companies' activities. They also proactively suggest to us to:

- Have a measure to prevent waste from leaking in transit,
- Strictly follow Environmental Impact Mitigation Plan (EIMP) requirements,
- Increase support in community relations activities in their community.

We perceived the recommendations from communities as an evidence of their understanding of potential impacts, as well as understanding of their right to be treated appropriately. We commit to continue the engagement activities like this as a reflection of our performance in community impact management.

In response to the above recommendations, we improved Emergency Response Plan particularly for the event of hydrocarbon and chemical spills to sea and plan to invite surrounding communities to participate in PTTEP annual emergency drills. Moreover, permanent boom was installed around the port area where external parties' vessels make frequently visits. On the community development side, we also increased engagement with Bantalaynok communities resulting in 5 intensive socioeconomic projects developed for Bantalaynok.

## HIGH PERFORMANCE ORGANIZATION

PTTEP believes that the most important factor to propel the company towards being a high performance organization is its people. Therefore, we invest in developing our people as well as seeking the best available talent to join us. However, the most important aspect we hold above other is safety, security and health of our workforce and maintaining good environment in all areas.

### Safety, Security, Health and Environmental Management

PTTEP strives to achieve excellence and a position of leadership by having an injury-free workplace, being a leader in safety, security, and health management and a good neighbor of surrounding communities and the environment. PTTEP also participates in industrial groups and acts as an active member of the OGP, with representations on: Safety Committee, Security Committee, Health Committee, Standards Committee, Well Expert Committee and Process Safety Task Force. Industry initiatives developed by OGP are implemented in PTTEP for example, Process Safety indicators and Life Saving Program. Thus, we learn from our shared industry best practices.

**100%**  
of our operating assets comply with our SSHE Management System

**>40%**  
reduction per year in Lost Time Injury Frequency Rate for the two consecutive years

**Process safety indicators introduced in Corporate KPI**

Step Change in SSHE was introduced in 2011 and 2012 illustrated yield for the implementation.



### SSHE Management at PTTEP

We have a Safety, Security, Health and Environmental Policy (SSHE Policy) as our commitment and our SSHE Management System (SSHE MS) is the core of SSHE management and PTTEP's ability to deliver our vision and commitment in SSHE. There are seven elements of SSHE MS along with 27 Standards.

**SSHE MS in Actions - Element 3 Organization, Resources and Documentation** *Safety Leadership and SSHE Awareness Course*

PTTEP launched Safety Leadership workshop in 2012 as an interactive session designed to enhance safety leadership for leaders to get a common understanding on safety leadership for all managements of every functional group to create inspiration in safety awareness and provide leading by example to their subordinates regarding safety practice.



For all staffs, PTTEP also launched SSHE awareness course to build SSHE awareness including general regulations and rules in the work place. The course is designed as face-to-face training with evaluation test at the end of the course. There are also advanced SSHE training courses to fulfill specific job competency requirements.



In addition, Greater Bongkot North, S1, PTTEP 1, PTTEP Core Research Center, Petroleum Support Base at Songkhla and Arthit projects received certifications for Environmental Management System Standard from AJA Registrars under the United Kingdom Accreditation Services (UKAS) for PTTEP's domestic operation units. In 2012, PTTEP implemented the ISO 14001:2004 one common system for all certified sites to improve the efficiency of the Environmental Management System.

### Step Change in SSHE - Life Saving Program

In 2012, PTTEP introduced the Life Saving Program that is based on the International Association of Oil and Gas Producers (IOGP). Life Saving Icons which includes 18 safety best practices based on analysis of industry incidents that lead to fatalities and serious injuries.

The Life Saving Program is implemented organizational wide where each location's potential hazard are identified based on risk assessment to define specific Life Saving icons. The implementation is not only limited to operation areas only but also to our headquarter office in which 4 life saving icons are identified. These are the Seat Belt, No Drugs or Alcohol, No Phone and Obey Speed Limits and Journey Management Plan Life Saving icons.



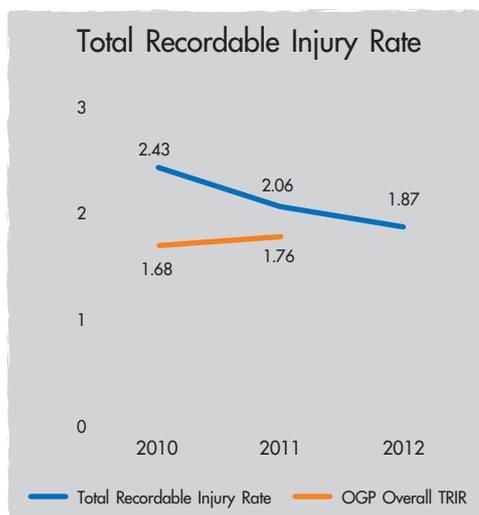
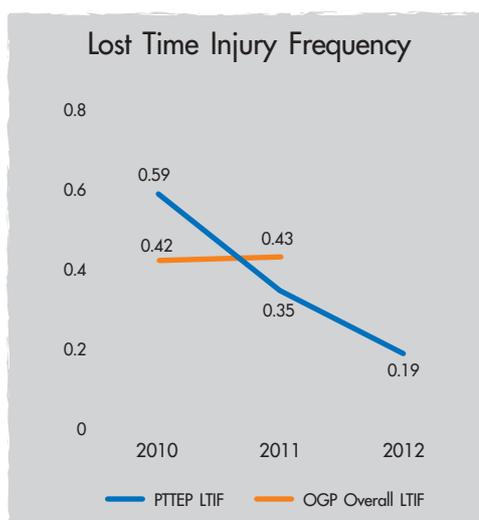
In addition to the commitment and management system, PTTEP has SSHE Key Performance Indicators (KPI) to assign SSHE accountability throughout the organization from CEO to management, employees and contractors. SSHE KPIs are taken into account when determining variable compensation from 10 to 20 percent of overall performance. PTTEP has a strong aspiration and intention to maintain our “go home safely” goal at the end of each working day. There are both leading indicators that are the percentage of SSHE plan completion, and lagging indicators as shown in the following table.

2012 SSHE KPI	Unit	Base Case Target	Stretch Case Target	Results
Lost time injury frequency rate – employees and contractors	no. per million man-hours	0.42	0.00	0.19
Total recordable injury rate – employees and contractors	no. per million man-hours	2.00	1.68	1.87
Loss of primary containment rate	no. per million man-hours	0.78	0.58	0.23
Spill rate	ton per million tons production	3.60	0.00	0.43

In 2012, a total of 8 recordable injury cases were reported for employees and 52 cases for contractors. Reported lost workday cases (6 cases compared to 9 cases in 2011) improved significantly and there was no fatality in 2012.

The trend of TRIR is continuously decreasing towards our aspiration to be an injury-free work place. PTTEP continued to further improve our performance in this area through our “Step Change in SSHE” initiative.

PTTEP SSHE Incident Management Standard does not only cover safety incident but also covers near misses, occupational illness, security, environmental incidents and complaints to ensure that we get all the information from those cases for continuous improvements.



## Occupational Health

PTTEP Occupational & Health Management Standard was developed and rolled out in 2011. With the introduction of this new standard, we engaged all stakeholders to ensure that Occupational & Health Management is implemented in the same direction. Our activities focus on health risk assessment in the workplace (HRA), employee health assessment, medical emergency management, medical and healthcare services, and community engagement to improve social determinant of health. Key highlights of our program are:

- **Preparedness:** We have considered specific health risks potentially incurred due to expansion into malaria/HIV/Tuberculosis/Japanese Encephalitis/Influenza regions.
- **Emergencies:** The enhanced Medical Emergency Management improves our overall healthcare services to reach our people working in remote environments when needed. The improvement in on-line and off-line supports prove our commitment to keep everyone safe at work and return home healthy at the end of the day.
- **Providing Medical and Healthcare Services:** The site medical and healthcare services guideline has been issued. The guideline provides minimum requirements for all operating units in managing ill-health at the workplace to ensure that all workers, either PTTEP staff or contractors, are well taken care of when needed.
- **Supporting Community Health Determinant:** S1 team has a health support program for health promotion Hospital, Tambon Nongtums. The team has identified the needs of the hospital with regards to medical equipment and subsequently made a donation of medical equipment. S1 has made commitment to the hospital to provide continuous support in promoting the well-being of the people in the community.

