## 2. Management Discussion and Analysis of Operating Results for 2012

### 2.1 PTTEP Performance

The global economy has continuously slowed down in 2012 as the International Monetary Fund (IMF) estimated its growth rate at 3.3% while it was 4% in 2011. Key behind this slowdown was the European debt crisis. Despite carrying out various stimulus measures, such as the establishment of the European Stability Mechanism (ESM) to diminish financial difficulties of participating countries and, additionally, government bond purchases by the European Central Bank to ease the debt burden of troubled European nations, the European economy has continued to struggle and has yet to show clear signs of recovery. The United States economy also faced high volatility throughout 2012. Of major concern was the overhanging situation of the fiscal cliff, which involved expiration of tax reduction policies and government spending cuts as a result of the public debt ceiling. Concerns over the economic growth of the United States, along with the economic slowdown in China stemming from lower demand both domestically and internationally, suppressed global market sentiments. Given all these circumstances, the situation will, therefore, be monitored closely.

As for the Thai economy, 2012 proved to be another year of successive growth. The Office of the National Economic and Social Development Board (NESDB) had estimated that Thai economic growth in 2012 was approximately 5.9%, which is higher than that of 2011. Main drivers pushing this growth included the recovery of the manufacturing sector and increases in private sector demand, consumption and investment as the Thailand flood crisis recovery accelerated. The services industry, most notably tourism, also grew considerably as evidenced by step-up in inbound foreign visitors. Moreover, the government legislation, such as increases in minimum wages and officials salaries, rice pledging, first-car and first-house schemes, as well as progressive reduction in personal income tax rate, encouraged domestic spending. Also, overall economic growth in Asia, especially in ASEAN nations in the wake of economic unification for the ASEAN Economics Community (AEC) by 2015, is clearly one of the factors that have attracted more substantial investments because of the accompanying infrastructural development and preparation activities that will go hand-in-hand within each nation in AEC.

Both the global economy and oil prices in 2013 continue to remain relatively fragile and highly uncertain, which will impact the Thai economy. For instance, the economy slowdown in both China and India and various monetary policies by leading developed countries, such as the United States and Japan, which are in the process of recovering their economies. These will strengthen the Thai Baht currency from the inflow of foreign funds.

In 2012, PTTEP has continuously monitored the economics closely and periodically revised its operation and investment plans accordingly to align with its strategic directions. PTTEP also strives to increase its efficiency and develop its capabilities for sustainable growth. The results can be summarized as follows.

**Exploration and Appraisal:** PTTEP carries on exploration activities domestically and internationally to assess field potential and estimate petroleum reserves. In 2012, the company conducted exploration and appraisal activities in several projects.

**PTTEP Australasia Project**: The project has completed 3-D seismic testing and drilling of appraisal well, Maple-2, Cash-Maple field, located in Timor Sea, Australia, in July 2012 with the discovery of natural gas. This discovery, in addition to that of Cash-2 well drilled at end of 2011, yielded a flow rate of natural gas of approximately 30 million square cubic feet per day (MMSCFD) and a condensate flow rate of 696 barrels per day (BPD). Currently, the company is assessing the commercial viability of the project.

**Myanmar M3 and M11 Projects:** The projects are located in the Gulf of Martaban, south of Yangon, Republic of the Union of Myanmar. Currently, the exploration period is being extended to 7 years in order to prove the project's commerciality. Preparation for appraisal well drilling program in M3 block is ongoing. The M11 deep water block is also in the process of preparation for an exploration well.

**Indonesia Semai II Project:** The project is conducting a geological study to assess petroleum potential and to define the location of the second exploration well, which is planned for a shallow water drilling site in 2013.

Algeria Hassi Bir Rekaiz Project: The project's first exploration phase consists of drilling 9 exploration wells, 7 of which have been completed with successful discovery of crude oil in 6 of the completed wells. Currently, the project is progressing to complete the drilling of the remaining exploration wells by early 2013 to confirm their petroleum potential.

**Canada Oil Sands KKD Project:** The project completed the Winter Evaluation Program (WEP) for 2011-2012, which covered the drilling of 161 appraisal wells and 3-D and 4-D seismic studies in Leismer, Thornbury and Hangingstone. Program results are used to evaluate the production of Leismer and assess the potential of Thornbury and Hangingstone.

In Q4 of 2012, the project is preparing for the 2012-2013 WEP and identifying positions and locations for appraisal wells and seismic testing with the purpose of further development in Leismer, Corner and Thornbury. The program is expected to cover drilling of approximately 92 wells and 3-D and 4-D seismic coverage of approximately 134 square kilometers.

**Development:** PTTEP has accelerated the development of the following various projects to start up production as planned.

**PTTEP Australasia Project:** The project completed the drilling of 3 production wells and a gas injection well in July 2012. The floating production and storage offloading (FPSO) vessel arrived at the Montara field in November 2012. Currently underway are the hook-up and commissioning process and preparation for production.

Regarding the compensation claim, PTTEP has received, from the start of the Montara incident to the end of fourth quarter in 2012, a total compensation claim of USD 212 million. The remaining claims are in progress. Regarding the claim that was submitted by the Government of Indonesia for compensation due to oil leaks from the Montara incident, PTTEP is continuously assessing the case with the government through scientific evidences to determine the impact (if any).

**Myanmar Zawtika Project:** In early 2012, PTTEP International Limited (PTTEPI) signed a joint operating agreement with Myanmar Oil and Gas Enterprise (MOGE). MOGE then held 20 percent participating interest in the Myanmar Zawtika Project, in accordance with the Production Sharing Contract. As a result, PTTEPI held 80 percent participating interest and remained the operator in this project. To date, the project is now in the process of constructing the Zawtika processing platform & bridge, wellhead platforms and intra-field sealines, offshore gas export pipeline, and onshore gas export pipeline and facilities. More than 63 percent of construction work has been completed. The project is expected to deliver natural gas in early 2014.

Algeria 433a & 416b Project: The project targets to complete the drilling of 4 production wells in 2012, of which 3 have already been completed. The flow rate of crude oil stood approximately at 4,000 BPD. The project continues to progress with the drilling of the fourth well and the construction of processing and pipeline facilities (EPC1), as well as the construction of the living quarters and utility facilities (EPC2) in the development area. The project is expected to begin production within 2014.

**Canada Oil Sands KKD Project**: The Corner Field study period has been extended for more detailed evaluation of the development plan and overall budget with the aim of maximizing investment value and efficient construction process. A Final Investment Decision (FID) is expected in 2013 and startup of production by 2016.

