Annual Report **2012**
PTT Public Company Limited

นวัตกรรมสร้างอนาคต
INNOVATION CREATES THE NEXT

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SUSTAINABLE INNOVATION

As the world faces greater challenges, yet with resource limitation, the promotion of efficiency energy innovation creation, and technological breakthroughs are viable tools to keep our world in balance – meaning business growth hand in hand with better lives, economies, and surroundings.

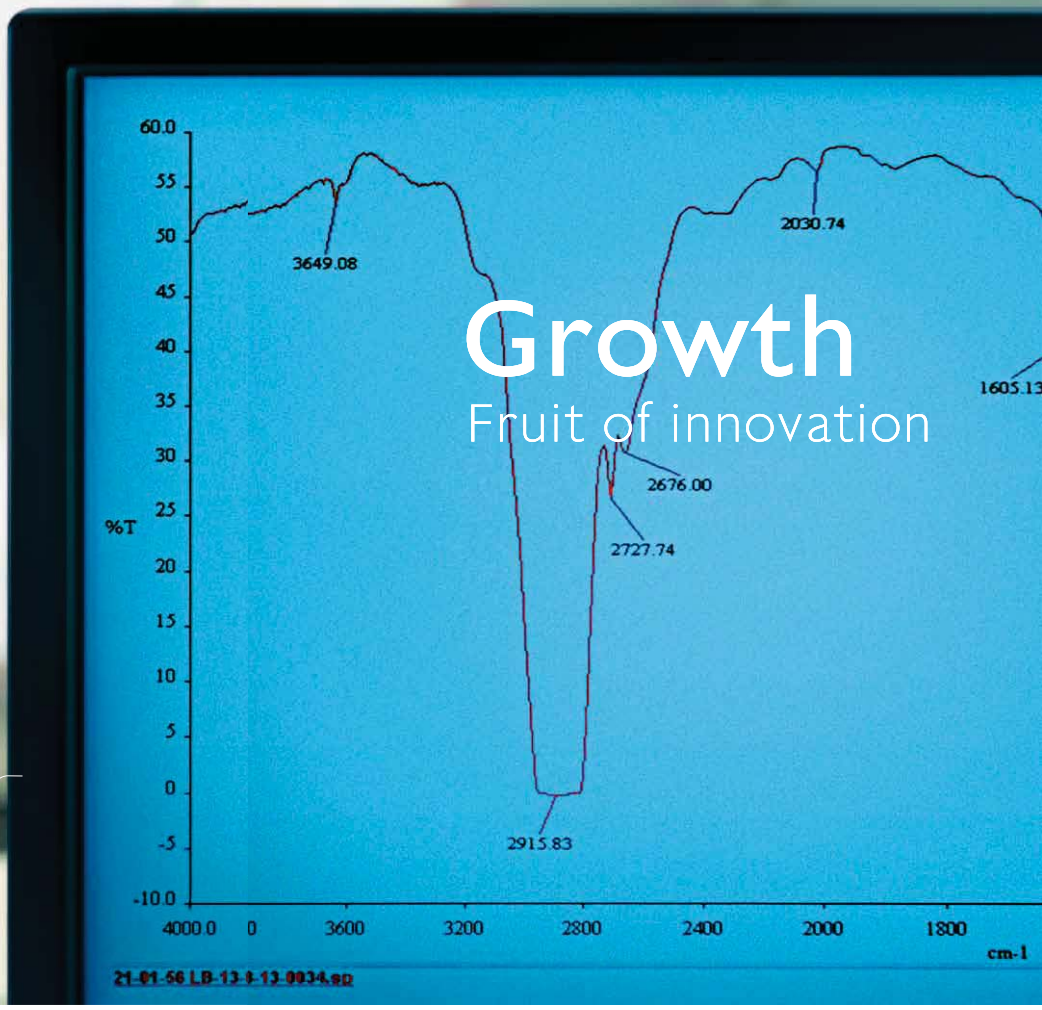
That is why PTT Group constantly seeks better solutions while pursuing ways to incorporate Thai wisdom with academia so as to create new knowledge.

All these to drive Thailand for better, more secure tomorrow.

Growth

Fruit of innovation

Robust business growth, built on knowledge and sheer determination to improve, must be built on further for differentiation. To do this, sophisticated technological innovation is the key. At PTT, we stress products that are friendly to the environment, while cultivating global excellence in our people.



Today, true development is defined as development
in tandem with better lives and a sustainable environment.
PTT Group therefore steers toward the creation of value – not merely
business value, but value derived from product development,
processes, and business that is truly friendly to our surroundings.
Such is the ultimate value.

Value
The ultimate product

Security
The real challenge of innovation

Let's face it: Fossil energy reserves are dwindling, whereas human needs are climbing. That's why technological innovation is a focus of PTT Group. Simply put, we pursue new energy sources, investigate alternative-energy forms, and enrich our personnel's knowledge. That way, PTT Group recognizes how to use resources efficiently, strike a balance between man, energy, and resources, and establish sustainable energy self-reliance.

To us, failure is not an option, as we proceed to fulfill this energy mission for our future generations.

The Kai Kos Dehseh Oil Sands Project (KKD)
Leismer, Canada
New Energy Resource invested by PTTEP

PTT GROUP VISION

THAI PREMIER MULTINATIONAL ENERGY COMPANY

PTT GROUP MISSION

To conduct integrated energy and petrochemical business as the nation's energy company whose mission to equally respond to all stakeholders through the following aspects:

To the country
Ensuring long-term energy security by providing sufficient high-quality energy supply at fair prices to support economic growth

To community and society
Maintaining a good standing corporate status in Thai society by exercising environmental stewardship of internationally accepted standards and helping to improve the quality of life for community and society

To shareholders
Operating profitable business that leads to sustainable growth while generating optimum returns

To customers
Ensuring customer satisfaction and loyalty by delivering world-class quality products and services at fair prices

To business partners
Conducting fair business practice with all partners while promoting trust, relationship, and cooperation to expand business capability and increase efficiency in long-term business partnership

To employees
Promoting capability building professionally and ensuring employees' well-being is on the level with other leading companies in order to embolden organization/ employee bond

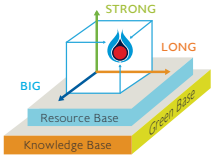
PTT GROUP VALUES

SPIRIT
The way we work together

Synergy | Performance Excellence | Innovation | Responsibility for Society | Integrity & Ethics | Trust & Respect

S P I R I T

BUSINESS DIRECTION



BIG - LONG - STRONG

BIG
A world class Company to be listed in FORTUNE 100 by 2020

LONG
A Company with sustainable growth to be listed in DJSI in 2013

STRONG
Operational excellence to achieve Top Quartile Performance by 2020

ptt TAGNOC
Technologically Advanced and Green National Oil Company

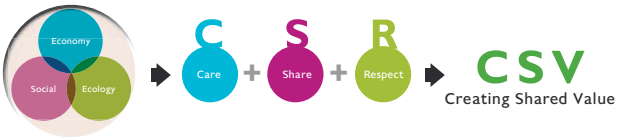
TA: Technologically Advanced
Leading-edge technology to maximize value of the business

G: Green roadmap
Growth and profits are achieved in a sustainable manner

NOC: National Oil Company
- Energy security
- National wealth
- Support Thailand into a knowledge based economy

PTT STRATEGIC FRAMEWORK

CSR STRATEGY



"The Balance and Harmony among Economy, Social and Ecology will be a new framework for sustainable growth"

Financial Highlights

		2010	2011	2012
Statement of Income	(Million Baht)			
Sales and Service Income		1,898,682	2,428,126	2,793,833
Earnings before Finance Costs, Income Taxes, Depreciation, and Amortization including Other Non-operating Income and Expenses (EBITDA)		170,330	211,373	227,842
Net Income (Loss)		83,992	106,260	104,666
Statement of Financial Position	(Million Baht)			
Total Assets		1,229,109	1,401,846	1,631,320
Total Liabilities		671,695	758,133	899,656
Total Equity		557,414	643,713	731,664
Total Equity Attributable to Equity Holders of the Company		480,704	555,763	605,784
Shares or Information about Common Shares				
Shares and Fully Paid-up Share Capital	(Million Shares)	2,849.04	2,856.30	2,856.30
Book Value per Share[1/]	(Baht)	169.31	194.57	212.09
Earnings per Share[1/]	(Baht)	29.58	37.24	36.64
Dividend per Share	(Baht)	10.25	13.00	13.00[2/]
Dividend Payout Ratio to Net Income	(%)	34.65	34.91	35.48
Share Price at the End of Financial Period	(Baht)	320.00	318.00	332.00
Financial Ratios				
Net Income to Total Revenues	(%)	4.35	4.29	3.69
Return on Equity	(%)	18.46	20.50	18.02
Return on Total Assets	(%)	7.20	8.08	6.90
Debt to Equity	(Times)	1.21	1.18	1.23
Net Debt to Equity	(Times)	0.41	0.44	0.43
Net Debt to EBITDA	(Times)	1.35	1.33	1.37
Interest Coverage	(Times)	12.30	13.23	12.33

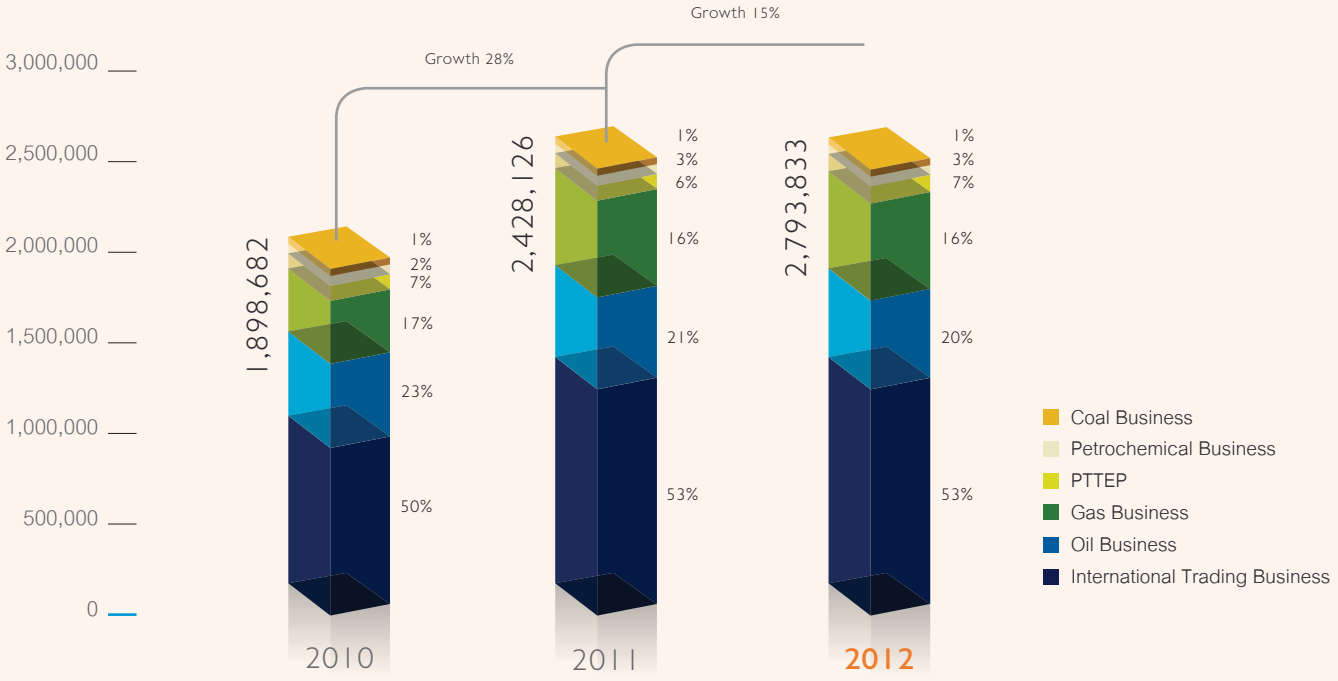
Remarks:

1/ Based on the weighted common shares of 2,839.222 million (as of December 31, 2010), 2,853.013 million (as of December 31, 2011), and 2,856.300 million (as of December 31, 2012).

2/ The Board of Directors, on February 22, 2013, approved the rate of dividend paid to the shareholders, which will be tabled for the 2013 AGM's approval on April 11, 2013.

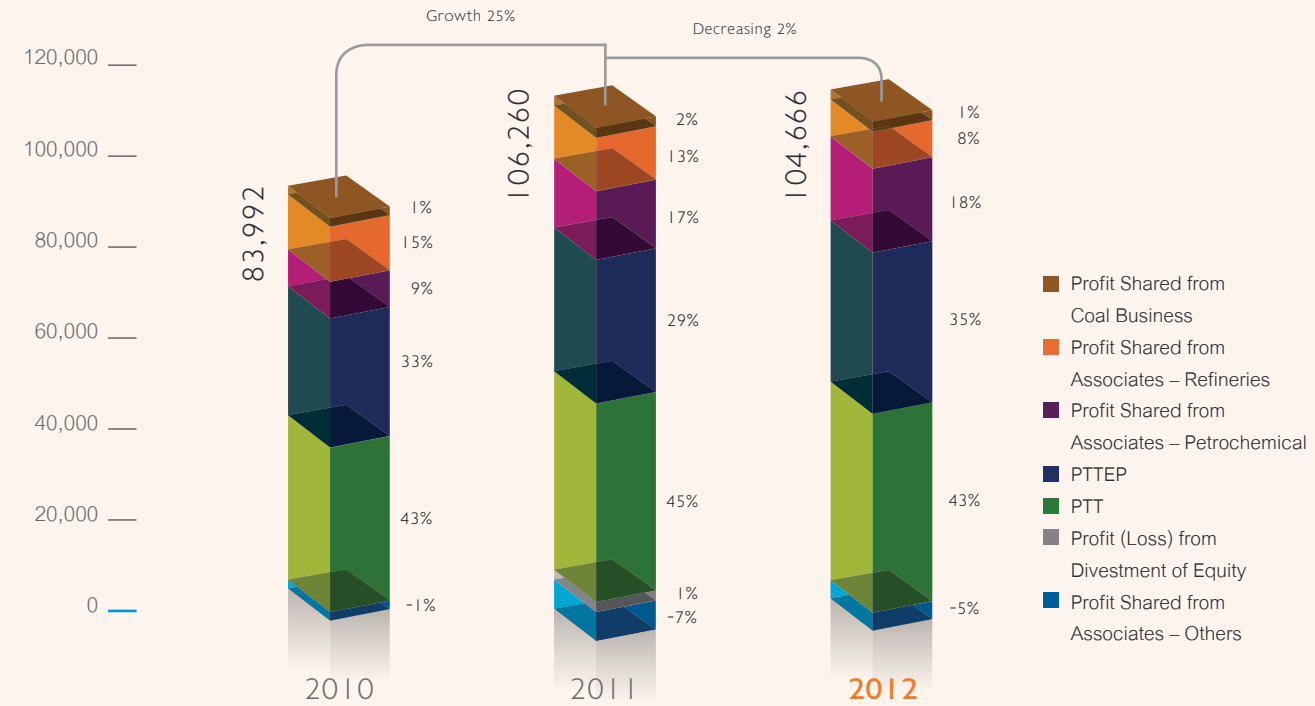
Sales and Service Income

(Unit: Million Baht)



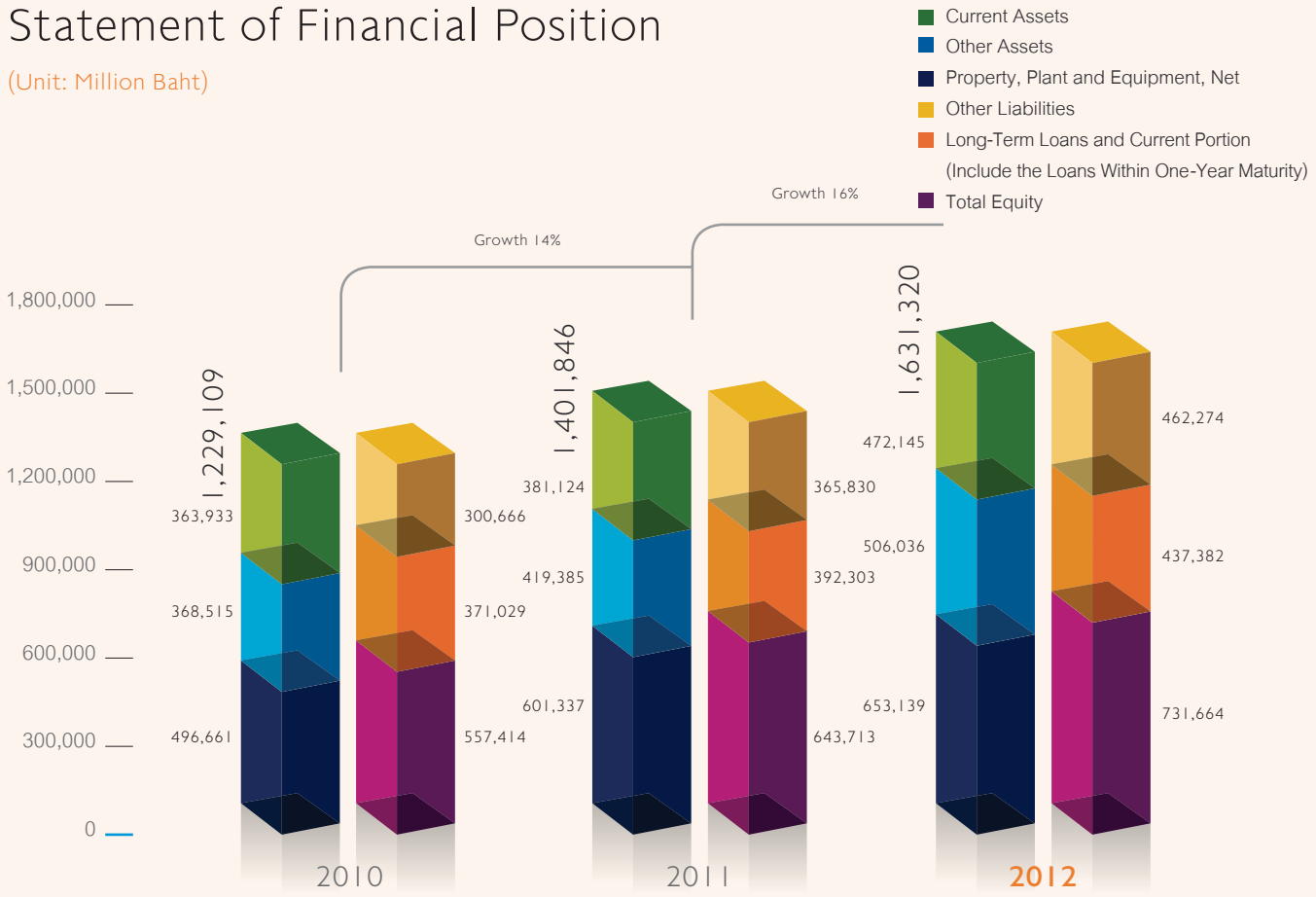
Net Income

(Unit: Million Baht)



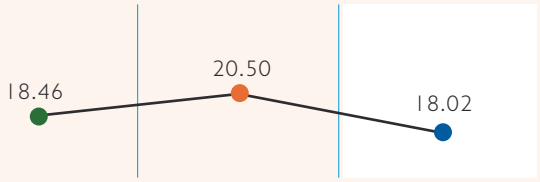
Statement of Financial Position

(Unit: Million Baht)

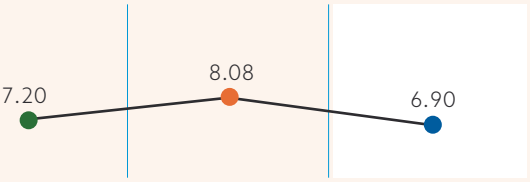


Financial Ratios

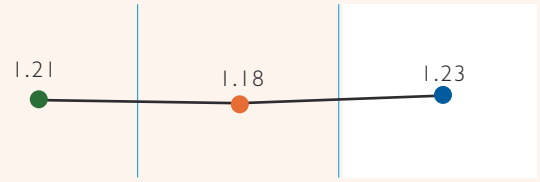
Return on Equity (%)



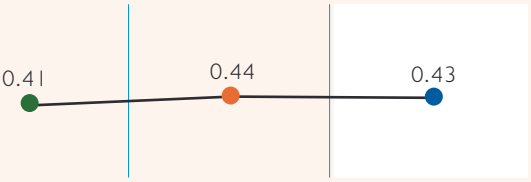
Return on Total Assets (%)



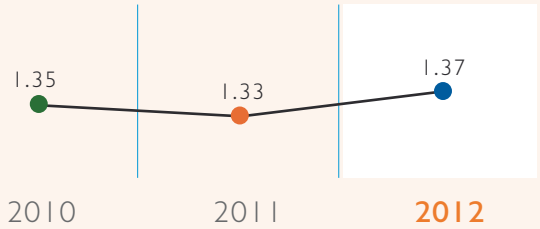
Debt to Equity (Times)



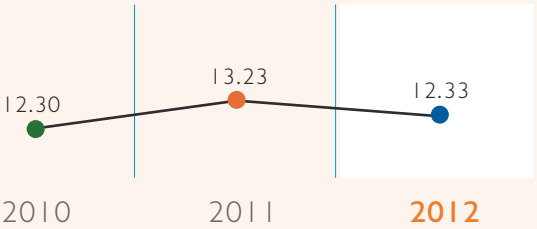
Net Debt to Equity (Times)



Net Debt to EBITDA (Times)



Interest Coverage (Times)



PTT Information

Name	PTT Public Company Limited
Initial	PTT
Registered Number	0107544000108
Type of Business	Energy in petroleum business via investment through subsidiaries, jointly controlled entities, and associated (Group of Companies) who operate upstream and downstream petroleum business and coal business.
Registered Capital	28,572,457,250 baht, including 2,857,245,725 common shares, 10 baht per share (as of December 31, 2012)
Paid of Capital	28,562,996,250 baht including 2,856,299,625 common shares, 10 baht per share (as of December 31, 2012)

Location	555 Vibhavadi Rangsit Road, Chatuchak, Bangkok 10900, Thailand Telephone : 66 (0) 2537-2000 Telefax : 66 (0) 2537-3498-9 Website : www.pttplc.com
Corporate Communication Department	Telephone : 66 (0) 2537-2150-1 Telefax : 66 (0) 2537-2169, 66 (0) 2537-2171 E-mail : corporate@pttplc.com
Investor Relations Department	Telephone : 66 (0) 2537-3518 Telefax : 66 (0) 2537-3948 E-mail : ir@pttplc.com
Office of the President and Corporate Secretary	Telephone : 66 (0) 2537-3885-6 Telefax : 66 (0) 2537-3883 E-mail : corporatesecretary@pttplc.com

Reference

• Share Registrar	Thailand Securities Depository Company Limited 4th Floor, SET Building, 62 Ratchadapisek Road, Klongtoey, Bangkok 10110 Telephone : 66 (0) 2229-2888 Telefax : 66 (0) 2229-2800
• Auditor	Office of the Auditor General Rama VI Road, Phayathai, Bangkok 10400 Telephone : 66 (0) 2271-8000 Telefax : 66 (0) 2618-5807
• Registrar	Siam Commercial Bank Plc. Registrar 1, Markets Operations Division 2nd Building, 3rd Floor, 1060 Petchaburi Road, Ratchathewi, Bangkok 10400 Telephone : 66 (0) 2256-2323-8 Telefax : 66 (0) 2256-2406 Corporate Trust Sales, Corporate Trust 9 Ratchadapisek Road, Chatuchak, Bangkok 10900 Telephone : 66 (0) 2544-3937, 66 (0) 2544-2923 Telefax : 66 (0) 2937-7662

Message from the Board of Directors

Dear Shareholders

It was another truly auspicious year in 2012, when HM Queen Sirikit observed her 80th birthday anniversary. Revered as the Mother of Thailand, HM the Queen graciously carried out her duties by not only teaching her subjects all along, but taking into her care the needy, patients, and those that showed gratitude to their parents-thus contributing to peace and happiness in this land. To show our gratitude, PTT Group invited the public to join in expressing our good wishes and our allegiance through the "A Million Hearts for Our Mother" project while campaigning for gratitude for mothers' sacrifice and love. To achieve this, people were asked to share mothers' valuable teachings for others to emulate so as to be good children of Thai society and strengthen Thai society with the warmth of families.

This past year, PTT Group's mission of strengthening energy security and economic stewardship proved successful in our achievement of two key goals ahead of schedule. First, getting ranked on the Fortune 100 list: PTT is now No. 95. Second, being listed on the Dow Jones Sustainability Indexes (DJSI): PTT, in fact, achieved such distinction in 2011 and 2012 and is now the sole Thai company among the 15 world's leading oil and gas-producing corporations.

Businesswise, this year's global economic overview was more lethargic than 2011, a result of developed countries' weaker-than-expected economies, the shrinking Eurozone economy, the declining consumption and investment accompanying austerity measures in the Eurozone, and debt crises in several countries. Still, for Thailand, in the wake of the Great Floods of late 2011 - which affected all sectors - the public sector has enforced several economic-stimulus measures, with a focus on the industrial sector's recovery so as to drive economic momentum through hiring as well as job and income creation to spur purchasing power, while inducing domestic cash flow and boosting confidence among business people and investors. As a result, the Thai economy this past year posted 6.4% growth, in turn raising the consumption of primary commercial energy (excluding renewable energy) by 6.8% from last year. Registering 9.6% consumption growth was natural gas; 5.3% growth, crude oil. LPG staged a healthy 9.7% rise in consumption - particularly in the transport sector (15%) and the household sector (14.4%). The industrial sector, however, consumed 14.7% less than last year. Meanwhile, NGV consumption registered remarkable 20.6% growth since NGV is cheaper than liquid fuels - this despite the National Energy Policy Council's decision to adjust its price in stages in a move to reflect true costs. In addition, global energy prices this year proved higher because of the conflicts between Iran and the western bloc-Israel and the unrest in oil-producing countries in the Middle East and northern Africa. All these contributed to a 2.7% higher price for the Dubai crude and to higher prices of petroleum products in Singapore's spot market, which rose with higher crude oil prices and higher demand. The tight supply of petroleum products was caused by the shutdowns of refineries in the US due to hurricanes and fires. As a result of these, the year saw PTT and its subsidiaries gross sales revenue of 2,793.833 billion baht, a 15.1% rise from last year; EBITDA, meanwhile, climbed 7.8% to 16.469 billion baht; and a forex gain was registered at 7.615 billion baht with the baht appreciation late in the year. Still, the realization of a reversal in the asset values of Montara (in Australia) and EMG lowered the net profit for PTT and its subsidiaries last year to 104.666 billion baht, a 1.5% loss - or 36.64 baht per share.

Apart from its mission of nurturing national energy security, PTT Group has defined a key strategy of being an energy conglomerate in relentless pursuit of knowledge, innovation, and technological breakthroughs, with management and outcomes designed to ease environmental impacts - the so-called Technologically Advanced and Green National Oil Company (TAGNOC) - in several ways: pursuit of new energy resources, development of innovative energy forms, application of advanced process technologies, and encouragement of information sharing so that all may create better innovations to be in turn shared with communities under PTT's care. Projects through which these measures were taken included the Forest Conservation and Human Development in 84 Tambon under the Sufficiency Economy Initiative Project, which promoted knowledge of community energy and joint natural resources and environmental conservation alike. The efforts under this project enabled PTT to grow its business and investment while grooming its personnel more efficiently, and to retain its market leadership for the 20th consecutive year with a market share of 38.2%, together with lubricating oil market leadership for the fourth consecutive year with a market share of 38.9%. This year, PTT successfully launched 14 new lubricant products to accommodate motoring innovations at a time when more alternative-energy forms joined the scene; PTT also grew its export lubricant markets in 28 countries. Our PTT Performa Super Synthetic API-SN 0W30 secured a carbon footprint label from the Thailand Greenhouse Gas Management Organization (Public Organization) (TGO), the first lubricant product in ASEAN to do so.

Because of our commitment to develop innovations in product quality and services, PTT secured the following awards for the year. **Best State Enterprise (Best of the Best)** for the fourth straight year and an **Outstanding Innovation Award** for the third straight year, presented by the Ministry of Finance. An **award bestowed by HM the King: Best National Innovation (Economic) for PTT's Electromagnetic Induction**, a crude oil sediment dissolver. An **STI Award 2012 on Green Innovation**, presented by the National Science Technology and Innovation Policy Office, recognized our research work on PTT Bi-Fuel ECU, an electronics control of natural gas distribution in gasoline engines, conducted by the PTT Research and Technology Institute. Apart from these, our PTT DDF ECU development work was designed for natural gas-powered diesel engines to save more than 60% diesel consumption.

Our pride also comes from this year's various awards and recognition by institutions and magazines that surveyed consumers' opinions, summarized as follows. First of all, we were among **"The Leading Corporations in Thailand"** according to The Asian Banker magazine. Then, we swept seven outstanding company awards presented by the Finance Asia magazine. The **ANQ Recognition for Excellence in Quality Practice (ARE-QP) Award** was also granted to us by the Asian Network for Quality, a non-profit organization of 16 Asian countries. Also, **The Asset magazine conferred its Platinum Award for All-Round Excellence** on PTT for the fourth straight year. Then there was an **Investor's Choice Award**, presented by the Thai Investors Association under the Shareholders' Rights Protection Volunteer Project; this award recognized listed companies that scored 100% in all assessed criteria out of a survey of AGMs. Incidentally, PTT has won this award for four straight years. Also, we were voted **Thailand's No. 1 Brand** for both service stations and lubricants by the Marketeer magazine. Public recognition also came through **Reader's Digest's Trusted Brand Awards** (gold and platinum): our service stations garnered the gold and platinum awards for 12 consecutive years now, and our lubricants have won the gold award for two

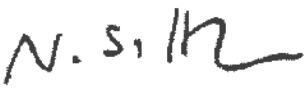
straight years. Finally, BrandAge magazine's reader voted for us as the **Most Trusted Service Stations** for eight straight years, along with the **Most Outstanding Brand** of lubricants for the third straight year.

This year, PTT Group successfully introduced environmental innovations. For instance, PTT Global Chemical Plc. developed HDPE under the InnoPlus trademark, which also secured a carbon footprint label from TGO. IRPC Plc's specialty polymer known by the POLIMAXX BANBAXX brand gives highly extended anti-bacterial protection. PTT MCC Co., Ltd., meanwhile, developed biodegradable polybutylene succinate (PBS) and polyactic acid (PLA) bioplastics; the latter is now coated on Café Amazon's containers to lower the residual waste volume.

Outside Thailand, PTT Group has ventured in a bid to generate income and pursue energy resources to accommodate the country's spiraling energy demand. PTT LNG Co., Ltd., has constructed a receiving terminal for LNG (liquefied natural gas) to accommodate the import, storage, and conversion of LNG into natural gas. We have invested in the generation of electricity, steam, and industrial water through Combined Heat and Power Producing Co., Ltd., to supplement value to natural gas consumption in industries and raise international business competitiveness. Apart from these, PTTEP has acquired Cove Energy Plc., listed on the Alternative Investment Market (AIM) of the United Kingdom, to explore for new energy resources in the Mozambique Rovuma Offshore Area One Project in Africa; it is also a joint-venture partner in the Canada Oilsands KKD Project in North America and invest in exploration under the Oman 44 Project in the Arab Peninsula as well as a floating LNG (FLNG) Project in Australia. Finally, PTT this year launched its first platinum service station under the PTT Life Station concept in Laos.

On behalf of the Board of Directors, we therefore wish to express our sincere appreciation to all stakeholders for their firm support and trust, which have enabled PTT Group to constantly achieve business successes and be poised for business undertaking to underscore our commitment to the vision of becoming a **Thai multinational energy company**. This vision will in turn give Thailand sustained energy security, together with technologies and innovation to stay abreast of the world. Yet, PTT Group has by no means any intention to make these strides alone, but desires concurrent growth of both the country and the people. The critical goal, however, is the strengthening of the national economy, strong and contented communities, and good ecology for all. This way, PTT Group can remain a sustainable force of Thailand far into future years.

Mr. Vichet Kasemthongsri
Chairman



Dr. Norkun Sitthiphong
Former Chairman
(to February 1, 2013)

Dr. Pailin Chuchottaworn
President & CEO

Report of the Audit Committee

Mr. Chulasingh Vasantasingh
Chairman of the Audit Committee

The Audit Committee consists of three independent directors who are knowledgeable as well as experienced in law, finance, information technology, and organization management, chaired by Mr. Chulasingh Vasantasingh, with Mr. Boonsom Lerdhirunwong and Mr. Waroonthep Watcharaporn as members, replacing Mr. Krairit Euchukanonchai and Mr. Arkhom Termpittayapaisith, effective from April 28, 2012.