In 2012, a total of 2 occupational health cases were reported which was lower than 3 cases in 2011. Both cases were related to physical ill-health.

## Security Practices

Security of our people and assets are one of our top priorities which is one of the components in our SSHE MS. However, PTTEP also takes into account the potential human rights conflict issue. Therefore, we issued the Working with Armed Security Forces Guideline for security force anywhere we operate including government or non-government agencies. The guideline is in line with the United Nations Universal Declaration of Human Rights.

For the Yadana and Yetagun natural gas projects, PTTEP, as a joint venture partner, strongly encourages the compliance to our security standard and guideline to ensure that all staffs and contractors apply the highest moral and ethical standards, particularly where the issue of human rights is concerned. We have also continually promoted the employment of local people as a security workforce.

## Human Capital Management

### Performance-Driven Culture

At PTTEP, we consider ourselves to be high performers. Our senior leaderships have built PTTEP into a place filled with passions of explorers who see and seek opportunities to thrive, and fulfill duties earnestly, ensuring energy security with deep responsibility to people and the planet. Today, that culture is the unifying force for our people and operations around the world.

### 2012 Achievements

1. Long-term Manpower Provision and Placement of the Critical Job Positions
2. Succession Plan for Top Management
3. World-class Leadership Development Program Framework
4. Capability Building Master Plan
5. Employee Joint Investment Program (EJIP) for Long-term Engagement



### Diversity

The value I contribute dictates my career progress, not my gender, nor my color.

### Performance

Every employee regardless of function receives individual capacity development support and coaching throughout his or her career.

Every key position has succession planning to which successors receive long-term mentoring. This is to ensure knowledge, and experiences are passed on generation to generation.

12%

Growth of our workforce from previous year

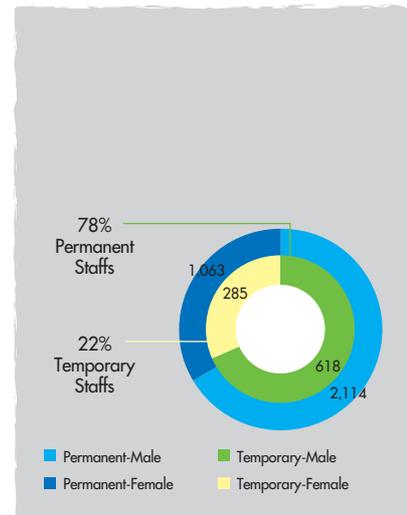
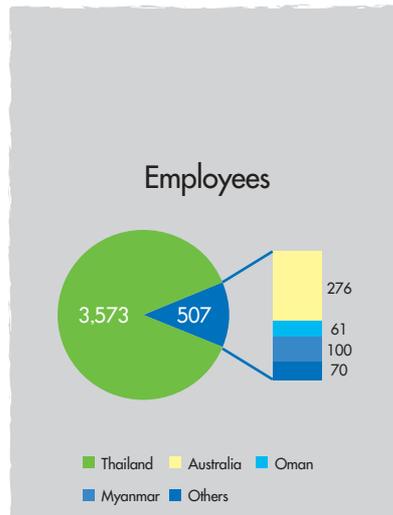
>20% Increasing in average employee training hours from previous year

\$3 MILLIONS we invest in our people through training and R&D



### Engagement

**The voice of reason.** Our people help us make the best place to work. Results from engagement survey are turned to action plan on the consecutive year. This make us stronger as a company and keeps talents with us longer as a family.



## Create Capable Global Workforce and Leaders

PTTEP commits to build human capabilities, attract and retain talents with an attractive compensation and benefits program.

In the past three years, PTTEP’s workforce has grown 33 percent to 4,080 globally while delivering 55 percent growth to company’s revenue. We are now operating 18 offices globally employing 507 staffs oversea, 12 percent of total workforce. With approximately 80 percent under permanent contracts, women comprise a third of our workforce both from permanent and temporary contracts. Human capital was identified as a critical success factor of PTTEP. PTTEP sets our course to truly internationalize our business via exploring and acquisition of new regions beyond Asia Pacific. Our growth aspiration requires us to focus our efforts on preparing PTTEP’s workforce’s Capability and Leadership Readiness, together with establishing effective global organizational and business processes to be ready for future growth.

We invest in people and activities that promote desired workforce behaviors and a culture that in turn will lead to creating the desired capabilities and competencies for the successful implementation of PTTEP Corporate Strategy. In the course of 2012, we have accomplished 3 key milestones in strategic human capital as follows:

1. World-class Leadership Development Program
2. Growth Capability and Technology Development Roadmap
3. Long-term Employee Engagement through Employee Joint Investment Program (EJIP)

## Build a Highly Motivated and Capable Global Workforce and Leaders

Provision of Long-term Manpower and Achieve Placement of the Critical Job Positions

Review and Implement Succession Plan of Top Management Positions

Development of Capability Building Master Plan

Implement Employee Engagement Improvement Plans

Build Framework of a World-class Leadership Development Program

Establish Employee Joint Investment Program

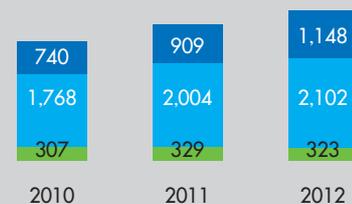
Develop Generic Operating Model and Governance Framework for International Expansion

Establish Growth Capability and Technology Development Roadmap to Ensure its Capability and Technology to be Able to Support Organizational Growth to Achieve the Strategic Goal

### Harnessing Experience and Knowledge through a World-class Leadership Development Program

In order to achieve aspirational growth, PTTEP needs to face challenges in accelerating capability building and managing attrition of experienced personnel. With all the successes in the past years, PTTEP is under strong leadership of management constitutes one fourth of organization. While we recruit and grow our workforce at all level, leadership proportion needs to be maintained to ensure competitive advantages and success. Depending on external talent is not sustainable, as a result we initiated program to ensure that senior staffs are reaching retirement age with assurance that the younger generation will be ready to take their places. In 2012 PTTEP established and reviewed succession and replacement plan to ensure the company has adequate future qualified workforce and accelerate people competency to serve growth capability and technology. Through readiness assessment center, PTTEP defines **Management Success Profile** which includes competency, personal attributes, organization knowledge and experience. Key positions are identified and managed under a systematic succession planning adopting the above mentioned success profile under supervision of the Career Review Board Committee. With this program, our key positions and senior leaderships have identified their successors and completed mid and long term mutual developmental plans to ensure experience and knowledge are passed on to the future leadership.

### Age Breakdown



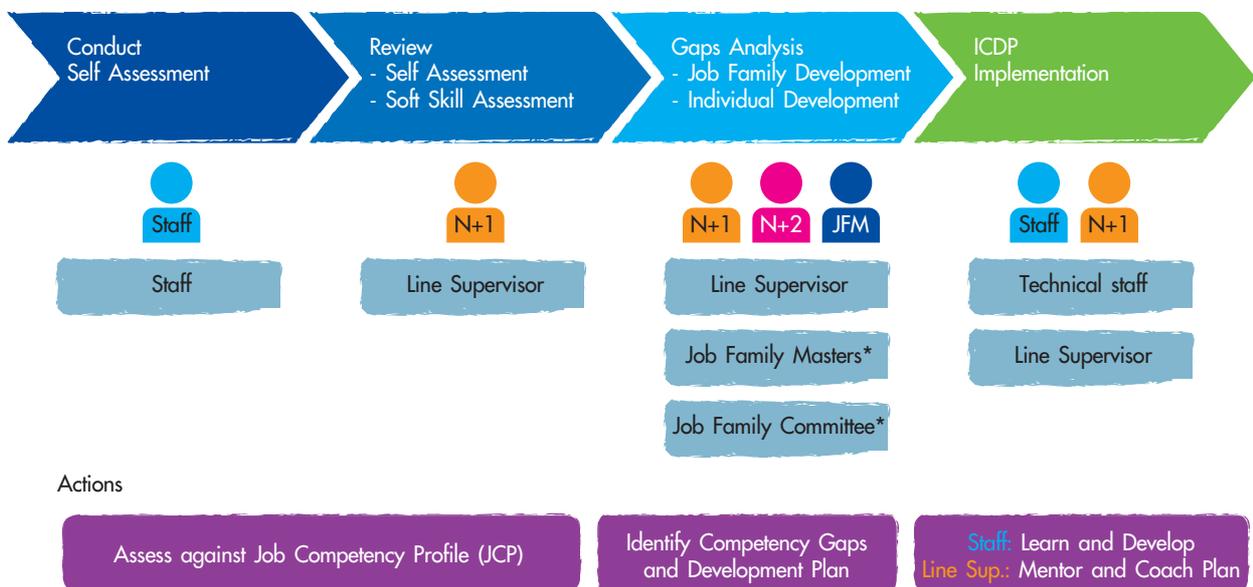
Age over 50 years old  
Age 30-50 years old  
Age below 30 years old