**Mozambique Rovuma Offshore Area 1 Project**: In August 2012, PTTEP Africa Investment Limited (PTTEP AI), a subsidiary of PTTEP, successfully completed the acquisition of Cove Energy. As a result, PTTEP AI currently holds 8.5% interest in the Mozambique Rovuma Offshore Area 1 project, the operator of which is Anadarko.

Located in Mozambique, the Mozambique Rovuma Offshore Area 1 is an area with substantial natural gas resources. Exploration activities have taken place and discoveries of natural gas have been made in the project with expected resources of over 65 trillion cubic feet (TCF). Significantly, potential exists to develop the area into liquefied natural gas (LNG) project. After PTTEP AI became a project partner, a key milestone for development activities was reached when the Front End Engineering Design (FEED) for both onshore LNG construction and offshore installation were awarded.

Moreover, Anadarko, as the operator of Mozambique Offshore Area 1, reached Heads of Agreement (HOA) with Eni, as the operator of Mozambique Offshore Area 4. The two operators will conduct separate, yet coordinated offshore development activities, while jointly planning and constructing common onshore liquefaction facilities at Cape Afungi, in Cabo Delgado Province of northern Mozambique. **Production:** PTTEP is continuously striving to maintain current production levels and increase production levels from new projects.

**Bongkot Project:** On June 16th, 2012, Greater Bongkot South, Bongkot Project reached a stable gas production rate of 320 MMSCFD, as required by the Gas Sales Agreement with PTT, and a condensate production rate of 9,000 BPD. On July 15, 2012, Greater Bongkot North field achieved a record production level for condensate at 25,019 BPD. Consequently, on August 5, 2012, the field reached a total production of condensate of 100 million barrels. As for natural gas production, the field reached an average production level of 596 MMSCFD during 2012.

Overall, at Bongkot Project, which consists of both Greater Bongkot North and Greater Bongkot South fields, natural gas production capacity increased to more than 900 MMSCFD, which signifies about 20% of Thailand natural gas demand.

**S1 Project:** The project reached the highest production level of crude oil at 35,176 BPD in December 2012. This achievement stands out as the highest ever record of production level since the inception of the project. Average production of crude oil in 2012 stood at approximately 28,000 BPD.

**Canada Oil Sands KKD Project**: Average bitumen production for the Leismer area in the fourth quarter of 2012 was approximately 15,700 BPD, which came from 22 pairs of steam-assisted gravity drainages and production wells from 4 well pads. Total production in the Leismer area, since its initial production, stood at approximately 9 million barrels as of November 2012. Well Pad 5 is expected to be ready for production by the fourth quarter of 2013.

As for the plans to increase production capacity (Leismer Expansion) to 40,000 BPD, the Company is determining the well pad location, conducting detailed studies of the requirements of additional facilities and preparing to seek approval details from the Energy Resources Conservation Board (ERCB).

**Oman 44 Project:** The Company increased crude oil production rate from approximately 1,500 BPD to 4,600 BPD with the discovery of crude oil from the drilling of development and appraisal wells in the Munhamir field and the new field, Shams-E South. In 2012, average production of crude oil and condensate stood at approximately 2,960 BPD and that of natural gas stood at 42 MMSCFD. Progress is being made with construction and testing, in compliance with engineering standards, of the pipeline from Shams-9ST production well to the main processing unit of the Shams field. Production of natural gas and condensate started from Shams-9ST on December 30th, 2012.

**Vietnam 16-1 Project**: On July 6, 2012, production from the second wellhead platform (WHP-H4) of Te Giac Trang field successfully began. As a result, the project increased its production of crude oil from 41,000 BPD to approximately 55,000 BPD.

**Portfolio Management:** PTTEP has operated continuously in the area of Portfolio Management. This aims for appropriate investment both in value added projects and risk management. To keep pace with changing social, economic and political conditions, the company studies and analyzes the factors and the impact of its investment on a regular basis to derive and manage its investment considerations and decisions. In addition, the company reviews its target for expansion (Focused Countries) by grouping the countries based on the opportunities, appropriateness and consistency with the company's direction and goals. The analyses are based on numerous factors such as petroleum potential, geography, government share, political and business risks, and competitive advantage(s).

# Total and JX NOEX participation in Myanmar M11 Block: PTTEP

International Limited (PTTEPI), a wholly owned subsidiary of PTTEP, has selected Total E&P Myanmar (Total) and JX Nippon Oil & Gas Exploration (Myanmar) Limited (JX Myanmar), a wholly owned subsidiary of JX Nippon Oil & Gas Exploration Corporation (JX NOEX), to become partners in Block M11 with 40% and 15% participation interests, respectively. PTTEPI will remain the operator, holding a 45% participation interest. The transaction is subject to official approval from the government of the Republic of the Union of Myanmar. Introduction of partners into Block M11 constitutes an integral component of PTTEP's strategy in its portfolio management, aiming to both add value to the project and risk management.

**Offer for Cove Energy Plc**: On July 23, 2012, PTTEP, through its subsidiary PTTEP AI, made an offer to acquire the entire amount issued and to be issued share capital of Cove Energy Plc at 240 pence (GBP Pound Sterling currency) per share, or at approximately 1,221.4 million Pounds Sterling. The major assets of Cove Energy consist of an 8.5% interest in the Rovuma Offshore Area 1 concession block in the Republic of Mozambique. Cove also held 10% interest in the Rovuma Onshore concession block in the Republic of Mozambique, as well as interests of 10-25% in 7 deep water concession blocks in Kenya.

On August 17, 2012, PTTEP AI successfully acquired Cove by fulfilling all conditions in the offer for Cove shares. From August 23, 2012, PTTEP AI began the process of compulsory acquisition of the remaining Cove shares from Cove shareholders who had not yet accepted the offer. As of October 5, 2012, which was the last date for the compulsory acquisition, PTTEP AI held 100% interest in Cove Energy.

On September 18, 2012, the London Stock Exchange announced the cancellation of admission to trading of Cove's shares on the Alternative Investment Market (AIM).

# 2.2 **Results of Operations**

Since 1 January 2011, PTTEP has complied with Thai Financial Reporting Standards (TFRS). Moreover, the Company has adopted Thai Financial Reporting Standard No.21 (revised 2009) "The Effects of Changes in Foreign Exchange Rates", which has been published, but will not become effective until 2013, and which also requires the Company to determine its functional currency. The Company has also completed early adoption of International Accounting Standard (IAS) No. 39 "Financial Instruments: Recognition and Measurement".

The Company has determined the USD to be its functional currency in accordance with Thai Accounting Standard No.21 (revised 2009) "The Effects of Changes in Foreign Exchange Rates". However, in submission of its financial statements to the Stock Exchange of Thailand and the Department of Business Development, the Company is also required to convert the financial statements from USD to the presentation currency, which is Thai Baht.