The committee carried out Board-assigned duties under PTT's regulations on the criteria and guidelines for its Audit Committee, in alignment with the regulations of the Stock Exchange of Thailand (SET). The committee's policy focused on conformance to corporate governance and on good internal controls by:

- Focusing on preventive audit to promote systematic business performance, with knowledge creation mechanisms for PTT Group officers to understand and master that enable complete, proper job performance and reduction of errors.
- Managing business risk with a focus on the identification of comprehensive risk factors, particularly those of international investment.
- Valuing the compliance by executives and employees with relevant legislation, regulations, and requirements.

In 2012, the committee held 16 meetings, occasionally with the Management, the Office of Corporate Audit, and the external auditor, as summarized below.

1. Review of financial reports The committee reviewed quarterly, annual, and consolidated financial statements, together with connected transactions and those with potential conflicts of interest, with the Management and the Office of Corporate Audit. Each time quarterly and annual financial statements were examined with the external auditor presented. The Committee assessed validity and accuracy of PTT financial statement, adjustments of key accounting entries affecting the statements, adequacy and suitability of accounting entry methods and audit scope, accuracy and adequacy of information disclosure, and the external auditor's discretion. The Committee findings determined that PTT financial statements had complied with legal and accounting standard requirements under generally accepted accounting principles, and that adequate, timely information had been disclosed in the financial statements for the benefit of investors or users of such statements. This year the committee and the external auditor held a meeting in the absence of the Management to examine the external auditor's work scope, approaches, and annual audit plan.

2. Review of risk management The committee examined PTT's risk management policy, plans and approaches under the corporate risk profile, risk management arising from impacts of world oil prices, sourcing of energy supply, and other event risks. It also reviewed risk management resulting from PTT's internal and external circumstances, including those arising from operating in other countries. To this end, the committee visited such operations and held quarterly meetings with the Management to examine the efficiency and suitability of risk management processes and provide recommendations for further improvement.

3. Review of internal control effectiveness Together with the external auditor and the head of the Office of Corporate Audit, the committee reviewed the internal control system for each quarter with a focus on operation, resource consumption, stewardship of properties, and prevention or minimization of errors, losses, waste, and fraud. The committee also reviewed the credibility of financial reports together with PTT's compliance with legislation, regulations, and cabinet resolutions. The external auditor agreed that no significant issues or shortcomings had been detected. In 2012, PTT also assessed its internal controls against the regulations of the Auditor Commission on internal control standards of 2001, with 100% responses by executives to assessment questionnaires. PTT improved control self-assessment forms on the basis of a list of key controls by functional description and executives' responsibility under the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Management and the Office of Corporate Audit agreed that PTT's internal control system was both adequate and effective for its businesses.

4. Review of corporate governance Reviewing PTT's performance against the designed business processes, the committee found that PTT's businesses had been conducted with virtue, and that PTT had complied with securities and securities exchange legislation, SET's requirements, and other legislation relevant to its businesses (particularly connected transactions among PTT Group) to ensure regular transactions conducted under normal, sensible conditions. In addition, the committee carried out its own performance assessment, both as a whole and individually, against state-enterprise audit committee best practices and SET's criterion. The findings indicated very good quality.

5. Oversight of internal audit The committee reviewed the Office of Corporate Audit's strategic plans, its annual and long-term audit plans, as well as their implementation. The audit findings were reviewed and recommendations were given to follow up the corrective actions of key items, thus leading to good corporate governance and adequate internal controls. The committee examined PTT's amended regulations on the committee's criteria and guidelines together with PTT's requirements for internal audits and a related internal audit manual to ensure international standard achievement. As a final measure, the Committee reviewed the annual budget of the Office of Corporate Audit, including development, recruitment and rotation plans, training, assessment of resource adequacy and suitability, key performance measurement indicators, and the annual merit consideration for its head. The committee concluded that PTT's internal audit system was adequate, appropriate, and effective, with continuous audit quality improvement in personnel and audit performance on par with international standards.

The committee provided recommendations on developing the role of internal auditors compatible with international standards by focusing on proactive audits and serving as a true business partner, including a greater role as an adviser on various business processes. The committee also prescribed an active role in Corporate Social Responsibility (CSR).

6. Appointment of the external auditor for 2013 The committee proposed the appointment of the Office of the Auditor General as PTT's external auditor for 2013 to the Board, which will in turn submit it, together with its fees, for shareholders' approval at the 2013 AGM.

In summary, the Audit Committee performed its duties as specified in the Board-approved charter with high caliber, prudence, and adequate independence in equitable interests of stakeholders. In the opinion of the committee, PTT's financial reports were accurately prepared in all material aspects under generally accepted accounting principles. PTT commanded adequate risk management practices, appropriate internal control and internal audit systems, compliance with good corporate governance, legislation, requirements, and obligations relevant to its businesses.

Report of the Corporate Governance Committee

Mr.Watcharakiti Watcharothai
Chairman of the Corporate
Governance Committee

Dear Shareholders

The Board of Directors of PTT Plc highly values the promotion and emphasis of PTT's business execution under corporate governance, its code of conduct, and the framework of social responsibility by PTT Group in an effort to improve PTT's corporate governance practices to bolster confidence of all stakeholders.

The Board has assigned the Corporate Governance Committee, consisting of three independent directors, to recommend corporate governance guidelines to the Board, oversee the work of the Board and the Management, and ensure compliance with corporate governance principles in alignment with the Stock Exchange of Thailand's (SET) corporate governance principles and the international elements of the Organisation for Economic Cooperation and Development. The committee's duties also encompass social, community, and environmental responsibility.

This year the committee held four meetings to follow up matters under the corporate governance plans as well as social, community, environmental, and sustainable development plans, as summarized below:

Disclosure of information and transparency

- Developed Form 56-1 and the annual report, together with disclosure of PTT's performance in quarterly reports and key information for shareholders, investors, and the public, marked by essential completeness, adequacy, credibility, and timeliness, constantly through various channels, including SET's channels and PTT's website (www.pttplc.com). Investor Relations and Corporate Communications are the core units for information distribution.
- Developed PTT Group's Sustainability Report for 2012 in conformance to the international approach defined by Global Reporting Initiative (GRI) Generation 3 (G3.1) and set a goal of A+ assessment, due for completion by March 2013.
- Developed the quarterly "PTT Bizway" newsletter for shareholders to communicate messages and foster proper understanding between the shareholders and PTT.
- Developed the quarterly "Happiness" magazine for debenture holders to communicate messages and foster positive relations between debenture holders and PTT.

Rights of the shareholders

- Organized the 2012 Annual General Meeting of Shareholders (AGM) and informed the shareholders about the date and time, venue, and agenda, as well as all other relevant data that are adequate and timely.
- Informed the shareholders about the AGM rules and posted such information on PTT's website ahead of the time the meeting notices went out. This ensured that the shareholders would have enough time to examine supporting documents well ahead of the AGM. PTT also made it easy for shareholders to exercise their full rights of attendance and voting. Thanks to these actions, PTT received full 100 marks against the AGM Checklist, scored by the Thai Investors Association.

Equitable treatment of shareholders

- Allowed the shareholders to propose additional agenda items and nominate directors ahead of the 2012 AGM meeting from October 1 to December 31, 2012, as specified by PTT.
- Required that the directors and the executives disclose their vested interests and those of their related persons for the year to enable the Board to examine PTT's transactions with potential conflicts of interest and decide matters in the best interests of PTT as a whole.
- Required that all directors, executives, and employees submit their reports of conflicts of interest every year. This year, no essential item needed remedial action.
- Required that all directors and executives must report their shareholding as required by law. The Corporate Secretary compiles these reports for the Board every quarter.

The Board's Responsibility

- Added the "Assessment Form for Subcommittees" so that all subcommittees may be assessed as well. Initially, three forms were required for Board assessment: overall assessment, self-assessment, and cross-assessment. The year saw "excellent" assessment all around.
- Defined the qualifications of independent directors, their roles and responsibilities, in developing manual for independent directors.
- Ensured that directors undergo key director training courses organized by the Thai Institute of Directors (IOD), including Anti-Corruption Training Program for Corporate Directors and Executives, Audit Committee Program, Director Certification Program, Financial Statements for Directors, Monitoring the Internal Audit Function, Monitoring the System of Internal Control & Risk Management, as well as "Corporate Governance for Directors and Top Management of State Enterprises and Public Organizations", organized by the Institute for Development of Public-Sector Directors and Top Management, by King Prajadhipok's Institute. Also, participated in the IOD National Director Conference 2012 seminar under the "Moving Corporate Governance Forward: Challenge for Thai Directors" and "The Responsibilities of Company Directors in Fighting Corruption" topics. Finally, joined senior executive training on energy management, organized by the Thailand Energy Academy.
- Participated in site visits in France, Canada, and Australia, where PTT Group companies have invested and operated businesses.
- Held at least one meeting among independent directors.

Valuing stakeholders

- Revised the manual on corporate governance and code of conduct in PTT's business for compatibility with the SET principles of corporate governance for listed companies (2012) and best practices of leading companies under the approach of DJSI Sustainability Assessment.
- Made final preparation for the establishment of PTT Group's university and science academy, focusing on educational and science personnel development for the country by optimizing the group's knowledge base in support of youth capacity building.

Social responsibility and sustainable development

- HRH Princess Maha Chakri Sirindhorn graciously inaugurated the "Learning for the Mass Institute", set up by PTT and its network to nurture community potential for sustainable development and raise their self-reliance.
- Defined PTT's 6 strategies of social project execution, encompassing child and youth development, community development, biodiversity development, urban environmental management, establishing network to build a name for Thailand, and corporate values.
- PTT was named among DJSI Members 2012/13 and included among the top 15 companies of the Oil & Gas Producers out of 125 contestant companies, cited for being a role model organization for sustainable development that maintained balance among the commitment to excellence through knowledge management, technological development, creation of energy innovations for the environment, and CSR under corporate governance.
- Developed an eco-industrial prototype with a focus on lowering greenhouse gas emissions and environmental friendliness, which begins with establishment of green areas in the Asia Industrial Estate and a relentless expansion plan to 165 rai of land surrounding the estate. The goal is to restore the biodiversity-filled ecology to nature and the environment.

Awards of pride

Thanks to the firm commitment to operating with transparency and fairness in the best interests of all stakeholders, this year saw worldwide recognition of PTT's corporate governance and social responsibility practices, including:

- Excellent ranking in the 2012 Survey of Good Corporate Governance of Listed Companies, presented by IOD, SET, and the Securities and Exchange Commission (SEC).
- SET Award 2012 in recognition of listed companies: Best Corporate Social Responsibility Award (second straight year).
- Two Corporate Governance Asia Recognition Awards 2012: Asian Corporate Director Recognition Award 2012 (third straight year) and Corporate Governance Asia Recognition Award 2012 (seventh straight year).
- Platinum Corporate Award 2012, presented by The Asset magazine (fourth straight year).
- Best Corporate Governance Award (fourth straight year) and Best Corporate Social Responsibility (second straight year), presented by FinanceAsia magazine.

The Corporate Governance Committee will remain committed to efficiency improvement of corporate governance and social responsibility work for the benefit of PTT, shareholders, communities, society, the environment, and all stakeholders, which will benefit Thailand as a whole.

Report of the Remuneration Committee

Mr. Arkhom Termpittayapaisith
Chairman of the Remuneration Committee

Dear Shareholders

Remuneration is a key success factor to attract and retain the talents in PTT and an incentive to a better performance. The Remuneration Committee must ensure competitive director remuneration, reasonable and prevent overpay. We maintain our performance-based pay system of the directors and top executive. The board reviews the Key Performance Indicator and assesses the outcomes annually.

The PTT directors' remuneration had been stagnated since a raise in 2005. Meanwhile, PTT performance has grown rapidly and has been expanded into integrated petroleum and petrochemical businesses. Our revenue rose from 0.65 trillion baht in 2004 to 2.43 trillion baht in 2011 (273% increase). Our net profit rose from 62.7 billion baht in 2004 to 105.3 billion baht in 2011 (68% increase). PTT and PTT Group have dominated the largest market capital among the Thai listed companies for years. However, the directors' remuneration does not reflect the increasing accountability and responsibility of the board and falling behind the peers.

The committee convened twice in 2012. Directors, committee members and executives' remuneration is disclosed in this annual report for transparency.

Report of the Nominating Committee

Mr. Watcharakiti Watcharothai
Chairman of the Nominating Committee

Dear Shareholders

The Stock Exchange of Thailand and relevant institutions are revising the Thai 2006 Good Corporate Governance Code in accordance with requirements in the new ASEAN Corporate Governance Scorecard requirements. Many proposals on board size, composition and diversity were initially introduced. For instance, a non-executive director with direct experience in the core business on board, half independent director composition for particular board, limitation of independent director's service terms and minimum meeting frequency of committees.

The Nominating Committee applied with the 2006 Code, international guidelines and most of the proposed draft in 2012. Ten out of fifteen board members are independent directors and delivering effective, transparent and independent decision making process to the company. The committee are composed of various businessmen, scholars and public servants who are from diverse backgrounds, educations and experiences. The current board composition delivers opinions in both state-owned enterprise related issues and private business practices equally.

The committee invited minor shareholders to nominate candidates as their representatives in 2012 and provided nomination requirements and procedures. However, none had proposed candidates for 2012 Annual General Meeting.

The committee convened twice in 2012 carefully, cautiously and reasonably. Its performance is disclosed in this report.

Economic, Petroleum, and Petrochemical Review

The 2012 global economic growth slowed down from the previous year. However, the oil price remains at high level due to uncertainty of supply disruption.

2012 World Economic, Petroleum, and Petrochemical Review

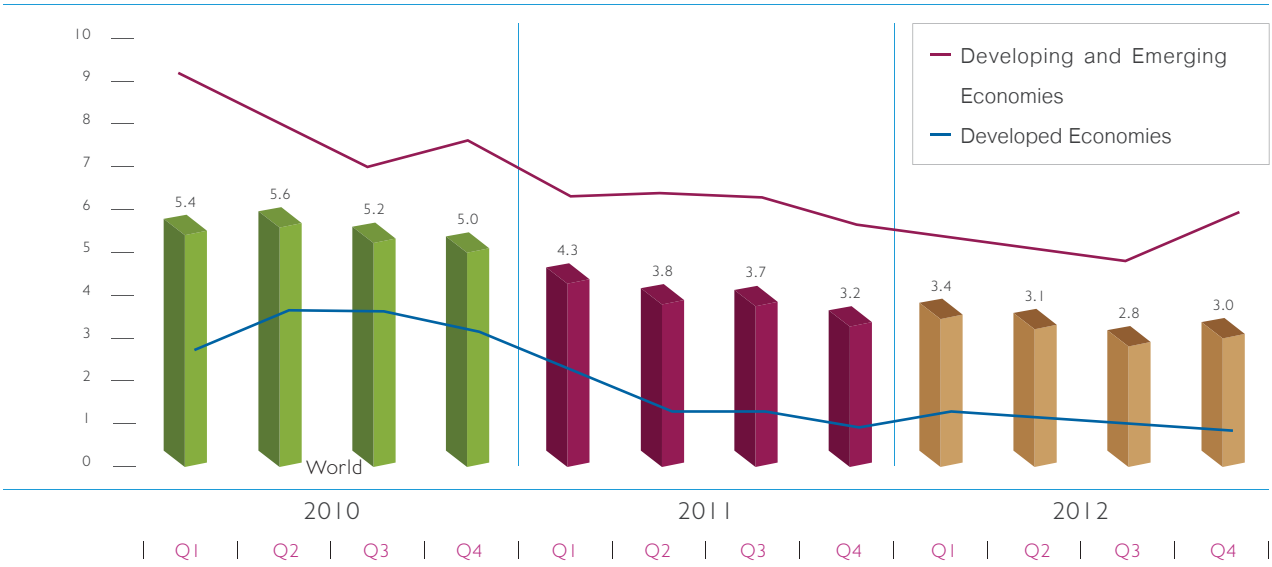
World economic review

This year, global economic growth slowed down from the 2011 level, following the contraction in developing and emerging economies due to declining domestic consumption and investments, resulting in more states' implementation of less stringent financial and monetary control policies. Subsequent to the weaker-than-expected economy of advanced economies, especially those with the Euro currency, the world's exports declined proportionately with the falling global demand, aggravated by states' tightening policies to control and minimize the escalation of trade deficits and high levels of public debts. The Eurozone sovereign debt crisis escalated and became more widespread, eventually sapping the economy of leading countries like Germany and France. Despite the introduction of mitigation measures by the European Central Bank (ECB), including Long-Term Refinancing Operation (LTRO) and Outright Monetary Transaction (OMT), the European economic turmoil became slightly relaxed at best, since these measures were enforced in delay. Equipped with the fragile recovery of the US economy, which showed some positive signals on increasing domestic consumption and slow revival of the property sector, but not the relatively high unemployment rate, the US Fed decided to extend the call for short-term debts by increasing the percentage of long-term ones to the end of 2012, known as "Operation Twist". To sustain the momentum, the Fed followed immediately with Quantitative Easing 3 (QE3) aiming to maintain the economic momentum until aa sizeable drop of the unemployment rate was seen. Meanwhile, the IMF put out a report in January 2013 showing that the 2012 global growth rate fell slightly to 3.2%,

a drop from 3.9% in the previous year-with 1.3% recorded for the developed economies versus 5.1% for the developing and emerging economies (Figure 1).

World's Economic Growth Rate during 2010 - 2012

Unit: % yoy



Source: IMF January 2013

Petroleum and Petrochemical Review

While crude oil demand in developed economies was declining, demand for petroleum in developing and emerging economies, particularly China, India, and the Middle East, kept rising this year, resulting in a slight rise of the world's crude oil demand. The International Energy Agency (IEA) published a report in February 2013, concluding the 2012 rise in global crude oil demand at 1.1% from the previous year to 89.8 million barrels per day.

World's Crude Oil Demand during 2010 - 2012

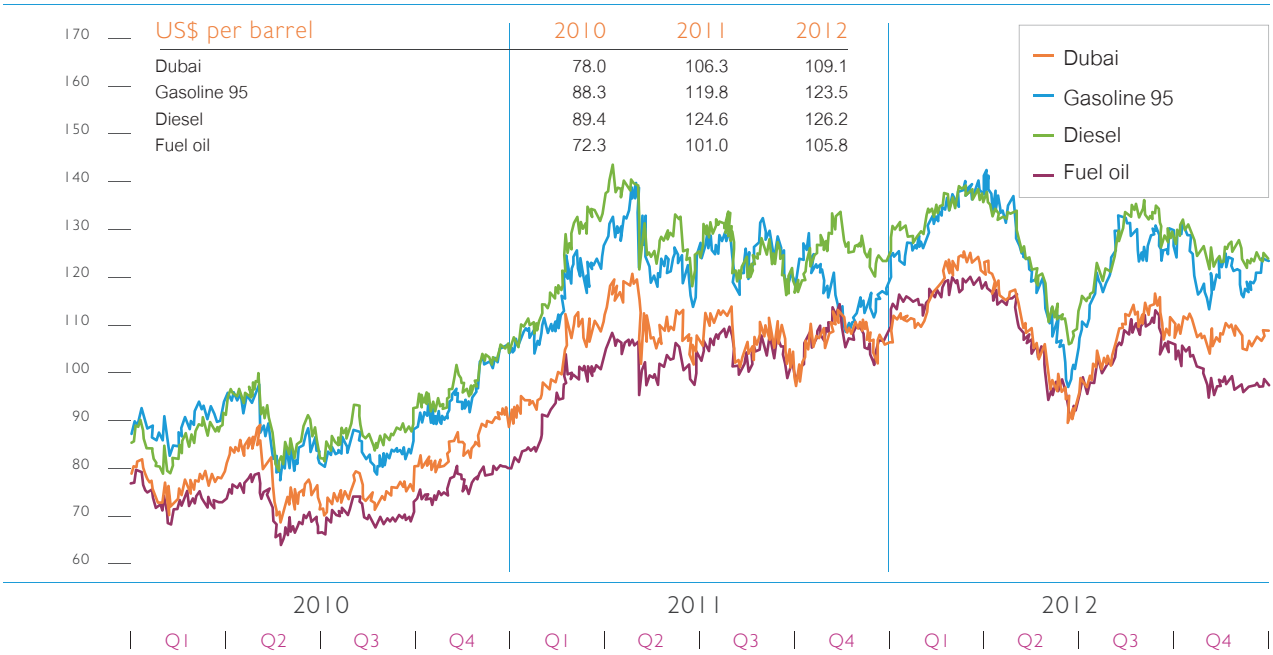
Unit: Million barrels/day

Source: IEA February 2013

Despite the feeble growth in world oil demand in 2012, the oil price remained high because of geopolitical factors, resulting in the uncertainty of supply disruption, especially on the tension between Iran and Western countries and Israel on the Iranian nuclear power development program. Political unrest in some producing countries in the Middle East and Northern Africa, including Nigeria, South Sudan, and Syria, and the major supply disruption caused by super hurricane Isaac in the Gulf of Mexico, also jacked up the world oil price. Furthermore, economic measures introduced by many countries to stimulate domestic consumption during 2012 helped push the oil price to high levels. The average Dubai crude price stood at 109.1 US$ per barrel, versus the 2011 average price of 106.3 US$ per barrel.

The Dubai Crude Prices and Petroleum Products Prices during 2010 - 2012

Unit: US$/barrel



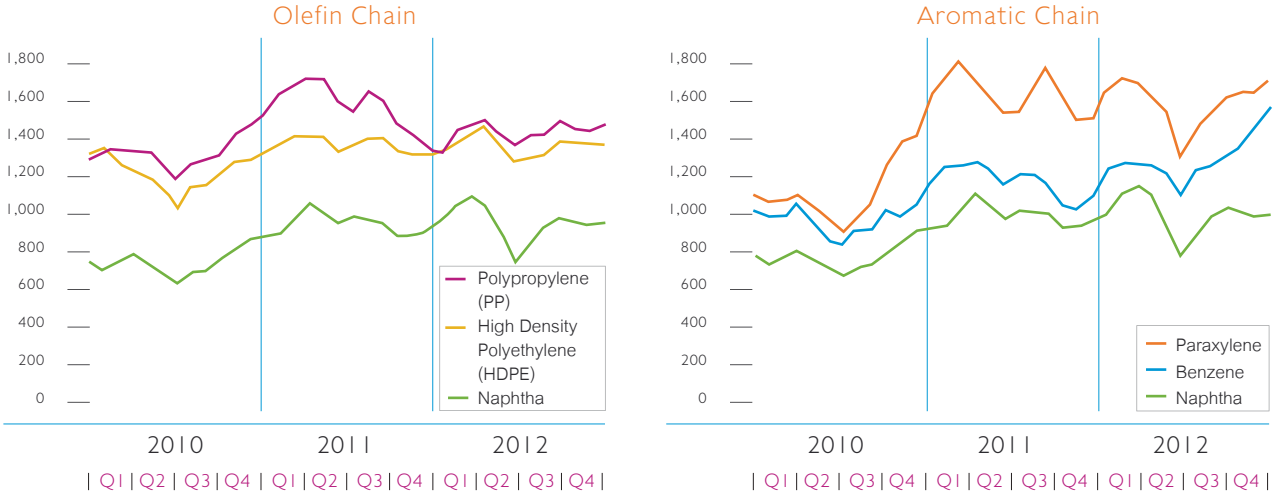
Spot prices of petroleum products in Singapore went up with the rise in crude oil prices and higher demand, aggravated by supply disruption caused by refinery closure in the US and some European countries following a fall in economic returns of some refineries. The average price of gasoline 95 in 2012 was 123.5 US$ per barrel, versus the 2011 average price of 119.8 US$ per barrel, as a result of higher regional demand, particularly Indonesia and Vietnam. Global supply experienced some hiccups, including the fire at Amuay Refinery in Venezuela and at a Chevron refinery in the US. The average diesel price in 2012 was 126.2 US$ per barrel, against the 2011 average price of 124.6 US$ per barrel,due to an unusually frigid winter in Europe and northern Asia, together with supply disruption caused by Amuay Refinery fire and Shell's Clyde Refinery closure in Australia. Diesel demand also rose sharply to compensate the short supply of coal for electricity generating. Similarly, fuel oil price went up to 105.8 US$ from 101US$ in 2011 due to Japan's higher demand for fuel oil to replace nuclear power used in electricity generating.Diesel demand in India rose sharply to compensate for the short supply of coal during the same period. Other higher demand for fuel oil came from the shipping sector and straight-run feedstock for certain teapot refineries like those in China. The 2012 average price of LPG CP (contract price) was 916 US$ per ton, versus 846 US$ in 2011. This higher price of LPG reflected the higher price of crude oil and higher demand in the petrochemical industry.

Despite the higher average prices of petroleum products in 2012, the spreads (price differential) between crude and refined products were down because price adjustments for crude oil proved higher than that of petrochemical. Incidentally, the cracking refining margin in Singapore fell from 8.3 US$ per barrel in 2011 to 7.4 US$ per barrel in 2012.

Economic contraction in Europe and the US in 2012 resulted in lower demand and lower prices of petrochemical products. Some olefins producers decided to cut their outputs as prices dipped below their economic thresholds. The year's average price of High Density Polyethylene (HDPE) was 1,378 US$ per ton, virtually the same as the 2011 level of 1,373 US$ per ton. For Polypropylene (PP), the average price fell from 1,580 US$ per ton in 2011 to 1,444 US$ per ton in 2012. With the exception of benzene, all other aromatics prices fell in 2012. The year's average benzene price stood at 1,212 US$ per ton, against the 2011 average of 1,105 US$ per ton, following the rise in the benzene price in the US due to reduction in benzene production impacted by higher production of shale gas and shale oil, together with some planned and emergency shutdowns of refineries. The year's average price of paraxylene was 1,497 US$ per ton, a sharp drop from 1,576 US$ per ton in 2011. The paraxylene price in June dropped to a historical low of 1,226 US$ per ton after sudden demand drops for midstream and downstream petrochemical products as a result of the debt crisis in Europe and economic slowdowns in the US and China.

Average Prices of Petrochemical Products in Asian Market during 2010 - 2012

Unit: US$/ton



US$/ton	2010	2011	2012
Polypropylene (PP)	1,340	1,584	1,444
High Density Polyethylene (HDPE)	1,222	1,373	1,378
Naphtha	713	922	933

US$/ton	2010	2011	2012
Paraxylene	1,042	1,540	1,497
Benzen	913	1,103	1,212
Naphtha	713	922	933

Source: ICIS

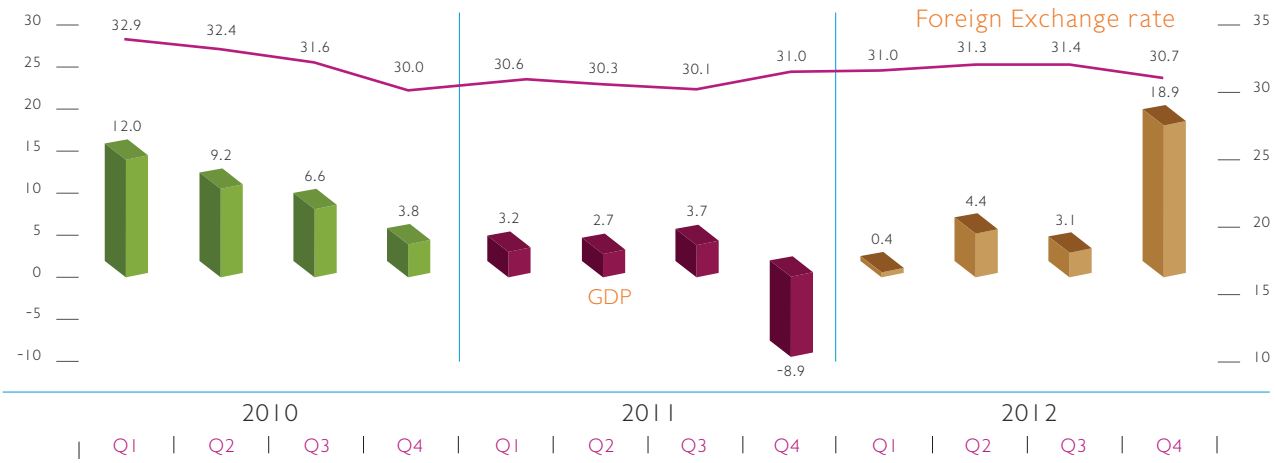
2012 Thailand Economic and Petroleum Review

Economic Review

In contrast to the economic slowdown of the global economy and trade counterpart economies, Thailand's economic growth this year rebounded strongly after the notorious Great Floods of late 2011. The Bank of Thailand announced in January 2013 a projection that Thailand's economic growth this year equaled 5.9%, a mild 0.1% higher than that of 2011. Factors contributing to this growth included a higher-than-expected domestic consumption driven by government stimulation policies, such as the first-car scheme, the minimum wage, and civil servants' minimum salary adjustments, higher domestic private capital investments (especially on equipment and machinery to restore the production lost during the disastrous floods of 2011), as well as the government's megaproject investments on infrastructure and water management. Nevertheless, even with the impressive domestic economic growth, foreign investors withdrew cash from the local monetary system for safe overseas assets in response to the global economic slowdown and Eurozone debt crisis uncertainty, resulting in a weakening of the baht. The average exchange rate this year amounted to 31.1 baht/US$ (Figure 5).

Thailand's Economic Growth Rate 2010 - 2012

Unit: % yoy baht per US$



Source : NESDB and The Bank of Thailand

Petroleum Review

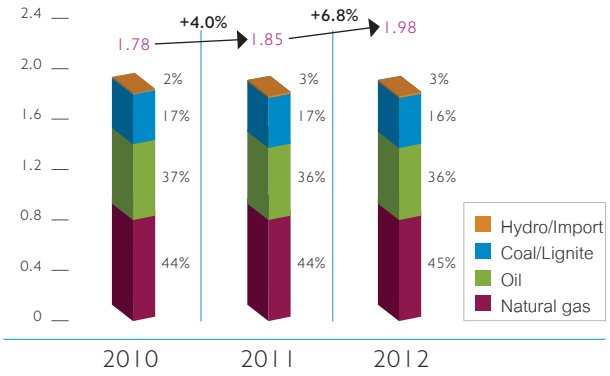
In parallel to domestic economic growth, Thailand's primary energy consumption (excluding alternative and renewable energy sources) rose by 6.8% from 2011, with the average consumption rate of to 1.98 million barrels per day this year. Consumption of natural gas and crude oil, our primary and secondary sources of energy, was up by 9.6% and 5.3% accordingly, and LPG consumption grew by 9.7%. Of all the sectors, transportation consumed 15.0% and household and industrial sectors consumed 14.4% and 14.7% respectively. To meet domestic demand, Thailand imported more than 1.7 million tons of LPG this year. Meanwhile, consumption of NGV expanded by 20.6% to 280 million cubic feet per day.

Domestic energy consumption this year, categorized by key sector, is summarized below:

1. The average consumption in the transport sector amounted to 609,891 barrels per day, up by 5.5% from 2011, with 4.8% for gasoline and 5.8% for diesel. The higher consumption reflected an economic recovery after the Great Floods and the diesel price control below 30 baht/liter policy, imposed by the government. Consumption of LPG and NGV, with prices posted below those of gasoline and diesel, rose by 15.0% and 20.6%, with slower growth from last year caused by higher prices of both products following relaxed price control managed by the National Energy Policy Council (NEPC) to gradually allow the public to realize the true market prices. The price of LPG rose from 18.13 baht per

Thailand's Commercial Primary Energy Consumption 2010 - 2012

Unit: Million barrels/day

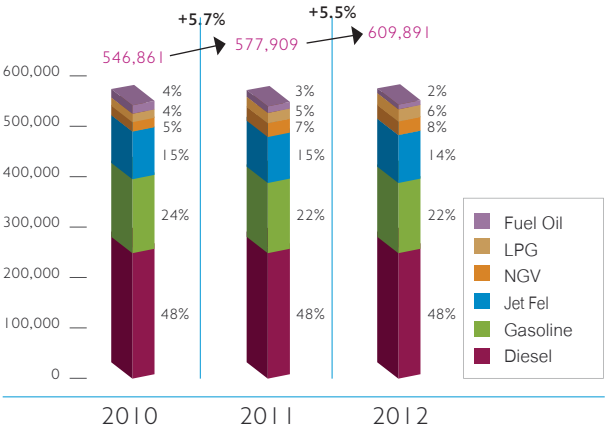


Remark: Excluding renewables

Source: Energy Policy and Planning Office

Thailand's transport sector consumption, 2010 - 2012

Unit: barrels/day



Remark: Excluding renewables

Source: Department of Energy Business, Energy Policy and Planning Office, and PTT

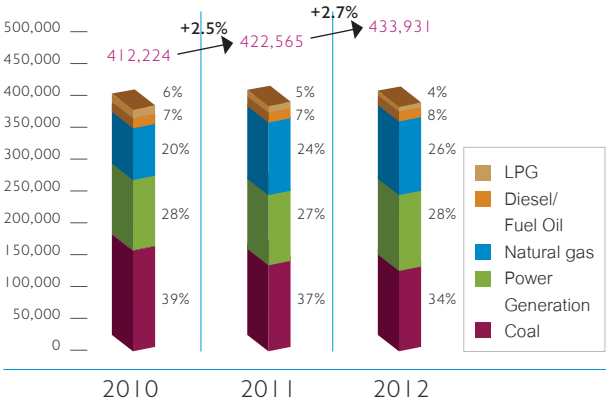
kilogram to 21.38 baht per kilogram in 2012: it gradually increased in five stages, 0.75 baht per kilogram for the first four adjustments from January to April, and 0.25 baht per kilogram in August. The price adjustment for NGV was made in four stages from January to April at 0.50 baht per kilogram each, resulting in a total rise of the NGV price from 8.50 baht per kilogram to 10.50 baht per kilogram. Ethanol consumption of 2012 rose by 13.0% as a result of the government's price intervention to reduce oil fund contribution from gasoline-gasohol mixture at a lower rate than for pure gasoline. More and more people have turned to gasohol 91 and gasohol 95. With more environmentally friendly combustion technologies, the public have consumed more gasohol E20 and E85. With fewer shortages of palm oil this year, the mixture of palm oil in B100 biodiesel was up from 2 - 3% to 3.5 - 5.0%. Meanwhile, B100 biodiesel consumption rose sharply by 75.2%.