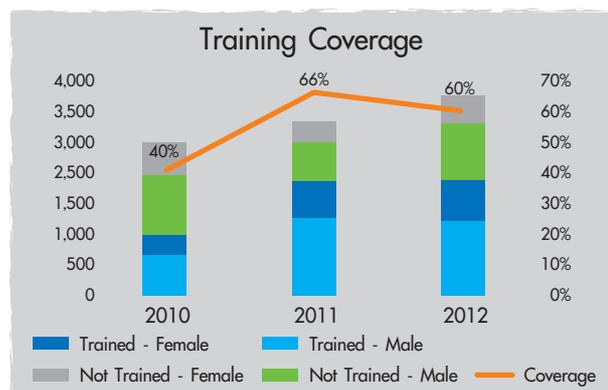
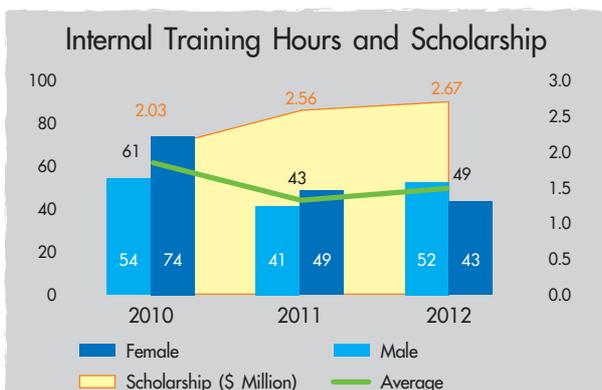
## Growth Capability and Technology Development Roadmap

PTTEP believes that the appropriate design of a competency based-development program will serve company sustainability. By having capabilities awareness and good development preparation, PTTEP will be more competitive and be ready for future challenges. To attain the recruitment of highly competence workforce, the company has established a Competency Management System (CMS) to accelerate the competency development of all staff.

The CMS annual assessment review process will systematically drive individuals on gap development to meet business requirements in order to achieve PTTEP technical excellence as a whole. This approach of competency model design is therefore embedded to strengthen the capability on the new business aspiration i.e., Exploration, Deepwater, Unconventional Resources, FLNG, etc. Annually, all staffs will undergo a reviewing of their competencies and identification of competency gaps in order to customize training and development programs as per individuals' need.



An individual competency development plan (ICDP) is a Structured Development Program designed to close specific employee competency gaps to improve employee performance in the present position and/or to prepare the employee for new roles.



We believe developing our people is an investment with clear return, as a result. We allocate development budget according to that priority which includes both company provided training, and employee selected external courses. A wide variety of training opportunities both on-the-job and classroom training for are offered to employees at all levels in the organization. In 2012, USD 2.7 million was awarded under employee scholarship supporting our people to pursue advanced degree in relation with their competency development plan. Internal-training-wise, average training hours per employee increased from 43 to 49 hours per person per year. While our training cover 60 percent of our employee with an equal breakdown in numbers of female and male employees taking class, we observe a six percent decrease in coverage rate. With new exiting courses coming in 2013, an uplift trend is expected.

PTTEP established a Technology Center to provide employees with opportunities to pursue creative new ideas including basic research that take full advantage of their talents and professional passions in a way that encourages successful future exploration. The Technology Center's initiatives encourage our employees to further develop creative ideas into new exploration and production solutions. Participants will receive a dedicated work time, development expenses and necessary equipment as appropriate. Successful outcomes are encouraged through an incentive program, however they are not subject to penalty if they don't achieve their goals. We are planning for more full-time staffs in this section to ensure forward preparation on technology roadmap that will gear-up PTTEP to explore and succeed in developing the unconventional resources and challenging frontier environment in the future.



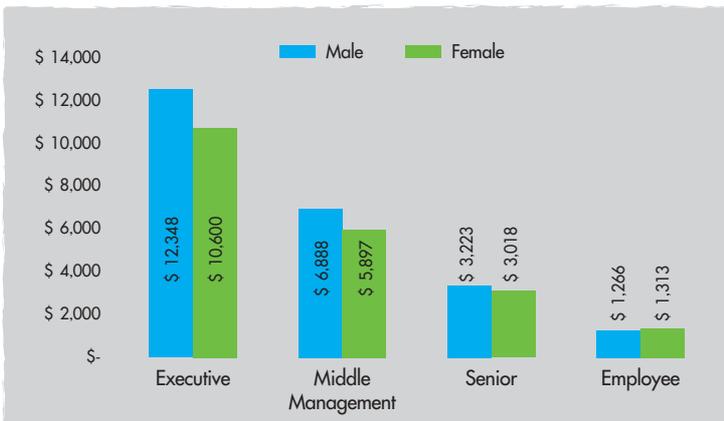
### **Reward and Recognition of People's Contribution**

PTTEP is among the top Thai companies with regards to compensation package. We create competitive remuneration through balancing the 3 mechanisms of

- (1) Internal equity where similar value of work, responsibility and working condition result in similar compensation. We adopt the Hay system to ensure appropriate evaluation of a job's value.
- (2) External equity where compensation package are benched against other oil and gas companies in Thailand and adjusted on an annual basis.
- (3) Individual Motivation by rewarding individual performance and competency through annual compensation adjustment scheme.

Through these mechanisms, our people are competitively rewarded and motivated to align their individual goals in supporting the company's endeavors spanning from business, SSHE, and sustainability. In addition to basic salary, PTTEP's variable compensation scheme can increase up to 6 times of the monthly basic salary. This remuneration is based on a clear framework, taking into account employee performance as well as the company's as a whole. The assessment is conducted twice a year to agree on individual Key Performance Indicators to be evaluated. Gender and nature of employment do not dictate compensation.

Basic Salary range shows equal remuneration between gender for each level and competitiveness within industry



2012 Average monthly basic salary of 3,573 Thailand based employees.

Benefits for employees well-being cover all employees from day one.

- Medical Care During Service and After Retirement
- Special Rate Loans
- Service Year Award and Gifts
- Allowances

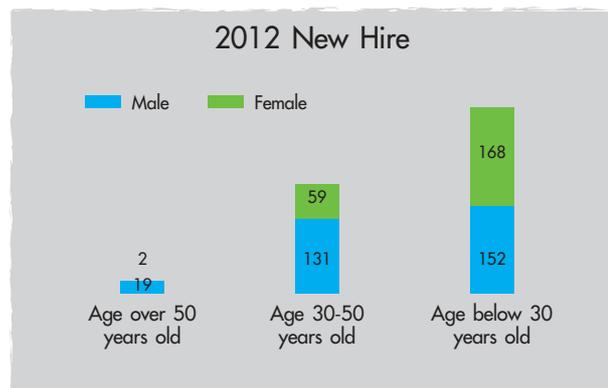
Complimenting with basic compensation, PTTEP emphasizes on benefits that assist our employees to achieve balance in their personal well-being goals throughout their pace in life being it home loan interest subsidy, long-term educational leave option, employees’ child education assistance, and retirement preparation program. PTTEP’s employees enjoy health benefits and coverage that extends care to family members, and extends beyond. In addition, our voluntary defined benefit plan allows employees to opt in contributing from 2 percent to 15 percent into the plan and PTTEP will contribute 15 percent of monthly basic salary. Newly initiated in 2012, the Employee Joint Investment Program (EJIP) entitle employees to share long-term ownership by stock option at 2 to 10 percent of basic salary and the company will contribute with the same amount.

All in all, we are proud to live by our principles in sharing values, delivering equal opportunities, and creating a rewarding workplace for our people to spend a lifelong career with us.

The aggregate totals of plan coverage are available in the Annual Report.

Lifelong employment with PTTEP is an enriched experience through a rewarding career path, developmental program that respects individual’s choice, transitional management plan from junior to retirement.