Detailed discussion of financial results for the year and final quarter are as follows:

	Millions of USD		Millions of Baht	
Earnings summary	2012	2011	2012	2011
Total Revenues	7,021	5,685	218,137	173,375
Total Expenses	(3,826)	(3,072)	(118,846)	(93,657)
Operating Income	3,195	2,613	99,291	79,718
Share of gain from associates	5	2	145	75
Income before income taxes	3,200	2,615	99,436	79,793
Income tax expenses	(1,354)	(1,147)	(42,120)	(35,045)
Net income	1,846	1,468	57,316	44,748
Diluted earnings per share	0.55	0.44	17.08	13.48
Income from normal operations	1,999	1,659	]	
Gain (Loss) from non-recurring items	(153)	(191)		
Net income	1,846	1,468	1	

## 2.2.1. Results of Operations – Full Year Comparison

Regarding the results of operations (Unaudited) for the year 2012, PTTEP and its subsidiaries' totaled a net profit of USD 1,846 million (equivalent to 57,316 million baht) or USD 0.55 per share-diluted (equivalent to 17.08 baht per share-diluted), an increase of USD 378 million or 26% compared with 2011's net profit of USD 1,468 million (equivalent to 44,748 million baht) or USD 0.44 per share-diluted (equivalent to 13.48 baht per share-diluted). Return on shareholder's equity for 2012 was 21.68%.

PTTEP and subsidiaries' net profit of USD 1,846 million for 2012 comprised the recurring net profit for this year, which amounted to USD 1,999 million, and the loss from non-recurring items, which amounted to USD 153 million.

For the results of recurring operations in 2012, PTTEP and subsidiaries' recurring net profit was USD 1,999 million, an increase of USD 340 million or 20% against last year which was USD 1,659 million. PTTEP and subsidiaries' Return from normal operation on shareholder's equity for 2012 was 23.49%.

For 2012, total revenues for PTTEP and its subsidiaries amounted to USD 7,021 million (equivalent to 218,137 million baht), an increase of USD 1,336 million or 24% against last year which was USD 5,685 million (equivalent to 173,375 million baht). The increase was mainly due to an increase of sales revenue of USD 1,249 million, caused by the following:

- The higher average petroleum sales price for 2012, which rose to USD 64.86 per barrel of oil equivalent (BOE) against last year, which was USD 55.49 per BOE.
- (2) There was a higher average sales volume for 2012, which increased to 275,923 barrels of oil equivalent per day (BOED) against last year, which was 265,047 BOED. This average sales volume increased from the net effect of the following;
  - Bongkot project: Sales volume of natural gas and condensate increased because Greater Bongkot South started its production as required by the Gas Sales Agreement in June 2012. However, Sales volume of natural gas of Greater Bongkot North decreased, resulting from a production shutdown of 34 days.
  - Vietnam 16-1 project: Crude oil sales volume increased because of higher production volume produced from 8 new wells in 2012, while the first production started in the third quarter of 2011.
  - S1 project: Crude oil sales volume increased because of higher production volume produced from new wells and higher beam pump activities.

However, in

- Arthit North project: Sales volume of natural gas and condensate decreased due to the production stoppage in November 2011.
- Arthit project: Sales volume of natural gas and condensate decreased in line with the newly instituted daily contract quantity.

PTTEP and subsidiaries' revenue from pipeline transportation from proportionate revenue in Moattama Gas Transportation Company (MGTC) and Taninthayi Pipeline Company LLC (TPC) increased.

This year, PTTEP and subsidiaries' other revenues increased by USD 60 million, principally because of the recognition of other income from the insurance claim from the Montara incident amounting USD 92 million in 2012; whereas, this insurance claim was recognized, amounting USD 36 million in 2011.

PTTEP and its subsidiaries incurred expenses for 2012 amounting to USD 3,826 million (equivalent to 118,846 million baht), an increase of USD 754 million or 25%, compared with USD 3,072 million (equivalent to 93,657 million baht) for 2011. This increase is attributed to the following:

- (1) Depreciation, depletion and amortization expenses escalated, amounting to USD 257 million, mainly from increases in the value of completed assets of the Bongkot and S1 projects. In addition, they also increased from higher production volume of the Vietnam 16-1 project since it started full production in 2012 and from increases in the value of completed assets.
- (2) The recognition of impairment loss of Montara assets of the PTTEP Australasia project amounted to USD 204 million in 2012 due to the increase in project costs, the delay of the first oil production, and change in production profile.
- (3) Petroleum royalties and remuneration increased, amounting to USD 143 million, in line with higher sales revenue.
- (4) Operating expenses increased amounting to USD 81 million, mainly from increased cost of diluent of the Canada Oil Sands KKD project, in line with higher Diluted Bitumen sales volume.
- (5) Finance costs increased, amounting to USD 63 million, mainly due to an increase of
  - 1. Interest expenses of PTTEP Canada International Finance Limited (PTTEP CIF) which issued a debenture for a total amount of USD 500 million and a drawdown of CAD loans totaling of CAD 475 million from financial institutions during the second and third quarters of 2012.
  - 2. Interest expenses of PTTEP Offshore Investment Company Limited (PTTEPO) from a loan amounting to GBP 950 million for share acquisition of Cove Energy Plc.

In 2012, PTTEP and subsidiaries incurred income tax expenses of USD 1,354 million (equivalent to 42,120 million baht), an increase of USD 207 million or 18%, against those of 2011 of USD 1,147 million (equivalent to 35,045 million baht). The increase was mainly due to increases in overseas income taxes and petroleum income tax. However, income tax expenses affected by the functional currency, which are non-recurring items, decreased.

In 2012, PTTEP and subsidiaries recognized a loss from non-recurring items of USD 153 million, a decrease loss of USD 38 million or 20%, against those of 2011 of USD 191 million, mainly resulted from the net effect of:

(1) In 2012, income tax expenses affected by the functional currency decreased, amounting to USD 173 million against that of 2011. The decrease was mainly due to lower deferred income tax liabilities, amounting to USD 35 million, because of an increase in net assets after they were translated into USD on 31 December 2012, compared with net assets after they were translated into USD on 31 December 2011, given the Baht appreciation against the USD. The increase of net assets resulted in an increase of depreciation expenses in USD and a decrease of future income tax, accordingly.

However, income tax expenses affected by the functional currency of 2011 caused an increase of income tax expenses in the future of USD 138 million.

- (2) An increase in net impact from Montara incident amounted to USD 61 million, principally because of the recognition of the insurance claim from the Montara incident amounting USD 92 million in 2012; whereas, this insurance claim was recognized, amounting USD 36 million in 2011.
- (3) Lower losses on foreign exchange amounted to USD 41 million. In 2012, PTTEP and subsidiaries recognized a loss on foreign exchange in the amount of USD 24 million, while they recognized a loss on foreign exchange amounting to USD 65 million in 2011, mainly derived from the USD loans of PTTEP Canada Limited.