2. The industrial sector consumed 433,931 barrels per day this year, up by 2.7%, as a result of manufacturing and production recovery in the wake of the Great Floods. Consumption of natural gas and electricity rose by 13.5% and 6.3%, and that of coal and LPG shrank by 5.4% and 14.7% due to higher world coal prices and higher LPG price gradually adjusted to reflect the true production cost under government policy. The 2012 year-end LPG price for the industrial sector was 30.13 baht per kilogram.

3. This year, energy consumption by the household and commercial sectors rose by 11.4% from 2011 to 240,908 barrels per day. The rise was partly caused by certain governmental stimulation policy related to increasing personal income, and partly due to the LPG stable price control policy for households at 18.13 baht per kilogram. Consumption of LPG and electricity, meanwhile, rose by 14.4% and 9.4% respectively.

Thailand's industrial sector consumption, 2010 - 2012

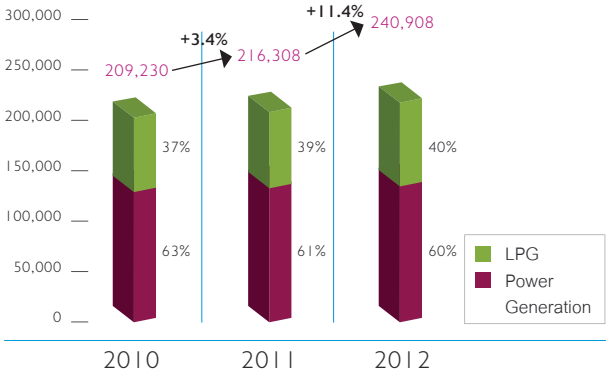
Unit: barrels/day



Remark: *Excluding renewables*
Source: *Department of Energy Business, Energy Policy and Planning Office, and PTT*

Thailand's Household and Commercial Energy Consumption 2010 - 2012

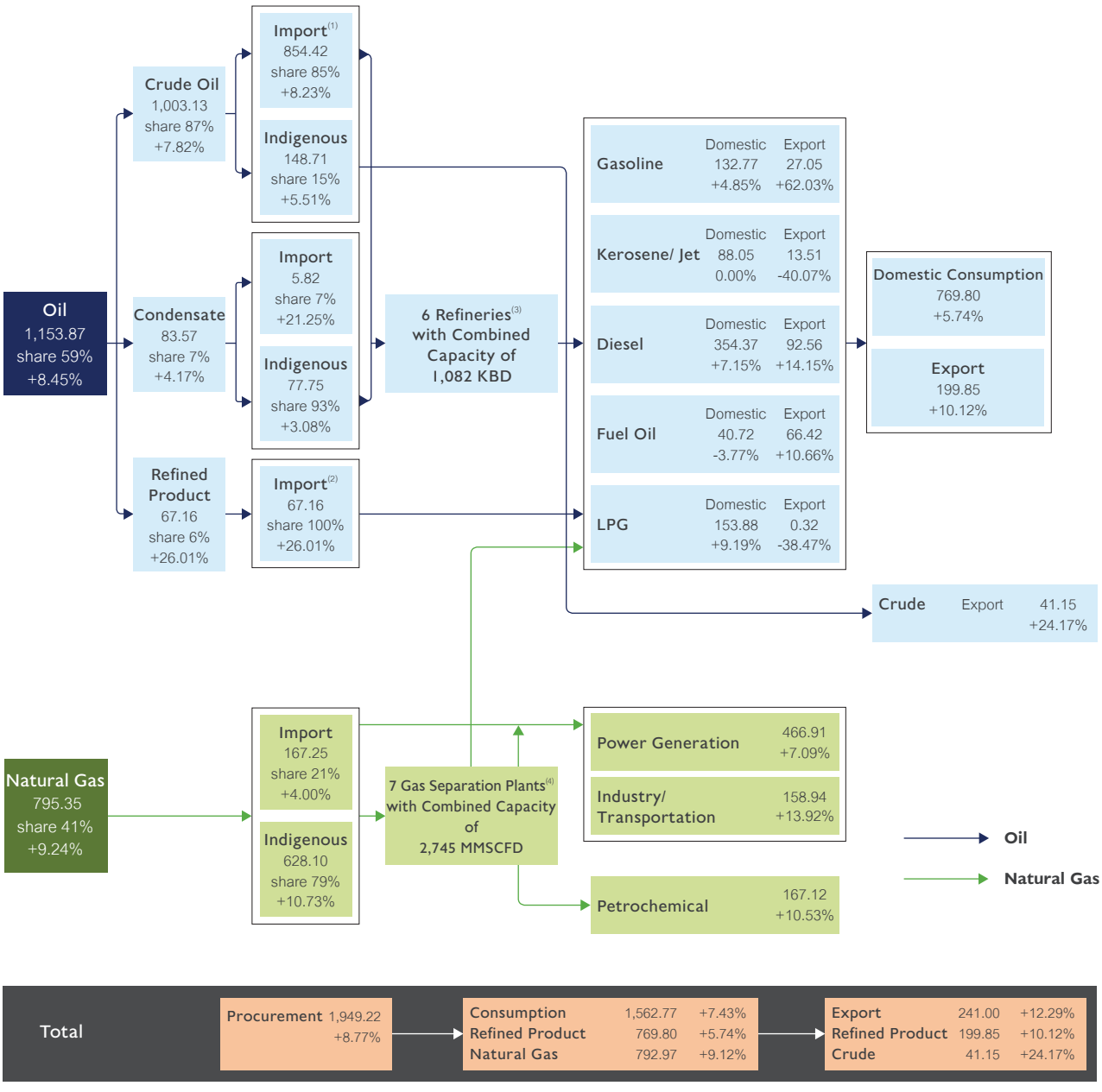
Unit: barrels/day



Remark: *Excluding renewables*
Source: *Department of Energy Business, Energy Policy and Planning Office, and PTT*

Thailand Petroleum Balance 2012

Procurement | Domestic Consumption/ Export | Unit: KBD



Total					
Procurement 1,949.22 +8.77%	Consumption	1,562.77	+7.43%	Export	241.00 +12.29%
	Refined Product	769.80	+5.74%	Refined Product	199.85 +10.12%
	Natural Gas	792.97	+9.12%	Crude	41.15 +24.17%

Source: *Energy Policy and Planning Office, Department of Energy Business, Department of Mineral Fuels, and PTT (as of February 2013)*

Notes: *(1) Imports of crude oil including Long Residue*

(2) Including LNG

(3) Capacity includes those of BCP, ESSO, IRPC, PTTGC, SPRC, THAIOIL and excludes PTTGC's condensate splitters & Fang refinery. (RPG is currently closed down)

(4) Capacity includes those of PTT/GSP 1-6, PTT/ESP and PTTEP Siam/Phalang Phet.

The Petroleum Procurement and Domestic Consumption/ Export exclude Bitumen.

Thailand's 2012 gross petroleum procurement and distribution stood at 1,949.22 thousand barrels per day, rising by 8.77% over 2011. Oil accounted for 59%; natural gas, 41%. Out of the total oil procurement, 80% was imported as crude oil at an average volume of 854.42 thousand barrels per day. Thailand also imported 167.25 thousand barrels of oil equivalent per day of natural gas. The distribution of total petroleum this year stood at 1,562.77 thousand barrels per day, up by 7.43% from the previous year with virtually identical ratios between petroleum products and natural gas. The export of petroleum products this year rose by 12.29%,including 199.85 thousand barrels per day of petroleum products, a 10.12% rise over 2011, and 41.15 thousand barrels per day of crude oil, up by 24.17%.

World Economic, Petroleum, and Petrochemical Outlook for 2013

World Economic Outlook

The IMF issued a forecast of global economic growth to rise from 3.2% in 2012 to 3.5% in 2013, mainly due to the continuing economic growth in developing and emerging countries, supported by higher local consumption and domestic investments, in turn driven by state investments on infrastructure megaprojects. Export is predicted to perform better as a result of the global economic recovery. For developed countries, the US economy is predicted to continue recovering gradually, reflecting economic measures including relaxed liquidity control and the Fed's Quantitative Easing (QE) injection of 85 billion US$ per month to absorb state bonds and securities with collateral agreements to stimulate the overall economy until the unemployment rate falls to controllable target levels while maintaining low interest rates. The White House has so far successfully pushed through Congress certain legislation to avoid the "fiscal cliff", resulting in the extension of tax exemption measure for the low-income and middle-income earners. On the contrary, the Eurozone debt crisis is believed to continue. More visible economic measures to counter the debt crisis have, however, been adopted and moved forward by EU members. To stabilize the overall debt level, the EU has been moving to use the European Stability Mechanism (ESM) to inject sufficient liquidity directly into the banking industry. EU members have therefore been pushing for the establishment of the Single Supervisory Mechanism (SSM) under European Central Bank (ECB), so that ECB can directly supervise more than 200 large commercial banks in controlling debt levels and eventually develop the mechanism into the formation of a single European Banking Union. Visible global economic risks in 2013 therefore involve US economic measures in handling debt ceilings and budget cuts, and the Eurozone debt crisis. These could sharply slow down the global economic recovery.

Petroleum and Petrochemical Outlook

IEA issued a 2013 energy demand forecast in its February 2013 report to increase by 0.9 million barrels per day to 90.7 million barrels per day. The increase will come from developing and emerging economies, particularly China, India, and Middle Eastern countries. On the supply side, IEA predicts no shortfall from Organization of Petroleum Exporting Countries (OPEC) and Non-OPEC countries. Moreover, significant supply would be added from the US shale oil and Canadian oil sands, as well as deepwater oil and gas production from Brazil. Considering this demand and supply scenario, the average Dubai crude price for 2013 should fluctuate around 100 .- 110 US$ per barrel, like this year's. A price jerk is possible, however, as supply disruption could develop if the Israel-Iran conflict on the Iranian nuclear development escalates. On the contrary, a price drop is also possible if the world economic troubles continue.

The 2013 refining margin in Singapore is expected to float around 7-8 US$ per barrel, very close to this year, paralleling the projected stable prices of most petroleum products.

By contrast, olefins prices are set to rise in 2013, reflecting the higher demand in China and developing Asian economies focusing their state budgets on infrastructure development and logistic improvement, as well as expansion of plastics and automobile industries. Price projections for HDPE and PP are 1,445 US$ and 1,483 US$ per ton. Similarly, aromatics products prices tend to rise; benzene is likely to increase by 1,292 US$ per ton while the paraxylene price will also climb to 1,637 US$ per ton. In parallel to the growth of the middle-income population, special-grade petrochemical products used in consumer specialty manufacturing, including bioplastics, will continue to grow exponentially in the long run. Incidentally, Thailand has a leading potential in the ASEAN region in bioplastics.

Thailand Economic and Petroleum Outlook for 2013

Economic Outlook

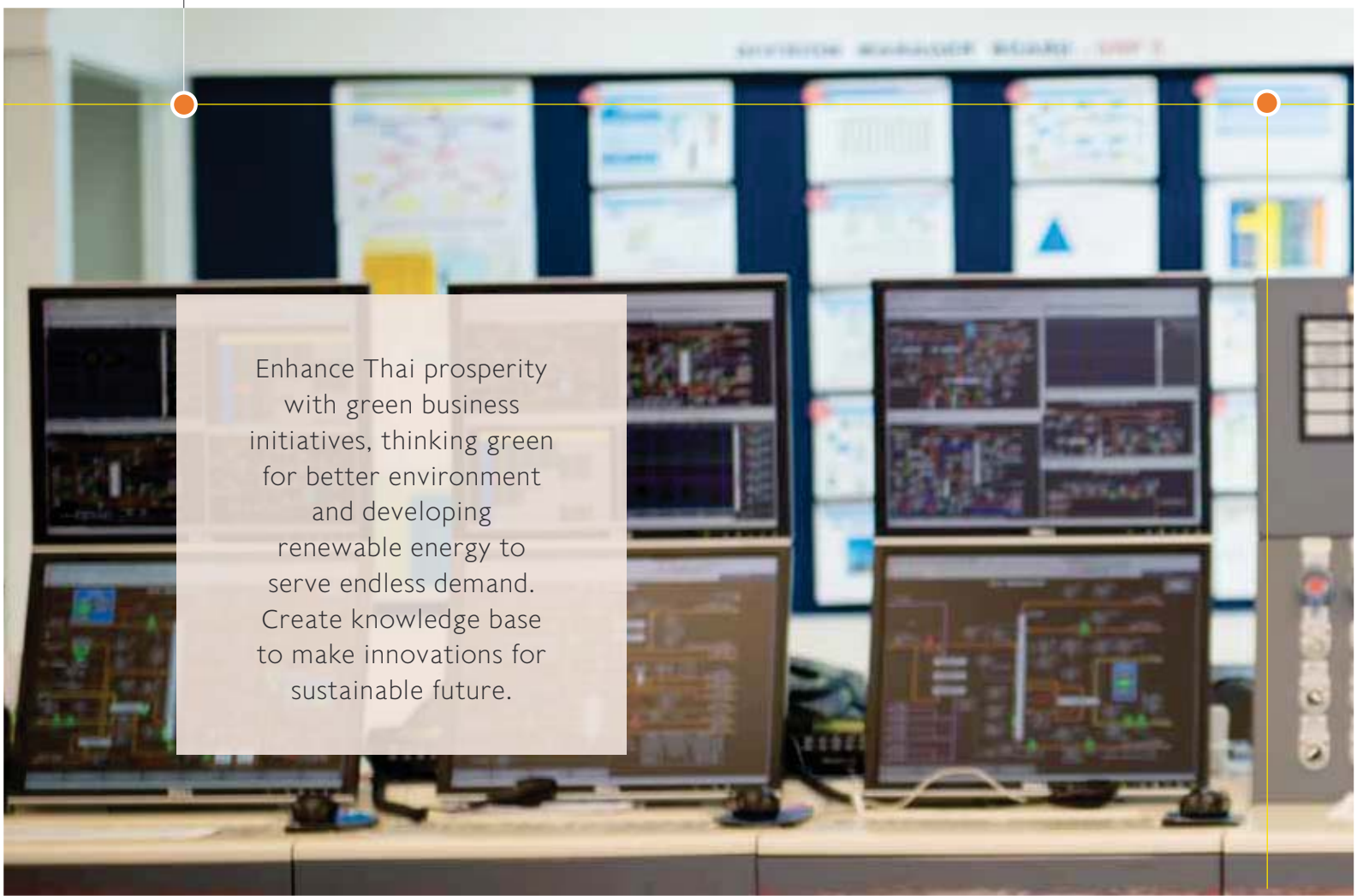
The 2013 economic growth forecast for Thailand favors a slowdown to the norm, driven mainly by higher domestic consumption, stimulated by economic measures launched this year. These measures include the first-car scheme, the increased minimum wage and income policy, and the restructuring of business income tax and personal withholding tax, set to be enforced in 2013. Moreover, capital investments are set to increase, with private investments on higher market demand and government investments on megaprojects, including a national water management plan and long-term infrastructure development. Export growth will gradually return to the pre-flood crisis, following the global economic recovery. The priority risk factor to watch for is the inflow and outflow of capital of the money market, which could significantly affect the baht currency. It is expected that the exchange rate between the baht and the US dollar in 2013 will hover around 29.5 - 30.5. Other risks to monitor are the physical progress of government infrastructural development projects and domestic political movement, which could affect foreign investment confidence. NESDB, in its February 2013 report, issued an economic forecast of about 4.5 - 5.5% increase.

Petroleum Outlook

Primary energy consumption, excluding that of renewable energy, in 2013 is expected to grow by 5.0 - 5.5%, a slight drop from that of this year, in line with GDP growth. Consumption of natural gas and oil will expand by 6.0% and 3.5% respectively. Because of the first-car scheme and the abolishment of sale of gasoline 91 from January 1, 2013, more vehicles will flood the traffic system and higher consumption of gasohol is unavoidable. Consumption of gasoline and diesel are therefore expected to soar from that of this year. However, given the success of the government's efforts to gradually increase the natural gas price to reflect the true cost without subsidy, consumption of NGV and LPG will rise only mildly.

Nature of Business and Business Performance

PTT's operations cover an entire business value chain from upstream to downstream with a focus on incremental value addition in tandem with the creation of innovation.



Nature of Business

PTT is a fully-integrated national petroleum and petrochemical company with a mission to foster national energy security, economic prosperity, and corporate sustainability with due regard for the stewardship of the environment and the Thai society.

PTT's operations cover an entire business value chain from upstream to downstream with a focus on incremental value addition in tandem with the creation of innovation. The overall operations of PTT, including those conducted by both PTT directly and through PTT Group companies, are summarized below.

Natural gas procurement, transmission, and distribution businesses are operated under the Energy Industry Act, B.E. 2550 (2007), supervised by the Energy Regulatory Commission (ERC), a body appointed by HM the King. The supply procurement and pricing structure to power producers and piped gas management fees are strictly controlled with a constant rate of return, while the pricing structure of procured gas to industrial users fluctuates with the world market price to ensure competitiveness with domestic fuel oil. For the gas sold to petrochemical industries from the gas separation plants (GSPs), the price is determined by world petrochemical feedstock prices. However, for the LPG sold domestically, the pricing is partially subsidized by the government policy as a mitigation measure to the impacts of rising world oil prices. The household LPG price is currently capped at 333 US$ per ton, which is lower than the world price. Meanwhile, the price of NGV was allowed to rise by 0.50 baht per kilogram per month for four months. Yet, at the same time, the public sector gradually lowered its contribution to the NGV price by 0.50 baht per kilogram per month. The net effect is therefore that NGV feels like its price remains unchanged at 10.50 baht per kilogram while PTT is no longer receiving NGV subsidy from the public sector.

Supply of natural gas included 79% from indigenous production, and the remaining consists of piped gas from Myanmar and LNG from Qatar and spot market.

- ## Downstream business

Oil Business Unit: The business unit is in charge of distribution of quality petroleum products, which break down into three core products. First, fuel products, consisting of gasoline and LPG. Second, lubricating oil and other lubricating products. Third, retail business products. All these are sold through three major distribution channels. First, B2C retail (through service stations, which have been upgraded and modernized into PTT Life Stations, catering to modern consumers' lifestyles that favor one-stop service made possible by diverse retail businesses found at service stations, like convenience stores, food and bakery outlets, Café Amazon coffee shops (now a full-fledged franchise business), auto-services, and banking services. Besides service stations, B2C features LPG sale through

PTT-operated businesses

• Upstream business

Gas Business Unit: The business unit conducts natural gas procurement, transmission, distribution, and processing, and invests in NGV service stations and sales, as well as gas-related value-added businesses through Group companies. Supply includes indigenous gas and imports from neighboring countries, plus liquefied natural gas (LNG), sufficient to meet the growing demand. The distribution network includes major power producers through PTT's transmission pipelines, industrial users through PTT-invested distribution pipelines, and NGV distribution through NGV service stations. NGV is an alternative fuel for vehicles, in addition to gasoline and diesel. PTT also invests in gas separation plants to supplement business value by extracting a variety of valuable chemical components from natural gas to provide petrochemical feedstock, which in turn represents essential elements of all other subsequent industries driving national economic growth. One of these products is LPG, used in households, industry and transportation.

Moreover, PTT LNG Co., Ltd., a wholly-owned subsidiary of PTT under the supervision of the Gas Business Unit, invests in LNG-receiving terminals, LNG storage, and LNG re-gasification. PTT LNG also invests in the gas-fired power business and conducts generation and distribution of power, steam, and water for industrial consumption as part of the value creation business and optimal energy utilization, under the Combined Heat and Power Producing Company Limited, another wholly-owned subsidiary of PTT.

bottling plants, LPG stand-alone outlets, and lubricant sale through lubricant outlets. Second, B2B (commercial market), sold through civil servant groups, state enterprise workers, industries, aircraft, ocean liners, fishing vessels, and exports. Third, sale of products to customers under Article 7 and Article 10 of the Fuel Trade Act.

Moreover, the business unit manages investments through PTT Group companies, most of which are wholly owned by PTT, and is engaged in domestic and overseas oil businesses, such as retail sales and service stations, lubricating oil blending and bottling, and aviation fuel services.

The oil business has become more liberalized and highly competitive under several laws, including the Fuel Trade Act, B.E. 2543 (2000) and Fuel Oils Control Act, B.E. 2542 (1999). As of December this year, PTT was one of 43 fuel oil traders (as of December 2012) registered with the Department of Energy Business. Moreover, the oil business is heavily regulated by various authorities, including the Energy Policy and Planning Office, Department of Energy Business, Department of Internal Trade, and Office of the Consumer Protection Board. Its financial performance therefore relies primarily on marketing margins in retail stores and partly on other supplementary products and year-end inventory (stocks).

International Trading Business Unit: The business unit operates fully-integrated international trading businesses, ranging from procurement, import and export of crude oil, condensate, petroleum products, petrochemical products (exclude plastics), to solvents and chemicals, as well as other commodities. The business unit is also in charge of providing shipment and logistics support, domestically and internationally, for PTT Group companies and generates revenues from external operations, mainly to provide energy security to the Kingdom and supplement business value to PTT Group.

To cope with the changing nature of international businesses, PTT International Trading has implemented an international risk management system covering all aspects of risk exposure equivalent to those systems adopted by leading international companies. Major risks affecting PTT's business are oil price volatility, reliability and integrity of trading partners, safety of delivery and shipment, and potential natural disasters. As world oil price volatility is the biggest risk, PTT's mitigation measures include not only closely monitoring of movements of all contributing factors, but also the exercise of necessary financial transactions including futures, swaps, and derivatives trading. State-of-the-art information technology verifies details of every transaction engaged in by operation staff. This year, International Trading undertook software refinement for the Trading Control System to add capability to the Commodity Trading and Risk Management System so as to accommodate more complicated transactions and

cover other commodities potentially traded in the future. This represents an application of technology to supplement trade capability by streamlining work, controlling risks more stringently, and reporting trade status in a more accurate and timelier way. Implementation of this new system is due in early 2014. Similar practices have been adopted to control and ease possible impacts from shipment and transport of petroleum and petrochemical products on the environment and communities. Procurement and logistics of all products are strictly managed and controlled to international standards and regulations through the PTT Group Ship Vetting Project.

To overcome possible cross-boundary legal barriers and to add competitiveness in international trading of petroleum and petrochemicals, PTT International Trading has founded and appointed subsidiaries and agencies in many countries, including PTT International Trading Pte. Ltd. (PTTT) in Singapore, PTT International Trading DMCC in Dubai, United Arab Emirates, PTT International Trading Guangzhou Representative in the People's Republic of China, and the latest office in Jakarta, Indonesia, known as PTT International Trading Jakarta Representative. Currently, PTT International Trading manages business transactions in more than 50 countries covering all regions of the world.

Businesses invested through PTT Group companies

• Upstream business

Petroleum exploration and production business: PTT Exploration and Production Plc. (PTTEP) operates domestic and international petroleum exploration and production (E&P) and invests in associated businesses for PTT. The bottom-line business objective is to seek and secure competitively priced crude oil and natural gas to ensure Thailand's energy security. PTTEP demonstrates this responsibility through its petroleum sales agreement with PTT on all produced petroleum in neighboring countries, mostly natural gas, for consumption in Thailand. Moreover, PTTEP has expanded its petroleum E&P business to other global regions, including the Canadian Oil Sands KKD project in North America, Mozambique Rovuma Offshore Area One in Africa, Oman 44 project in the Arab Peninsula, and the Floating LNG project in Australia. Petroleum production from these overseas projects is partially destined for distribution in Thailand, although it is sold internationally to produce a revenue inflow to support national economic growth.

PTTEP's financial performance is primarily dependent on the world oil price, petroleum exploration and field development success, efficient cost management of E&P projects, investment opportunities, and organizational competency development. E&P activities and petroleum pricing structures are governed by the Petroleum Act, B.E. 2514 (1971), under the supervision of the Petroleum Committee.

• Downstream business

Petrochemical business: PTT invests in the petrochemical business to add value to its domestic natural gas production and products from its refineries by providing export-substituting feedstock to support the development of the local petrochemical industry and other industries using petrochemicals as materials, such as the automotive industry, construction industry, and packaging industry. PTT operates its petrochemical business and integrated associated companies through its investment in 9 Group companies, including PTT Global Chemical Plc (PTTGC), HMC Polymers Co., Ltd. (HMC), PTT Phenol Co., Ltd. (PPCL), PTT Asahi Chemical Co., Ltd. (PTTAC), PTT Polymer Logistics Co., Ltd. (PTTPL), PTT Polymer Marketing Co., Ltd. (PTTPM), PTT Tank Terminal Co., Ltd. (PTT TANK), PTT Maintenance and Engineering Co., Ltd. (PTTME), and PTT MCC Biochem Co., Ltd. (PMBC). This wide range of investments covers businesses from the processing and distribution of upstream, midstream, and plastic products, and marketing and distribution in both domestic and international markets, to integrated logistical services and the supply of related public utilities, integrated maintenance and engineering projects, and engineering, architectural, industrial, and maintenance services to PTT Group and other industrial plants.

Performance is primarily subject to world petrochemical prices, moving up and down in a cycle of supply and demand, and the year-end inventory (stocks). The main feedstock in petrochemical production comes from PTT's GSPs, including ethane, propane, LPG and natural gas liquids (NGLs), together with products from PTT Group's oil refineries, like naphtha and reformate.

Refining business: PTT invests in the refining business mainly to provide refining product security to the country and substitute locally produced petroleum products for imports. PTT operates its oil refining business and associated businesses using refined products as raw materials (or feedstock) through its investment in Group companies, consisting of Thaioil Plc. (TOP), IRPC Plc (IRPC), Star Petroleum Refining Plc. (SPRC), and Bangchak Petroleum Plc.(BCP). The business structure allows PTT to provide crude oil as feedstock for these companies and, in turn, buy all refined and petrochemical products from them to market and distribute domestically, and export to international markets. In addition, PTT has invested in related business such as PTT Energy Solutions Co., Ltd. (PTTES) who provides technical consultancy.

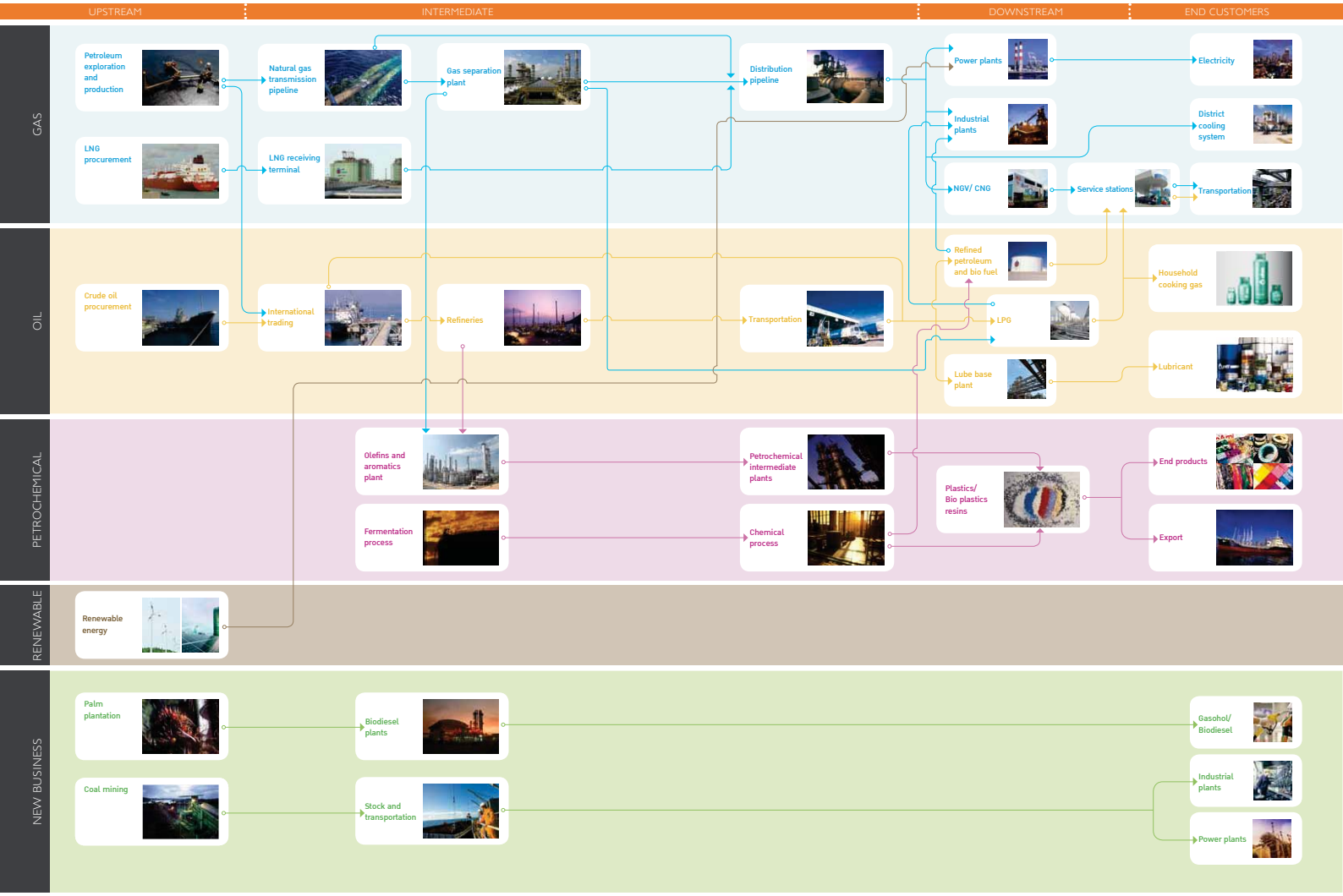
Performance is primarily subject to the refining margin-the average value of refined products less the average cost of crude runs (based on volatile world prices)-which is cyclical with the world-market supply and demand, world oil price volatility, and year-end inventory (stocks).

- **International investment business**

PTT intends to secure energy supply for Thailand with overseas energy and new alternative-energy sources by integrating its entire organizational capability of knowledge, skills, personal experiences, and cooperation among PTT Group. All international investments are made through PTT's wholly-owned subsidiaries, PTT International Co., Ltd. (PTTI), and PTT Green Energy Co., Ltd. (PTTGE).

Currently, PTTI's investment portfolio includes coal mining businesses in Indonesia and Madagascar as well as the joint study in coal resources in Brunei and Combodia, a hydro-power plant in Laos, and a gas pipeline business in Egypt for transmission from Egypt to Israel. PTT Green Energy has also invested in the development of palm plantations in Indonesia.

Create Value Through Business Chain



Business Performance 2012

The year was quite spectacular for PTT's upstream and downstream business operations. Of the upstream business, PTTEP sold a greater volume of products and acquired Cove Energy, a joint-venture partner in the Mozambique Rovuma Offshore Area One Project and other petroleum deposits in Mozambique and Kenya. The former project consists of a sizeable gas field estimated to contain more than 60 trillion cubic feet (TCF) in resources. PTT also secured more gas supply from Bongkot South, a new field, as well as a greater volume of LNG to sustain the spiraling demand. As for its downstream side, PTT Group successfully supplemented value from the Operational Excellence (OpEx) Project and enjoyed capacity growth among companies in the refining and petrochemical group. Besides, PTT continued to lead the domestic retail oil market, although the volatile global energy situation, the continued economic slowdown worldwide, and the lingering Euro debt crisis this year affected oil stocks and depressed all spread margins of the refining and petrochemical businesses. PTT recognized the loss arising from the impairment of its investment in EMG; likewise, PTTEP recognized the loss arising from the impairment of its Montara assets. Therefore, the net profit this year amounted to 104,666 million baht, a drop of 1,594 million baht from last year. Details of each business unit appear below.