Equal opportunities are provided at any age and gender. PTTEP is supportive of employees in parenthood through leave option and maternity facilities at our head office.



## Diversity in Workplace

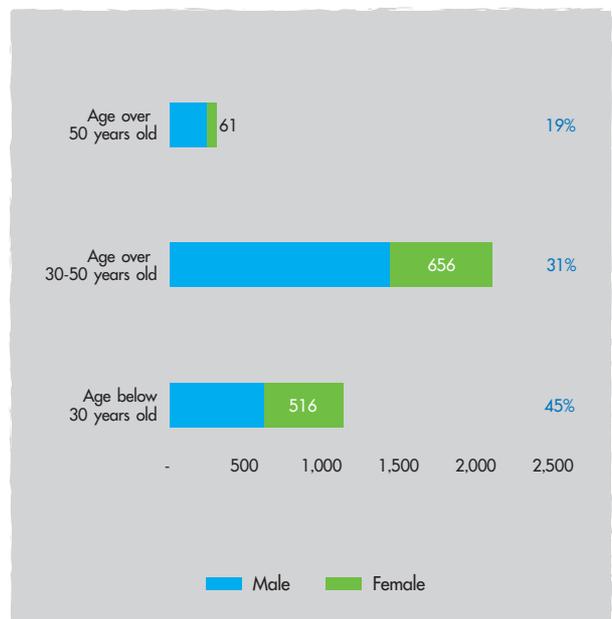
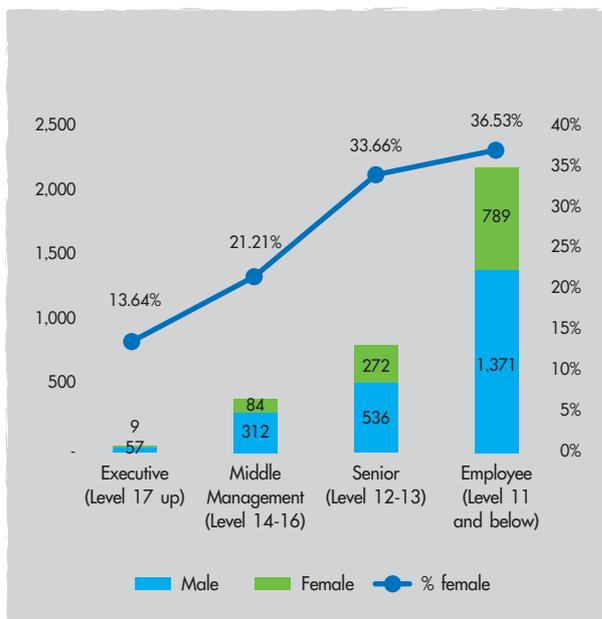
“We believe diversity of our employees bring richness to our work environments. Diverse perspectives enhance the company’s line of sight to risks and opportunities, increase creativity and ultimately strengthen our competitive advantages as a sustainable organization. PTTEP is committed to diversity and to equal opportunity in all aspects of employment. We do not tolerate discrimination on the basis of race, color, religion, sex, gender identity, age, national origin, disability, or under any category protected under the laws of communities in which we do business.”

*Yupawadee Valayapetre, Senior Vice President, Human Resources Division*



PTTEP believes that building an inclusive culture that embraces differences will contribute in a high performance organization and innovation, and diversity in the leadership group will enhance the decision-making process. Diversity will also promote a better connection with people and authorities in areas where we operate and strengthening our global presence. Our business ethics spell out non-discrimination due to the similarity or differences in terms of race, gender, age, religion or any other status unrelated to operation of work. Gender wise, female workforce remains approximately one third of our total workforce in the past three years. Similarly, non-Thai employees constitute 2 percent of PTTEP’s workforce. While we do not set specific diversity target, we are fully support equal opportunity and will track percentage of female in management.

## 2012 Thailand Employee



## Employee Engagement

PTTEP believes that an engaged workforce is critical for the execution of our strategy. Engagement is about creating a motivated working environment, where employees are aligned and energized to contribute to the company's success.

PTTEP conducts an employee engagement survey every other year. The questions in this survey were structured to address factors analysis, supervisor practice, job satisfaction, work environment, leading organization, work collaboration, work focus, total reward practice, reward communication and organization culture. In 2011, over 1,800 employees completed the online and paper surveys and through focused groups. This represents a very high response rate of 70 percent. PTTEP conducts benchmarking with average score of companies in Thailand, Fortune 100 and the oil and gas industry.

While 2011 Employee Engagement Index was measured at 4.18 out of 5, we dedicated 2012 to build on plans and improved areas employees identified as major concerns. Top priority was to enhance total reward practices towards pay per performance. We initiated two parallel programs to answer this concern.

- 1) Establish a program to ensure that each and every employee set individual KPI effectively as a basis for individual evaluation.
- 2) Encourage continuous coaching mechanism to ensure that team leaders provide constructive coaching & feedback throughout the year to gain mutual understanding on expectations and performance.

By the end of 2012, 85 percent of permanent staffs set individual KPIs. Our next Employee engagement survey is scheduled for March 2013 with the continuing theme on Total Reward Practice.

Our next Employee Engagement Survey is scheduled for March 2013 with the continuing theme on Total Reward Practice.

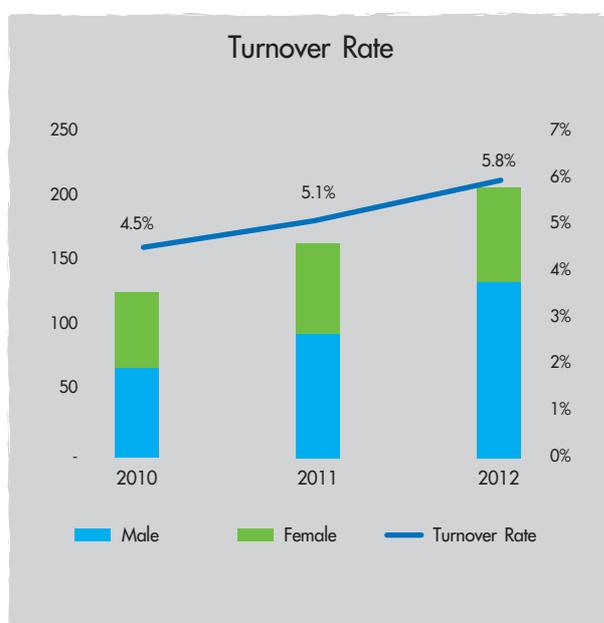
## Ability of PTTEP to Attract and Retain Best Talent in Thailand

There is increasing competition of skilled workers and specialists as a result of growth in the industrial sector, especially in the chemical and petroleum business. Until now, PTTEP has not been directly affected by the competition for the best talent available. Our pool of employees has been increasing year on year and our strategic recruitment plan meets with our expectations.

Our approach to attract and retain the best talent available consists of

- Define Technical Career Ladder (TCL) for specialist by focusing the technical job families as a priority including geosciences & reservoir engineering, drilling & well engineering
- Implement a long term strategic hiring plan in accordance with our business strategy in exploration and production to prevent skill shortage
- Provide stock options for employee to build ownership

Since 2011, our workforce grew to 4,080 or 12 percent increase. Our voluntary turnover rate increase from 6 percent in 2011 to 7 percent in 2012 comparing to 8.87 percent of another oil and gas company which known for high turnover rate of skilled employees. Our recruitment activity is still strong in 2012 with 531 new employees being recruited. We also rolled out our equity plan for our employees to share the future with PTTEP through the EJIP program.