However,

- (4) There was a recognition of impairment loss of Montara assets of the PTTEP Australasia project amouting USD 204 million in 2012 due to the increase in project costs, the delay of the first oil production, and change in production profile
- (5) Tax benefits from augmentation decreased, amounting to USD 50 million, in which the Australian Commonwealth Government enabled the tax payer to deduct more expenditure from the taxable income with the percentage based on investment (Augmentation). In 2012, there was no recognition of those benefits due to the recognition of impairment loss of Montara assets; whereas, in 2011, this tax benefit was recognized, amounting USD 50 million.

Earnings summary	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter	4 <sup>th</sup> Quarter
(Unit : Millions of USD, excepting USD per share	2012	2012	2011
amounts)		_	-
Total Revenues	1,820	1,954	1,582
Total Expenses	(967)	(1,128)	(775)
Operating Income	853	826	807
Share of gain from associates	1	1	1
Income before income taxes	854	827	808
Income taxes expenses	(296)	(378)	(319)
Net income	558	449	489
Diluted earnings per share	0.17	0.13	0.15
In some from normal enoughion	506	40.4	107
Income from normal operation	<b>506</b>	<b>494</b>	487
Gain(Loss) from non-recurring items	52	(45)	2
Net income	558	449	489
Earnings summary	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter	4 <sup>th</sup> Quarter
(Unit : Millions of Baht, excepting Baht per share amounts)	2012	2012	2011
Total Revenues	57,083	59,949	49,064
Total Expenses	(30,290)	(34,586)	(24,043)
Operating Income	26,793	25,363	25,021
Share of gain from associates	40	15	38
Income before income taxes	26,833	25,378	25,059
Income taxes expenses	(9,307)	(11,610)	(9,909)
Net income	17,526	13,768	15,150
Diluted earnings per share	5.26	4.00	4.56
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# 2.2.2. Results of Operations - Quarterly Comparison

# Fourth Quarter of 2012 compared with Fourth Quarter of 2011

For the results of operations (Unaudited) in the fourth quarter of 2012, PTTEP and subsidiaries' net profit amounted to USD 449 million (equivalent to 13,768 million baht), or USD 0.13 per share-diluted (equivalent to 4.00 baht per share-diluted), a decrease of USD 40 million or 8% against the same period last year, which was USD 489 million (equivalent to 15,150 million baht), or USD 0.15 per share-diluted (equivalent to 4.56 baht per share-diluted). The returns on shareholders' equity for the fourth quarter of 2012 were 21.68%.

PTTEP and subsidiaries' net profit amounting to USD 449 million for the fourth quarter of 2012 comprised the recurring net profit for this period, which amounted to USD 494 million, and the loss from non-recurring items, which amounted to USD 45 million.

For the results of recurring operations in the fourth quarter of 2012, PTTEP and subsidiaries' recurring net profit was USD 494 million, an increase of USD 7 million or 1% against the same period last year, which was USD 489 million. PTTEP and subsidiaries' Return from normal operation on shareholder's equity for 2012 was 23.49%.

For the fourth quarter of 2012, the total revenue was USD 1,954 million (equivalent to 59,949 million baht), an increase of USD 372 million or 24% against the same period last year which was USD 1,582 million (equivalent to 49,064 million baht). The increase was mainly due to an increase of sales revenue of USD 401 million, caused by the following:

- (1) There was a higher average sales volume for the fourth quarter of 2012, which increased to 294,233 barrels of oil equivalent per day (BOED) against the same period last year, which was 250,848 BOED. This average sales volume increased from the net effect of the following:
  - Bongkot project: Sales volume of natural gas and condensate increased because Greater Bongkot South started its production as required by the Gas Sales Agreement in June 2012.
  - S1 project: Crude oil sales volume increased in the fourth quarter of 2012 because of higher production volume produced from new wells and higher beam pump activities.
  - Yadana project: Sales volume of natural gas increased because of the higher nomination from PTT Public Company Limited (PTT); whereas, in the fourth quarter of 2011, there was a lower nomination due to the severe flooding situation.

However, in

- Arthit North project: Sales volume of natural gas and condensate decreased due to the production stoppage in November 2011.
- (2) The higher average petroleum sales price for the fourth quarter of 2012, which rose to USD 66.38 per barrel of oil equivalent (BOE) against the same period last year, which was USD 61.26 per BOE.

PTTEP and subsidiaries' revenue from pipeline transportation from proportionate revenue in Moattama Gas Transportation Company (MGTC) and Taninthayi Pipeline Company (TPC) increased.

PTTEP and subsidiaries incurred expenses amounting to USD 1,128 million (equivalent to 34,586 million baht) in the fourth quarter of 2012, an increase of USD 353 million or 46% against USD 775 million (equivalent to 24,043 million baht) for the same period last year. This increase was mainly caused by the following:

- (1) An increased impairment loss on assets amounting to USD 95 million, recognized in the fourth quarter of 2012, from impairment of Montara assets due to the increase of project cost and change in production profile.
- (2) Depreciation, depletion and amortization expenses escalated amounting to USD 91 million, mainly from an increase in the number of completed assets of Bongkot and Vietnam 16-1 project.
- (3) Petroleum royalties and remuneration increased, amounted to USD 46 million resulting from increased sales revenue.
- (4) Exploration expenses increased amounting to USD 41 million, primarily from the winter evaluation program cost of Canada Oil Sands KKD project and 3D seismic cost of A4,5 & 6/48 project.
- (5) Operating expenses increased amounting to USD 37 million, mainly from increased cost of diluent of the Canada Oil Sands KKD project, in line with higher Diluted Bitumen sales volume and higher maintenance costs of the Bongkot project. In addition, the increase was attributed from the well workover activity of the contract 4 project.
- (6) Finance costs increased, amounting to USD 26 million, mainly due to an increase of
  - Interest expenses of PTTEP Canada International Finance Limited (PTTEP CIF) which issued a debenture for a total amount of USD 500 million and a drawdown of CAD loans totaling of CAD 475 million from financial institutions during the second and third quarters of 2012.
  - Interest expenses of PTTEP Offshore Investment Company Limited (PTTEPO) from a loan amounting GBP 950 million for share acquisition of Cove Energy Plc.
- (7) Administrative expenses increased, amounting to USD 20 million, mainly from a donation and professional consultation fees related to financial consulting services and to share acquisition of Cove Energy Plc.