PTT-operated businesses

• Upstream Business Group

Gas Business Unit

This year's operational success of the business unit resulted largely from the success in natural gas procurement from supplementary agreements with Chevron and PTTEP (South Bongkot), additional import shipment of LNG to meet the rising demand across the board, including the power, industrial, and transport sectors, together with GSPs. Key operational performance results this year for the business unit appear below:

Natural gas procurement

Supply procurement totaled 4,561 MMcf/d, a rise of 386 MMcf/d (9%) from 2011 at 4,175 MMcf/d, consisting of 3,602 MMcf/d from indigenous sources and 959 MMcf/d from import, or an equivalent indigenous/import ratio of 79 : 21.

Gas sales to the power sector

Sales to this sector totaled 2,680 MMcf/d, about 59% of total sales, representing a 7% rise from 2011 (at 2,500 MMcf/d), due to the rising demand for power. Note that 2011 saw an usually cold first quarter of the year and severe flooding in most parts of the country late in the year, thus contributing to an abnormally suppressed demand for power for the whole year. Sales were completed to the Electricity Generating Authority of Thailand (EGAT) at 1,331 MMcf/d, or 50% of the total; to seven independent power producers (IPPs) at a total of 922 MMcf/d, or 34% of the total; and to 24 small power producers (SPPs) at 427 MMcf/d, or 16% of total sales.

Gas sales to the industrial sector

Sales to this sector totaled 629 MMcf/d, equivalent to 14% of the total sales, an increase of 14% from last year (at 554 MMcf/d) to 313 customers, five more than last year, consisting of 310 industrial users and three commercial ones. Sales volumes rose as a result of the expansion of the gas distribution pipeline network to users, consisting of MTP HP JV Co., Ltd., in Asia Industrial Estate in Rayong, MTP HPPO Manufacturing Co., Ltd., and Glow Energy Plc located in the Map Ta Phut Industrial Estate in Rayong, which had started up in 2011 and took delivery of the gas to match their capacities this year.

Note that natural gas sold to industrial users is used for power and steam generation to raise power generation efficiency and reduce energy losses in the transmission system. For example, this year the total gas sales to Bangchak's refinery facilities amounted to 6 MMcf/d, virtually unchanged from those of last year, which was used for power and steam generation. PTT has continuously been expanding its gas distribution pipeline network. As of this year-end, PTT operated a gas distribution pipeline network of 511 kilometers, covering 10 provinces.

Gas sales to the transport sector

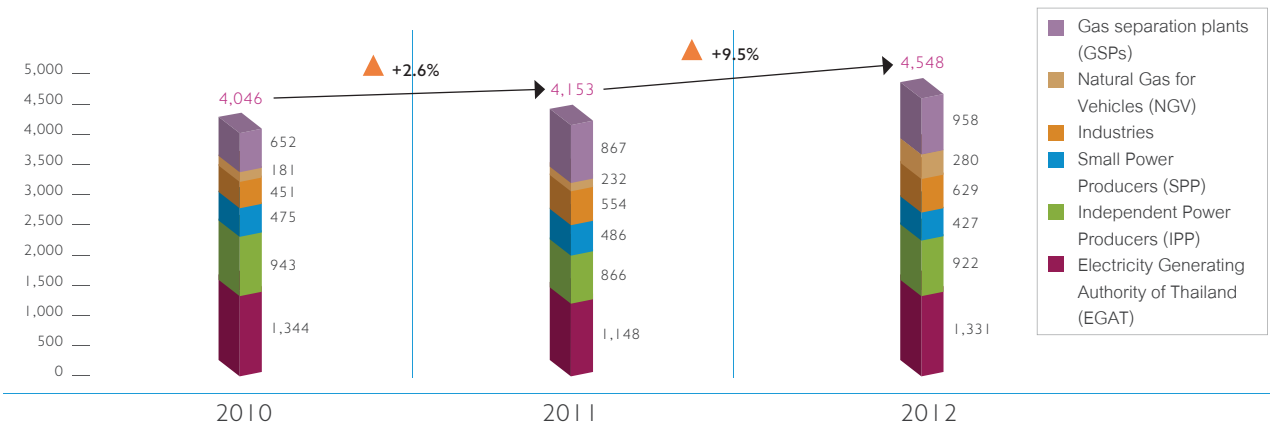
Sales to the transport sector averaged 280 MMcf/d (6%) of the total sales, recording a 21% increment from last year (232 MMcf/d) due to the ever-rising number of service stations. Currently, there are 483 PTT service stations, of which 392 are directly invested by PTT and 91 invested by independents, covering 54 provinces. Consumption of natural gas in the transport sector to replace gasoline and diesel rose from 9.2% last year to 11%. At the year-end, the number of vehicles fueled by natural gas increased by 74,276 (24.7%) from last year to 374,857 units.

Sales of products from GSPs

GSPs processed 958 MMcf/d of natural gas this year, or 21% of total sales, an increase of 10% from 2011 (867 MMcf/d). The increase resulted from the fact that both GSP 5 and GSP 6 approached their peak capacities this year; GSP 6, with a maximum capacity of 800 MMcf/d, started commercial operation in early 2011, and GSP 5 completed debottlenecking in July 2011, which increased its capacity from 545 to 570 MMcf/d from that month onward. Note that 2011 saw gas leaks from the offshore transmission pipeline around midyear and the Great Floods ravaging most parts of the country later in the year. The total output this year, therefore, was a jump in total processed product volume by 11% from 2011 to 6,452,137 tons a year this year from last year (5,827,131 tons). The products included 2,109,233 tons of ethane, 726,426 tons of propane, 2,905,594 tons of LPG, and 710,884 tons of NGLs.

Natural Gas Sales

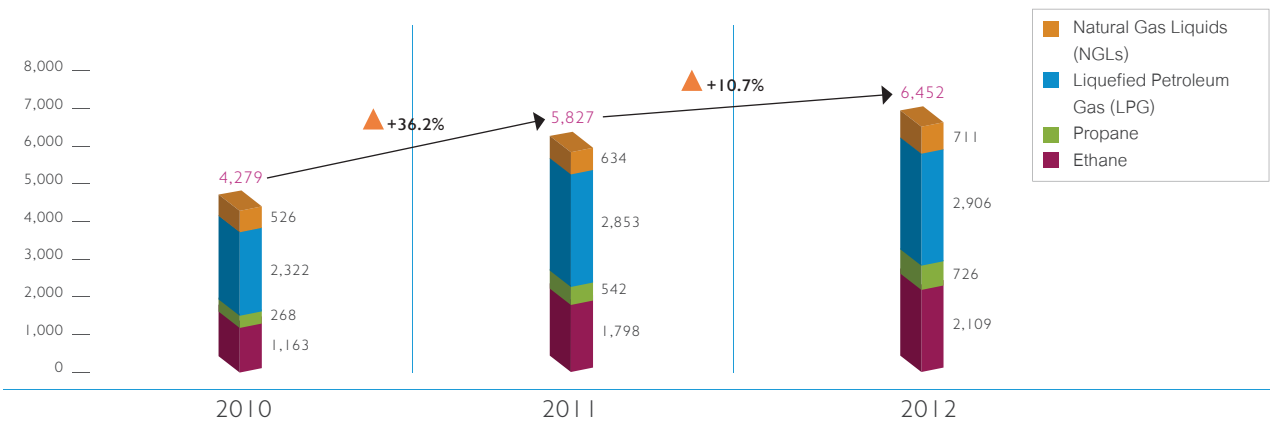
Unit: MMcf/d at 1,000 BTU/cu.ft.



Note: Excluding in the process gas consumption

Products from Gas Separation Plants

Unit: thousand tons



Gas Business Unit Milestones

January

• Under the Ministry of Energy's policy, PTT issued NGV discount cards to operators of taxis, motor tricycles (tuk tuk), associated Bangkok Metropolitan Mass Transit Authority (BMTA) vans, and minibuses in Bangkok and its perimeter. Discounts ranged from 0.50 to 2 baht per kilogram.

February

• PTT and Samsung Engineering Co., Ltd., signed an agreement on a project to generate power and combined thermal generation of 25-megawatt (MW) capacity for the ethane plant and GSP 6 in Rayong, and to use the surplus heat in generating electricity in supplementing value to the ethane plant's processes and lower the power fee otherwise paid to the Provincial Electricity Authority (PEA). Start-up is projected for April 2014.

Under the Ministry of Energy's policy, PTT issued NGV Discount Cards

PTT and Samsung Engineering Co., Ltd., signed an agreement on a project to generate power

March

• DCAP completed its capacity expansion for power and steam generation and expanded its commercial production in March, thus raising its power generation capacity to 94 MW and 34,300 cold tons of chilled water.

• The gas transmission pipeline project from Bongkot South was completed along with the installation of the production platform and production equipment. Gas has been delivered to PTT's transmission system for system testing.

May

• Rayong GSP achieved the ISO 50001:2011 energy management standard certification, the first ever among PTT Group. This internationally accepted management system was certified by MASCI and won the Green Industry award of the Department of Industrial Works (DIW).

June

• Bongkot South started its commercial production with an output under the GSA of 320 MMcf/d and 9,000 bbl/d of condensate. Combined with the original Bongkot field, the capacity became 900 MMcf/d, equivalent to 20% of the domestic gas demand.

August

• The Energy Regulatory Commission (ERC) endorsed the gas pipeline tariff, specifically the commodity charge (Tc) for offshore transmission pipeline at Rayong (zone 1), Khanom (zone 2), and onshore (zone 3) at 1.338 baht/MMBtu, and the Tc for the onshore portion at Chana (zone 4) at 0.0145 baht/MMBtu, effective from September onward.

• PTT, PTTGC, and PTTPE signed an amendment to the agreement on purchase and sale of products derived from GSPs, under which price formulas were to be adjusted to reflect the world prices of oil and natural gas while providing comparable returns on investment to the three parties to preserve competitiveness, effective from August 1, 2012. As a result, GBU derived 4 billion baht in additional income for the year.

• The Natural Gas Transmission business area won a certificate under the standard guidelines for application of Sufficiency Economy in the industrial sector.

PTT, PTTGC, and PTTPE signed an amendment to the agreement on purchase and sale of products derived from GSPs.

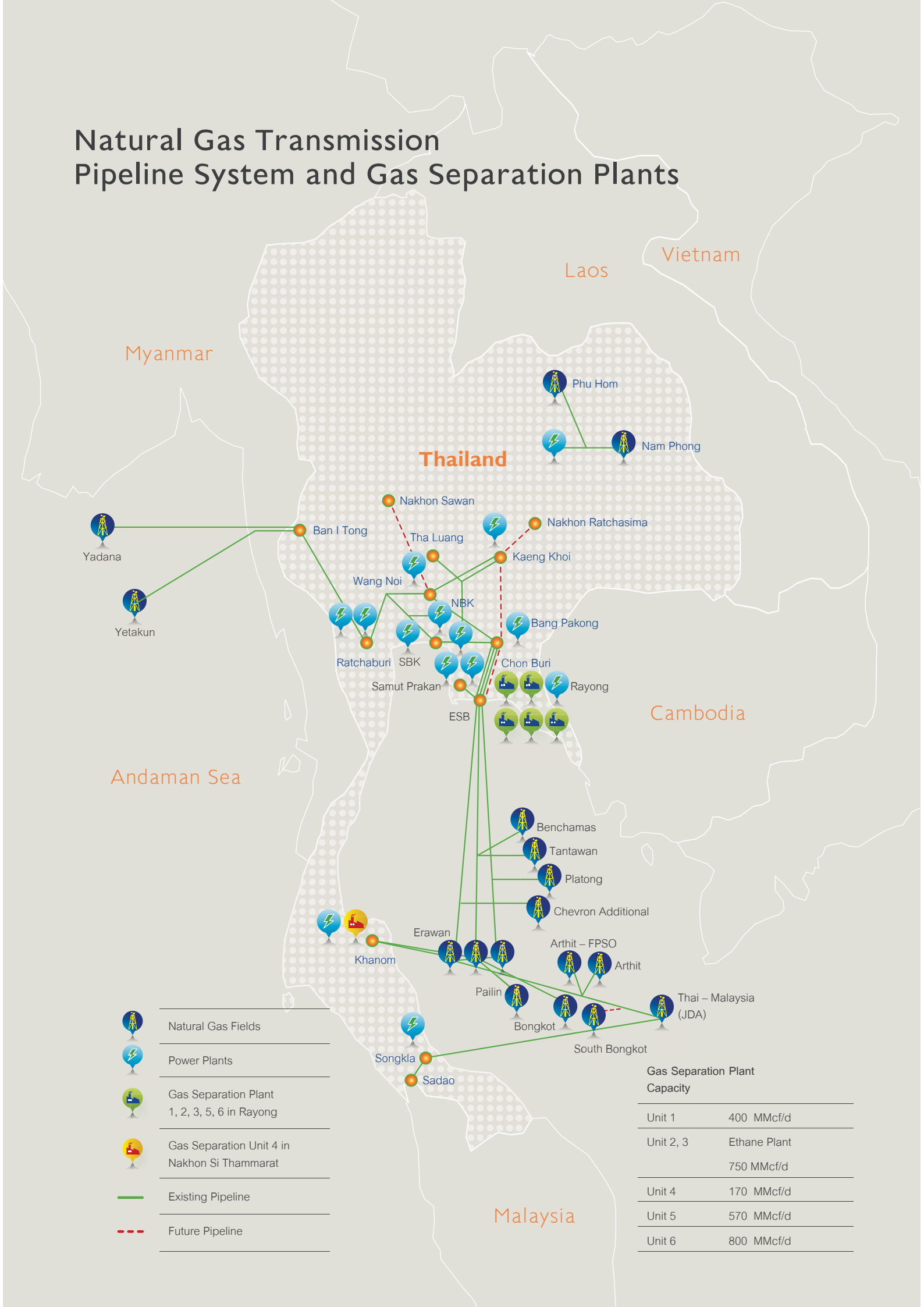
October

• The National Energy Policy Council (NEPC) endorsed PTT's signature in an LNG Sales and Purchase Agreement with Qatar Liquefied Gas Co., Ltd., of that country, amounting to 2 million tons per year. The 20-year agreement begins on January 1, 2015.

December

• A project for gas transmission pipeline from Navanakorn to Rangsit, spanning 17 kilometers, was completed, with gas entering the system from December 2012. As a result, PTT was able to meet the rising needs of power plants, industrial works in Navanakorn Industrial Estate, as well as those in Bangkadi Industrial Park, apart from NGV users in Bangkok and its perimeter.

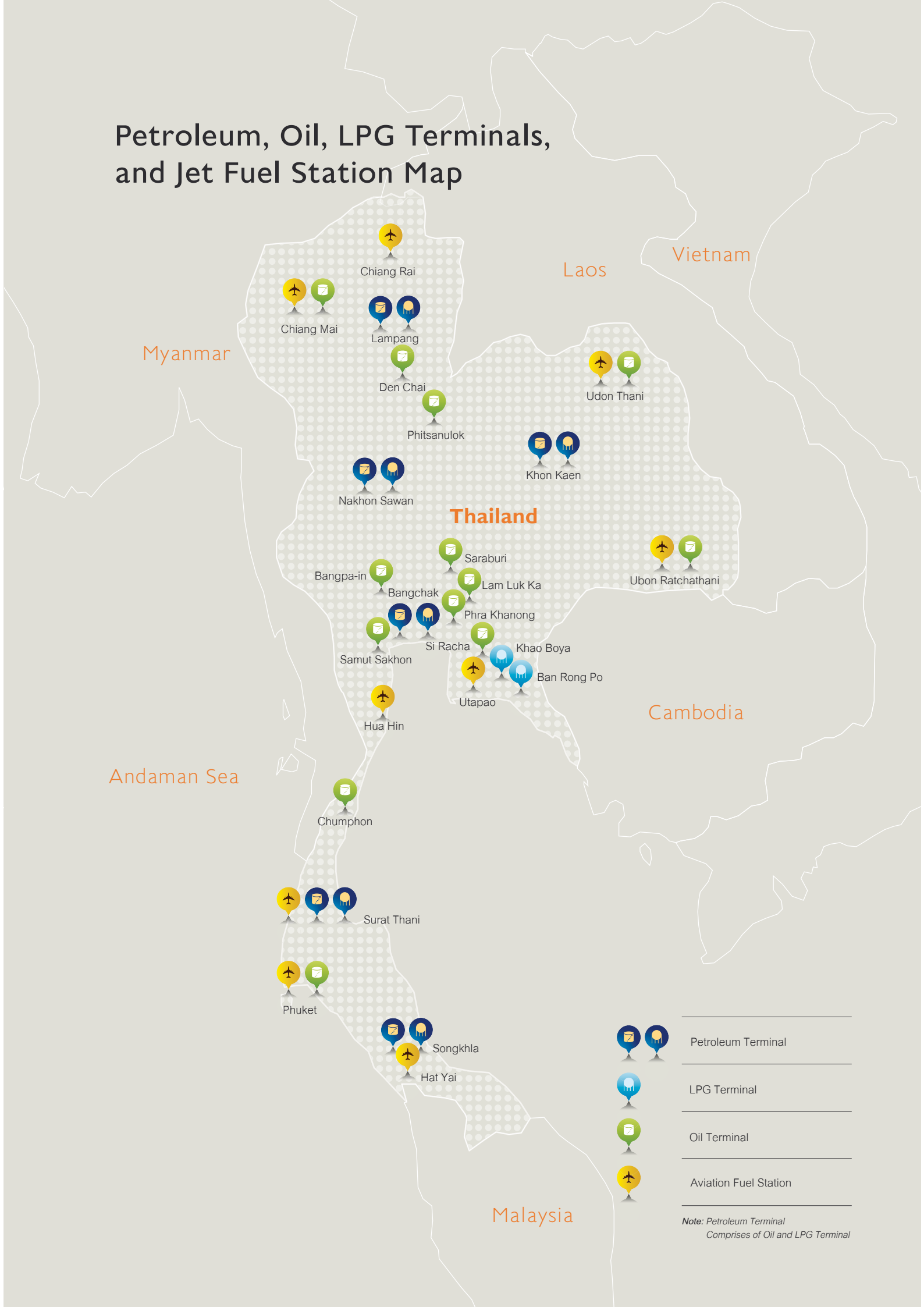
Natural Gas Transmission Pipeline System and Gas Separation Plants



Gas Separation Plant Capacity

Unit 1	400 MMcf/d
Unit 2, 3	Ethane Plant 750 MMcf/d
Unit 4	170 MMcf/d
Unit 5	570 MMcf/d
Unit 6	800 MMcf/d

Petroleum, Oil, LPG Terminals, and Jet Fuel Station Map



Oil Business Unit

PTT continued to maintain its top position in the domestic fuel retail market for 20 consecutive years, with a 38.2% market share. For the lubricating oil market, PTT also succeeded in maintaining its top position for four straight years. Sales of gasoline and lubricants grew by 4.5% and 10.2%. This year's business performance of the business unit appears below:

Fuel sales

In 2012, PTT sold 16,982 million liters of fuel, an increase of 732 million liters from the previous year. Sales consisted of 2,937 million liters of gasoline, 7,136 million liters of diesel, 1,827 million liters of jet fuel and kerosene, 1,696 million liters of fuel oil, and 3,386 million liters of LPG.

The year's average marketing margin was 1.43 baht/liter. This margin is lower than the suitable margin of 1.50 - 2.00 baht/liter, based on the coverage of operating expenses and appropriate financial returns for the Oil Business Unit and service station owners.

As of December 2012, PTT operated 1,352 service stations across the country, 9 jet (aviation) fuel stations, 13 oil terminals (PTT owned 10 and the others were joint/rented ones), two LPG terminals, six petroleum terminals, four LPG-bottling plants, 1,006 Seven-Eleven convenience stores, 777 Café Amazon outlets, 1,309 CO Brand outlets, and 161 auto-service centers.

Lubricating oil sales

This year, through its commitment to lubricant R&D, PTT launched 14 new lubricants while expanding its market abroad in 28 countries against 25 last year. In addition, PTT Performa Super Synthetic API-SN 0W-30 was certified as ASEAN's first lubricant with a carbon footprint label by the Thailand Greenhouse Gas Management Organization (Public Organization).

Biofuel sales

PTT continued to promote biofuel energy as an automotive option, with gasohol to replace gasoline and biodiesel to replace diesel. The distribution and sale of gasohol have been continuously increasing. Gasohol E85 is now found in 16 locations; Gasohol E20, 736 locations, with sales promotions all year round to capture the top domestic position, beginning in August this year. The market shares in 2012 for PTT Gasohol E10, Gasohol E20, and Gasohol E85, were 40.7%, 52.8%, and 27.7%. For high-speed diesel, PTT's market share for the year was 34.7%.

Reserve terminal service and operation

PTT has prepared for the expansion project of LPG terminal transfer facilities at Khao Bo Ya LPG Terminal to accommodate rising consumption and raise the efficiency of energy management to meet domestic demand.

Promotion of innovations and technology

The year marked the business unit's first year for creating innovations. New technologies were applied, and greater value assigned to environmental preservation under PTT's direction and operating policy, captured below:

- With eight leading banks in Thailand, came up with Direct Approved, an innovative payment system that converts cash payment into deduction from customers' bank accounts, thus easing and speeding up transactions.
- Reformatted the PTT Gas Smart Shop, based on the concept of developing single-brand PTT LPG and rebranding for a consistent image, leading to extension to other businesses (non-LPG) like the insurance business, Jiffy drinking water business, lubricants, and fire-extinguisher tanks.
- The PTT Free Wi-Fi Project at service stations invited applications from the public for free wireless internet access for two hours a day for each user. The pilot service station was at the "For the Welfare of First Infantry Division" service station on Vibhavadi Rangsit Road. The year saw 311 systems installed, whereas for 2013 the target is 750, to be installed at Café Amazon shops.
- The prototype Zero Waste project was launched in October 2012 at PTT's Sara Buri Branch service station in a bid to lower the emission of carbon dioxide through efficient transport and management of garbage at sources and promotion of Thai society's conscientious consumption of energy via an operation center and a knowledge center. Besides, solar-cell electricity generated was used at Café Amazon here.
- For the internal promotion on innovation of the oil business, the competition on innovation and creativity was organized for the first year. The event was successful, witnessed by as many as 51 projects of innovation and 16 projects of creativity were submitted by interested employees. In addition, the winning management project "Reduction of Errors in Transfer of Calibration and Product Testing" by PTT's Quality Analysis Department which won the award last year from the office of Thailand Quality Award was also submitted to compete at the International QC Meeting in Malaysia.

With eight leading banks in Thailand, came up with Direct Approve, an innovative payment system

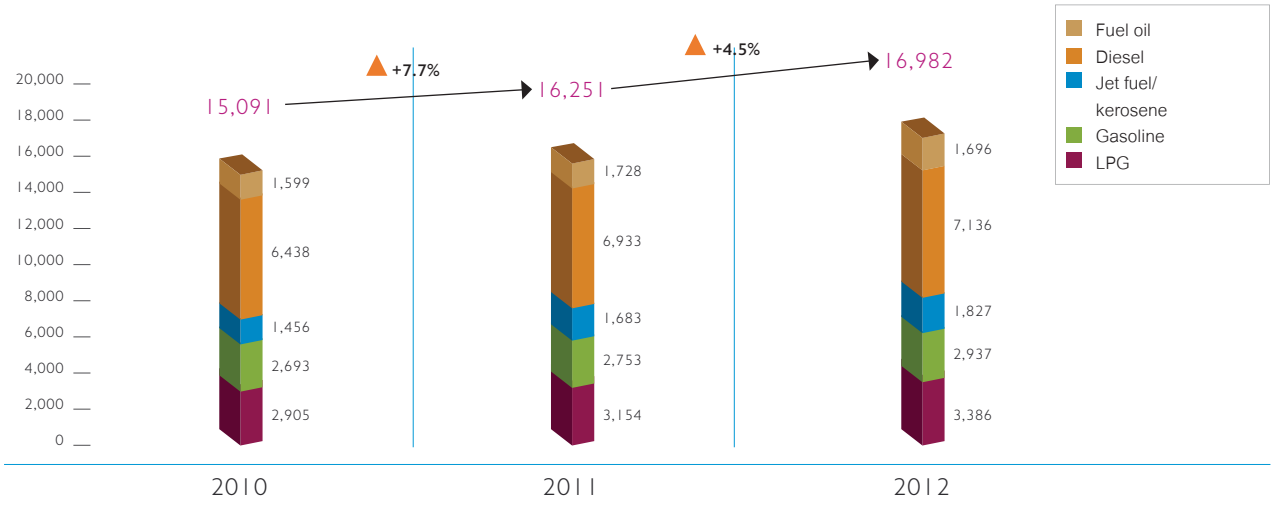
Reformatted the PTT Gas Smart Shop

The PTT Free Wi-Fi Project at service stations

The prototype Zero Waste project

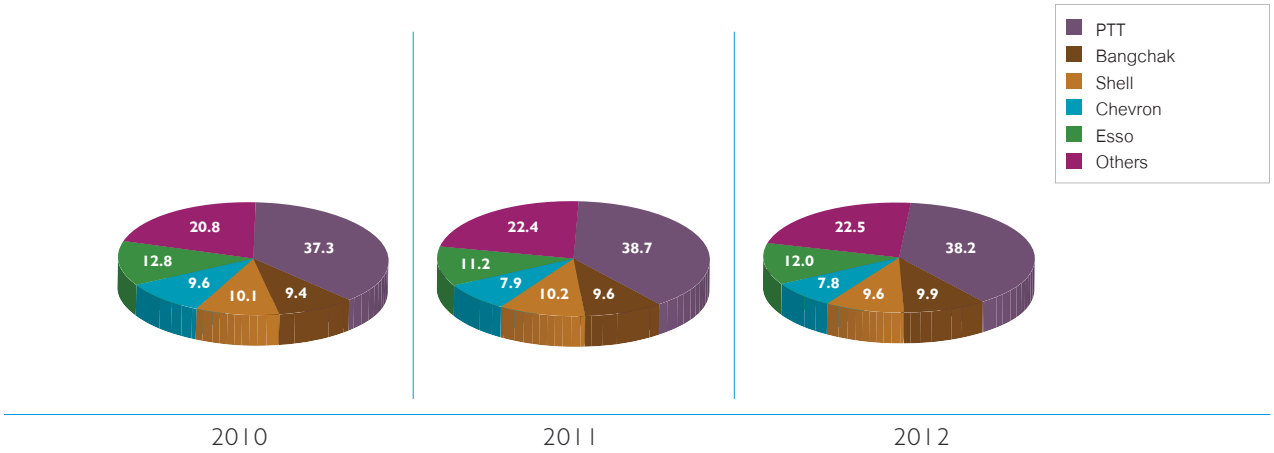
Domestic Petroleum Product Sales

Unit: million liters



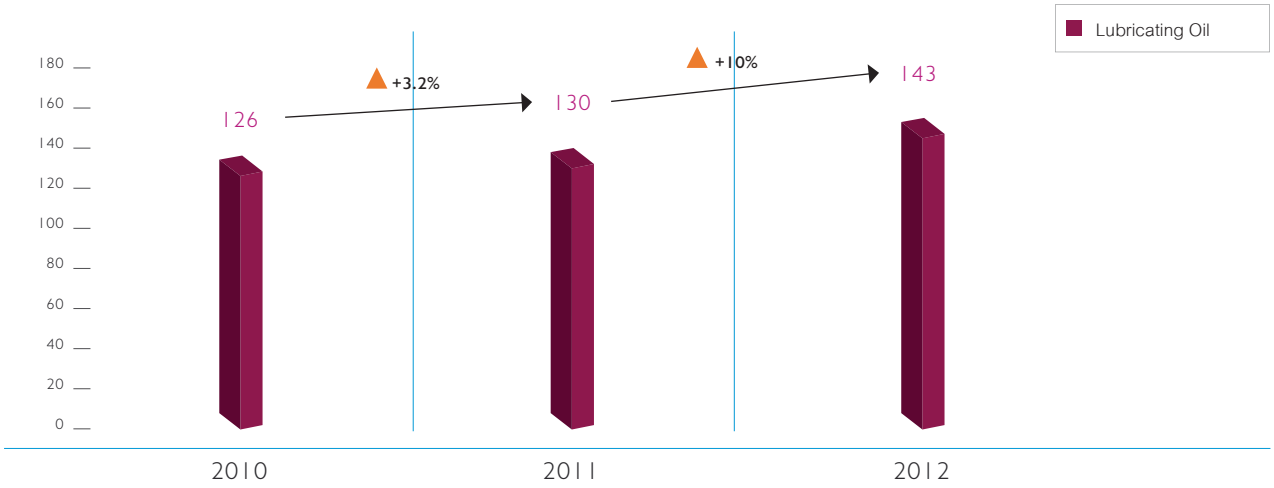
Domestic Market Share

Unit: %



Domestic Lubricating Oil Sales

Unit: million liters



Note: *Excluding LPG used as petrochemical feedstock*
Source: *Department of Energy Business, Ministry of Energy*

Oil Business Unit Milestones

February

• Signed an MOU for the provision of Jet A-1 with Lao State Fuel Co. (LSFC) worth 1.6 billion baht, under which PTT will be the sole procurer of jet fuel and fuel oil for LSFC for two years.

• Launched The Amazon's Embrace, a premium coffee outlet, on the second floor of Siam Paragon (Zone Beauty).

• Launched Performa RD-2 SAE 10W-60, a premium synthetic lubricant designed for maximum protection of every part of the engine while raising engine performance and responding to high-speed racing-suitable for race cars with standard engines and with performance-tuned engines alike.

March

• Signed a memorandum of cooperation on the "Project to Develop Fuels and Lubricants for the Royal Thai Navy fleet", to jointly research, develop, and test products before their full application.

April

• Launched an auto-service center at the PTT Sanam Pao Branch in Bangkok, known as "PTT Fit Station".

May

• Launched the PTT Free Wi-Fi Project by TOT for free Wi-Fi access two hours a day for each user at the "For the Welfare of First Infantry Division" service station on Vibhavadi Rangsit Road. The year saw 311 systems installed, whereas for 2013, the target is 750.

June

• With the Bank for Agriculture and Agricultural Cooperatives, supported the Project for Farmer Loans, under which PTT provided loan interest support and interest burden subsidies, together with credit card fees for 2,000,000 farmers buying fuels at PTT service stations under the project.

Signed an MOU for the provision of Jet A-1 with Lao State Fuel Co. (LSFC)

Launched Performa RD-2 SAE 10W-60

Signed a memorandum of cooperation on the "Project to Develop Fuels and Lubricants for the Royal Thai Navy fleet"

With the Bank for Agriculture and Agricultural Cooperatives, supported the Project for Farmer Loans

PTT Retail Business Co., Ltd., signed a joint-venture agreement to construct The Crystal PTT

Signed an agreement with Thai Airways International Plc. on joint sustainable development of bio-jet fuel

Grand opening of the first "Platinum" service station in Lao PDR.

Unveiled the PTT Blue Card, a point-accruing card for PTT product purchases

Launched “PTT Engine Tune Up 2012”, a project to inspect engines for energy saving

August

- PTT Retail Business Co., Ltd., signed a joint-venture agreement with K.E. Land to construct The Crystal PTT integrated community mall worth 600 million baht on Chaiyaphruek Road in Bangkok, which will feature a sizeable Jiffy Supermarket and a service station with EV Charger service for electric vehicles. The station will come into full service in October 2015.

September

- Signed an agreement with Thai Airways International Plc. on joint sustainable development of bio-jet fuel for energy security and reduction of greenhouse gas emission.

October

- Inaugurated the first platinum service station at Ban Nong Taeng, Vientiane, Lao PDR, which consisted of a service station and assorted supplementary businesses like The Amazon, PROCheck, U Express, and Wizard Auto Care.

November

- PTT Performa Super Synthetic API-SN 0W-30 (1-liter and 4-liter sizes) won certification for lubricants with a carbon footprint label for the first time in ASEAN. The certifying body was the Thailand Greenhouse Gas Management Organization (Public Organization).
- Unveiled the PTT Blue Card, a point-accruing card for PTT product purchases (in and outside service stations). Besides its value for cash or gifts, the card can be presented for discounts or privileges at participating leading restaurants, hotels, and spas.
- Launched “PTT Engine Tune Up 2012”, a project to inspect engines for energy saving, featuring free checks of engine conditions, signal lights, brake and power transmission systems (totaling 27 items) at 55 PTT service stations nationwide from November 26 to December 5. Besides, free engine inspection covering 15 items will be extended to the year-end at 97 PROCheck shops nationwide.

International Trading Business Unit

In 2012, the business unit successfully sharpened its competitiveness and increased its physical trading of crude oil, petroleum products, and petrochemical products. Another success was the application of risk management tools, including that done through the futures exchange market to mitigate price volatility for PTT and refineries within PTT Group. In addition, PTT worked with downstream group companies to form the Price Strategy and Risk Management Team (PRISM) to promote the caliber of market analysis and risk management as a result of cooperation within the group.