# SD PERFORMANCE SUMMARY



## ENVIRONMENT

	2012	2011	2010
<b>Hydrocarbon production</b>			
Production from domestic operating asset (BOE)	96,282,937	84,441,888	90,508,275
Production from domestic operating asset (tonnes)	13,151,813	11,531,232	12,266,548
<b>Energy consumption</b>			
Direct Energy Consumption (GJ)	20,377,244	18,886,907	18,642,201
Indirect Energy Consumption (in term of primary energy source) (GJ)	29,231	29,440	29,910
Energy Intensity (GJ/MBOE)	212	224	206
Energy Intensity (GJ/tonne production)	1.55	1.64	1.52
<b>Direct energy consumption by primary energy source (GJ)</b>			
Stationary Combustion - Fuel Gas (GJ)	17,445,015	16,129,024	16,512,166
Stationary Combustion - Diesel (GJ)	101,366	201,955	142,484
Mobile Combustion - Diesel / Gasoline (GJ)	2,830,864	2,555,928	1,987,550
<b>Indirect energy consumption by primary energy source (GJ)</b>			
Electricity purchased (GJ)	29,231	29,440	29,910
<b>Greenhouse gas emissions (GHGs)</b>			
GHG Intensity (tonnes CO <sub>2</sub> equivalent/KBOE)	46.0	32.6	37.9
GHG Intensity (tonnes CO <sub>2</sub> equivalent/tonne production)	337	239	279
Direct total GHGs (tonnes CO <sub>2</sub> equivalent)	4,431,143	2,749,333	3,426,599
Flare (tonnes CO <sub>2</sub> equivalent)	2,799,173	1,354,428	2,003,372
Stationary Combustion (tonnes CO <sub>2</sub> equivalent)	1,266,652	1,082,547	1,140,732
Mobile Combustion (tonnes CO <sub>2</sub> equivalent)	208,510	186,163	144,836
Fugitive emission (tonnes CO <sub>2</sub> equivalent)	152,171	126,196	137,658
Fugitive of fluorinate gas (tonnes CO <sub>2</sub> equivalent)	4,638	-	-
Indirect total GHGs (tonnes CO <sub>2</sub> equivalent)	1,649	1,675	1,455
Other relevant indirect GHG Emission (Scope 3)	12,817	10,978	7,623
<b>Flare</b>			
Total Flaring (MMscf)	44,050	20,812	31,982
Hydrocarbon Flaring (tonnes)	1,015,134	482,983	735,314
Hydrocarbon flaring Intensity (tonnes/KBOE)	10.5	5.7	8.1
<b>Acid gases and VOCs</b>			
Volatile organic compounds (VOCs) (tonnes)	15,264	7,194	-
Nitrogen oxides (NOx) (tonnes NO <sub>2</sub> )	9,228	7,587	-
Sulphur oxides (SOx) (tonnes SO <sub>2</sub> )	571	517	-
<b>Ozone-depleting emissions</b>			
CFCs/halons/trichloroethane (tonnes)	-	-	-
Hydrochlorofluorocarbons (HCFCs) (tonnes)	-	-	-

	2012	2011	2010
<b>Hydrocarbon &amp; Chemical Spill and Discharges</b>			
Operational significant spills - number, volume (tonnes) (Domestic = 5, 0.12 / International = 2, 5.75)	7,5.87	14,6.00	13,21.18
Hydrocarbons - volume (tonnes) (Domestic = 5, 0.12 / International = 2, 5.75)	7,5.87	13,0.75	12,21.18
Non-Hydrocarbons (tonnes) (Domestic = 0 / International = 0)	0	1,5.25	1,0.000001
LOPC - case, rate (per million man-hours) (Domestic : case 3, rate = 0.21 / International : case = 1, rate = 0.58)	4,0.23	-	-
<b>Water</b>			
Water withdrawn excluding once through cooling water (cubic meters)	1,772,324	1,133,491	1,132,319
Once Through cooling water (cubic meters)	68,214,995	63,136,840	64,663,784
Total water reuse (cubic meters)	7,440	7,300	5,850
Produced water injection (cubic meters)	5,559,511	5,330,736	4,609,101
<b>Waste disposal</b>			
Hazardous waste (tonnes)	33,874	18,235	19,563
Drilling mud and cutting waste (tonne)	32,430	16,999	16,795
Other hazardous waste (tonne)	1,444	1,236	2,768
Non-hazardous waste (tonnes)	873	588	532
Transported hazardous under the Basel Convention (tonnes)	429	515	972
<b>Investing in managing our environmental impacts</b>	\$5.96	\$4.45	\$6.21
Treatment and Disposal expenses (USD million)	\$3.77	\$2.44	\$4.66
Protection, Management and Investments (USD million)	\$2.19	\$2.00	\$1.55
Percentage of Prevention Cost in total environment expense	37%	45%	25%
Investment in Renewable Energy	-	-	-
<b>Legal compliance</b>			
Fines, penalties and settlements (Number) - Domestic only	0	0	-
Fines, penalties and settlements (USD million) - Domestic only	0	0	-

**Remarks:**

**Material**

- This indicator related to the amount of hydrocarbon produced from well which is reported as Hydrocarbon production.

**Emission to Air**

- Other relevant indirect GHG emission (scope 3) included domestic (Thailand) air travelling and production transportation at S1.
- Volume of hydrocarbon flaring was calculated using generic hydrocarbon production factor that resulted in overestimated figures. Specific calculation methodology will be applied in 2013.
- Ozone depleting substance data are being verified and will be available in the upcoming year.

**Water**

- Water reuse from canteen were used for gardening at S1.
- No produced water discharge during 2010 - 2012.

**Waste**

- Waste from non-routine operation (e.g. construction, spill clean-up) cannot be separated.
- Onshore drill cutting is reported as part of EN22 (Hazardous waste disposal). We are in process to enhance data consolidation system. This indicator both onshore and offshore (i.e. GBN, GBS, Arthit) will be reported in full in 2013.

**Spill**

- Spill included domestic and international projects.

## HEALTH & SAFETY

	2012	2011	2010
<b>Workforce Exposure (Hour)</b>	32,026,853	25,575,703	16,848,738
(Domestic = 23,977,929 / International = 8,048,924)			
Employees	7,610,834	4,532,404	3,544,555
(Domestic = 6,150,859 / International = 1,459,975)			
Contractors	24,416,019	21,043,299	13,304,183
(Domestic = 17,827,070 / International = 6,588,949)			
<b>Fatalities</b>			
Total number	0	0	1
(Domestic = 0 / International = 0)			
Employees	0	0	0
(Domestic = 0 / International = 0)			
Contractors	0	0	1
(Domestic = 0 / International = 0)			
Fatal accident rate (FAR)	0	0	5.93
(Domestic = 0 / International = 0)			
<b>Injuries</b>			
Total recordable incident rate (TRIR)	1.87	2.07	2.43
(Domestic = 1.38 / International = 3.35)			
Lost time injury frequency (LTIF)	0.19	0.35	0.59
(Domestic = 0.17 / International = 0.25)			
Restricted Work Case (RWC)	24	14	11
(Domestic = 10 / International = 14)			
Medical Treatment Case (MTC)	30	30	20
(Domestic = 19 / International = 11)			
Near Miss	142	127	228
(Domestic = 85 / International = 57)			
<b>Illnesses</b>			
Total recordable occupational illness frequency (TROIF)	0.06	0.23	0.17
(Domestic = 0.08 / International = 0)			
Illnesses per million working hours (employees only)	-	-	-
Absentee rate in hours per million work hours	-	-	-

## HUMAN CAPITAL

	2012		2011		2010	
	Male	Female	Male	Female	Male	Female
<b>Workforce</b>						
Total Workforce	2,732	1,348	2,479	1,160	2,055	1,008
PTTEP	1,191	665	1,099	589	972	530
PTTEP Services	1,149	568	1,067	487	896	417
Staff by Employment Type						
Permanent (All Full time)	2,114	1,063	1,957	953	1,671	826
Fixed term	735	340	689	319	565	261
Staff by Region						
Thailand	2,340	1,233	2,166	1,076	1,868	947
Australia	217	59	186	43	122	33
Oman	55	6	59	6	50	8
Myanmar	66	34	29	23	15	20
Other international	54	16	39	12	-	-
<b>New Employee Hire by Age Bracket</b>						
<30 years	152	168	194	141	140	111
30 - 50 years	131	59	181	54	81	33
>50 years	19	2	26	1	14	1
Total	302	229	401	196	235	145
New Hire (Percentage of Total)	12.9%	18.6%	18.5%	18.2%	12.6%	15.3%
<b>Turnover by Age Bracket</b>						
<30 years	33	51	28	47	23	30
30 - 50 years	74	19	48	18	29	23
>50 years	27	2	20	3	17	5
<b>Total</b>	<b>134</b>	<b>72</b>	<b>96</b>	<b>68</b>	<b>69</b>	<b>58</b>
Turnover rate Percentage of Total	5.7%	5.8%	4.4%	6.3%	3.7%	6.1%
<b>Turnover by Type</b>						
Voluntary Resignation	127	72	86	66	62	55
Dismissal	0	0	0	0	0	0
Retirement	5	0	10	2	6	3
Death - not related to work	2	0	1	0	0	0
<b>Parental Leave</b>						
Employees entitled to parental leave	2,109	1,221	1,950	1,074	1,650	945
Coverage	77%	91%	79%	93%	80%	77%
Employee taken parental leave	15	29	23	32	18	16
Employee returned to work after parental leave	100%	100%	100%	100%	100%	100%
<b>Average Training Hours</b>						
Average All Employees	52.0	43.3	40.9	48.6	53.9	73.5
PTTEP	58.3	55.1	38.3	62.3	44.0	80.7
PTTEP Services	45.6	29.5	43.5	32.0	64.8	64.4