In the fourth quarter of 2012, PTTEP and subsidiaries incurred income tax expenses of USD 378 million (equivalent to 11,610 million baht), an increase of USD 59 million or 18%, against the same period last year, which was USD 319 million (equivalent to 9,909 million baht). The increase was mainly due to an increase in petroleum income tax and overseas income taxes. However, income tax expenses affected by the functional currency, which are non-recurring items, decreased.

For the fourth quarter of 2012, PTTEP and subsidiaries' recognized loss from non-recurring items of USD 45 million, an increased loss of USD 47 million, against that of a gain from non-recurring items from the same period of last year of USD 2 million, stemming from the following:

(1) An increased impairment loss on assets amounting to USD 95 million, from the recognition of impairment loss of Montara assets in the fourth quarter of 2012, due to the increase of project cost, and change in production profile.

However,

(2) For the fourth quarter of 2012, income tax expenses affected by the functional currency decreased, amounting to USD 51 million against the same period of 2011. The decrease was mainly due to a higher deferred income tax benefit, amounting to USD 4 million, because of an increase in net assets after they were translated into USD on 31 December 2012, compared with net assets after they were translated into USD on 30 September 2012, given the Baht appreciation against the USD. The increase of net assets resulted in an increase of depreciation expenses in USD and a decrease of future income tax, accordingly.

However, income tax expenses affected by the functional currency for the fourth quarter of 2011 caused an increase of income tax expenses in the future of USD 47 million.

# Fourth Quarter of 2012 compared with Third Quarter of 2012

For the results of operations (Unaudited) in the fourth quarter of 2012, PTTEP and subsidiaries' net profit amounted to USD 449 million (equivalent to 13,768 million baht), or USD 0.13 per share-diluted (equivalent to 4.00 baht per share-diluted), a decrease of USD 109 million or 20% from the previous quarter's net profit of USD 558 million (equivalent to 17,526 million baht), or USD 0.17 per share-diluted (equivalent to 5.26 baht per share-diluted). Return on shareholder's equity for the fourth quarter of 2012 was 21.68%.

PTTEP and subsidiaries' net profit of USD 449 million for the fourth quarter of 2012 comprised the recurring net profit for this period, which amounted to USD 494 million, and the loss from non-recurring items which amounted to USD 45 million.

For the results of recurring operations in the fourth quarter of 2012, PTTEP and subsidiaries' recurring net profit was USD 494 million, a decrease of USD 12 million or 2% against the previous quarter of USD 506 million. PTTEP and subsidiaries' Return from normal operation on shareholder's equity for 2012 was 23.49%.

For the fourth quarter of 2012, the total revenue of PTTEP and subsidiaries was USD 1,954 million (equivalent to 59,949 million baht), an increase of USD 134 million or 7% from the previous quarter's total of USD 1,820 million (equivalent to 57,083 million baht). The increase was mainly due to an increase of sales revenue of USD 87 million, caused by the following:

(1) The higher average petroleum sales price for the fourth quarter of 2012, which rose to USD 66.38 per barrel of oil equivalent (BOE) against the previous quarter, which was USD 64 per BOE.

- (2) There was a higher average sales volume for the fourth quarter of 2012, which increased to 294,233 barrels of oil equivalent per day (BOED) against the previous quarter, which was 292,228 BOED. This average sales volume increased from the net effect of the following:
  - Yadana project: In the fourth quarter of 2012, Sales volume of natural gas increased because of the higher nomination from PTT Public Company Limited (PTT)
  - Vietnam 16-1 project: Crude oil sales volume increased because of higher production volume produced from 3 new wells in the fourth quarter of 2012.
  - S1 project: Crude oil sales volume increased in the fourth quarter of 2012 because of higher production volume produced from new wells.

However, in

 Bongkot project: Sales volume of natural gas and condensate decreased mainly from Greater Bongkot North, resulting from partial production shutdown in the fourth quarter of 2012.

PTTEP and subsidiaries' revenue from pipeline transportation from proportionate revenue in Moattama Gas Transportation Company (MGTC) and Taninthayi Pipeline Company (TPC) slightly decreased.

PTTEP and subsidiaries incurred expenses of USD 1,128 million (equivalent to 34,586 million baht) in the fourth quarter of 2012, an increase of USD 161 million or 17% from the previous quarter, which was USD 967 million (equivalent to 30,290 million baht). This decrease mainly stemmed from the following:

- (1) Impairment loss on assets amounted to USD 95 million, from the recognition of impairment loss of Montara assets in the fourth quarter of 2012, due to the increase of project cost and change in production profile.
- (2) Operating expenses increased amounting to USD 40 million, mainly from increased cost of diluent of the Canada Oil Sands KKD project, in line with higher Diluted Bitumen sales volume and higher maintenance costs of the Bongkot project. In addition, the increase was attributed from maintenance and well workover activities of the contract 4 project.
- (3) Administrative expenses increased, amounting to USD 32 million, mainly from a donation, travelling expenses as well as professional consultation fee related to financial consulting services and to share acquisition of Cove Energy Plc.

In the fourth quarter of 2012, PTTEP and subsidiaries incurred income tax expenses of USD 378 million (equivalent to 11,610 million baht), an increase of USD 82 million or 28%, against the previous quarter, which was USD 296 million (equivalent to 9,307 million baht). The increase was mainly due to an increase in petroleum income tax and oversea income taxes.

For the fourth quarter of 2012, PTTEP and subsidiaries' recognized a loss from non-recurring items of USD 45 million. An increased loss of USD 97 million, against a gain from non-recurring items of the previous quarter of USD 52, primarily from the recognition of impairment loss of Montara assets amounting to USD 95 million, due to the increase of project cost and change in production profile.

	Unit : Millio	Unit : Millions of USD		Unit : Millions of Baht	
	Dec 31,	Dec 31,	Dec 31,	Dec 31,	
	2012	2011	2012	2011	
Total Assets	19,637	14,131	601,513	447,842	
Current Assets	4,031	2,737	123,483	86,764	
Non-current Assets	15,606	11,394	478,030	361,078	
Total Liabilities	8,926	7,819	273,409	247,818	
Current Liabilities	2,375	3,139	72,749	99,504	
Non-current Liabilities	6,551	4,680	200,660	148,314	
Shareholders' Equity	10,711	6,312	328,104	200,024	
Total Liabilities and Shareholders' Equity	19,637	14,131	601,513	447,842	

#### 2.2.3. Financial position

As of December 31, 2012, PTTEP and subsidiaries commanded total assets of USD 19,637 million (equivalent to 601,513 million baht), an increase of USD 5,506 million higher than the total on hand at the end of 2011 at which point total assets were USD 14,131 million (equivalent to 447,842 million baht). This increase was mainly due to

(1) An increase of USD 2,673 million in intangible assets chiefly from the increase of intangible assets and goodwill amounting to USD 2,609 million from the acquisition of the Cove Energy Plc.