Crude oil, petroleum product, and petrochemical product trading

In 2012, the business unit's physical trading amounted to 72,338 million liters (about 1,243 MMBOED), a 15% rise or 9,654 million liters over that of last year, consisting of 43,686 million liters of crude oil, a 10% rise; 7,913 million liters of condensate, a 7% rise; 17,555 million liters of petroleum products, a 55% rise, thanks to out-out trading of fuel oil and LPG from South America and the Middle East to Asia. Trading of petrochemicals dropped to 3,184 million liters (or 25%) due to the lower demand for light naphtha by refineries, in turn a result of lower PE market demand.

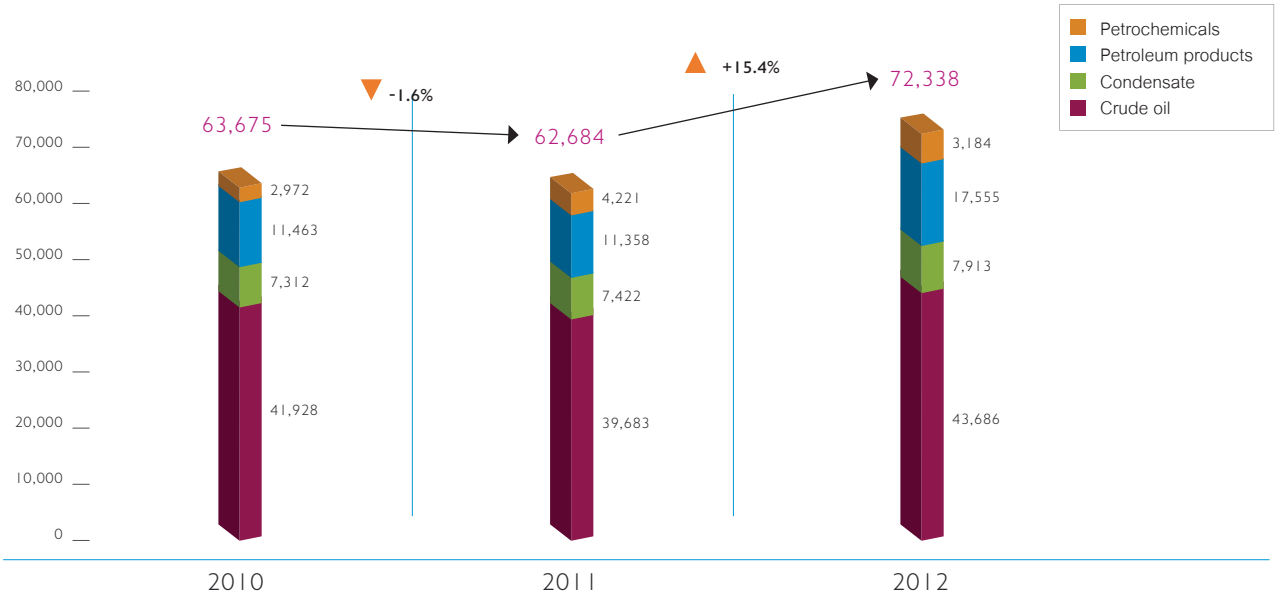
In addition, physical trading of other commodities like crude palm oil, amounting to 14,944 tons, and 1,407,138 tons of coal, represented growth in trading value in the market for non-energy merchandise, which agreed with PTT's strategic business option.

Price risk management

Price risk management this year amounted to 43,176 million liters, a 25% rise from last year, as a result of world oil price volatility, which demanded more price risk management for PTT Group.

International Trading Volumes

Unit: million liters



International Trading Business Unit Milestones

Signed a sales and purchase agreement for naphtha with Trafigula Pte. Ltd.

Signed a sales and purchase agreement for the Songkhla crude oil with CEC International Ltd.

Signed a sales and purchase agreement for petrochemicals with PTT Phenol Co., Ltd.

January

- Signed a sales and purchase agreement for naphtha with Trafigula Pte. Ltd. for 120,000 metric tons for delivery during January - June this year. The deal was worth 3.5 billion baht. The business unit will apply this deal to its out-out trading to generate income for the country in line with PTT's vision to become a Thai multinational energy company.
- Signed an MOU on "Cooperation on Optimization Trading Activities" in Singapore to expand international trading activities together with Pertamina Energy Services Pte. Ltd. (PES), including supply procurement, storage, and crude oil purchases from West Africa, assorted products (petrochemicals in particular), and development of fuel oil blending and gasohol blending, all of which give PTT Group additional competitive opportunities.
- Signed a sales and purchase agreement for crude oil and propylene in Singapore with Hyundai Oilbank Co., Ltd., a major petroleum and refinery business operator from South Korea. This deal made PTT one of the core crude oil suppliers for the Korean company this year. It also supplemented value to the exchange of propylene trading opportunities-regarded as further opportunities for out-out trading transactions for PTT of about 4 billion baht a year.
- Signed a sales and purchase agreement for the Songkhla crude oil with CEC International Ltd., a crude oil producer in the Gulf of Thailand. As a matter of fact, this was an extension of a previous deal from the offshore field with 10,000-15,000 b/d in output from January this year to January 2014. PTT in the process won the sole buyer right for the oil so as to lower imports and offer another option for domestic refineries.

February

- Signed a sales and purchase agreement for petrochemicals with PTT Phenol Co., Ltd., with deliveries to be made this year worth 3.6 billion baht. PTT Phenol will supply petrochemicals for PTT's negotiation with its Chinese customers for export to that country, a core Asian market, to supplement value to PTT Group, establish commercial benefits, and align with the corporate culture on synergy and trust.

• Signed a sales and purchase agreement for Seria Light crude oil with Brunei Shell Petroleum Co. Sdn. Bhd. for sale to domestic refineries this year, in a continuing agreement from last year. The 2.4-million-barrel deal was worth 8.3 billion baht. This was a milestone in the establishment of capability and cordial relations with Brunei Shell Petroleum, which is Brunei's national oil company, and fostered raw-material security for domestic refineries and the public alike.

• Signed a sales and purchase agreement for LPG with Abu Dhabi National Oil Company (ADNOC), UAE, for 264,000 metric tons, and a similar LPG agreement with Kuwait Petroleum Corporation for 88,000 metric tons. Both deals accounted for some 300 million US$, and delivery was from January to December this year.

• Signed a long-term sales and purchase agreement for phenol with Shanghai Puhsun Import & Export, covering 2,000 metric tons, worth some 990 million baht. The one-year deal with this major market of PTT Group's petrochemical companies furthered the group's business.

March

• Signed a term DES Sriracha sales and purchase agreement for LPG with E1 Corporation of the ship-to-ship type, sized at 440,000 metric tons and worth 400 million US$, and a joint agreement for VLGC hiring to grow the LPG business abroad.

April

• Signed a sales and purchase agreement for reformate with Mercuria, one of the world's top five petroleum and petrochemical traders with global business networks. Covering 360,000 metric tons and worth some 430 million US$, the deal expanded the reformate export business with China.

• Signed an MOU with Socar Trading Singapore for the import of 1 - 2 million tons a month of the Azeri crude from February this year to January 2013. The deal with this Azerbaijan oil producer was the third in six years, designed to grow the Asian customer base. Incidentally, PTT was the first Asian oil company to establish a direct contact with an Azeri crude producer.

Signed a sales and purchase agreement for reformate with Mercuria

Signed an MOU with Socar Trading Singpore for the import of Azeri Crude

PTT International Trading Pte Ltd signed an agreement under a memorandum of cooperation on securing coal supplies from Indonesia

Signed an agreement on marine transport and an MOU on a joint study and business development of the LPG business.

September

• PTT International Trading Pte Ltd signed an agreement under a memorandum of cooperation on securing coal supplies from Indonesia with Itochu Corporation. A one-year sales and purchase agreement for 200,000 tons a year began in October this year to September 2013. The deal developed PTT's potential and revenue generation, while establishing supply security of raw materials.

November

• Signed an agreement on marine transport and an MOU on a joint study and business development of the LPG business. Under the agreement, PTT and E1 will together charter a VLGC (very large gas carrier) for 10 years at a value of about 215 million US$, after which PTT is entitled to jointly buy the vessel. Besides fostering LPG security and transport capacity, this deal led to other business opportunities in other regions of the world, thus laying a foundation for PTT to become a leading multinational energy company.

Investment business through Group companies

• Upstream Business

Exploration and Production

This year, PTTEP and its subsidiaries grossed 7.021 billion US$ (218.137 billion baht), a rise of 1.336 billion US$ or 24% from last year's 5.685 billion US$ (173.375 billion baht). The bulk of this revenue was derived from higher prices, since the average product price this year had risen to 64.86 US$/BOE in line with the rising price of world oil; compare this with the average last year of 55.49 US$/BOE. Besides, the sales volume was 4% greater this year (275,923 BOED versus 265,047 BOED). Accounting for most of the sales increment were outputs from Bongkot and Vietnam 16-1 projects.

This year, PTTEP and its subsidiaries netted a consolidated profit of 1.846 billion US$ (57.316 billion baht), a rise of 26% from last year's 1.486 billion US$ (44.748 billion baht). At the year-end, PTTEP operated 44 projects in 12 countries, as seen below:

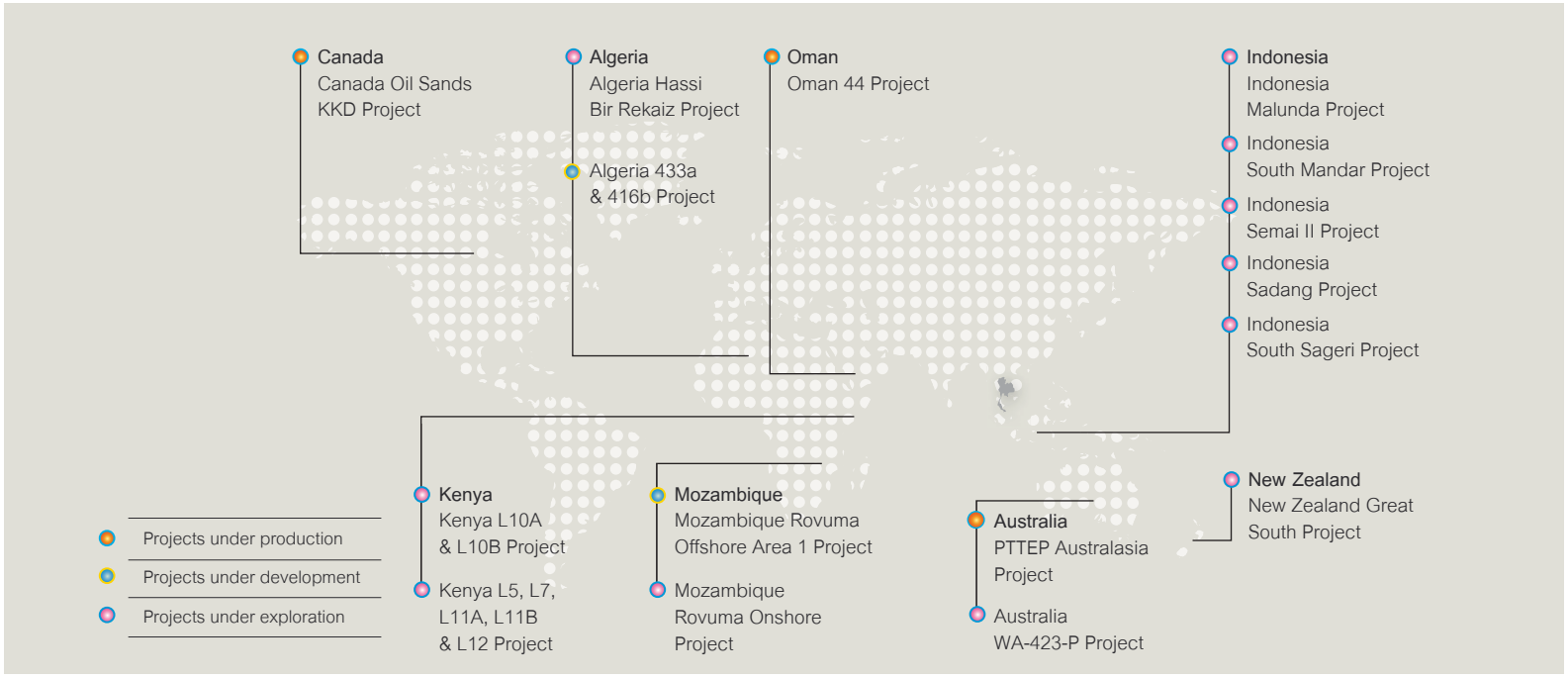
Exploration

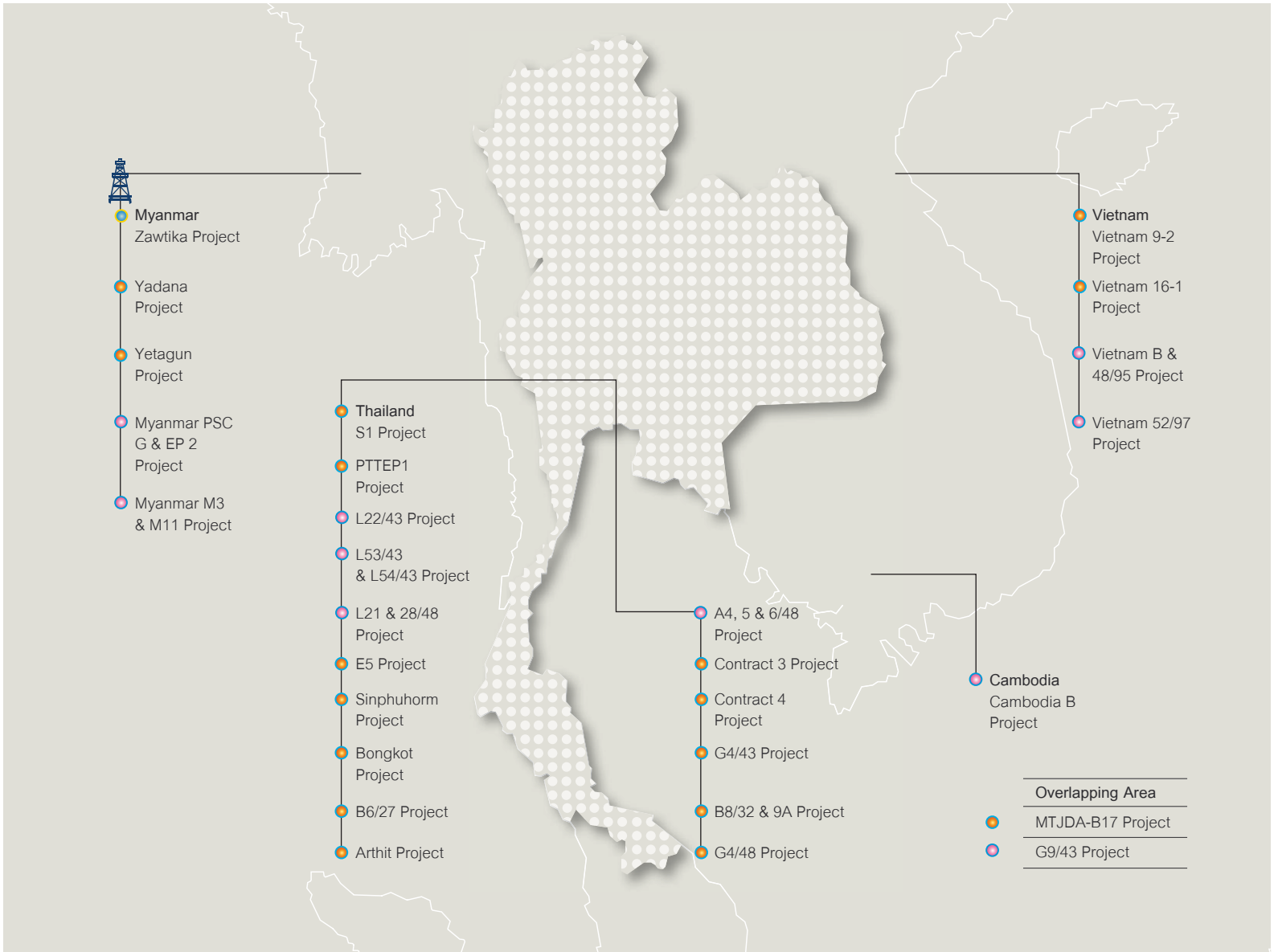
PTTEP has continuously conducted exploration activities in Thailand and overseas to assess the petroleum potential of interested blocks and increase petroleum reserves. This year PTTEP drilled a number of exploration and appraisal wells in many projects including:

- *PTTEP Australasia Project:* 3D seismic surveys were completed, along with the drilling of the Maple-2 appraisal well in the Cash-Maple field, located in the Timor Sea, Australia, in July this year. Additional natural gas was struck at the Cash-2 well, drilled late last year, with a flow rate of about 30 MMcf/d and 696 b/d condensate. The field is currently under investigation for commerciality.
- *Myanmar M3 and M11:* These blocks in the Gulf of Moattama, south of Yangon, are under a seven-year extended exploration period to appraise their commerciality. Appraisal wells are being prepared. In the deepwater M11 acreage, exploration drilling is also about to begin.
- *Semai II Project in Indonesia:* The project is now under study and additional geological analyses to assess its potential and locate the second exploration well in shallow water. Drilling is projected for 2013.
- *Algeria Hassi Bir Rekaiz Project:* Nine holes are planned for initial drilling, of which seven have been drilled, striking crude oil in six of them. The remaining wells are being drilled in early 2013 to confirm petroleum potential.
- *Canada Oil Sands KKD Project:* The Winter Evaluation Program (WEP) for 2011-2012 is completed, with 161 appraisal wells drilled. 3D and 4D seismic surveys have covered Leismer, Thornbury, and Hangingstone deposits for production assessment of the Leismer deposit; Thornbury and Hangingstone will undergo assessment for further production.

In the fourth quarter of 2012, WEP was being prepared for 2012 - 2013 together with the location of appraisal wells and determination of areas to undergo seismic surveys in a bid to conduct additional development in Leismer, Corner, and Thornbury deposits. A total of 92 wells are to be drilled, together with 3D and 4D seismic surveys totaling 134 square kilometers.

PTTEP Projects





Project development

PTTEP has accelerated various projects to enable it to begin production as planned, including:

- ***PTTEP Australasia Project:*** Three production wells have been drilled, along with one gas injection well, as of July this year. The FPSO arrived at the Montara field in November, and systems are being connected and tested, leading up to production.

As for the claim for insurance compensation, as of the last quarter this year, PTTEP had received 212 million US$, with the outstanding compensation being demanded. Reasonable progress has been made.

Concerning the compensation filing from the Indonesian government, PTTEP's negotiation with the government was in progress on the basis of evidence and possible impacts being scientifically proved.

- ***Zawtika Project in Myanmar:*** Early this year, PTTEP International Co., Ltd. (PTTEPI), signed a joint operating agreement with Myanmar Oil and Gas Enterprise (MOGE), giving MOGE 20% of the shares in the project, in line with the production sharing contract. PTTEPI (with 80%) will remain the operator. Construction is ongoing for the main production platform, wellhead platforms, inter-platform pipelines, offshore gas pipeline, and onshore gas pipeline along with related production equipment. Some 63% progress has been made, and PTTEPI expects gas delivery to begin in early 2014.
- ***Algeria 433a and 416b Project:*** The year's goal was to drill four production wells, and three have been drilled, striking 4,000 b/d of crude oil. The fourth well is in progress. Design of production processes and fabrication of the transmission pipeline (collectively called EPC1), living quarters, barracks, and public utilities (EPC2) in the development acreage are underway. Production is projected to begin in 2014.
- ***Canada Oil Sands KKD Project:*** Corner The Corner deposit is undergoing an extension of detailed investigation for the overall development plan and outlay for the maximum efficiency of investment and construction of process equipment. A final investment decision is expected in 2013, and production in 2016.
- ***Mozambique Rovuma Offshore Area One Project:*** PTTEP Africa Investment Limited (PTTEP AI), a subsidiary of PTTEP, was successfully acquired Cove Energy in August 2012, resulting in 8.5% of joint investment in Mozambique Rovuma Offshore Area One in which Anadarko Company is the project operator.

Mozambique Rovuma Offshore Area One Project is a sizeable gas field in Mozambique, where natural gas had been found. Resources could amount to 65 TCF. The project could be developed as an LNG source. With PTTEP AI's joint-venture participation, the project has reached a milestone: the joint venture has hired a contractor to undertake FEED (frontend engineering design) of two aspects, namely the construction of an onshore LNG plant and the installation of offshore production equipment and gas transmission pipeline.

Anadarko Company, the project operator, has reached an HOA (Heads of Agreement) with Eni (the operator of Mozambique Rovuma Offshore Area Four), under which they will be coordinating development work for offshore gas deposits while jointly planning and developing construction of an onshore LNG plant in the Cape Afugi industrial estate in Cabo Delgado in the north of that country.

Production

PTTEP has continuously strived to maintain its production capability and increase production from new projects, some of which are described below:

- ***Bongkot Project:*** On June 16 this year, Bongkot South successfully produced 320 MMcf/d as specified under the GSA with PTT, while managing an output of 9,000 b/d of condensate. Meanwhile, Bongkot North, in July is, 2012, established a condensate output record of 25,019 b/d, and on August 5, the field produced its 100 millionth barrel of condensate. For the year, the field averaged 596 MMcf/d.

In other words, the overall natural gas output from Bongkot North and Bongkot South is now as high as 900 MMcf/d, effectively meeting 20% of the domestic demand.

- ***S1 Project:*** The field hit a record output of 35,176 b/d in December this year, an all-time high. The year's average output was about 28,000 b/d.
- ***Canada Oil Sands KKD Project:*** In the fourth quarter this year, Leismer produced 15,700 b/d of bitumen. Production wells number 22 (one steam injection well and one production well each) from four well pads. Since the start-up, bitumen output has totaled 9 million barrels to November this year. The fifth well pad should be ready to start production in the fourth quarter of 2013.

As for the Leismer Expansion plan, well pads are being located and details studied on additional equipment to be installed to accommodate the expanded output of 40,000 b/d. In the works is filing for approval from the Energy Resources Conservation Board (ERCB).

- ***Oman 44 Project:*** Additional crude oil has been found as a result of development and appraisal drilling from the Muir Hamir field and a new field south of the Shams-E South structure, thus raising the average output in the fourth quarter from 1,500 b/d to about 4,600 b/d. This year saw, on average, 2,960 b/d of oil and condensate and 42 MMcf/d of natural gas recorded. Meanwhile, completed were the construction and testing of the system under engineering standards of the pipeline from the Shams-9ST well to the main production facilities of the field. Regular production of gas and condensate from the well began on December 30 this year.
- ***Vietnam 16-1 Project:*** the project began oil production from the WHP-H4 wellhead platform, the second one of the Te Giac Trang field. This raised the crude oil output from 41,000 to about 55,000 b/d.

Investment portfolio management

PTTEP has continued its investment portfolio management to enable its investment to suitably supplement value to projects and risk management. In place is a regular analysis of factors and impacts on investment to keep up with changes in social, economic, and political circumstances. Focused countries are revised for investment expansion through grouping countries by opportunity and suitability while aligning with PTTEP's directions and goals. To this end, several factors are analyzed, including petroleum potential, geographical factors, government takes, political and business risks, and competitive edges.

- ***Joint-venture participation by Total and JX NOEX in Block M11:*** PTTEPI has chosen Total E&P Myanmar and JX Nippon Oil & Gas Exploration (Myanmar) Ltd. as joint-venture partners in the block, with 40% and 15% shareholding respectively. PTTEPI, with 45% shares, will continue to operate the project. Such participation by the two companies is subject to approval by the Myanmar government. These choices of joint-venture partners were part of the strategies for portfolio management and risk management.
- ***Acquisition of Cove Energy Plc:*** May 23 this year, PTTEP (through PTTEPI) announced its offer to buy issued and unissued common shares in Cove Energy at 240 pence per share, worth about 1,221.4 million pounds sterling. Cove's main asset was its 8.5% equity in Rovuma Offshore Area One in Mozambique and 10% in the Rovuma Offshore Area, also in Mozambique, and 10 - 25% equity in seven deepwater concession blocks in Kenya.

On August 17 this year, PTTEP AI successfully acquired shares in Cove, fulfilling the conditions of its offer. Therefore, effective from August 23, PTTEP AI initiated the process of forced sale of the shares under Cove's shareholders that had not responded to its offer. PTTEP AI, on October 5 (the last day of such forced sale), commanded all of the shares in Cove.

Incidentally, on September 18, the London Stock Exchange announced the discontinuation of Cove's share trading on its Alternative Investment Market (AIM).

• Downstream businesses

Petrochemicals and Refining Business Unit

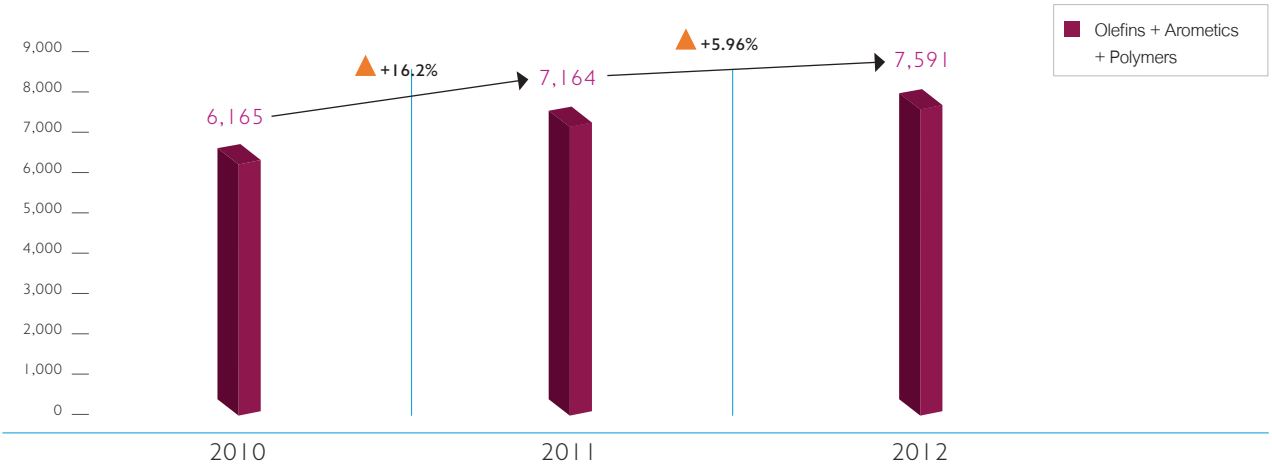
This business unit has consistently improved and grown their capacities, while adding products and services together with constant expansion of investment worldwide to sharpen the competitive edge for PTT Group. It has managed Group Integrated Supply Chain Management & Optimization (GISMO), which consisted of the Petrochemical and Refining Integrated Synergy Management (PRISM) Project and the PTT Group Operational Excellence Project. In PRISM, it expanded and pushed a Green Growth Roadmap for alternative energy and bioplastics in a concrete way. In the Operational Excellence Project, it added the OEMS (PTT Group Operational Excellence Management System) to establish a single set of standards for the group, encompassing all aspects of operation and leading to efficient and effective performance on a par with top-quartile performance. The business unit's performance this year is captured below:

Petrochemical and refining performance

The overall distribution of petrochemical products this year, led by PTT Global Chemical Plc. (PTTGC), equaled 70.72 million barrels from the petroleum products and public utilities group, a rise of 15.63 million barrels from last year due to greater sales; 3.26 million tons from the aromatics group, a rise of 1.02 million tons from last year; and 2.55 million tons from the olefins and downstream business group, a rise of 0.28 million tons from last year. However, the accounting gross refining margin declined due to the decreasing of the spread between the prices of refined products and crude, and the minor loss in the net realizable value (NRV) compared to the gain in NRV in 2011. In addition, there was also a continuous in products to feed margin on olefins and related products. The decrease derived from the price drop in low density polyethylene products together with the rising cost of feed stocks due to the price-formula revision of feed stocks from the gas separation plants. Meanwhile, the product to feed margin of aromatics products rose as a result of the declining condensate cost. New source of import condensate has the cheaper price. The declining crude price is another factor to boost PTTGC's 2015 earnings to be higher than a year earlier. The crude price was used price was used as a reference in the calculation of selling/buying price of olefins and related products.

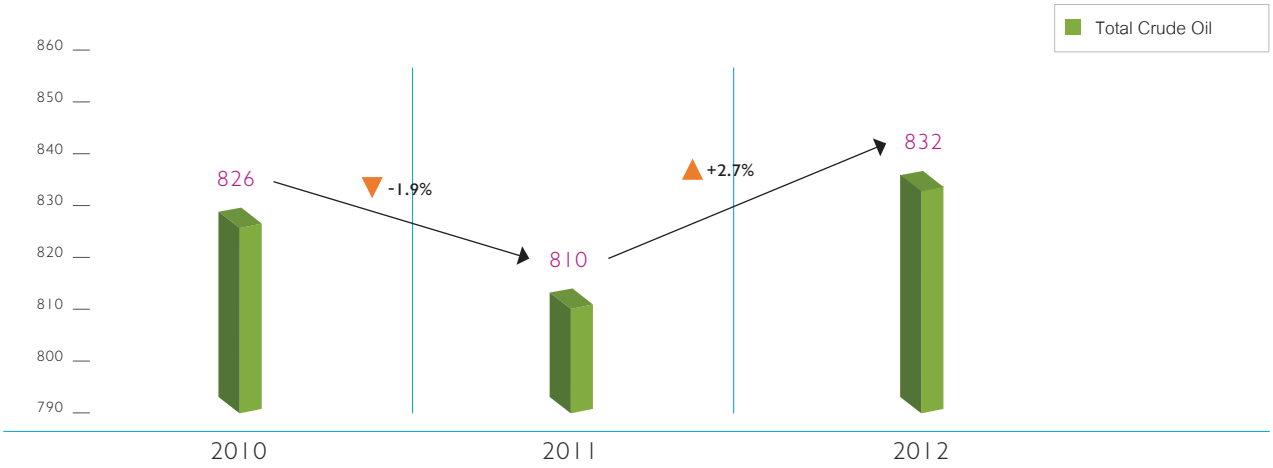
Total Sales Volume of Petrochemicals (Olefins + Arometics + Polymers)

Unit: KT/year



Total Crude Oil for Refining of PTT Group

Unit: Kbd



HMC Polymers Co., Ltd. (HMC), recorded a total output of 650,554 tons this year, a rise of 61,707 tons from 2011, a result of the rise in exports and customer base expansion during the year. Yet, prices and average product-to-feed margins for the year fell with the supply glut, which in turn stemmed from the output rate reduction by downstream producers while petrochemical raw material and feedstock costs were climbing and product-to-feed margins were on the decline. HMC's performance outcome for the year was therefore less remarkable than last year.

PTT Phenol Co., Ltd. (PPCL), recorded overall product sales at 380,980 tons, a rise of 41,937 tons from last year. Nevertheless, prices and average product-to-feed margins for the year fell with the supply glut due to output rate reduction by downstream producers. PPCL's performance this year was therefore inferior to last year.

PTT Polymer Marketing Co., Ltd. (PTTPM), the main distribution arm of petrochemical products for PTT, achieved a sales record of 1,635,905 tons, a hike of 196,610 tons. Sales of High Density Polyethylene rose by 24, 228 tons; Linear Low Density Polyethylene increased by 61,925 tons; Low density Polyethylene hiked by 98,246 tons; and others grew by 12,271 tons. However, lower forex gain and higher operating cost brought about poorer performance for 2012 against a year earlier.

PTT Polymer Logistics Co., Ltd. (PTTPL), the fully-integrated logistics arm of PTT Group's polymer production, achieved services totaling 8,426,389 tons, a surge of 1,091,184 tons from last year. Transportation service increased by 210,035 tons; Bagging and Packing grew by 265,056 tons; warehouse rose by 232,387 tons; and storage shot up by 311,706 tons from 2011. As a result, PTTPL's 2012 performance improved over last year.

For the shareholding in refineries as of 2011, PTT owned 35% stakes of the country's overall refining capacity or equivalent to 1,087,000 b/d (exclude 135,000 b/d of PTTGC's condensate splitter unit and 17,000 b/d of Rayong Purifier which the production was halted since February 7, 2012). Crude input entering PTT Group's refining units (exclude those of PTTGC condensate splitter unit) stood at 832,000 b/d, increased by 22,000 b/d of last year, or equivalent to this year's utilization rate at 91% against 89% of a year ago. The rise was due to the 2011 temporarily shut down of IRPC and PTTGC for annual maintenance of 49 and 47 days respectively. Thus, PTT Group's gross integrated margin stood at 8.50 US$ per barrel. Lower GIM was due to the shrinkage of the price differences between product price and crude, especially in lubricant products. In addition, fluctuation of crude oil price also caused stock loss as of ending of the year. As a result, PTT Group's refining business posted a lower net profit in 2012 compared to a previous year.

Petrochemicals and Refining Business Unit Milestones

January

• Launched the Petrochemical and Refining Integrated Synergy Management (PRISM), which resulted from the combination of the Oil Supply Chain Integrated Management Project (OIM) and the Petrochemicals Integrated Supply Chain Management (PIM) to strengthen the group's petroleum and petrochemical industries and downstream industries.