	2012		2011		2010	
	Male	Female	Male	Female	Male	Female
<b>Composition of Governance Bodies</b>						
Board of Directors	14	1	14	1	15	1
Executives	57	9	45	8	38	6
Middle Management	312	84	282	70	261	9
Senior and Professional	536	274	478	234	400	188
Employee	1,435	866	1,361	764	1,169	694
<b>Basic Salary</b>						
Executive	\$12,348	\$10,600	\$12,026	\$10,048	\$11,142	\$10,259
Middle Management	\$6,888	\$5,897	\$7,207	\$5,577	\$6,800	\$5,241
Senior and Professional	\$3,223	\$3,018	\$3,190	\$2,958	\$3,120	\$3,017
Employee	\$1,266	\$1,313	\$1,236	\$1,269	\$1,212	\$1,253
Average	\$2,734	\$2,072	\$2,669	\$1,982	\$2,603	\$1,909

	2012		2011		2010	
	Number	%	Number	%	Number	%
<b>Gender diversity</b>						
Women in workforce	1,233	35%	1,076	33%	897	32%
Women in professional positions	274	34%	234	33%	188	32%
Women in management positions	84	21%	70	20%	9	3%
Women in senior leadership positions	10	12%	9	13%	7	12%
Ratio basic salary women/men	-	0.76	-	0.74	-	0.73

	2012		2011		2010	
	Male	Female	Male	Female	Male	Female
<b>Integrity</b>						
Training hours concerning Human Rights, Anti-Bribery, and Corruption	784	1,170	208	260	1,024	1,149

## CORPORATE SOCIAL RESPONSIBILITY

	2012	2011	2010
<b>Total Contribution</b>	\$6.37	-	-
In Kinds (USD million)	-	-	-
In Cash (USD million)	\$4.67	-	-
Volunteerism (USD million)	-	-	-
Management Overhead (USD million)	\$1.70	-	-
<b>Social investment by region</b>			
Estimated voluntary social investment (USD million)	\$4.67	-	-
Estimated social investment spend outside of Thailand (USD million) - Myanmar	\$0.71	\$0.81	\$0.82
<b>Social investment by contribution type</b>	\$4.67	-	-
Economic development	\$0.23	-	-
Education	\$0.27	-	-
Public Infrastructure development including Health and Safety	\$0.08	-	-
Access to energy	-	-	-
Environmental Conservation	\$0.45	-	-
Art and Culture	\$0.10	-	-
Other Spending including philanthropy	\$3.54	-	-

## DIRECT ECONOMIC VALUE GENERATED

	2012	2011	2010
<b>Total Revenues (USD million)</b>	7,021	5,685	4,532
Employee total compensation and benefits* (USD million)	**109.4	151.42	114.57
Operating expenses (USD million)	706	625	458
Payments to governments (USD million)	1,886	1,615	1,303
Payments to providers of capital (USD million)	766	683	443

This table is based on data contained within the 2012 Annual Report and Form 56-1.

\* Includes pension and other post-employment benefit costs.

\*\* In 2012, compensation (salary, bonus, and contribution to the provident fund) of PTTEP and its subsidiaries (PTTEP Siam)\* employees and wages of seconded workers totaled USD 109.4 million (3,291,102,103 baht) (only PTTEP and PTTEP Siam and bonus paid in January 2013)



# AWARDS AND RECOGNITION

During the reporting year, PTTEP received the following awards:

## International Recognition

**14 Sep 12** 2012 Thailand's Top Corporate Values as the Top company value of 401,875 Million Baht in Thailand and Industrial Resources sector for 2 consecutive years

**10 May 12** The Environment award of BG Chairman's Awards in 2012 for Environmentally Responsible for Produced Water Management for the Bongkot Field

**30 Mar 12** The 2<sup>nd</sup> Asian Excellence Recognition Awards 2012 for outstanding performance of Best Investor Relations for the listed companies

## Thailand Recognition

**22 Nov 12** "Top Corporate Governance Report Award" from SET Awards 2012 by the Stock Exchange of Thailand and Money and Banking Magazine

**21 Feb 12** Board of the Year Awards 2010/11

**30 Jan 12** Security Analysts' Association "SAA Award for Listed Companies 2011"

A top-down view of several hands of different skin tones, some with dirt on them, holding small green seedlings with soil. The hands are arranged in a circle, creating a sense of unity and care for the environment. The background is a soft, out-of-focus green.

# ABOUT THIS REPORT

## PREPARING THE SUSTAINABILITY REPORT

### Reporting Practices

This Sustainability Report highlights PTTEP's economic, social and environmental activities for fiscal year 2012, which ran from January 1, 2012, through December 31, 2012. The most recent report, the 2011 Sustainability Report issued 2012, March, are available electronically on our website as well as historical data. Some important events that took place after the close of 2012 are also covered here; their inclusion reflects the impact or influence the events may have on PTTEP's future direction. Sustainability practices, new initiatives in operations and other opportunities are described under each chapter's performance.

PTTEP continues to seek quality and transparency in our management and reporting. All information contained in this report is based on materiality assessment by PTTEP 2012 Sustainability Report Working Committee (detail is provided in Chapter 2). Various data points are confirmed internally through staffs and systems established to collect and review data quarterly and externally through third parties expert review. PTTEP used numerous data measurement techniques in responding to the GRI Indicator Protocols. Where data is not provided will be noted and explained. The quantitative financial information, environmental and social investments and expenditure meet the accounting standards assured by the Board of Directors, Internal Audit Committee, and external auditors. We use the framework of the Global Reporting Initiative (GRI) to measure and report on economic, social and environmental performance. GRI G3.1OGSS Index for fiscal year 2012 indicators is located on page 97-100 of this Report. For enhanced reliability, this report has been verified by PricewaterhouseCoopers ABAS Ltd. (PwC), a third-party assurance agency. PricewaterhouseCoopers conducted a limited assurance review of 8 GRI indicators. The assurance statement can be found on page 96.

## Scope and Boundary

During the reporting period, Bongkot South's production commenced in February 2012. PTTEP production. PTTEP also successfully acquired the entire shares capital of Cove Energy Plc. with. An overview of the operational structure, legal form as well as market serves are available in our Annual Report, Form 56-1 form and on our website: [www.pttep.com/en/aboutPttep](http://www.pttep.com/en/aboutPttep)

Consistent with our previous reporting, for 2011, we focus primarily on activities and data related to the domestic operating assets, which comprised approximately 56 percent of PTTEP's reserve at the end of 2012. Except where noted, this report does not cover information related to PTTEP oversea operations. All PTTEP's financial results, however, are reported under Generally Accepted Accounting Principles at which joint venture and affiliate operations are consolidated through an equity basis.

While the scope of this Report is restricted to our operations in Thailand, we acknowledge our impacts extend through international operations including the exploration, development and production. In order to benchmark with OGP (the International Association of Oil and Gas Producers), Health and Safety including Spill statistics for overall PTTEP (includes both Thailand and International Assets) are reported in page 57 and 73. The scope and boundary comprises all international assets and Thailand operations, which includes following projects: Bongkot Project (Concessions; B15, B16, B17, G12/48), Arthit Project (Concessions; B14, B15, B16, G8/50), S1 Project (Concession; S1), PTTEP 1 Project (Concession; PTTEP 1), B6/27 Project (Concession; B6/27), L22/43 Project (Concession; L22/43), L53/43 and L54/43 Project (Concessions; L53/43 and L54/43), L21 and 28/48 Project (Concessions; L21 and 28/48), A4, 5 and 6/48 Project (Concessions; A4/48, A5/48 and A6/48), PTTEP Petroleum Development Support Base (PSB) (Songkhla and Ranong) and PTTEP Head Office at the Energy Complex. Separate statistics of Domestic and International Assets with overall figures are available in SD Performance Summary part. However, for other Environmental performance the scope and boundary comprise Bongkot Project, Arthit Project, S1 Project and PTTEP 1 Project.