(2) An increase of USD 1,670 million in exploration and production assets, mostly from the PTTEP Australasia Project, Bongkot Project, Arthit Project and Zawtika Project.

(3) An increase of USD 1,294 million in current assets mainly from cash and cash equivalents. An increase of USD 941 million of cash and cash equivalents mainly from cash inflow of operating activities, share capital increase, bond issuing and a loan from financial institutions offset with cash outflow in the exploration and production assets and the acquisition of the Cove Energy Plc., repayment of a bond and loan from financial institutions and from dividend payments for the second half of 2011 and the first half of 2012. Moreover, the current assets also increased from the increasing of the parent company accounts receivable amount of USD 386 million.

Most current assets as of December 31, 2012 were cash and cash equivalents; parent company accounts receivable; trade accounts receivable; and materials and supplies. A large proportion of the non-current assets as of December 31, 2012 were assets used in joint-venture exploration and production, presented under Property, Plant, and Equipment; intangible assets; and deferred income tax assets. PTTEP and subsidiaries Current Ratio as of December 31, 2012, was 1.7 times.

PTTEP and subsidiaries had total liabilities of USD 8,926 million (equivalent to 273,409 million baht), an increase of USD 1,107 million higher than the total liabilities at the end of 2011, when total liabilities were USD 7,819 million (equivalent to 247,818 million baht), principally due to

(1) An increase of USD 595 million in deferred income tax liabilities mainly from the acquisition of the Cove Energy Plc.,

(2) An increase in long-term loans from financial institution of USD 474 million mainly from the CAD loan of PTTEP Canada International Finance Ltd. amounting to USD 475 million.

(3) An increase in provision for decommissioning costs amounting to USD 367 million mainly from Bongkot Project, Arthit Project and Contract 4 Project.

(4) An increase in bonds of USD 266 million mainly from the USD 500 million bonds issuing of PTTEP Canada International Finance Ltd. net effect with Thai baht bonds repayment in 2012.

However,

(5) A current liabilities decrease of USD 764 million, primarily from the decrease of current portion of long-term debts of USD 524 million due to repayment of Thai baht bond. Moreover, short-term loans from financial institution decrease amounting to USD 316 million due to repayment in 2012

#### **Capital Structure**

#### **Bill of Exchange**

PTTEP maintains the Short-term Financing Program ("PF") which involves the issuance of Bills of Exchange (B/Es) via Public Offerings to institutional and high networth investors in Thailand. B/Es are issued on a revolving basis with the total revolving credit of up to Baht 50,000 million. The B/Es facility was approved by the Resolution of the Board of Directors' meeting in February 2009 and in November 2010.

As of December 31, 2012, there is no outstanding B/Es.

#### Short-term loans from financial institutions

• In February 2012, PTTEP entered into an unsecured, unsubordinated revolving credit facility agreement Baht 20,000 million. During the availability period of 5 years, the loan has a floating interest rate of THBFIX + 1.1%. The outstanding principal of the loan as of the end of the availability period may, subject to negotiation between the parties, be converted into a term loan to be repaid within 5 years after the end of the availability period. This revolving credit facility will be used for general corporate purposes. The Board of Directors' meetings in year 2010 and 2011 approved the Company's entering into loan agreements, whose approved amount remaining was Baht 68,250 million. As of December 31, 2012, there is no outstanding loan.

• In May 2012, PTTEP Offshore Investment Company Limited (PTTEPO) entered into a GBP 950 million unsecured, unsubordinated loan facility agreement fully guaranteed by PTTEP which the proceeds were used for the acquisition of Cove Energy Plc. The loan is repayable within 1 year from the signing date and has a floating interest rate of the London Interbank Offered Rate ("LIBOR") plus margin of 0.85% for the first six months of the loan period, LIBOR plus margin of 1.25% for the next three months and LIBOR plus margin of 1.85% thereafter. The Board of Directors' meetings in the year 2012 approved the Company's entering into loan agreements. The entire loan amount was drawn down in August 2012 and was repaid in December 2012.

#### Long-term loans from financial institutions

• In March 2012, PTTEP Canada International Finance Limited (PTTEP CIF) entered into a CAD 300 million unsecured, unsubordinated loan agreement fully guaranteed by PTTEP. The loan has a floating interest rate of CDOR + 1.7% per annum and is repayable within 5 years of the first drawdown. The entire loan amount was drawn down in May 2012. The proceeds from the loan were utilized for debt refinancing, capital expenditure and/or general corporate purposes. The Board of Directors' meeting in the year 2011 approved the Company's entering into loan agreements, whose approved amount remaining was Baht 48,250 million. The total outstanding loan as of December 31, 2012 is CAD 300 million.

In April 2012, PTTEP Canada International Finance Limited (PTTEP CIF) entered into a CAD 75 million unsecured, unsubordinated loan agreement fully guaranteed by PTTEP. The loan has a floating interest rate of CDOR + 1.9% per annum and is repayable within 5 years of the first drawdown. The entire loan amount was drawn down in May 2012. The proceeds from the loan were utilized for debt refinancing, capital expenditure and/or general corporate purposes. The Board of Directors' meeting in the year 2011 approved the Company's entering into loan agreements, whose approved amount remaining was Baht 38,950 million. The total outstanding loan as of December 31, 2012 is CAD 75 million.

In August 2012, PTTEP Canada International Finance Limited (PTTEP CIF) entered into a CAD 100 million unsecured, unsubordinated loan agreement fully guaranteed by PTTEP. The loan has a floating interest rate of CDOR + 2.1% per annum and is repayable within 7 years of the first drawdown. The entire loan amount was drawn down in September 2012. The proceeds from the loan agreement were utilized for general corporate purposes. The Board of Directors' meeting in the year 2011 approved the Company's entering into loan agreements, whose approved amount remaining was Baht 36,625 million. The total outstanding loan as of December 31, 2012 is CAD 100 million.

#### **Bonds**

On June 12, 2012, PTTEP Canada International Finance Limited (PTTEP CIF) issued 30 years unsecured and unsubordinated debentures to foreign institutional investors for the total amount of US Dollar 500 million with a coupon rate of 6.35% per annum. The debentures are fully guaranteed by PTTEP and have been rated BBB+ by Standard and Poor's and Baa1 by Moody's. Citigroup, Deutsche Bank, HSBC and UBS were the Joint lead Managers and Joint Bookrunners for the issuance.

The proceeds from the debentures were utilized for general corporate

purposes.