February

• PTTGC and IRPC signed a memorandum of cooperation on "In-house Polyethylene Catalyst Development" in developing the PE catalyst business for PTT Group. Besides promoting product among the group, this move lowered imports.

• PTTGC won a carbon footprint label from the Thailand Greenhouse Gas Management Organization (Public Organization) for its HPDE, more commonly known as InnoPlus.

• IRPC improved its gasoline products to the EURO IV standard and launched a new application for iPhone and iPad (named "POLIMAXX on App Store") to grow its sales channels and provide information to POLIMAXX customers.

April

• Bangchak Petroleum Plc. (BCP) inaugurated the first "Bangchak Green Station" service station in Thailand, located on Vibhavadi Rangsit Road. The company leveraged its leadership in alternative energy hand in hand with energy conservation to raise its market shares.

May

• PTTGC acquired 50% shares in NatureWorks LLC and 51% shares in Vencorex (formerly known as Perstorp) to grow its investment in bioplastics and produce PU (polyurethane), a high-value specialty product.

• PTTGC signed an HOA with Petronas and Itochu to jointly investigate future investment opportunities, part of the RAPID (Refinery & Petrochemical Integrated Development) plan in Malaysia.

• IRPC joined Oxford University under the "High-Performance Project" to conduct R&D of high-quality petrochemicals and polymers, an extension of future innovations and supplement value to products and specialty products.

• IRPC acquired 25% of the shares in Ube Chemicals (Asia), an international market leader of caprolactam and nylon-6.

June

• The ethylene oxide and ethylene glycol plant (the 85,000-ton/year extension) of TOC Glycol, an affiliate of PTTGC, was released from the temporary injunction of the Administrative Court, which had barred 76 projects accused in December 2009 of having severe environmental impacts.

• BCP along with Big C Supercenter Plc launched a "Mini Big C" convenience store in the first Bangchak service station in a move to grow its investment in the retail business.

• Star Petroleum Refining Plc. was approved by the shareholders to privatise to the public company under the Public Company Limited Act of 1992. The registration as the public company was on June 7, 2012.

July

• Phase 1 of the solar farm project, with a 44-MW capacity, operated by BCP, resumed its commercial operation after overcoming problems resulting from the Great Floods of late 2011.

August

• PTT Group extended a land development project in Asia Industrial Estate, Rayong, which was in the process of development of 1,500 rai into an eco-industrial zone (EIZ) to accommodate PTT Group's investment in green businesses ranging from production processes, transport, waste treatment, to final products. The purpose was to enable the development of industrial, community, and environmental areas to proceed in perfect harmony with PTT Group's desire for a low-carbon society.

September

• Thaioil Plc (TOP), through its affiliate Thai Paraxylene Co., Ltd. (TPX), grew its paraxylene capacity by 35,000 tons/year.

• PTT Polymer Marketing Co., Ltd. (PTTPM), and Thai KK Industry Co., Ltd. commercially developed a plastic-laminated paper known as PBS, which is 100% biodegradable to further improve PTT Group's production of bioplastics.

• IRPC grew its capacities for TDAE and the 150-BS lubricants by 28 KTA and 25 KTA respectively in a move to focus on development of specialty lubricants and launch POLIMAXX BANBAX, a polymer product resistant to bacteria over a long, continuous period.

• PTTGC in conjunction with six institutes developed medical apparatus from bioplastics that is safe and complies with the ISO 13485 standard, the first integrated international public-private cooperation to develop a complete line of medical apparatus from bioplastics. Development efforts included absorbable bioplastics, which would give Thailand access to much cheaper apparatus while trimming imports of such apparatus.

October

• PTTPM opened its fifth office in Indonesia to add distribution channels for PTT Group's assorted polymers to accommodate the upcoming AEC in 2015.

• IRPC's propylene capacity rose to 100 KTA, thanks to the propylene booster project.

December

• PTTPM adopted a new format of trade payment called Bank Payment Obligation (BPO), a financial innovation of international standard, with a foreign business partner for the first time in Thailand and ASEAN. The deal through Siam Commercial Bank speeded up transactions, raised business process efficiency, and was part of the fulfillment of the goal to become an international polymer trader with a turnover exceeding 100 billion baht in 2015.

• PTT Maintenance and Engineering Co., Ltd., was the first ASEAN company to win the ISO 10006: Project Management System certification.

International investment business

Constantly growing its investment in the coal business, PTTI this year raised its shares in Sakari Resources Limited (SAR). In addition, it entered into a joint venture in a hydropower plant in Laos. This year's international investments are highlighted below:

• Coal business

PTTI, through its subsidiary PTT Asia Pacific Mining (PTTAPM), acquired the remaining 66.5% in Red Island Minerals (RIM) in March, making the company the 100% owner of RIM, which runs a joint-venture project in Madagascar. The exploration and assessment of JORC reserves was completed, and additional consideration of joint-venture approaches was underway, as well as preparation of project loan borrowing and filing for a production license application.

PTTI, through PTTML, offered to buy all common shares of SAR on the Singapore Exchange successfully raising its shareholding in SAR (through direct and indirect means) from 45.3% to 93.68% (exclusive of concert parties) at the year-end. It bought additional shares from retail shareholders under Singaporean laws, which will continue until February 6, 2013.

Incidentally, SAR secured approval for delisting from the Singapore Exchange on January 11, 2013, a process that should be wrapped up by mid-February 2013.

- **Natural gas and liquefied natural gas (NG/LNG)**

Along with PTTEP, continued investigating ways to develop the FLNG project by preparing a pre-FEED study in conjunction with SBM Linde. In progress are the estimation of expenses and investment capital, and another round of plan review.

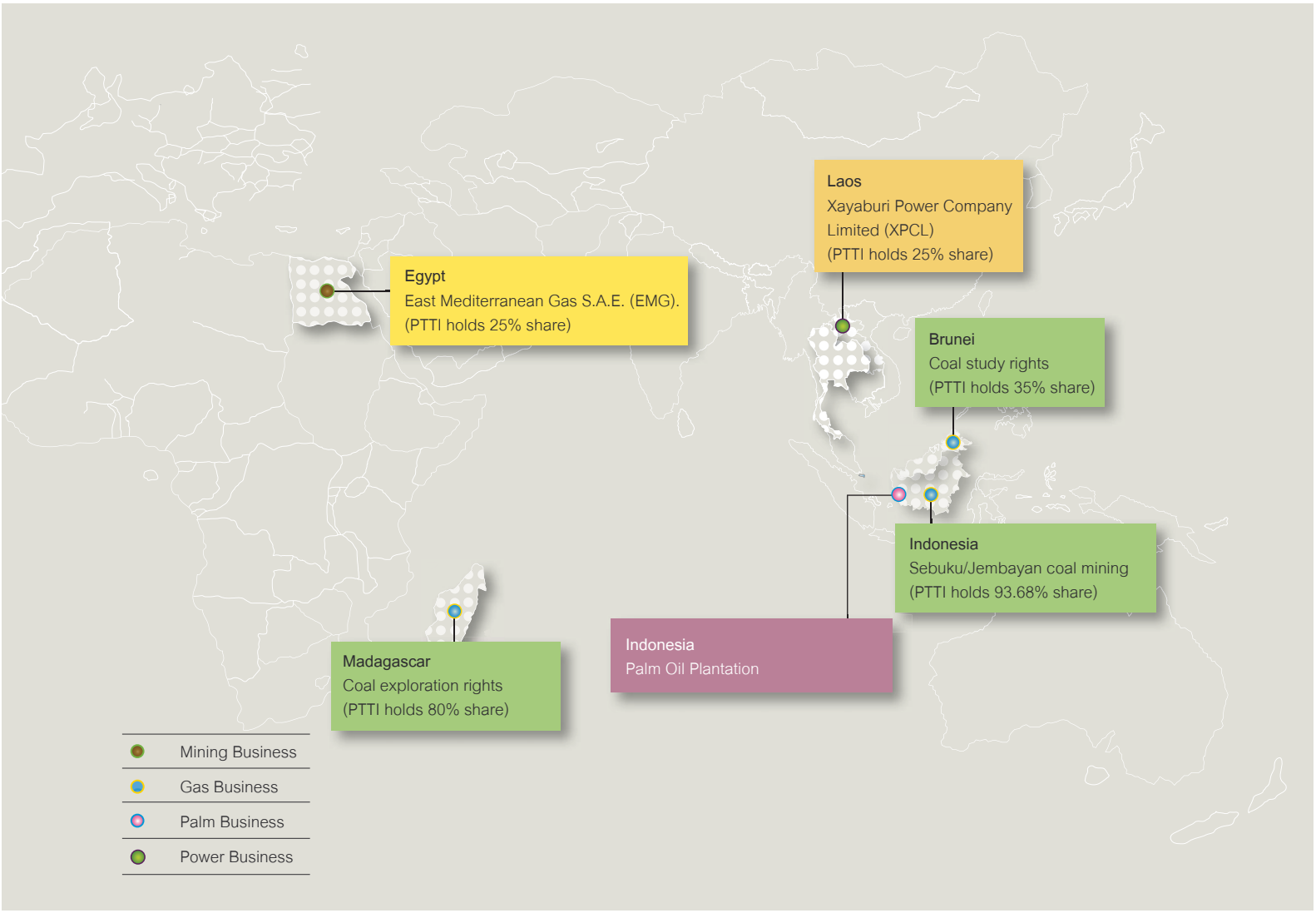
- **Power business**

PTTI signed a joint-venture agreement in the Nam Lik-1 Project, a 64.7-MW hydropower plant in Laos, due for commercial operation in late 2016. PTTI's share is 40% The project is currently securing loans, in which joint venturing and securing of loans will be completed in the first quarter of 2013.

- **Palm oil plantation and development**

This year PTT Green Energy Co., Ltd. (PTTGE), held a net ownership of 1.2 million rai of land used for palm oil plantations. To date, it has completed work on 148,900 rai (net to PTTGE). The investment decision was based on the fact that Indonesia boasted the most suitable geography and climate for palm oil plantations, and that the world's largest palm oil plantations were in Indonesia. The total output of Indonesian palm oil (fresh fruit bunch, FFB) is 206,140 tons.

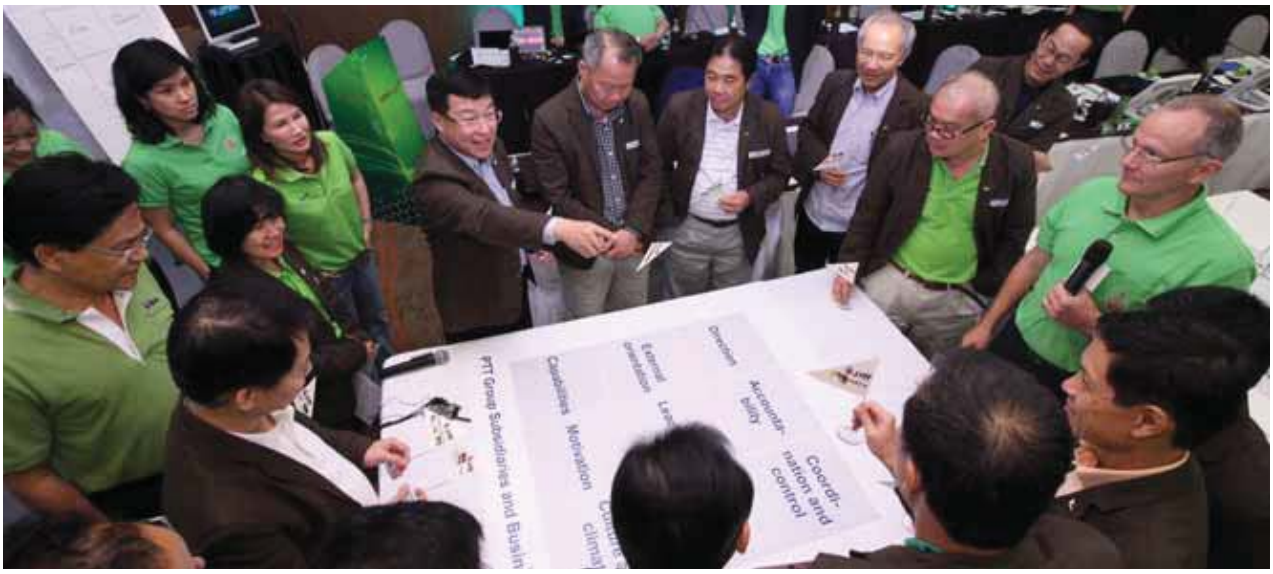
Current PTTI and PTTGE Investment



PTTGE has also begun crude palm oil (CPO) planting at Pontianak on West Kalimantan and Palembang on Sumatra Island with a capacity of 45 tons/hour and 30 tons/hour respectively. To date, about 35,600 tons has been produced.

Regarding international investments, PTT's strategy is to focus on continuous efficiency improvement and production growth for existing projects, and on consistently seeking value-adding business development opportunities with optimal application of existing resources.

In addition to improving the performance of its business units, PTT and the PTT Group of companies took the following actions in running their businesses, with highlights captured below:



Strategic planning management

PTT's strategic planning process was ongoing all year, beginning with the Top Executive Thinking Session (TTS) to jointly review and define strategic directions for PTT Group over the next 5 - 10 years in line with changing business and non-business circumstances to ensure that PTT Group's businesses will fulfill its vision and goals in three aspects: 1) Ranked among the 100 major companies worldwide in Fortune's ranking in 2020. 2) Ranked among the Dow Jones Sustainability Index (DJSI). 3) Post a top-quartile performance in 2020. Once TTS had concurred with the strategic directions over the next 5 - 10 years, the business units and supporting units developed their respective strategic directions and sought concurrence from an Executive Vice President and upward meeting of PTT Group (the so-called Strategic Thinking Session, STS). And once STS concurred with such directions, the ideas were tabled for the concurrence of the Board of Directors of PTT. This year, PTT Group has defined a strategic direction called "TAGNOC", which consists of the following elements:

- **TA (Technologically Advanced)** means business on the basis of knowledge application or development of PTT's own technology instead of mere consumption of natural resources.
- **G (Green)** means environmentally friendly investment in energy and petrochemical businesses.
- **NOC (National Oil Company)** means establishment of energy security and prosperity for the nation.

In addition, in its strategic plan formulation this year, PTT Group relied on the "End-Way-Mean" approach to more efficiently promote the enforcement of these strategies:

- **End:** strategic objectives
- **Way:** strategic initiatives to fulfill "End"
- **Mean:** critical success factors that push strategies toward practical implementation.

PTT Group's financial management

With a market capitalization of over 948 billion baht, or about 8% of total market capitalization at the year-end, PTT is the largest company on SET. If all listed companies under PTT Group are included, the market capitalization would exceed 2,199 billion baht, or about 18.6% of SET's total market capitalization. PTT Group continues to grow steadily. To ensure a strong financial status and discipline with credit ratings compatible with industry peers, financial management must therefore be efficient and well-disciplined, and disclosure of information to all investors must be equitable and transparent. To this end, PTT has applied its treasury and credit policy as a guideline in managing the finances of PTT and PTT Group.

This year, PTT managed its financial portfolio, including cash liquidity, risk management on exchange rates and interest rates to reduce costs, and/or add value to the corporation by taking the following actions:

- Issued financial derivatives to lower risks arising from long-term loans, which resulted in a reduction of the loan cost by about 181 million baht.
- Managed its foreign-exchange risks in its commercial transactions in the import, export, international sale, and procurement of crude oil to the refineries under PTT Group, valued at 37.45 billion US$, and added value to the Group of about 1.84 billion baht.

Performance management and improvement of management efficiency

PTT pays full attention to the development of organizational capability toward becoming a high-performance organization through continuous improvement of its organizational efficiency and business processes to achieve the benchmark of world-class management under the criteria of the Thailand Quality Award (TQA). A goal has been set to win the Thailand Quality Class (TQC) across the organization by 2015 and a TQA in 2018. This year, the focus was on fact-based performance monitoring for greater efficiency in comparison with the plans and goals or competitors (benchmarking), after which an approach for solution and improvement will be defined to build on it into innovations. PTT also focused on promoting itself as innovator. To this end, it appointed a PTT innovation promotion committee and a taskforce on innovations, and created an ambience favoring innovation like the "PTT We Can Corner" display of innovative products and the presentation of Innovation Awards.

This year marked the second one in which the Gas, Oil, and International Trading Business Units won the TQC, presented by the Office of the Thailand Quality Award. PTT also won the 2012 Outstanding State Enterprise Award, hosted by the Ministry of Finance, which covered two awards. First, "Best of the Best" for the fourth straight year, and second, an "Outstanding Innovation Award" for the third straight year, this year for "PTT Electromagnetic Induction for Wax Mitigation", the world's first innovation that overcomes the collection of crude oil sediments in tank cars (in train transport).

Product innovations

This year PTT came up with a lubricant product called "4T Outboard: SAE 1-W-40" and another for gasoline engines ("Fuel Economy 0W-20 Gasoline Engine Oil"), apart from lubricant products for sale in China to encompass all automotive applications and become a leader in lubricant product development under new standards. PTT experimented with hydrogenated diesel (BHD) production in a real plant, poised to go on commercial sale. It also developed the PTT DDF ECU for diesel engines running on natural gas for commercial sale, with adapted properties suitable for use with Thailand's natural gas to replace over 60% of diesel.

In the petrochemical sector, PTT reached an innovative milestone with PLA, a bioplastic material coated on paper, serving as drink containers, which is 100% degradable.

Strategies and business directions of PTT Group

PTT Group has defined a vision that focuses on consistent, sustainable growth in order to become a Thai Premier Multinational Energy Company under strategic sustainable growth in three aspects: continuous organizational performance management toward an organizational excellence (High-Performance Organization: HPO), corporate governance (CG), and responsibility to society, community, and the environment (Corporate Social Responsibility: CSR).

This year, PTT Group defined its "TAGNOC (Technologically Advanced and Green National Oil Company)" business directions and strategies, which consist of a set of these nominated by each business unit and supporting unit, complemented by another set of these nominated by a taskforce among PTT Group, as the group strived for sustainable energy businesses. These include a technology roadmap, a green roadmap, and strategic security energy roadmap. Below are the goals of these roadmaps:

- **Technology Roadmap:** PTT Group's goal is to become a company with sustainable growth, thanks to modern technological application as a key tool to add renewable resources and pursue new natural resources to supplement business value.
- **Green Roadmap:** A pivotal component to help PTT achieve long-term business growth is an integrated green business. To achieve this, PTT has defined a "PTT Green Way", which focuses on three aspects: development of green products and services ("product"), process management to raise energy consumption efficiency ("process"), and promotion of awareness of environmental love ("public awareness").
- **Strategic Energy Security Roadmap as a National Oil Company**: PTT Group focuses on seeking new energy sources as well as promote Thailand to become a Knowledge-based Economy via strategic directions such as the fully-integrated on indigenous gas procurement, the preparation towards AEC through strategic investment in Myanmar, and the organization development in all dimensions.

Power for Sustainable Future

To jointly research, pass on knowledge and develop innovations for lifelong learning as well as contributing the conciousness in conserving natural resources for sustainable future of our nation and the world.

PTT's key goal in managing PTT Group to both do business and establish sustainability for the Thai society in a balanced manner under the approach of the Dow Jones Sustainability Indexes (DJSI) by 2013 was achieved ahead of time, since the group found its way to the DJSI, in the oil and gas producers' group, as early as 2011 and 2012.

All along, the group's main missions have been to establish national energy security while developing alternative energy to accommodate all sectoral demand, generate income and strengthen the national economy, and participate in strengthening communities and society in a sustainable manner. To this end, PTT relied on six approaches: education and youth development, community development, biodiversity management, town environmental development, network establishment for Thailand's reputation, and establishment of volunteer spirit among employees. The key prerequisite for joint forging of a strong force for society and communities is a joint search for knowledge to be conveyed, while remaining ready to create dynamic learning innovations along with awareness of one's duties for jointly safeguarding the earth's resources. These represent PTT's ways to give our nation and our planet a sustainable future.

HM the Queen's 80th birthday … a royal fountain of knowledge

Because one's learning and development dates to one's birth, with one's mother serving as the original teacher, PTT Group aspires for all to be aware of mothers' benevolence. To this end, it staged a grand exhibition at the annual Red Cross Fair under the **"HM the Queen's: Imparter of Knowledge Leading to Wisdom for National Development"** theme in the year when the nation celebrated Her Majesty's 80th birthday. Special techniques were employed in a special exhibition entitled "Educational Museum in Honor of HM the Queen", inspired by HRH Princess Maha Chakri Sirindhorn's composition ("My Mother and Education"), for the public to join in the learning. At the same time, PTT invited the public to join a volunteer activity to give educational opportunities to the underprivileged by recording their voices for subsequent presentation to the School for the Blind. Incidentally, PTT Group's exhibition won first prize for education and learning at the fair.

PTT Group also launched a project called "**Million Hearts for the Queen**" to honor HM the Queen and pledge our allegiance. Specifically, we invited all to share their maternal teachings through the www.millionheartsforqueen.com website. PTT staged a special activity to repay mothers' benevolence by preparing digital postcards designed to give to mothers on the National Mothers' Day. "Million Hearts for the Queen" concert was designed to promote the warmth of families; at the event, polo shirts bearing the concert's logo were put on sale. PTT donated all the shirts and the proceeds worth 800,000 baht to the Foundation for HM the Queen Sirikit Hospital, Royal Thai Navy, under the Royal Patronage of HM the Queen. In addition, PTT donated polo shirts and donation worth 250,000 baht to the Ban Bang Lamung Boys' Home.

Creating knowledge innovations for society's sustainable future

PTT Group recognizes that the promotion of learning and capability represents the nation's cornerstone, since these lead to everyday knowledge, greater skills, and opportunities for cultivation of ideas to keep up with the world today, not to mention the cultivation of awareness of participation in creating a green society for our future.

Armed with such concept, PTT Group remained committed to furthering HM the King's initiative on Sufficiency Economy, the theme of its Forest Conservation and Human Development in 84 Tambon on a Sufficient Path Project, launched in 2007 and duly accomplishing its goals. The knowledge gained by the participating communities was humbly presented to HM the King on his 84th birthday in 2011. This year the group extended its success to establish "Knowledge Center of Sufficiency Ways" in 24 targeted tambon (subdistricts) and evolved the "Community Energy Learning Spots Prototypes" in 16 subdistricts nationwide. To this end, the group developed learning media and technologies that varied with raw-material sources to serve as prototypes for learning on sufficiency ways by community residents as well as other interested communities, so that these people may learn from the communities' wise men on self-reliance, for instance, wind-turbine, water pumps, solar-powered incubator and biogas fermentation pools. That way, more Sufficiency Economy-based communities may come into existence.

Million Hearts for Queen Project

Knowledge Center of Sufficiency Ways

The presentation of 24th and 25th school buildings

The presentation of 30th and 31st school libraries

Scholarships given to schools surrounding PTT operation sites

Scholarships for youths in the southernmost provinces

Education

Throughout the year, PTT Group supported education and development of innovations to open up a world of boundless learning, which would be a firm foundation for the development of lives of all society members as well as sustainable national development. To achieve this goal, our project work by level is summarized below:

Youth

- **Thai Power Schools:** Under this project, the 24th and 25th PTT Plc. School Buildings were erected at Wat Sak Luk Ya School, Rayong, and Ban Tha Muang School, Nakhon Si Thammarat. The 30th and 31st "**Thai energy for Thais Libraries**" were completed at Wat Sadet School, Lampang, and Chum Chon Wat Bang Khu School, Nakhon Si Thammarat; the libraries were equipped with educational media in perfect support of youth education. Besides, the group organized a curriculum for teachers' seminars among the 24 network schools nationwide to develop their academic and technological capability.

- **PTT Scholarship Awards 2012:** These 2,000 scholarships, worth 6.5 million baht, were awarded to students at every level in schools around PTT's facilities nationwide. The criterion is that recipients must be needy and well-behaved, with good academic records.

- **Scholarships for Rayong youth development:** These 45 scholarships and 18 school project support funds went to youths and schools in Map Ta Phut Municipality, Tambon Ban Chang Municipality, and Tambon Map Kha Municipality.

- **Scholarships for youths of the three southernmost provinces:** These 197 scholarships, worth 500,000 baht, were conferred on children of members of the Economic Reporters' Association and youths from these provinces.

Ensuring that youths possessed a true understanding of energy, PTT Group supported innovations for the future of the country through these projects:

- **PTT Group Energy Plus, New Generation's Futuristic Stride:** Our mobile exhibition in its second year, together with 10 schools in Rayong, gave youths opportunities for thinking and presenting youths' creativity in the energy field.

- **Save World School Tour:** The activities cultivated among elementary students in 11 Bangkok Metropolitan schools a proper understanding of energy and various practical ways to save energy to promote conscious ways to help the earth.

- **4th PTT Youth Camp ("Return the Happiness"):** The camp promoted awareness of conscientious consumption of energy and opened up opportunities for youths to apply the knowledge to their inventions that could protect communities, handle natural disasters, and restore society and the country to be strength and sustainability. A contest was held for inventions vying for HRH Princess Maha Chakri Sirindhorn's trophies for secondary school, high school, and vocational students' entries. Thanks to the cooperation of the National Electronics and Computer Technology Center, the winning project at the high school level (biogas production from refuse fermentation tank for communities, by San Sai Withayakhom School) entered the International Sustainable World Engineering and Environment Project Olympiad (ISWEEP). The winner at the secondary level was "Make-Shift Toilet" by Sawan Anant Withaya School, and that at the vocational student level was "Mechanical Coffee Lid Separator" by Buri Ram Technical College.

- **PTT Comic Contest (2nd Year), Plastic Story:** Together with A Day magazine, PTT launched a contest for the biggest cartoon-drawing contest in Thailand to promote creativity-filled youths and public, while campaigning for youths and the public to appreciate the significance of plastics to everyday life, as well as their proper application and disposal. Innovations and current technology have resulted in environmentally friendly bioplastics production.

Save World School Tour

PTT Youth Camp 2012: Return the Happiness

PTT Comic Contest: Plastic Story

LIFE inaugurated by
HRH Princess Maha Chakri Sirindhorn

CG We Can

Young Financial Star Competition 2012

Through assorted projects, PTT Group this year also joined the cultivation of ethics and volunteering spirit among youths to encourage them to be good examples in future Thai society, including:

- **Promotion of ethics cultivation under corporate governance principles ("CG We Can"):** The aim was to cultivate ethical business practices under CG principles, while remaining socially responsible under the "Smart and Conscientious" concept so that youths may become quality members of society.

- **Young Financial Star Competition 2012:** With the Stock Exchange of Thailand (SET), Kasikorn Bank, and Muang Thai Life Assurance, PTT educated university students on investment and finance, while cultivating the awareness of social responsibility among new-generation finance professionals through **PTT CSR Star Team** activities, which enabled contestants to learn and acquire sufficiency ways of life hands-on with exemplary communities under PTT's Forest Conservation and Human Development in 84 Tambon under the Sufficiency Economy Initiative Project. Project participants were required to present CSR projects as well.

Community

- **Founded the Learning Institute for Everyone (LIFE)** at Amphoe Bang Khonthi in Samut Songkhram under the Community Enterprise Promotion Institute Foundation, which had been set up with the cooperation of PTT Plc., Bank for Agriculture and Agricultural Cooperatives, National Science and Technology Development Agency, and the Village Foundation. The institute was designed to develop grassroots economy, bolster community strength to promote learning and management of life, resources, and communities for sustainable development. The learning format is a "life university", which was extended to LIFE, inaugurated by HRH Princess Maha Chakri Sirindhorn on June 15 this year as an alternative university for communities, with undergraduate teaching in three disciplines, namely a multidisciplinary program for local development, a community health management program, and a sustainable agricultural management program, together with graduate teaching in two disciplines, namely a multidisciplinary

program for local development and a community health management program. Some 4,000 students are currently enrolling in 39 centers in 35 provinces.

- **Presented dissertation fellowships to students** at the master's degree and doctoral degree level that were conducting research on the Sufficiency Economy philosophy and development of local communities. A total of 13 students qualified for fellowship support, totaling 280,000 baht. The intention is for Thai society to become aware of in-depth implications of the philosophy and truly establish a contented society.

- **Supported community research work under 84 Tambon on a Sufficient Path Project** in 65 tambon, totaling 84 research topics in a move to promote community resident researchers. Communities were asked to apply real-life data to problem-solving, thus leading to an information society and a learning society.

National

- Supported **the Kanchanaphisek Project** by signing a memorandum of academic cooperation with the Thailand Research Fund in supporting doctoral degree research work to link knowledge from universities and colleges to the industrial sector to turn the latter into knowledge-intensive industries. Research work that aligns with the country's needs and can create common good will receive support, which implies opportunities for technological and academic creativity that fits PTT Group's policy.

- Supported **a project to buy durable goods for petroleum and petrochemical** excellence and at the same time award scholarships to students of the Faculty of Engineering, Chulalongkorn University. To this end, PTT Polymer Marketing awarded 10 million baht for energy studies, a milestone move for national energy security.

The dissertation fellowships to students

The Kanchanapisek Project

Durable goods for excellence

Biodiversity

All elements of the social sector should jointly restore, conserve, and take care of natural resources so that they may retain their fertility and biodiversity. To this end, PTT Group launched and built on assorted projects with participation from communities and society to sustainably restore and take care of national resources.

Environmental

- Extended the success of the Reforestation in Honor of HM the King Project on the 50th Anniversary of the Accession to the Throne to continually add green space and green hearts through the **PTT Youths Conserve Forest, the Forest Wildfire Volunteer Training, and the People Volunteer for Forest Protection Training Projects**. In addition, PTT planted more trees in an area of 5,000 rai under the "People Volunteer Reforestation of 800 million seedings in Honor of HM the Queen's 80th Birthday Anniversary Project" in Nan province. Another reforestation effort took place in 1,000 rai of a degraded forest of Ban Buak Ya, also in Nan, under the initiative of HRH Princess Maha Chakri Sirindhorn. PTT also supported various agencies undertaking environmental projects with the same goals, like a project to humbly present water sources and forests to HM the King and Queen, the PTT and 100.5 Reforestation to Slow Water Flow, and the Zero Carbon Rally: activity to restore forests.

Volunteer for forest protection training

Green Globe Award

- **The Green Globe Awards**, in its 14th year, encourages and admires people and organizations that serve as role models for the promotion of natural, environmental, soil, water, forest, and ecological resources. This year there were 671 entries to the contest, out of which 61 pieces of outstanding work were named winners in the community, individual, youth, and media categories.

Vetiver Application Project

Promotion of soil and water conservation

- PTT Group built on the "**Development and Campaign for Vetiver Application in Line with HM the King's Initiative Project**" in conjunction with Chaipattana Foundation, Office of the Royal Development Projects

Board, and Department of Land Development. This year the activities consisted of:

- **Application of vetiver through mechanical methods and other plants** to prevent soil avalanches: This project pursues preventive and remedial approaches to soil avalanches by choosing 14 pilot areas nationwide for the research and learning before summarizing the findings for knowledge distribution.

- **The 7th Contest on the Development and Campaign for Vetiver Application** in Line with HM the King's Initiative Project (2012) under the "Vetiver Holds Water and Embraces Soil" theme, designed to promote vetiver application for sustainable soil and water consumption. The year saw 252 entries to the contest, with 44 winning prizes for vetiver planting, promotion of vetiver planting, and vetiver leaf products.

In addition, PTT introduced HM the King's environmental development initiatives - including vetiver planting and the installation of the Chaipattana Low-Speed Surface Aerator - to its service station at Ban Nong Taeng, Vientiane, Lao People's Democratic Republic, in a move to improve water quality.

Promotion of learning

- **Learning Center at the Sirinath Rajini Center for Mangrove Forest Studies, Prachuap Khiri Khan**: This fertile mangrove ecology source of learning has been named the province's ecotourism attraction. This year, some 42,514 people visited the center.

- **Development of Phu Nong Pling as a community learning source in Tambon Huai Khayeng, Amphoe Thong Pha Phum, Kanchanaburi**: PTT signed a memorandum of understanding with the National Science and Technology Development Agency, Forest Industry Organization, and Mahidol University on the construction of a permanent natural trail, support of the development of a curriculum, and staging of activities in the area over three years (2012-2014). The format is to be an integrated participatory management so that Phu Nong Pling may serve as a learning spot for biodiversity of tropical forests for communities, youths, and the public.

The Contest on Vetiver Application

Sirinath Rajini Center for Mangrove Forest Studies

MOU on the development of Phu Nong Pling

The Princess's support on spirulina research

Research

Constantly, PTT Group has supported research for national benefit, including:

- **Cooperative research on global warming mitigation, dedicated to HM the King, with spirulina**: PTT humbly presented to HRH Princess Maha Chakri Sirindhorn its donation in support of the research and development (R&D) of spirulina application to carbon dioxide sequestration and production of biogas from the resulting biomass.

- **R&D of renewable energy and the environment** between PTT and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH to jointly investigate climatic and environmental conditions, leading to development of project planning and technology transfer.