We strive to provide qualitative content as appropriate. Going forward, the majority of the company's growth is expected to come from the international operations. As a result, we establish a goal of incorporating performance of all operating companies into our efforts and reporting.

## Stakeholder Engagement

PTTEP believes that effective engagement and partnerships with stakeholders in the wider society will lead the organization to continue on its path to sustainable growth, hand in hand with the growth of the community, society and the global community.

Stakeholders are defined as entities or individuals that can reasonably be expected to be significantly affected by the organization's activities, products, and/or services; and whose actions can reasonably be expected to affect the ability of the organization to successfully implement its strategies and achieve its objectives. This includes entities or individuals whose rights under law or international conventions provide them with legitimate claims in relation to the organization.

Stakeholders can include those who are invested in the organization (e.g., employees, shareholders, suppliers) as well as those who have other relationships to the organization (e.g., vulnerable groups within local communities, civil society).

### Re-statements of information

Unless otherwise specified, all re-statement of information, data, baseline performance deviate from those of the previous report are provided within context together with annotation. All human resources for 2012 is all reported on the basis of aforementioned boundary differentiate from 2012 report that has both PTTEP and PTTEP Services. There are no significant changes from previous reporting periods. Minor changes are provided in annotation within context.

## CONTACT POINT

This report aims at communicating our commitment and performance to all our stakeholders. We have changed the way we report our sustainability performance to relate the opportunities and challenges we face, as well as to clearly state our position. In order to evolve more insights, we welcome your inputs and feedback. This report is designed for our stakeholders at large. Further detailed information is available through our websites, prints, and communication channels as follows:

1

#### Investors & Shareholders

Contact the Investor

Relations team, go to:

<http://www.pttep.com/en/investorRelations.aspx>

2

#### Students & Professionals

To learn more about:

Careers at PTTEP, go to:

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

Exploration and Production and related challenges and issues, go to:

[www.pttep.com](http://www.pttep.com)

3

#### To Learn More About the PTTEP's Corporate Responsibility

go to: <http://www.pttep.com/en/CorporateSocialResponsibility.aspx>

4

#### For any Other Questions

Call: +66 (0)2 537 4000

or go to: [www.pttep.com](http://www.pttep.com)

**To Sustainability Development Council of PTT Exploration and Production Public Company Limited**

PTT Exploration and Production Public Company Limited ('PTTEP') engaged PricewaterhouseCoopers ABAS Limited ('PwC') to perform a limited assurance engagement on selected subject matter ('the Subject Matter') presented in the PTTEP Sustainability Report for the year ended 31 December 2012 ('the PTTEP Sustainability Report') in accordance with the reporting criteria ('the Criteria').

**Subject Matter**

The selected Subject Matter was chosen by PTTEP comprises:

- a) Environmental dimension performance indicators
  - Total direct energy consumption (GJ) (Page 85)
  - Greenhouse gases emission (scope 1 & 2) (tonnes CO<sub>2</sub>e) (Page 85)
  - Nitrogen Oxide (NO<sub>x</sub>) and Sulphur Dioxide (SO<sub>x</sub>) emission (tonnes) (Page 85)
  - Oil spill (tonnes) (Page 86)
  - Hazardous waste disposal and disposal method (tonnes) (Page 86)
  - Total water withdrawal (cubic meters) (Page 86)
  - Total water discharge (cubic meters) (Page 86)
- b) Social dimension performance indicators
  - Lost workday case, total recordable injuries case, total recordable injuries rate, lost time injuries frequency rate and fatalities (Page 87)

**Criteria**

The Subject Matter above has been assessed according to the following Criteria:

- The WBCSD/WRI Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard, and
- The 'Sustainability Reporting Guidelines & Oil and Gas Sector Supplement version 3.1' by the Global Reporting Initiative

**Inherent limitations**

Inherent limitations exist in all assurance engagements due to the selective testing of the information being examined. Therefore fraud, errors or non-compliance may occur and not be detected. Additionally, non-financial data may be subject to more inherent limitations than financial data, given both its nature and the methods used for determining, calculating and estimating such data.

**Responsibility and Methodology**

**PTTEP:**

PTTEP is responsible for preparing the PTTEP Sustainability Report, determining the adequacy of the Criteria to meet the reporting need of PTTEP. PTTEP's responsibility also includes designing, implementing and maintaining of a system of internal control relevant to the preparation and fair presentation of the Subject Matter that is free from material misstatement, whether due to fraud or error.

**PwC:**

Our responsibility is to provide a conclusion on the Subject Matter based on evidence-gathering procedures in accordance with the International Standard on Assurance Engagements (ISAE) 3000 "Assurance Engagements other than Audits or Reviews of Historical Financial Information".

The procedures selected depend on auditor judgment, including an assessment of the risks of material misstatement of the Subject Matter, whether due to fraud or error. In making these risk assessments, we consider internal control relevant to PTTEP's preparation and fair presentation of the Subject Matter in the PTTEP Sustainability Report in order to design

assurance procedures that are appropriate in the circumstances, but not for the purpose of expressing a conclusion on the effectiveness of PTTEP's internal controls.

We read other information included within the PTTEP Sustainability Report and consider whether it is consistent with the knowledge obtained through our procedures. We consider the implications for our report if we become aware of any apparent material inconsistencies with the Subject Matter. Our responsibilities do not extend to any other information reported by PTTEP.

**Assurance work performed**

The assurance procedures included the following work:

- visiting selected one site of business unit:
  - S1
- conducting an offsite review of the following business units:
  - Greater Bongkot North
  - Greater Bongkot South
  - Arthit
- completing analytical procedures
- reviewing the appropriateness of management review and reporting processes
- performing substantive testing of selected data to source information, and
- reviewing the process for consolidating data at a corporate level.

As a limited assurance engagement generally comprises of making enquiries, primarily of management, and applying analytical procedures and the work is substantially less detailed than that undertaken for a reasonable assurance engagement, the level of assurance is lower than would be obtained in a reasonable assurance engagement.

We believe that the information we have obtained is sufficient and appropriate to provide a basis for our conclusion.

**Use of our report**

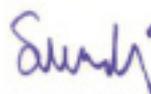
This report has been prepared in accordance with our engagement terms, solely for PTTEP as a body, for the purpose of reporting on the Subject Matter within the PTTEP Sustainability Report. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than PTTEP for our work or for this report, or for any other purpose other than that for which this report was prepared.

Our report is intended solely for the use of PTTEP in connection with its Environmental and Social Subject Matter as of and for the Sustainability Report for the year ended 31 December 2012 and should not be used for any other purpose.

**Conclusion**

Based on the work described above, nothing has come to our attention that causes us to believe that the Subject Matter for the year ended 31 December 2012 included in the PTTEP Sustainability Report has not been prepared, in all material respects, in accordance with the Criteria.

For PricewaterhouseCoopers ABAS Limited



By Svasvadi Anumanrajdhon  
Partner

Bangkok, Thailand  
11 March 2013

## GRI CONTENT INDEX

### Strategy and Profile

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1.2	Key impacts, risks and opportunities	8, 24		-
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GRI Index	Description	Page	IPECA/OGP	UNGC (Principles)
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## Economic

GRI Index	Description	Page	IPECA/OGP	UNGC (Principles)
DMA EC	Disclosure on Management Approach - Economic	53-54, 59, 66-67	-	1, 4, 6, 7
EC1	Direct economic value generated and distributed	89, 90	SE4, SE13	-
EC2	Implications of climate change	38	-	7
EC3	Defined benefit plan obligations	80, 89		-
EC4	Financial assistance	Not Applicable		-
EC5	Ratio of standard entry level wage to minimum local wage	80		1
EC6	Locally based suppliers	50	SE5, SE7	-
EC7	Local hiring	88	SE5, SE6	6

GRI Index	Description	Page	IPIECA/OGP	UNGC (Principles)
EC8	Indirect economic impacts	89	SE4	-
EC9	Description of direct economic impacts	59-65	SE6	-
OG1	Volume and type of estimated proved reserves and production	59-65	AR	-