The Board of Directors and the general Shareholders' meeting in year 2010 approved the Company's issuing and offering of debentures, whose approved amount remaining was Baht 103,400 million.

#### **Hybrid Bonds**

#### **Subordinated Capital Debentures**

On June 15, 2012, PTTEP issued 5 million units of registered, unsecured, unconvertible, callable, subordinated debentures with single redemption upon liquidation and with a debentureholders' representative each with a face value of Baht 1,000 per unit, totaling Baht 5,000 million. These subordinated capital debentures bear a step-up fixed interest based on the life of the debentures with the interest rate of 5.85% p.a. for the first 10 years, 6.10% p.a. for Year 11 to 30, 6.85% p.a. from Year 31 to 60 and 7.85% p.a. from Year 61 onwards. The hybrid bonds have no final maturity date (perpetual) and single bullet payment upon liquidation or early redemption by PTTEP on the 10th anniversary (15 June 2022) and every coupon payment date afterwards.

PTTEP can defer the coupon payment at its sole discretion; all deferred coupons are cumulative and carry no interest. However, while the coupon payment is being deferred, PTTEP shall not (a) declare or make any dividend payment; (b) make any payment of interest or distribution of any sort on any instrument or security issued by PTTEP which ranks pari passu or junior to the hybrid bonds; and (c) redeem, reduce, cancel, buy-back or acquire for any consideration on any instrument or security issued by PTTEP which ranks pari passu or junior to the hybrid bonds. The hybrid bonds are rated "AA" by TRIS Rating Co., Ltd.

Krung Thai Bank, Kasikorn Bank and Siam Commercial Bank were Joint Lead Managers for the issuance.

The proceeds from the bonds were utilized for general corporate purposes.

The Board of Directors and the general Shareholders' meeting in the year 2010 approved the Company's issuing and offering of debentures, whose approved amount remaining was Baht 88,400 million.

## **Commitment and Guarantee**

#### **Commitment from loans agreements**

• PTTEP has a subordinated loan agreement with Energy Complex Company Limited (EnCo), with the loan limit of Baht 1,250 million. The agreement shall continue for 13 years and 6 months effective from April 2, 2009. As of December 31, 2012, the outstanding loan to EnCo was Baht 580 million.

#### Loan guarantee

• PTTEP has guaranteed the unsecured and unsubordinated loan agreements of PTTEP Offshore Investment Company Limited (PTTEPO) with the total amount of US Dollar 575 million.

• PTTEP has guaranteed the unsecured and unsubordinated loan agreements of PTTEP Canada International Finance Limited (PTTEP CIF) with the total amount of Canadian Dollar 475 million.

#### **Bond guarantee**

• PTTEP has guaranteed the unsecured and unsubordinated bonds of PTTEP Australia International Finance Pty Ltd (PTTEP AIF) with total amount of US Dollar 700 million.

• PTTEP has guaranteed the unsecured and unsubordinated bonds of PTTEP Canada International Finance Limited (PTTEP CIF) with total amount of US Dollar 1,200 million.

# Equity

• On July 20, 2012, the Board of Directors of the Company at the meeting No. 10/2555/353 passed a resolution to approve the share capital increase plan for the amount not exceeding 98,000,000,000 Baht or equivalent to 3,150,000,000 US Dollars by issuing ordinary shares of up to 650,000,000 shares through Preferential Public Offering (PPO). The allocation of up to 650,000,000 newly issued ordinary shares to be offered to the public is as follows:

- 1. To allocate up to 403,395,000 newly issued ordinary shares to PTT Public Company Limited;
- 2. To allocate up to 214,443,000 newly issued ordinary shares to the public; and
- 3. To allocate up to 32,162,000 newly issued ordinary shares to the Over Allotment Agent via Greenshoe Option

• On August 23, 2012, the Board of Directors of the Company at the meeting No. 12/2555/355 passed a resolution to approve the cancelation the Company's Extraordinary General Meeting of the Shareholders No. 1/2012 scheduled for August 24, 2012. Nevertheless, PTTEP still maintains its capital increase plan.

• On September 27, 2012, the Board of Directors of the Company at the meeting No. 13/2555/356 passed a resolution to approve the share capital increase plan for the amount not exceeding 98,000,000,000 Baht or equivalent to 3,150,000,000 US Dollars by issuing ordinary shares of up to 650,000,000 shares. The newly issued ordinary shares will be offered through the Preferential Public Offering (PPO) to all eligible existing shareholders. In the event there are remaining ordinary shares from allocation to eligible existing shareholders, the Company may offer such ordinary shares to limited institutional investors, excluding PTT. The final offering price will be derived from a price discovery process in which demand indications are collected from institutional investors (Book Building). The share capital increase plan is subject to the approval by the Company's Extraordinary General Meeting of the shareholders scheduled for October 29, 2012.

• On October 29, 2012, the Company's Extraordinary General Meeting of the shareholders No.1/2555 passed a resolution to approve the capital increase plan.

• On November 30, 2012, the Company has determined the final offering price per share, the final number of newly issued ordinary shares being offered and the entitlement ratio of the existing ordinary shares to the newly issued ordinary shares as follow;

The final offering price per share:	142 Baht per share
The newly issued ordinary shares being offered:	650,000,000 shares
The entitlement ratio of the existing ordinary shares to the newly issued ordinary shares:	1 : 0.195783

• On December 17, 2012, the Company received the proceeds from the share capital increase and had registered the paid up capital.

• On December 19, 2012, the newly issued ordinary shares were traded in the stock exchange market for the first time.

## **Cash Flows**

For the year ended 31 December 2012, PTTEP and subsidiaries had a net cash flow from operating activities of USD 3,469 million, chiefly due to the higher sales revenue resulting from the higher average petroleum sales prices and sales volumes during the year.

PTTEP and subsidiaries experienced a net cash flow employed in its investing activities of USD 4,735 million, mainly resulting from:

(1) Additional investment in exploration and production assets as well as intangible assets, amounting to USD 2,853 million, principally from the PTTEP Australasia, Bongkot, Arthit, and Zawtika projects.

(2) Acquisition of the entire issued and to be issued share capital of Cove Energy Plc., amounting to USD 1,884 million

PTTEP and subsidiaries featured a net cash flow from financing activities of USD 2,207 million, resulting from the net effect of:

Cash receipts from:

- The share capital increase (net of transaction cost) amounting to USD 2,991 million.
- Short-term loans from financial institution (Bridging loan) amounting to USD 1,503 million
- Bond issuance amounting to USD 500 million.
- Long-term loans from financial institution amounting to USD 478 million.
- Issuance of subordinated capital debentures (Hybrid Bond) amounting to USD 157 million.