Development of town environment

Improvement of lives

- **Road safety**: Besides donating 32,000 fluorescent rubber traffic cones to the Royal Thai Police and various agencies to minimize traffic problems, PTT stressed safe roads during festivals, like a campaign on "**Seven days, 77 provinces, safe Songkran**" together with the Thai Health Promotion Foundation, under which PTT service stations served as rest areas; the "**PTT Engine Tune-up 2012 Project**" provided free engine inspection at 55 PTT service stations and ProCheck service centers nationwide during the New Year break; and the "**Safe Driving, Traffic Discipline Project**", which campaigned for traffic law obedience among three batches of new motorists in Bangkok and its perimeter and in Rayong.

Road Safety Campaign by Thai PM

Friend of Rayong Project

- **Livable communities**: PTT Group focused on looking after target communities around more than 30 facilities nationwide, specifically their quality of life, safety, and hygiene, in response to the needs and coordination of help to community development, including a project to inspect LPG tanks and a mobile clinic.

- **Friend of Rayong Communities**: PTT Group and related local agencies carried out various community, social, and environmental development activities in the

area, including 4 PTT Group Community Sharing venues, providing free primary medical care.

Growing green areas

- **Development of a prototype eco-industrial zone in Asia Industrial Estate:** PTT signed an agreement with the Industrial Estate Authority of Thailand, extending cooperation on such development under the requirements of standard characteristics and indicators of an eco-industrial town in these aspects: physical, economic, environmental, social, and management. About 1,500 rai of land in the estate, located in Amphoe Ban Chang, Rayong, will be developed into such a prototype. To elaborate, public utilities, an environmental management system, allocation of land for joint exploitation between industries and communities, establishment of a green area as a protection strip as required, and-together with communities-plant an Eco Forest with 60 species, numbering over 600 trees, as a learning spot for youths, so that industries and communities may co-exist in harmony in a sustainable way.

Development of social networks

- Continually, PTT Group participated in and supported various activities to promote Thailand's image and credibility on the world forum in sports, art, or culture, nationally and internationally.

Sports

- Sponsored various sports associations to improve their standards and Thai athletes' caliber, while supporting development of Thai sports through assorted competitions, including the PTT Thailand Open tennis tournament, PTT Golf Junior Open Championship, and PTT Blue Innovation Golf A-Class Championship 2012. This year PTT also supported to a Thai chess national competition to popularize Thai sports and games.

- Supported Thai athletes that made a name for Thailand at the Olympic Games and Paralympic Games by presenting to them gasoline cards worth 4.3 million baht as a token of moral support for national team players to remain committed to improving their talents.

Green Eco-Industrial Zone Prototype

PTT Thailand Open

Thai Chess National Competition

Paralympic Games Support

Art and culture

• 27th PTT Art Contest: The theme of this year's contest is "Green Living: Saving the Earth", designed to give youths, students, and the public an opportunity to exercise their imagination of a livable world with decent surroundings. There were 997 entries nationwide. Besides, provincial contests were held, including a PTT Art Contest for provincial youths, featuring live drawing, held in the North, the Northeast, and the South.

• PTT Youth Camp to conserve the Poo-cha drumbeating and an instructor training workshop: Supported by PTT for 11 straight years, this camp passes on a beautiful tradition to future generations. Besides a contest on drumbeating, a training workshop was arranged for instructors to preserve the knowledge of proper beating methods and enable them to master judging criteria. A total of 140 youths and 26 instructors from 13 districts were selected for the activities.

27th PTT Art Contest "Green Living: Saving the Earth"

Poo-cha Drumbeating and an Instructor Training Workshop

Energy Saving Leader Network

Creating awareness of social development

To focus on promoting the awareness of social and community development volunteering efforts, PTT supported the Thailand Business Council for Sustainable Development (TBCSD) on "Energy Saving Leader Network", which is a project to campaign for energy-saving in buildings under a voluntary agreement, which in turn illustrates PTT's commitment to participation in easing national energy problems.

Meanwhile, through the "**People-Public Sector Unite to Combat Drought Project**" this year, PTT supported efforts to ease the hardship of people nationwide who constantly faced drought by donating a budget and fuels altogether worth 3.6 million baht. To jointly upgrade lives for disabled children, PTT donated 200,000 baht to the Universal Foundation for Persons with Disabilities in support of disabled children on the eight "**Day of United Love for the Disabled**". PTT used the 20 baht donation by each toilet user under the "**Restroom 20 Project**" at the Sara Buri and the Laem Chabang service stations to launch a "**Toilet for Children with PTT Project**", in which a new toilet building was dedicated to the Ban Khao Chi, Amphoe Si Racha, Chon Buri, infant development center along with learning tools altogether worth 340,000 baht.

PTT Group promoted all employees' volunteer spirit at least once a year, including their application to the "**Power of Thai Volunteers**" club to constantly volunteer for various public service activities, including extending relief during natural catastrophes, joint tree planting to create green areas, and construction of check dams. These activities indeed transform PTT Group employees' spirit and unite them with communities.

Indeed, PTT Group's commitment to repaying society is visible to all. This year, PTT won an award in recognition of its outstanding work for society and the environment in the eyes of the Ministry of Finance during its deliberation of the 2012 **Outstanding State Enterprise Awards**. PTT also landed an **SET Award 2012** for outstanding social responsibility.

Thanks to communities' and society's confidence, trust, and cooperation with PTT Group, our covenant is to remain a sustainable power that delivers innovations and knowledge for better lives in the years to come.

Supporting People-Public Sector Unite to Combat Drought Project

Supporting disabled children on the 8th "Day of United Love for the Disabled"

Toilet for Children with PTT Project

Power of Thai Volunteers Club's Activities

SSHE toward Corporate Excellence

PTT defined the clear processes for supervising SSHE undertakings to ensure alignment of practices by all business units and PTT Group companies with corporate policies, strategies, and management standards.

PTT's businesses' risk prevention mechanism "Security, Safety, Health and Environment (SSHE)" is essential for the march toward a sustainable organization of excellence, hand in hand with the Technologically Advanced and Green National Oil Company (TAGNOC) strategy.

The PTT Group SSHE Management Framework bolsters and steers PTT Group's integrated operations toward greater clarity. PTT's intention and commitment are evident in PTT Group's QSHE Policy, with the **PTT Group Security, Safety, Health and Environmental Management Standard (PTT Group SSHE MS)** serving as the fundamental requirements for SSHE risk management for all business units and affiliates to apply to suit their nature and risks. In 2012, PTT focused on systematically designing operating processes and mechanisms to be decentralized and redirected to business units and PTT Group companies while still valuing significant SSHE risk issues, as detailed in notable performance outcomes below:

Technologically Advanced and Green National Oil Company (TAGNOC) is the strategic direction applying environmentally friendly innovation for securing energy and transforms PTT from a resource–based company into a knowledge–based company operating with **Green Roadmap** to reduce greenhouse gas emission in its process and provide clean energy to the country.

Development of SSHE governance processes:

PTT defined the clear processes for supervising SSHE undertakings to ensure alignment of practices by all business units and PTT Group companies with corporate policies, strategies, and management standards. A PTT Group SSHE Governance standard was established together with constantly tracking mechanisms for progress and outcomes. To this end, the PTT Group QSHE Policy Committee (through its quarterly meetings) reviews the overall management efficiency and effectiveness.

Structural definition of Safety, Health, and Environment (SHE) goals for PTT Group:

To clearly demonstrate the Eco-Efficiency of overall SHE management, PTT defined a structure for SHE operating goals, consisting of socio (toward top-quartile safety performance), eco (toward reducing the ecological footprint), and efficient indicators (toward congruence with Thailand's energy goals). All three indicators contain short-term (annual), intermediate, and long-term (2020) goals.

Contractor SSHE Management

Development of processes and central operating procedures:

To ensure the unison and efficiency of PTT Group SSHE MS application among business units and PTT Group companies to manage key corporate SSHE risk issues in a systematic and sustainable way. This year PTT has developed various business processes and tested them in pilot areas through the following projects:

Contractor SSHE Management Upgrading:

This project systematically upgraded contractor SSHE by incorporating with material procurement processes, which implied improvement or addition of key procedures, including the requirement for supervisors to undertake SSHE risk assessment before hiring; the implementation of SSHE screening, the requirement for contractors to present clear and detailed plans, measures, and resources used for controlling SSHE risks; and the incorporation of SSHE criteria with selection criteria.

Investigation and Establishment of Energy Management Roadmap and System:

This project involved the development of PTT Group's energy management system, consisting of its energy goals; goal definition by each company and business line; energy management strategies; planning and ranking of importance to the implementation in conserving energy and improving energy consumption; and knowledge management, experts, and technology required in PTT Group's energy management.

PTT Group's Greenhouse Gas Inventory Report Improvement:

This project upgraded the standard for reporting greenhouse gas (GHG) inventories that was increasingly precise and compatible with international standards. It also required the establishment of a process and training of internal assessors to drive the review, recording, and reporting of GHG inventories at the corporate/facility level. In addition, the project joined hands with the Energy Economics Department and the Corporate Relations Department in defining GHG intensity indicators for each operation type.

Environmental Site Assessment:

This project established a central standard for the procedures and conditions of assessing soil and groundwater in assets to be acquired or abandoned, including standard values that defined minimum acceptance for treatment or rehabilitation of soil and groundwater for PTT Group.

Energy Management Roadmap and System

Establishment of Standards and Logistics Zero Accident for Corporate Vehicles and Product Tank Truck

Preventive Occupational Health Program

Establishment of Standards and Logistics Zero Accident for Corporate Vehicles and Product Tank Trucks:

This project focused on establishing standards and guidelines for operating product tank trucks commissioned by PTT and for identifying tools that prevent and lower motor accidents, including selection of In Vehicle Monitoring System (IVMS), basic defensive driving training, and heightening of motoring safety awareness among PTT Group's executives and employees, as well as product tank truck drivers.

Preventive Occupational Health Program:

This program established processes for monitoring and caring for workers to be physically and mentally fit throughout their duties; be ready and fit for safe operation; and prevent work-related sickness, injuries, and accidents. These goals are to be achieved through proactive occupational health practices, including Health Risk Assessment (HRA) and Fit for Work assessment.

Establishment of Security Management Standard of PTT Group:

This project framed and provided requirements for security management for PTT's and PTT Group's sites and facilities to implement as minimum standards. In addition, it established a guideline for PTT Group security risk assessment by requiring all sites to undergo relevant risk assessment and update it periodically to fit risked circumstances, while posting risk levels at the entrance of each site. Security personnel (particularly employees, heads of security guards, and the guards themselves) were trained on proper procedures for inspection and safeguarding sites without violating human rights. The project, known as "Khun_Khem_Khaeng", was rolled out in 2010.

Product Carbon Footprint Assessment:

The project expanded on the outcomes of core products of the Oil Business Unit.

Besides these projects, PTT has established additional standards and guidelines for central units to assist business units and PTT Group companies in aiding practices; including incident management, contractor SSHE management, Change management which potentially affecting SSHE, corporate SSHE audit, security system breach investigation manual, and a VOCs emission inventory.

For more details on SSHE performance, please refer to the Corporate Sustainability Report 2012.

Establishment of Security Management Standard for PTT Group

Financial Status and Performance

PTT and its subsidiaries' performance

Unit: Million Baht

	2011	2012	Increase (Decrease)
Sales and services income	2,428,126	2,793,833	15.1%
Earnings before finance costs, income tax, depreciation and amortization including other non-operating income and expense (EBITDA)	211,373	227,842	7.8%
Share of net income from investment in associates	29,463	27,091	(8.1%)
Gain (loss) on foreign exchange	1,099	7,615	n.m.
Earning before interest and tax (EBIT)	156,058	162,605	4.2%
Income taxes	43,226	46,516	7.6%
Net income	**106,260**	**104,666**	**(1.5%)**

In 2012, sales revenue of PTT and its subsidiaries was 2,793,833 million baht, increasing by 15.1% from 2011 mainly due to the increase in the sale prices and sales volume. The average Dubai crude oil price increased from 106.2 US$ per barrel in 2011 to 109.1 US$ per barrel in 2012 (2.7% increase), resulting in increased EBITDA by 16,469 million baht, or 7.8%. This increase was mainly generated by the better performance of PTTEP and Oil business. However, share of net income from investments in associates in 2012 amounting to 27,091 million baht, decreased 8.1% from 2011 owing to lower performance of refining associates as a result of a stock loss. The reason was that during 2012, although average oil prices increased 2.7% from previous year, a high volatility from the continuous debt crisis in Eurozone and the economic slowdown led to a soften increasing trend of crude oil price compare to last year, while the crude oil price trend in 2011 was continuously increased in a steep manner from the earthquake and Tsunami incidents in Japan, together with tightening supply due to the turmoil in Middle East countries, resulting in a stock gain in 2011. The performance of petrochemical business was better from the higher sales volume of olefins due to PTT's gas separation plant #6 had increased feedstock supplies to the olefin plants in 2012, while there was a gas leakage incident and the great flood in 2H/2011 which led to a decrease in utilization rate of gas separation plants resulting in less feedstock to petrochemical producers. The product spreads of aromatics, especially Paraxylene, decreased because of the lower in demand of PTA plants, the downstream business producers, as many PTA plants experiencing losses led to lower production rate.

In 2012, PTT and its subsidiaries had the gain on foreign exchange rate amounting to 7,615 million baht from the Baht appreciation towards year end, resulting in an unrealized gain from foreign debt translate into Baht currency while the gain on foreign exchange rate in 2011 was 1,099 million baht. The income taxes of PTT and its subsidiaries in 2012 was 46,516 million baht, increased by 3,290 million baht or 7.6%. Nevertheless, PTTEP recognized impairment loss on assets in Montara amounting to 6,366 million baht and PTTI recognized impairment losses of its investment in EMG amounting to 3,972 million baht. Consequently, the net income of PTT and its subsidiaries in 2012 decreased by 1,594 million baht or 1.5% from 106,260 million baht in 2011 (or 37.24

baht per share) to 104,666 million baht in 2012 (or 36.64 baht per share) of which 43% was generated from PTT itself, while 57% was contributed from the affiliates according to the shares of investment percentage.

PTT and its subsidiaries' financial performance comparison by business group

Unit: Million Baht

	2011	2012	Increase (Decrease)
Dubai crude price (US$/bbl)	106.2	109.1	2.7%
Sales & services Income	2,428,126	2,793,833	15.1%
• Exploration & Production	169,646	212,537	25.3%
• Natural gas[1/]	412,801	510,684	23.7%
• Oil[2/]	558,524	607,741	8.8%
• International Trading[3/]	1,427,552	1,635,520	14.6%
• Petrochemical[4/]	75,171	83,825	11.5%
• Coal[5/]	30,812	28,739	(6.7%)
• Others[6/]	2,909	4,348	49.5%
• Elimination	(249,289)	(289,561)	(16.2%)
EBITDA	211,373	227,842	7.8%
• Exploration & Production	118,535	152,098	28.3%
• Natural gas	62,195	52,266	(16.0%)
• Oil	13,224	15,443	16.8%
• International Trading	3,290	(3,846)	n.m.
• Petrochemical	3,777	2,973	(21.3%)
• Coal	9,368	7,703	(17.8%)
• Others	656	1,163	77.4%
• Elimination	328	42	(87.2%)
EBIT	156,058	162,605	4.2%
• Exploration & Production	85,003	109,406	28.7%
• Natural gas	46,992	38,678	(17.7%)
• Oil	10,781	13,101	21.5%
• International Trading			
- Excluding Effect of FX	3,277	(3,861)	n.m.
- Including Effect of FX	6,776	3,811	(43.7%)
• Petrochemical	2,894	1,949	(32.7%)
• Coal	7,299	3,598	(50.7%)
• Others	(518)	(310)	40.2%
• Elimination	330	44	86.7%
Depreciation and amortization	55,315	65,237	17.9%
Finance costs	18,035	19,763	9.6%
Gain (loss) on foreign exchange	1,099	7,615	n.m.
Income taxes	43,226	46,516	7.6%
Net income	106,260	104,666	(1.5%)
Earnings per share (Baht/share)[7/]	37.24	36.64	(1.6%)

Notes: *1/ Including the natural gas business, the consolidation of PTT Natural Gas Distribution Co., Ltd. (PTTNGD), PTT LNG Co., Ltd. (PTTLNG), Combined Heat and Power Producing Company Limited (CHPP) and the proportionate consolidation of Trans Thai-Malaysia (Thailand) Co.,Ltd. (TTM (T)), Trans Thai-Malaysia (Malaysia) Sdn. Bhd. (TTM (M)) and District Cooling System and Power Plant Co., Ltd. (DCAP).*

2/ Including the oil marketing business, the consolidation of PTT (Cambodia) Co., Ltd. (PTTCL), Subic Bay Energy Co., Ltd. (SBECL), and PTT Retail Business Co., Ltd. (PTTRB) and the consolidated Thai Lube Blending Company Limited (TLBC) due to the 100% TLBC's shareholding acquisition by PTTRB and PTT.

3/ Including the international trading business and the consolidation of PTT International Trading Pte. Ltd. (PTTT).

4/ Including the consolidation of PTT Polymer Marketing Co., Ltd. (PTTPM), PTT Polymer Logistics Co., Ltd. (PTTPL) and PTT Tank Terminal Co., Ltd. (PTT TANK), PTT Asahi Chemical Co., Ltd. (PTTAC), HMC Polymers Co., Ltd. (HMC) and PTT MCC BioChem Co.,Ltd. (PTT MCC).

5/ Including PTT Asia Pacific Mining Pty Ltd. (PTTAPM) which PTT Mining Limited (PTTML), a subsidiary of PTTI, holds 100% shareholding on International Coal Holdings Limited (ICH) which has 100% shareholding in PTTAPM.

6/ Including the consolidation of Energy Complex Co., Ltd. (EnCo), Business Services Alliance Co., Ltd. (BSA), PTT Green Energy Pte. Ltd. (PTTGE) and PTT International Company Limited (PTTI).

7/ Basic earnings per share is calculated by dividing net income attributable to ordinary shareholders by the weighted average number of ordinary shares which are held by third parties during the periods.

Upstream Business

• Petroleum Exploration and Production Business : PTT Exploration and Production Public Co., Ltd. (PTTEP)

In 2012, sales revenue of PTTEP was 212,537 million baht, increasing by 42,891 million baht or 25.3% from 2011, mainly due to

1. The average selling price rose by 16.9% from 55.5 US$ per BOE in 2011 to 64.9 US$ per BOE in 2012 in relation to the higher global oil price.

2. The sales volume also rose from 265,047 BOED in 2011 to 275,923 BOED in 2012 mainly due to the Bongkot project as the Bongkot South started production in June 2012, according to the sales and purchase agreement. Moreover, the sales volume of crude oil increased principally because of the higher crude production from new wells of the Vietnam 16-1 and the S1 projects and the new Beam Pump technique of the S1 project. However, the gas and condensate sales volume of the Arthit North and the Arthit projects decreased because the Arthit North project has ceased its production since November 2011 and the volume of the Arthit project decreased in line with contract volume.

EBITDA in 2012 was 152,098 million baht, increasing by 33,562 million baht or 28.3% from 2011 due to the increase in the selling price and sales volume as aforementioned, although petroleum royalties and remuneration expenses increased by 4,814 million baht in relation to the higher sales. In addition, administrative expenses rose primarily due to donations, financial consulting fees, and consulting fees for share acquisition of Cove Energy Ltd.

EBIT in 2012 was 109,406 million baht, increasing by 24,403 million baht or 28.7% from 2011 mainly due to the increase in EBITDA as aforementioned, although the depreciation and amortization expense escalated mainly due to the increase in completed assets of the Bongkot and the S1 project, also and from the higher production of the Vietnam 16-1 project which operate for a whole year in 2012 and had additional completed assets.

• Natural Gas Business Unit

Sales revenue of Natural Gas Business was 510,684 million baht in 2012 which increased by 97,883 million baht or 23.7% from 2011 due to the followings:

Natural Gas supply sales

- The average sales volume increased in all customer groups except Small Power Plant (SPP). Moreover, the average natural gas selling price increased in all customer groups.

GSPs' product sales volume

- Sales volume of the gas separation plants rose in all products due to the gas leakage incident and the great flood in 2H/2011. Furthermore, the average selling price of products from the gas separation plants increased in relation to the selling price of petrochemical products reference in global market.

The details of reference product prices for calculation of gas separation plants' product sale prices are as follows:

Unit: US$/Ton

	2011	2012	Increase (Decrease)
LPG[1/]	846	916	8.3%
Ethylene[2/]	1,184	1,229	3.8%
Propylene[2/]	1,381	1,266	(8.3%)
High Density Polyethylene[2/]	1,372	1,380	0.5%
Polypropylene[2/]	1,585	1,445	(8.9%)
Naphtha[3/]	853	863	1.2%

Notes: *1/ Contract price (CP)*
2/ South East Asia Spot Price
3/ MOP Singapore (MOP'S)

EBITDA of Natural Gas Business in 2012 was 52,266 million baht, decreasing from 2011 by 9,929 million baht or 16.0%. The main reason was the lower margin of products from the gas separation plants as feed costs increased 23% in relation to higher fuel oil reference prices, while the product selling price slightly increased in line with petrochemical market reference prices. Margin from selling natural gas to industrial customers was lower due to higher costs. Moreover, losses from selling NGV were higher because of continuous higher sales volume. Although the government gradually raised the NGV retail price since January 16, 2012, the government also adjusted the NGV subsidy down at the same rate. As of December 31, 2012, the retail price of NGV was 10.50 baht per kilogram and the government stopped paying the subsidy (except NGV for the public transportation still receiving 2 baht per kilogram discount from PTT). As of December 31, 2012, the government had obligation for paying the subsidy to PTT for 5,400 million baht. EBIT in 2012 was 38,684 million baht, decreasing by 8,308 million baht in relation to the decreased EBITDA as aforementioned.

Downstream Business

• Oil Business Unit

Sales revenue in 2012 was 607,741 million baht, rising by 49,217 million baht or 8.8% due to the increase in both sales volume and average selling price in relation to the global market price (the average selling price of Dubai crude oil increased from 106.2 US$ per barrel in 2011 to 109.1 US$ per barrel in 2012).

EBITDA in 2012 was 15,443 million baht, rising by 2,219 million baht from 2011, mainly from the increase in diesel and aviation fuel margins, whereas profit margin of fuel oil dropped and operating expenses increased. EBIT in this period was 13,101 million baht which increased by 2,320 million baht which was in line with the increase in EBITDA.

• International Trading Business Unit

Sales revenue in 2012 was 1,635,520 million baht, increasing by 207,968 million baht or 14.6% mainly due to the increase in sales volume of crude oil and refined products from the out-out trading.

EBITDA in 2012 was 3,846 million baht loss, while EBIT, which recognized effect of foreign exchange, was 3,811 million baht, decreasing by 2,965 million baht mainly due to the drop of condensate margin in relation to price structure. Profit margin of PTTT from selling products also decreased.

• Petrochemical and Refining Business Unit

Sales revenue of petrochemical subsidiaries in 2012 was 83,825 million baht, increasing from 2011 by 8,654 million baht or 11.5%, mainly due to the rise in average sales volume of PTTPM. However, the average selling price slightly decreased when compared with 2011.

EBITDA and EBIT in 2012 were 2,973 million baht and 1,949 million baht, respectively. EBITDA decreased by 804 million baht or 21.3%, while EBIT dropped by 945 million baht or 32.7%, compared with 2011.

International Investment Business

• Coal Business

In 2012, sales revenue of coal business was 28,739 million baht, decreasing from 2011 by 2,073 million baht or 6.7% due to the decrease in the average selling price by 6.6% from 92.9 US$ per ton in 2011 to 86.8 US$ per ton in 2012 in relation to the decrease in selling market prices due to world economic slowdown. However, sales volume has risen due to the production start up of Northern Lease in Sebuku since June 2012.

EBITDA in this quarter decreased by 1,665 million baht or 17.8% from 9,368 million baht in 2011 to 7,703 million baht in 2012, as a result of the decrease in sales revenue as aforementioned. EBIT in 2012 was 3,598 million baht which decreased from 2011 by 3,701 million baht or 50.7% due to the rise in depreciation and amortization expenses by 2,037 million baht from production of Northern Lease in Sebuku.

Net income was 104,666 million baht in 2012, decreased by 1,594 million baht or 1.5% from 2011.

Net income of PTT and its subsidiaries in 2012 was 104,666 million baht, which decreased from 2011 by 1,594 million baht or 1.5%, while net income of PTTEP increased mainly due to the rise in product selling prices and sales volumes. Apart from operating results of each business unit of PTT, subsidiaries and jointly controlled entities as mentioned, the following reasons led to decrease in net income:

• In 2012, PTTEP recognized an impairment loss on Montara assets amounting to 6,366 million baht. Moreover, PTTI recognized an impairment loss of its investment in EMG amounting to 3,972 million baht in 2012.

• In 2012, the share of net income from investments in associates dropped by 2,372 million baht or 8.1% from 29,463 million baht in 2011 to 27,091 million baht in 2012, mainly due to:

- The performance of refining associates decreased as PTT Group refineries' GRM (including stock gain/loss and hedging gain/loss, excluding PTTGC's refining unit) decreased from 6.07 US$ per barrel in 2011 to 4.43 US$ per barrel in 2012, mainly due to a stock loss. Although the average selling price of Dubai crude oil increased by 2.7% from 106.2 US$ per barrel to 109.1 US$ per barrel, the selling price in 2012 still fluctuated due to the prolong Eurozone debt crisis and the US economic slowdown. Consequently, the crude oil price increased at a slower pace compare with previous period.

- The performance of petrochemical business was better from the higher sales volume of olefins due to PTT's gas separation plant#6 had increased feedstock supplies to the olefin plants in 2012, while there was a gas leakage incident and the great flood in 2H/2011 which led to a decrease in utilization rate of gas separation plants resulting in less feedstock to petrochemical producers. The product spreads of aromatics, especially Paraxylene, decreased because of the decline in demand of PTA plants, the downstream business producers, as many PTA plants experiencing losses led to lower production rate.

• In 2012, PTT and its subsidiaries had the gain on foreign exchange of 7,615 million baht, increasing by 6,516 million baht in 2011.

• In 2012, PTT and its subsidiaries' finance costs increased by 1,728 million baht or 9.6% from 18,035 million baht in 2011 to 19,763 million baht in 2012. This was due to the increase in PTTEP's debt from the bond issuance and loans amounting to 500 million US$ and 475 million C$, respectively, including additional loan amounting to £ 950 million in order to acquiring Cove Energy Plc. of PTTEP.

• The corporate income taxes in 2012 was 46,516 million baht, increasing by 3,290 million baht or 7.6% from 2011 due to the increase in petroleum taxes and foreign corporate income taxes of PTTEP.

Details of net income from investments in associates are as follows;

Unit: Million Baht

	2011	2012	Increase (Decrease)
Refining associates	13,445	8,864	(34.1%)
Petrochemical associates	15,794	17,118	8.4%
Oil associates	507	544	7.3%
Gas associates	(302)	435	244.0%
Other associates	19	130	584.2%
Total	**29,463**	**27,091**	**(8.1%)**

The analysis of PTT and its subsidiaries' consolidated financial status as of December 31, 2012, compared with December 31, 2011.

Unit: Million Baht

	31 Dec. 2011	31 Dec. 2012	Increase (Decrease)
Assets			
Current Assets	381,124	472,145	23.9%
Available-for-sale investments, Investment in associates and other long-term investments	241,284	250,023	3.6%
Property, Plant and Equipments - net	601,337	653,139	8.6%
Non-current Assets	178,101	256,013	43.7%
Total Assets	**1,401,846**	**1,631,320**	**16.4%**
Liabilities			
Current Liabilities	280,543	341,063	21.6%
Long-term loan (including current portions)	392,303	437,382	11.5%
Non-current Liabilities	85,287	121,211	42.1%
Total Liabilities	**758,133**	**899,656**	**18.7%**
Equity			
Total equtiy attributable to equity holders of the company	555,763	605,784	9.0%
Non-controlling interests	87,950	125,880	43.1%
Total Equity	**643,713**	**731,664**	**13.7%**
Total Liabilites and Equity	**1,401,846**	**1,631,320**	**16.4%**

Assets

As of December 31, 2012, PTT and its subsidiaries' total assets were 1,631,320 million baht, increasing by 229,474 million baht or 16.4% from the year ended of 2011 mainly due to the following reasons:

- Current assets increased by 91,021 million baht or 23.9% resulting mainly from the increase in trade accounts receivable by 71,939 million baht, cash and cash equivalents by 20,785 million baht, respectively.
- Available-for-sale investments, investments in associates and other long-term investments increased by 8,739 million baht or 3.6% mainly resulting from the share of net income from investments in associates amounting to 27,091 million baht, result in the dividends from associates amounting to 14,634 million baht despite an impairment losses on investment in EMG (an associate of PTTI) amounting to 3,972 million baht.
- Property, plant and equipment increased by 51,802 million baht or 8.6% primarily from the increase in net assets for petroleum exploration and production by 41,301 million baht from the PTTEP Australasia, Bongkot, Arthit, and Myanmar Zawtika projects. Also, the investment on the fourth transmission pipeline project and Offshore Compressor project of PTT amounting to 7,185 million baht and 3,443 million baht, respectively.
- Other non-current assets rose by 77,912 million baht or 43.7%, mainly due to the increase in intangible assets and goodwill amounting to 64,256 million baht and 18,069 million baht, respectively, which primarily due to the acquisition of Cove Energy Plc. of PTTEP which resulted in 64,214 million baht of exploration and evaluation assets and 17,981 million baht of goodwill.

Liabilities

As of December 31, 2012, PTT and its subsidiaries' total liabilities were 899,656 million baht, rose by 141,523 million baht or 18.7% from the year ended of 2011. This resulted from the increase in current liabilities amounting to 60,520 million baht or 21.6%, mainly from trade accounts payable and income tax payable by 58,860 million baht and 2,995 million baht, respectively.

Long-term loans (including the current portion within 1 year) were 437,382 million baht, increasing by 45,079 million baht or 11.5%, mainly due to the issuance of Thai Baht debentures of PTT amounting to 45,000 million baht, and US$ debenture amounting to 1,100 million US$, while there were redemption of debentures and loan repayment in both short-term and long-term amounting to 30,094 million baht. In addition, PTTEP issued its debentures amounting to 500 million US$ and entered into additional loan agreements with a financial institution of 475 million C$, totaling 27,640 million baht. However, there were the redemption of debentures amounting to 24,221 million baht and short-term loan repayment to financial institutions amounting to 10,000 million baht. The maturities of loans are as follows:

Unit: Million Baht

Maturity (since December 31, 2012)	PTT	PTTEP	PTTI	TTM (T)	PTTAC	HMC	EnCo	PTTPL	DCAP	TTM (M)	PTTNGD	Total
Within 1 year (December 31, 2013)	29,049.90	5,009.71	2,680.27	692.49	655.38	554.79	450.00	225.00	130.81	55.17	100.80	39,604.32
Over 1 year - 2 years	26,642.57	11,695.62	2,588.37	692.49	655.38	554.69	450.00	300.00	130.81	55.18	100.80	43,865.91
Over 2 year - 5 years	91,406.79	51,739.29	2,828.77	1,851.41	1,966.13	2,085.49	1,350.00	525.00	392.44	78.15	75.60	154,299.07
Over 5 years	141,071.31	47,127.24	-	4,815.56	1,959.36	1,670.28	1,850.00	-	287.13	157.84	-	198,938.72
Total	**288,170.57**	**115,571.86**	**8,097.41**	**8,051.95**	**5,236.25**	**4,865.25**	**4,100.00**	**1,050.00**	**941.19**	**346.34**	**277.20**	**436,708.02**

Note: *Excluding liabilities under finance leases of 674.30 million baht*

As of December 31, 2012, the outstanding loans (including loans, debentures and bonds due within one year and later than one year) consisted of loans in Baht currency and foreign currencies. Details of which are as follows:

Unit: Million Baht

Long-term loans	PTT	PTTEP	PTTI	TTM (T)	PTTAC	HMC	EnCo	PTTPL	DCAP	TTM (M)	PTTNGD	Total
Baht Currency	188,101.61	24,201.02	-	-	-	2,529.95	4,100.00	1,050.00	941.19	-	277.20	221,200.97
Foreign currencies	100,068.96	91,370.84	8,097.41	8,051.95	5,236.25	2,335.30	-	-	-	346.34	-	215,507.05
Total	**288,170.57**	**115,571.86**	**8,097.41**	**8,051.95**	**5,236.25**	**4,865.25**	**4,100.00**	**1,050.00**	**941.19**	**346.34**	**277.20**	**436,708.02**
Portion of long-term foreign currency loans to total long-term loans (%)	34.73%	79.06%	100.00%	100.00%	100.00%	48.00%	-	-	-	100.00%	-	49.35%

As of December 31, 2012, the loans amounting to 7,000 million baht were guaranteed by the Ministry of Finance.