## Environment

GRI Index	Description	Page	IPIECA/OGP	UNGC (Principles)
DMA EN	Disclosure on Management Approach - Environment	20-21, 31	-	7, 8, 9
EN1	Materials used by weight or volume	Not Applicable	-	8
EN2	Percentage of materials recycled	Not Applicable	-	8, 9
EN3	Direct energy consumption	31, 85	E2	8
EN4	Indirect energy consumption	85	E2	8
OG2	Renewable energy investment	86	-	
OG3	Renewable energy generation	Not Applicable	-	
EN8	Water withdrawal	86	E6	8
EN9	Water sources affected by water withdrawal	34	E6	8
EN10	Water recycled and reused	86	E6	8, 9
EN11	Location of land adjacent to high biodiversity areas	35-37	E5	8
EN12	Description of significant impacts on biodiversity	35-37	E5	8
EN13	Habitats protected or restored	35-37	E5	8
EN14	Strategies and plans for managing impacts on biodiversity	35-37	E5	8
OG4	Operating sites with biodiversity risk assessment	35-37	-	
EN15	IUCN Red List species	37	E5	8
EN16	Direct and indirect GHG	85	E1, E4	8
EN17	Other relevant indirect GHG	85	E1	8
EN18	Initiative to reduce GHG	40-41	E1	7, 8, 9
EN19	Emission of ODS	85	E7	8
EN20	NOx, SOx, and other emissions	32, 85	E7	8
EN21	Water discharge	86	E9	8
EN22	Waste disposal	33, 86	E10	8
OG5	Volume of formation or produced water	34, 86	-	
EN23	Spills	86	E8	8

GRI Index	Description	Page	IPECA/OGP	UNGC (Principles)
OG6	Volume of flared and vented hydrocarbon	85	-	
OG7	Amount of drilling waste	86	-	
EN24	Weight of transported Waste under Basel Convention	33	-	8
EN26	Initiatives to mitigate environmental impacts of products	Not Applicable	-	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	86	-	8
EN30	Environmental protection expenditures and investments	86	-	7, 8, 9

### Labor Practices and Decent Work

GRI Index	Description	Page	IPECA/OGP	UNGC (Principles)
DMA LA	Disclosure on Management Approach - Labor Practice	20-21, 75-83	-	1, 3, 6
LA1	Total workforce	76, 88	-	
LA2	New hires/turnover by age, gender, region	76, 83, 88	-	6
LA3	Benefits for employees	80, 89	-	
LA4	Employees covered by collective bargaining	Not Applicable	-	1, 3
LA5	Minimum notice for operational changes	Not Applicable	-	3
LA6	Workforce represented in health and safety committees	Not Material	HS1, SE16	1
LA7	Rates of injury, occupational diseases, lost days, fatality	49, 73, 87	HS3	1
LA8	Training regarding serious diseases	74	HS2	1
LA10	Employee training	75, 88	SE17	1
LA12	Employee performance review	78-79	SE17	1
LA13	Composition of governance bodies	89	SE15	1, 6
LA14	Men to women salary ratios	89	-	1, 6
LA15	Return to work	88	-	

### Human Rights

GRI Index	Description	Page	IPECA/OGP	UNGC (Principles)
DMA HR	Disclosure on Management Approach - Human Rights	20-21, 74		1-6
HR1	Agreement that include human rights clauses	46-47	SE8, SE9	1-6
HR2	Suppliers/contractors undergone HR screening	46-47	SE8, SE9	1-6

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HR3	Employee training on HR issues	26, 89	SE8	1-6
HR4	Non-discrimination	27	SE18	1, 2, 6
HR5	Freedom of association and collective bargaining	27, 37	-	1, 2, 3
HR6	Child labor	27, 37	-	1, 2, 5
HR7	Forced and compulsory labor	27, 37	-	1, 2, 4
HR9	Violation involving rights of indigenous people	69	-	1, 2
HR10	Human rights review and/ or impact assessment	68-69	-	1, 2
OG9	Operations where indigenous are present or affected	69	-	
HR11	Grievances related to human rights	27, 69	-	1, 2

## Society

GRI Index	Description	Page	IPIECA/OGP	UNGC (Principles)
DMA SO	Disclosure on Management Approach - Society	20-21, 59, 69	SE1, SE2, SE3, SE4, SE5	10
SO1	Programs on impacts of operations	69	SE1, SE2, SE3, SE4, SE5	-
SO2	Business units analyzed for risks related to corruption	26	SE11, SE12	10
SO3	Anti-corruption training	26, 89	SE11	10
SO4	Response to corruption incidents	26-27	SE11	10
SO5	Public policy on lobbying	28-29	SE14	1-10
SO6	Political contribution	Not Applicable	SE14	10
SO8	Fines/penalties for non-compliance	27, 86	-	-
SO9	Operations with potential/actual impacts	69	-	-
SO10	Preventions and mitigations measures	69	-	-
OG10	Significant disputes with local and indigenous peoples	69	-	-
OG11	Numbers of sites that have been decommissioned	6	-	-
OG12	Operations where involuntary resettlement took place	69	-	-
OG13	Number of process safety events, by business activity	55-57, 75	-	-

## Product Responsibility

GRI Index	Description	Page	IPECA/OGP	UNGC (Principles)
DMA PR	Disclosure on Management Approach - Product Responsibility	20-21	-	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	86	HS4	
PR9	Fines/penalties for noncompliance with product use laws	86	-	
OG14	Biofuels produced and purchased	Not Applicable		

Information response to these indicators appears on our website:

<sup>1</sup> [http://www.pttep.com/en/aboutPttep\\_PTTEPGroup.aspx](http://www.pttep.com/en/aboutPttep_PTTEPGroup.aspx)

<sup>2</sup> [http://www.pttep.com/en/aboutPttep\\_AwardsRecognitions.aspx](http://www.pttep.com/en/aboutPttep_AwardsRecognitions.aspx)

<sup>3</sup> [http://www.pttep.com/en/aboutPttep\\_Overview\\_2.aspx](http://www.pttep.com/en/aboutPttep_Overview_2.aspx)

<sup>4</sup> <http://www.pttep.com/en/ContactUs.aspx?Section>

<sup>5</sup> [http://www.pttep.com/en/CSR\\_CorporateGovernance\\_CodeofBusinessConduct.aspx](http://www.pttep.com/en/CSR_CorporateGovernance_CodeofBusinessConduct.aspx)

<sup>6</sup> <http://www.pttep.com/en/aboutPttepVisionAndMission.aspx>

## 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 2012**

- |                                    |                               |                                 |                              |                                       |
|------------------------------------|-------------------------------|---------------------------------|------------------------------|---------------------------------------|
| 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 |
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| 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 2012**

- |   |                               |                                 |                              |   |
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| The Commitment                              | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Low | <input type="checkbox"/> Not interested |
| PTTEP Sustainable Development Context       | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Low | <input type="checkbox"/> Not interested |
| Sustainable Development Management at PTTEP | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Low | <input type="checkbox"/> Not interested |
| Governance, Risk Management and Compliance  | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Low | <input type="checkbox"/> Not interested |
| Responsible Operation                       | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Low | <input type="checkbox"/> Not interested |
| Optimum Returns on Capital                  | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Low | <input type="checkbox"/> Not interested |
| Wealth Contribution                         | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Low | <input type="checkbox"/> Not interested |
| Technologically Advanced                    | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Low | <input type="checkbox"/> Not interested |
| High Performance Organization               | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Low | <input type="checkbox"/> Not interested |
| SD Performance Summary                      | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Low | <input type="checkbox"/> Not interested |
| About This Report                           | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Low | <input type="checkbox"/> Not interested |

**3. What additional contents would you like to find in PTTEP Sustainability Report 2013?**

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

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**5. Please provide personnel information**

- |               |                                       |                                 |   |
|---------------|---------------------------------------|---------------------------------|---|
| <b>Gender</b> | <input type="checkbox"/> Male         | <input type="checkbox"/> Female |   |
| <b>Age</b>    | <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?**

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|---|--|--|
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| <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



# Passion to Explore with Responsibility

PTTEP  
Sustainability  
Report 2012

บริการธุรกิจครบรับ

ใบอนุญาตเลขที่ ปน (น) 3225 ปณศ.จตุจักร  
ถ้าฝากส่งในประเทศไม่ต้องแนบตราไปรษณียากร

กรุณาส่ง

บริษัท ปตท.สำรวจและผลิตปิโตรเลียม จำกัด (มหาชน)  
ฝ่ายโครงการเพื่อสังคม  
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