Cash payments of:

- Short-term loans from financial institution (Bridging loan) and other short-term loans amounting to 1,856 million
- Bond payments amounting to USD 779 million
- Dividend payments amounting to USD 588 million
- Interest and finance costs payments amounting to USD 199 million

As of December 31, 2012, PTTEP and subsidiaries held a total cash and cash equivalents of USD 2,292 million, an increase of USD 941 million from that of December 31, 2011 at which point cash and cash equivalents totaled USD 1,351 million.

Oil prices have been highly volatile throughout 2012, during which the crude oil price averaged at USD 109 per barrel, slightly higher than the 2011 average of USD 106 per barrel. Crude oil prices significantly varied during the first half of 2012, during which the Eurozone debt crisis, growing tension between the western nations and Iran over the nuclear program, and other geopolitical conflicts in the Middle East and North Africa tightened the demand for crude oil. During the second half of 2012, crude oil prices slightly increased after the Eurozone and IMF's agreement to Greece's second debt restructuring plan. In addition, the establishment of ESM in Europe to allow the European Central Bank to purchase unlimited sovereign bonds of the troubling nations, or the Outright Monetary Transactions (OMT), combined with the United States Federal Reserves' enactment of further quantitative easings (QE3 and QE4) to purchase debentures and government bonds to keep interest rates at low levels until the unemployment situation improves, alleviated concerns over the global economy. Despite the recent climb supported by the rising tension between Israel and Palestinian militants, oil prices remained considerably volatile towards the end of the year as concerns over the United States fiscal cliff, which may raise tax rates and cut government spending effective on January 1st, 2013, and technological development in the production of shale oil and tight oil created additional supply in the United States' energy market. This is notwithstanding the climate factor, where winter in the western parts of the world was not as cold as it used to be, that suppressed the oil prices by the end of the year.

As the global economy and oil prices have been very volatile, PTTEP has continuously monitored the changing economic situation and energy demand and has moved in response to the challenging business environment as follows:

**Responding to the increase in energy demand-** In the fourth quarter of 2012, PTTEP production increased by 2 percent compared with the third quarter during which the production level was at 332,526 barrels of oil equivalent per day (BOED). This also brought the average production level from January to December 2012 to 313,972 BOED. PTTEP has reviewed its supply plan and improved production in order to meet the rise in energy demand. PTTEP has been cooperating with the related government agencies to collectively outline the optimal supply plan and to forecast future energy demand from both domestic and neighboring countries, in both the short term and long term. PTTEP has constantly been reviewing and adjusting its production plan as well as project development plans, including developing various technologies in exploration and production. Additionally, PTTEP is constantly seeking investment opportunities to increase its reserves with the purpose of meeting the nation's growing demand.

*Improving the efficiency and cost optimization* PTTEP, together with its parent company, PTT Public Company Limited (PTT), and other companies under the PTT Group, embarked on its innovative PTT Group Operational Excellence Transformation Project to initiate the PTT Group Operational Excellence Management System (OEMS). Its focused objective centers on driving the Group into becoming a Leading Enterprise in the energy industry. The project team consists of representatives from PTT, PTTEP and other companies under the PTT Group. Our standard operations manuals were successfully established and adopted by PTT Group and will become the template for future operational excellence and process improvement initiatives. Each company in the PTT Group will jointly develop the framework of the project to help achieve its objective.

Moreover, as the outlook for operating costs indicate an increasing trend, including the unconventional project and the higher liquid production in PTTEP's portfolio, the company manages its operating costs to maintain costs and returns at suitable levels. As a representative example, Supply Chain Plus is an initiative to assist in management of procurement costs, and helped PTTEP reduce costs at 22% more than its targeted savings of USD 90 million.

*Managing Risks on oil price volatility* PTTEP aims to consistently conduct oil price hedging programs for petroleum products from the PTTEP group, using the Ice Brent Crude price as a reference. PTTEP also closely follows the changing economy and events that may have impacted oil prices. Moreover, PTTEP has considered a variety of scenarios with varying market oil prices and formulated plans in the event of a variety of situations.

**Capability Development** PTTEP acknowledges the importance of capability improvement by focusing on the potential of people, technology and processes to prepare for business growth and meet challenges in different countries around the world. In 2012, PTTEP continued this focus with establishment of its Center of Excellence, or COE. The COE aims to create a clear-cut plan to study, research, and collect data, including in-depth knowledge and technology in four dimensions: Exploration, Deep Water Exploration and Production, Unconventional Oil and Gas Development, and Mergers and Acquisitions. Additionally, the initiative of a Technology Center, which centralizes the latest technological developments and also serves as a knowledge warehouse to further develop the capacities of employees and the organization, has been brought forward and is expected to begin from 2013 onwards.

# Safety, Security, Health and Environment (SSHE) and Sustainable Development (SD)

PTTEP aims to become a Loss Time Injury free organization in 2013 through compulsory management of safety, security, health and environment in all parts of the organization as measured by a series of performance indicators. In 2012, PTTEP achieved its best safety performance ever with the record for Lost Time Injury Frequency (LTIF) and Total Recordable Injury Rate (TRIR) at the ratios of 0.19 and 1.87 respectively. LTIF is lowered by 45% compared with 2011, which placed the company in a good position to be ranked in the top quartile amongst the International Association of Oil and Gas Producers (OGP).

Furthermore, PTTEP introduced its Life Saving Program, which encourages its employees and contractors to strictly follow the rules and policies on safety through use of 18 Life Saving Icons, derived from OGP studies of major accidents that resulted in serious losses or injuries in the exploration and production business.

PTTEP has the strategy to deliver long-term sustainable development and meet its 900,000 BOED production target by 2020 through investment opportunities that yield sustainable growth as well as achieve economic, social and environmental sustainability. In 2011, PTTEP proudly established its Sustainable Development Committee, comprising representatives from operational and executive levels, to provide governance and support to different organizations in the company with aligned objectives. PTTEP targets listing on the Dow Jones World Sustainability Index (DJSI World) by 2014. **Corporate Social Responsibility (CSR)** PTTEP recognizes the importance of natural preservation, along with sustainable development in communities surrounding the areas of operation. In 2012, PTTEP engaged in environmental conservation activities, especially in the area of restoration and conservation of natural resources, together with sustainable development activities in communities surrounding the areas of operation. Examples of such activities include submerging of the Royal Thai Navy Battleship for Underwater Learning Center, one of the CSR programs to restore aquatic resources and the ecosystem in the coastal area, the mangrove plantation project, jointly with Chulalongkorn University, both of which took place in Chumporn province, as well as the mangrove conservation project with the local community, the Conserve Songkhla Lake with PTTEP project, and the water bank program, all three of which took place in Songkhla province. PTTEP has also continuously planned for further CSR programs for 2013.