Other non-current liabilities increased by 35,924 million baht or 42.1% mainly due to the increase in the deferred tax liabilities by 17,084 million baht due to the acquisition of Cove Energy Plc. of PTTEP and the increase in the long-term provision for decommissioning costs by 10,498 million baht led by an increase in provision for decommissioning costs of PTTEP mainly from Bongkot, Arthit and Contract 4 projects.

Equity

As of December 31, 2012, total equity of PTT and its subsidiaries were 731,664 million baht, increased from the year ended of 2011 by 87,951 million baht or 13.7%. This resulted from an increase in retained earnings by 70,364 million baht, mainly due to the increase in PTT and its subsidiaries' net income for 2012 by 104,666 million baht. However, there were dividends paid by 34,261 million baht and non-controlling interests increased by 37,930 million baht.

Liquidity

For the year ended December 31, 2012, PTT and its subsidiaries had net increase in cash and cash equivalents amounting to 20,786 million baht, while cash and cash equivalents at the beginning of the period carried from 2011 was 116,132 million baht. As a result, cash and cash equivalents at the end of the period was 136,918 million baht. Details of cash flow by activities are as follows:

Unit: Million Baht

	Amount
Net cash provided by operating activities	177,401
Net cash used in investing activities	(180,576)
Net cash provided by financing activities	27,711
Effects of exchange rates on cash and cash equivalents	(1,354)
Currency translation differences	(2,396)
Net cash and cash equivalents during the period	20,786
Cash and cash equivalents at the beginning of the period	116,132
Cash and cash equivalents at the end of the period	**136,918**

In summary, PTT and its subsidiaries' financial status are strong, evidenced through liquidities, debt to equity ratios, and returns on equity.

PTT and Its Affiliates

E&P Business Group		Percentage
PTT Exploration and Production Plc.	PTTEP	65.29

Gas Business Group		Percentage
Trans Thai-Malaysia (Thailand) Co., Ltd.	TTM (T)	50.00
Trans Thai-Malaysia (Malaysia) Sdn.Bhd.	TTM (M)	50.00
PTT Natural Gas Distribution Co., Ltd.	PTTNGD	58.00
PTT Utility Co., Ltd.	PTTUT	40.00
District Cooling System and Power Plant Co., Ltd.	DCAP	35.00
Thaioil Power Co., Ltd.	TP	26.00
Independent Power (Thailand) Co., Ltd.	IPT	20.00
Ratchaburi Power Co., Ltd.	RPCL	15.00
PTT LNG Co., Ltd.	PTTLNG	100.00
Combined Heat and Power Producing Co., Ltd.	CHPP	100.00
B. Grimm Power Ltd.	B.Grimm BIP	23.00
Nava Nakorn Electricity Generating Co., Ltd.	NNEG	30.00
Bangpa-in Cogeneration Co., Ltd.	BIC	25.00

Oil Business Group		Percentage
PTT (Cambodia) Limited	PTTCL	100.00
Subic Bay Energy Co., Ltd.	SBECL	100.00
PTT Retail Business Co., Ltd.	PTTRB	100.00
Vietnam LPG Co., Ltd.	VLPG	45.00
Thai Lube Blending Co., Ltd.	TLBC	48.95
KELOIL-PTT LPG Sdn.Bhd.	KPL	40.00
Petro Asia (Thailand) Co., Ltd.	PA (Thailand)	35.00
Petro Asia (Huizhou) Co., Ltd.	PA (Huizhou)	25.00
Petro Asia (Maoming) Co., Ltd.	PA (Maoming)	20.00
Petro Asia (Sanshui) Co., Ltd.	PA (Sanshui)	25.00
Thai Petroleum Pipeline Co., Ltd.	THAPPLINE	33.19
Intoplane Services Co., Ltd.	IPS	16.67
Bangkok Aviation Fuel Service Plc.	BAFS	7.06
Fuel Pipeline Transportation Co., Ltd.	FPT	0.00016

International Investment Business Group		Percentage
PTT International Co., Ltd.	PTTI	100.00
PTT Green Energy Pte. Ltd.	PTTGE	100.00

International Trading Business Group		Percentage
PTT International Trading Pte. Ltd.	PTTT	100.00

Petrochemical Business Group		Percentage
PTT Global Chemical Plc.	PTTGC	48.89
PTT Phenol Co., Ltd.	PPCL	40.00
PTT Polymer Marketing Co., Ltd.	PTTPM	50.00
PTT Asahi Chemical Co., Ltd.	PTTAC	48.50
HMC Polymers Co., Ltd.	HMC	41.44
PTT Polymer Logistics Co., Ltd.	PTTPL	100.00
PTT Maintenance and Engineering Co., Ltd.	PTTME	40.00
PTT Tank Terminal Co., Ltd.	PTT TANK	100.00
PTT MCC Biochem Co., Ltd.	PTTMCC	50.00

Refining Business Group		Percentage
Thai Oil Plc.	TOP	49.10
IRPC Plc.	IRPC	38.51
Star Petroleum Refining Plc.	SPRC	36.00
Bangchak Petroleum Plc.	BCP	27.22

Other Business Group		Percentage
Business Services Alliance Co., Ltd.	BSA	25.00
Energy Complex Co., Ltd.	EnCo	50.00
PTT ICT Solutions Co., Ltd.	PTTICT	20.00
Dhipaya Insurance Plc.	TIP	13.33
PTT Energy Solutions Co., Ltd.	PTTES	40.00

Revenue Structure of PTT and Subsidiaries by Product Line

Product/ Service	Operated by	% Shareholding of the company	2010 (Revised)		2011 (Revised)		2012 (Audited)	
			Million Baht	%	Million Baht	%	Million Baht	%
1. Natural Gas Products	PTT Plc. (Gas Business Unit)		328,457.44	16.96	379,772.34	15.34	473,042.64	16.62
	PTT Plc. (Oil Business Unit and International Trading Business Unit)		68,409.13	3.53	60,085.70	2.43	91,229.81	3.21
	PTT Exploration and Production Plc. (PTTEP)	1/	72,138.38	3.73	74,865.50	3.02	94,781.65	3.33
	PTT Natural Gas Distribution Co., Ltd. (PTTNGD)	58.00	5,739.38	0.30	7,422.83	0.30	8,690.18	0.31
	Combined Heat and Power Producing Co., Ltd. (CHPP)	100.00	149.58	0.01	157.49	0.01	174.86	0.01
	Less PTTEP's gas revenue paid by PTT Plc.		(71,950.15)	(3.71)	(72,778.30)	(2.94)	(89,693.85)	(3.15)
Total Revenue from Natural Gas Products			**402,943.77**	**20.82**	**449,525.56**	**18.16**	**578,225.29**	**20.33**
2. Oil Products	PTT Plc. (Oil Business Unit and International Trading Business Unit)		1,212,017.53	62.58	1,574,696.71	63.62	1,769,343.68	62.18
	PTT Exploration and Production Plc. (PTTEP)	1/	65,010.06	3.36	91,000.14	3.68	113,069.79	3.97
	Less PTTEP's crude revenue paid by PTT Plc.		(50,034.25)	(2.58)	(66,586.62)	(2.69)	(74,056.06)	(2.60)
	PTT International Trading Pte. Ltd. (PTTT)	100.00	77,084.47	3.98	124,965.17	5.05	148,385.84	5.21
	PTT (Cambodia) Limited (PTTCL)	100.00	4,246.83	0.22	6,770.38	0.27	7,977.18	0.28
	Subic Bay Energy Co., Ltd. (SBECL)	100.00	22,853.01	1.17	19,531.81	0.79	22,172.38	0.78
	PTT Retail Business Co., Ltd. (PTTRB)	100.00	32,418.84	1.67	36,527.72	1.47	38,772.21	1.36
Total Revenue from Oil Products			**1,363,596.49**	**70.40**	**1,786,905.31**	**72.19**	**2,025,665.02**	**71.18**
3. Petrochemical Products	PTT Plc. (Oil Business Unit and International Trading Business Unit)		48,674.18	2.51	71,752.67	2.90	59,374.79	2.09
	PTT Polymer Marketing Co., Ltd. (PTTPM)	50.00	39,295.41	2.03	63,458.11	2.56	70,916.80	2.49
	HMC Polymers Co., Ltd. (HMC)	41.44	6,760.58	0.35	10,417.14	0.42	10,721.30	0.38
	PTT Asahi Chemical Co., Ltd. (PTTAC)	48.50	-	-	-	-	620.39	0.02
Total Revenue from Petrochemical Products			**94,730.17**	**4.89**	**145,627.92**	**5.88**	**141,633.28**	**4.98**
4. Mining Products	**PTT International Co., Ltd. (PTTI)**	**100.00**	**24,652.15**	**1.27**	**30,811.91**	**1.24**	**28,738.50**	**1.01**
5. Other Products	PTT Green Energy Pte. Ltd. (PTTGE)	100.00	151.28	0.01	356.84	0.01	1,246.14	0.04
	Business Service Alliance Co., Ltd. (BSA)	25.00	-	-	-	-	4.59	-
Total Revenue from Other Products			**151.28**	**0.01**	**356.84**	**0.01**	**1,250.73**	**0.04**

Product/ Service	Operated by	% Shareholding of the company	2010 (Revised) Million Baht	%	2011 (Revised) Million Baht	%	2012 (Audited) Million Baht	%
6. Utilities Products	District Cooling System and Power Plant Co., Ltd. (DCAP)	35.00	586.68	0.03	584.19	0.02	926.45	0.03
	Energy Complex Co., Ltd. (EnCo)	50.00	27.35	-	40.47	0.01	44.54	-
Total Revenue from Utilities Products			**614.03**	**0.03**	**624.66**	**0.03**	**970.99**	**0.03**
7. Revenue from Non-Core Business	PTT Plc. (Oil Business Unit and International Trading Business Unit)		1,490.78	0.08	1,903.30	0.08	3,207.89	0.11
	PTT Retail Business Co., Ltd. (PTTRB)	100.00	4,125.87	0.21	4,099.25	0.17	4,564.07	0.16
	PTT (Cambodia) Limited (PTTCL)	100.00	-	-	-	-	1.15	-
Total Revenue from Non-Core Business			**5,616.65**	**0.29**	**6,002.55**	**0.25**	**7,773.11**	**0.27**
8. Revenue from Services	PTT Exploration and Production Plc. (PTTEP)	1/	3,507.29	0.18	3,780.18	0.15	4,685.26	0.17
	Trans Thai-Malaysia (Thailand) Co., Ltd. (TTM (T))	50.00	1,449.67	0.07	1,638.39	0.07	1,716.42	0.06
	Trans Thai-Malaysia (Malaysia) Sdn.Bhd. (TTM (M))	50.00	86.16	-	147.65	0.01	145.96	0.01
	PTT Polymer Logistics Co., Ltd. (PTTPL)	100.00	399.55	0.02	926.36	0.04	1,123.84	0.04
	Energy Complex Co., Ltd. (EnCo)	50.00	352.58	0.02	518.42	0.02	553.69	0.02
	Business Service Alliance Co., Ltd. (BSA)	25.00	347.17	0.02	685.86	0.03	685.81	0.02
	PTT Retail Business Co., Ltd. (PTTRB)	100.00	235.21	0.01	213.80	0.01	305.71	0.01
	PTT Tank Terminal Co., Ltd. (PTT TANK)	100.00	-	-	360.68	0.01	359.45	0.01
Total Revenue from Services			**6,377.63**	**0.32**	**8,271.34**	**0.34**	**9,576.14**	**0.34**
Total Revenue from Products and Services			**1,898,682.17**	**98.03**	**2,428,126.09**	**98.10**	**2,793,833.06**	**98.18**
9. Others								
9.1 Other Revenue			13,025.89	0.67	16,575.26	0.67	17,178.95	0.60
9.2 Gain/loss from Foreign Exchange			6,361.93	0.33	1,099.42	0.04	7,614.72	0.27
Total Other Revenue			**19,387.82**	**1.00**	**17,674.68**	**0.71**	**24,793.67**	**0.87**
10. Share of net income/loss from investment under equity method			**18,815.96**	**0.97**	**29,463.28**	**1.19**	**27,091.05**	**0.95**
Grand Total			**1,936,885.95**	**100.00**	**2,475,264.05**	**100.00**	**2,845,717.78**	**100.00**

Notes: *1/ PTT owned 65.43% equity interest in PTTEP in 2010, and 65.29% in 2011 and 2012.*

2/ Starting January 1, 2012, PTT International Co., Ltd. (PTT subsidiary) used USD currency in its operation, replacing Thai baht. As it is an accounting policy change, balance sheet of 2011 was revised.

Connected Transactions

PTT's connected transactions resulted from the following contractual agreements

1. Transactions between PTT and state enterprises

- Transaction

The Cabinet resolution dated November 26, 2002, required government agencies and state enterprises buying 10,000 liters of fuel and more must do so from either PTT Plc. or Bangchak Petroleum Plc. only. PTT sold fuels to the following state enterprises: Electricity Generating Authority of Thailand (EGAT), Bangkok Mass Transit Authority (BMTA), and State Railway of Thailand (SRT). Should a state enterprise owe PTT outstanding payments, PTT is entitled to levy interests.

2. Transactions between PTT and subsidiary PTTEP

- Transaction

PTTEP and its subsidiaries produce and sell crude oil, natural gas, condensate, LPG, and bitumen. This year PTT was the major buyer (84% by volume) of these. As for natural gas, PTT and PTTEP reached a long-term deal of 25 to 30 years, stipulating annual minimum contractual quantities. Both companies were engaged in crude oil and condensate agreements, whereas PTT sold jet fuels and high-speed diesel to PTTEP under world market prices. These prices were identical to those sold to PTT by PTTEP's joint-venture partners or were standard reference, competitive prices under sensible conditions.

3. Transactions between PTT and refining subsidiaries

- Transaction

PTT signed crude oil and petroleum product supply agreements with its refining subsidiaries at supply rates corresponding to its own equity interests, summarized below:

Agreement with Thaioil Plc. (TOP)

PTT secures crude oil and buys refined products equivalent to 49.99% of TOP's refining capacity at market prices. Through a written notice sent at least 12 months in advance, either party may revoke this agreement from the 13th year from the date of completion of its refinancing or from April 20, 2000. Alternatively, either party may revoke the agreement if it considers the agreement to have been violated. Under the contract, PTT may buy more than 49.99% at market prices.

PTT secured natural gas for TOP's use in its refinery as required by the agreement between them at regular market prices under an eight-year contract (2006 to 2013) and a 15-year contract (2007 to 2021) under regular market prices.

Agreement with Star Petroleum Refining Plc. (SPRC)

SPRC's shareholders are required to secure crude oil supply, at least 36% of SPRC's refining capacity at market price and take delivery of refined products from SPRC at no less than 70% of its 126,000-bbl/d (or 88,200-bbl/d) capacity at domestic market prices. For any surplus volume, PTT and Chevron (Thai) Co., Ltd. - as shareholders - have the first right of refusal to buy them at domestic market prices before any sale to a third party.

Agreement with Bangchak Petroleum Plc. (BCP)

PTT secures crude oil supply for BCP under a feedstock supply agreement and a product offtake agreement to take at least 30% of the latter's capacity output (excluding jet fuels and fuel oil) at market prices, both agreements effective May 16, 2006, for 12 years from the commercial operation date of the Product Quality Improvement project on December 7, 2009.

PTT secured natural gas for BCP's use in its refinery under a ten-year agreement, with effect from August 3, 2009. The price is as stated in the agreement under regular business conditions.

PTT entered into an agreement with BCP to buy electricity and stream on February 25, 2008. PTT built a cogeneration plant with a steam generation capacity of 90 tons per hour and a power generation capacity of 19.7 megawatts (MW) for sale to BCP, with a commercial operation date in June 2010 and sales prices as stated in the agreement and conforming to regular business conditions.

PTT signed a 15-year petroleum and gas terminal (depot) service agreements with BCP, effective January 1, 2009 to December 31, 2023. Service fees are as stated in the agreement.

Agreement with IRPC Plc. (IRPC)

PTT secures crude oil supply at market prices for IRPC under a one-year feedstock supply agreement (term and spot). The contract is to be made year by year.

PTT has a contract for petroleum products with IRPC under market prices, effective January 1, 2013, with possible annual extensions.

PTT also made another agreement for the service of IRPC's Chumphon Depot for loading, storage, and distribution of oil, effective January 1, 2013, with possible annual extensions.

PTT has a gas sales agreement with IRPC for the consumption of gas in combined-cycle gas turbine engines, effective June 9, 2009, for 10 years at market prices.

4. Transactions between PTT and affiliates in the petrochemical business group

Transactions and agreement with
PTT Global Chemical Plc. (PTTGC)

PTTGC was founded on October 19, 2011, through the amalgamation of PTT Chemical Plc. (PTTCH) and PTT Aromatics and Refining Plc. (PTTAR) under the Public Company Act B.E. 2535. The new company inherited all the assets, properties, and liabilities of the two companies on October 31, 2011, and continues the operation of the two companies as summarized below.

Refining business

PTT secures feedstock supply for PTTCH's production processes, namely natural gas, ethane, propane, and LPG under a 15-year agreement, effective from 1995 and extendable for five years.

In 1991, Aromatics (Thailand) Plc. (ATC) transferred to PTT its privileges and obligations under a 15-year light naphtha and raffinate supply agreement with PTTCH. PTT later made another feedstock supply agreement and a gas sales agreement with PTTCH, effective from 1999, for 12 years (extendable for five years) for the feedstock, and for 20 years (extendable for four years) for the gas.

In 1995, PTT signed an NGL supply agreement with PTTCH, effective for 15 years from the plant's start-up. In 2004, PTT amended the agreement to increase the supply volume to 380,000-470,000 tons/year. Due to expire on May 31, 2021, the agreement is extendable for five years.

In 1999, PTT signed a 15-year ethane supply agreement with PTTCH, effective from August 1, 2005 (extendable for five years).

In 2004, PTT amended the NGL supply agreement with PTTCH to raise the supply volume to 380,000-470,000 tons/year. Due to expire on May 31, 2021, the agreement is extendable for five years.

In 2004, PTT signed an LPG supply agreement with PTTCH, under which PTT would supply an additional 13,000 tons/month of LPG as feedstock for the olefins capacity expansion project managed by PTTCH, which completed the upgrading in 2007.

In 2006, PTT entered into a 15-year ethane feedstock supply agreement with PTT Polyethylene Co., Ltd., a subsidiary of PTTCH, under which the price of ethane varies with that of film-grade HDPE in Southeast Asian markets. The agreement took effect from the plant's start-up in 2010.

In 2008, PTT amended its agreement for supplying ethane, propane, and LPG to PTTCH, with effect from August 1, 2008, and an unchanged contractual period. Under the agreement, the price structure of the ethane feedstock varies with that of film-grade HDPE in Southeast Asian markets-reflecting the entire petrochemical chain and the HDPE market produced by PTTCH since 2004. Similarly, the price structures of propane and LPG vary with that of film-grade PP.

In 2010, PTT extended its LPG supply agreement with PTTCH for 20,000 tons/month, with effect from June 1, 2010, for one year. PTT also made an LPG supply agreement with PTTCH for 28,000 tons/month, with effect from November 25, 2010, for one year (extendable for one year).

In 2012, amendment was made on the prices of ethane, propane, and LPG. The agreement with PTTGC was extended to 2020 and the agreements with terms beyond 2020 remained unchanged. Price amendment was also made for PTTPE's ethane supply, with effect from August 1, 2012. Under this master amendment, the price structure under the contract remains intact, that is, the price structure of ethane feedstock varies with that of film-grade HDPE in Southeast Asian markets, and that of propane and LPG vary with that of film-grade PP. The assumption, however, was amended to reflect current circumstances, resulting in higher product value as well as a higher contribution to the Oil Fund by the petrochemical sector, which uses propane, butane, and LPG as feedstock at 1 baht per kilogram since January 13, 2012, which PTTGC remit to this fund as required by the public sector.

PTT signed a gas sales agreement with PTTAR for the consumption of gas in fueling the latter's aromatics processes. The 10-year agreement to supply natural gas to AR2 is due to expire in June 2015; the agreement to supply the gas to AR3, in April 2018.

PTT signed long-term supply agreements for all the main products of PTTAR, which directly supplies such products to customers. These agreements are take-or-pay, whereby PTT guarantees minimum sale volumes for the products and obtains marketing fees from PTTAR. Note that these agreements specify the offtake volumes guaranteed by PTT without guaranteeing distribution for the surplus volumes beyond take-or-pay. PTT has another product distribution agreement with PTTAR, namely that for condensate residue, light naphtha, and LPG, under which PTTAR would directly supply these to PTT's customers. For the first two products, the agreement covered 15 years, and for LPG, 10 years, effective from 1997 under an Evergreen Basis after 2007, that is, the agreement would be regarded as automatically extended unless otherwise notified in advance.

PTT supplies condensate for PTTAR's production processes under a 20-year agreement, effective from 1997, whereby the annual volume is 4.6 - 6.1million tons/year.

Refining and Petroleum Product Supply Business Group

PTT secures crude oil supply for PTTAR under an 18-year feedstock supply agreement with effect from February 1, 2009. Under the agreement, PTT is to secure crude oil and all other feedstock for PTTAR at market prices under the grades and volumes needed by PTTAR.

PTT buys refined products from PTTAR at no less than 70% of the latter's refined products at domestic market prices under an 18-year agreement from February 9, 2006, beyond which the contract is assumed to remain valid unless otherwise notified in advance.

PTT signed a 18-year New Complex Product Offtake Agreement with PTTAR, effective from February 9, 2006, beyond which the agreement is assumed to remain valid unless otherwise notified in advance. Under the contract, PTT is to buy from PTTAR all products derived from the Upgrading Complex. At least a half of these products are to be based on domestic market prices.

PTT signed a gas sales agreement with PTTAR for the consumption of gas in product refining and another one for use in power generation, which is due to expire in 2018.

Transactions and agreement with HMC Polymers Co., Ltd. (HMC)

PTT signed a feedstock supply agreement with HMC in 2006. A long-term propane feedstock supply agreement spans 15 years from the plant's start-up in 2010, with five-year extension at a time, under which the price of propane varies with that of PP (film grade) in Southeast Asian markets. The price structure is under review to suit current situations.

Transactions and agreement with PTT Asahi Co., Ltd. (PTTAC)

PTT signed a 15-year propane supply agreement in 2008 with PTTAC for its feedstock. The agreement will take effect from the plant's start-up with five-year extension each time. The price structure varies with that of film-grade PP in Southeast Asian markets.

Policy on future connected transactions

PTT's future connected transactions will be conducted as part of its normal course of business, without special favors or transfer of benefits between PTT, its subsidiaries, associated companies, related companies, or shareholders. Pricing will continue to be on an arm's length basis, and the prices of products supplied by PTT's subsidiaries will be market-based. Disclosure of connected transactions will conform to the announcement of the Securities and Exchange Commission (SEC) and the Stock Exchange of Thailand (SET), and the accounting standard on disclosure of information on related parties or businesses, announced by the Federation of Accounting Professions.

Review of Business Assets

As of December 31, 2012, the core assets used by PTT and its subsidiaries in conducting their businesses had a net value (after accounting for accumulated depreciation and allowance for impairment) of 653,139 million, baht with 116,870 million baht in net intangible assets and 35,233 million baht in net mining properties. For details, please see the notes to the financial statements for PTT and its subsidiaries ended December 31, 2012: item 16 (property, plant, and equipment - net), item 17 (intangible assets - net), and item 18 (mining properties - net).

Risk Factors

Due to its continued risk management effort, PTT managed its risk factors reasonably well in the past year. Emerging risk factors have been identified and managed under the current year's risk management plan. Therefore, PTT continues to refine the risk factor to reflect risks apparent to investors. The key risk factors appear below.

1. Strategic Risks

1.1 Risks from business strategy implementation

For continuous and sustainable business growth, PTT has set a goal of becoming a Thai premier multinational energy company, along with its international venture goals. To this end, strategic plans have been defined by each business unit with a focus on preserving its competitiveness, investment expansion to supplement business value, internationalization of business through investment in properties, mergers and acquisitions of competitive entities which are facing with problems during crises, and investment in new related businesses.

Fierce competition, global and domestic economic recovery still fraught with uncertainty, oil price volatility, investors' expectations, and the diverse needs of its stakeholders. These factors could prevent PTT from achieving these goals and business strategies, including energy demand uncertainty, petroleum and petrochemical product price fluctuation, investment risks resulting from overseas investment and in new businesses, and risks associated with overseas investment. These could impact PTT's overall performance and return on investment.

In order to have plans for future changes and uncertainty, PTT has initiated, a Top Executive Thinking Session (TTS) and a Strategic Thinking Session (STS) among senior PTT executives to define and review the vision, directions, and business strategies under prevailing economic and energy circumstances, and a business plan in the form of scenario planning, in which assumptions are made for different economic growth figures and oil prices variation. In addition, monthly performance monitoring is in place, and at least every quarter, senior PTT Group executives have a meeting to monitor group performance and share their visions on the adjustment of business plans and short-term strategies to ensure confidence in reaching such goals.

1.2 Risks from improvement of organizational capability to accommodate business operation under economic uncertainty and business growth opportunities

Similarly to a chain, PTT's business diversity, international investment expansion, and investment in new ventures produce considerable complexity for the management of PTT Group. Compounded by volatile economic circumstances, resulting in uncertainty of the markets demand and prices. This could disrupt its business unless its personnel are well prepared to cope with the situations stated and business base expansion.

To prevent such personnel risks, PTT has relied on two career management mechanisms. First, for the management group, the PTT Group's managing format is applied under the care of an executive and management development committee; this committee accommodates the needs of senior executives in both quantity and quality. Second, for employees, it takes the form of line management with a similar approach to the first, which is supervised by a career advisory panel. At PTT, a career management consultation committee ensures that, for each career path, a manpower requirement plan is prepared, in which key positions are stated, and individual development plans are both prepared and implemented. These procedures ensure that PTT will consistently command an adequate supply of quality executives and employees.

2. Business Risks

2.1 Risks from gas supply sourcing

This year PTT kept up its sourcing negotiation efforts for additional gas supplies from domestic deposits (onshore and in the Gulf of Thailand) and supplies of LNG (liquefied natural gas) from sellers in various regions to meet the projected gas demand. These contracts were made in advance and incorporate the called for demand by future economic circumstances.

Each gas sales agreement (GSA) specifies a minimum annual contractual quantity to be bought by PTT; otherwise, in a given year, PTT must pay in advance for the volume not taken that year, under the "take-or-pay" condition. However, PTT may take this pre-paid gas in later years (known as make-up gas) if it has already paid the minimum contracted amount for the year in question. Such take-or-pay sums were paid by PTT under the terms of the Yadana and Yetagun GSAs of Myanmar. PTT has taken delivery of all Yetagun make-up gas, with only that from Yadana still outstanding.

In addition, for Spot Cargo LNG and short-term purchase agreements, if PTT could not take delivery as stated in the agreement, the seller can sell it to others.

Under this scenario, PTT will have the risk of having to pay the discrepancy in price to the seller if the sales prices proves lower than that specified in the agreement.

The current global and domestic economic recovery, oil and LNG price volatility, and a variety of factors, including future gas demand, may differ from projections. Also, risks arise from uncertain completion dates of gas transmission pipelines or those of new gas-fired power plants, declining domestic gas reserves, regional gas supply negotiations, an LNG market that does not favor desired supply sourcing (in volume or quality), the inability to take pre-paid gas or to secure enough gas supply to accommodate rising demand, and the volatility of the oil price (which in turn affects gas prices). These risks could affect PTT's financial status and performance.

To accommodate these risks, PTT monitors gas supply and demand movement while closely coordinating with the sellers and the buyers, preparation of efficient long term gas supply plans, and regularly reviews them as well as negotiating with the sellers and customers to identify solutions to possible crises. Moreover, gas demand has always exceeded minimum contract quantities, thus enable PTT to accrue volumes for using in lowering the minimum offtake volumes under the annual agreements ("carry forward" gas) specified in certain GSAs.

2.2 Risks from PTT's feedstock and product price volatility

Product costs and sale prices of natural gas, condensate, crude oil, petroleum products, and petrochemicals (domestic and international) of PTT and PTT Group are referenced to posted prices for each period and subject to volatility of the world market. Therefore, PTT Group's performance is inevitably affected.

To lower these risks, PTT Group management has appointed an oil price risk management team tasked with analyzing world oil price movement and optimizing risk management of feedstock and product prices jointly within the group. Nowadays, to manage price risks, the group is engaged in hedging through short-term and long-term derivative contracts with its business partners. Each transaction involving derivatives abides by PTT's policy on price risk management hand in hand with price, volume, and time targets for suitable risk management in line with PTT Group's business plans to alleviate the impacts of price volatility on PTT Group's performance. Also, PTT places a structure and process for supervising risk management and checks and balances on par with international standards.

2.3 Risks from government actions creating potential impacts on PTT's business

PTT has retained its state enterprise status, with the Ministry of Finance serving as its major shareholder and the Ministry of Energy as its supervisor. PTT is also engaged in the energy business under the supervision of the National Energy Policy Council (NEPC) under the National Energy Policy Council Act, B.E. 2535 (1992). Therefore, the public sector can still substantially supervise PTT to ensure alignment with national energy, economic, and social policies. Due to the above-mentioned act, NEPC can make policy and national energy administration plan recommendations to the cabinet, apart from deciding criteria and conditions for energy pricing in line with such policies and plans. Under an act designed to resolve and prevent fuel shortages of 1973, the prime minister is authorized to issue orders containing measures for the sale of all fuels to resolve and prevent fuel shortages. In short, such policy formulation and energy-related measures of the state may directly impact PTT's business, including the price control of LPG and NGV.

2.4 Risks from PTT's performance being partly subject to PTT Group's performance

PTT has achieved steady business growth as a result of its investment in assorted companies while focusing on forging link-ups of integrated businesses (from upstream petroleum to downstream), as

well as investment in new related businesses, both domestic and overseas. Also, in the past, PTT Group companies have undergone mergers and acquisitions, joint investment, capacity expansion, and process improvement to generate products' value added. Such business expansion has inevitably subjected PTT's performance to those of PTT Group companies. However, Group companies are facing risks arising from the nature of business, including volatile product and feedstock prices, success in petroleum exploration and production, oil and natural gas spills, the down cycles of petrochemical and refining businesses, competitors from the Middle East with lower production costs, and risks from changes in laws and regulations. These could affect PTT's financial status and performance. To lower these risks, PTT has focused on a Group management approach with good corporate governance on which to base its sustainable business growth and its maximization of value for PTT Group through value addition by the Supply Chain Management Project. PTT has also investigated mergers of similar businesses in search of greater value, lower costs, and greater competitiveness in the global market.

2.5 Risks from overseas investment

PTT's foreign energy investment plan is implemented through PTT Group companies, building on current businesses and enhancing long-term growth prospects. PTT intends to expand its businesses internationally through existing and new ventures. Risks from overseas investment could arise from several factors, including the economic circumstances of target countries and their trade partners, change in government, investment promotion policies, other laws and regulations on taxes, investment, foreign exchange volatility, product price volatility, the capability of companies to engage the new ventures, and greenfield project investments, which usually require long lead time and massive supporting capital.

To mitigate these risks, PTT has investigated and analyzed details of laws, public policies, and taxes, as well as the above-mentioned risk factors, to assess potential impacts on business. The findings of such assessment are then incorporated with the feasibility of investment. PTT has put in place a system and an internal unit to track its performance and risk factors of invested projects, as well as constantly accelerating organizational competency development and personnel potential to accommodate its overseas businesses and investment.

3. Operational Risks

3.1 Risks from operations

As a result of PTT Group's business format, various hazards are inherent to the exploration for, production, transport, and storage of natural gas, crude oil, petrochemical products, and petroleum products. As such, PTT is naturally exposed to assorted threats, including natural catastrophes, fires, explosions, contamination or dissipation of hydrocarbons, threats of political instability, together with terrorist activities and other unexpected hazards. These could prove detrimental to PTT's personnel, assets, environment, business operation, reputation, financial status, and business opportunities.

To lower the likelihood and impacts of such threats, PTT has instituted assessment of risks concerning security, safety, health, and the environment, which encompasses operation in normal times and crises. It has also defined control and preventive measures, managed, monitored, and systematically improved under the PTT Group Security, Safety, Health and Environment Management Standard (PTT Group SSHE MS). This standard was based on TIS/OHSAS 18001 and ISO 14001, with modified guidelines to suit PTT Group's nature of business and culture. Meanwhile, the group has encouraged all operating lines and sites to undergo assessment and certification by MASCI (Management System Certification Institute (Thailand)) and has applied the Business Continuity Management (BCM), derived from the BS 25999 and TIS 22301 standards. BCM is a common criterion for business units, supporting units, and affiliates to develop and link up with the system to protect value-adding activities throughout PTT's business chain from disruption. Incidentally, BCM for PTT Head Office was the first to achieve TIS 22301-2553

certification in Thailand. Additional, like other companies in the petroleum and petrochemical industries, PTT has taken out insurance policies to safeguard its major operating assets against risks and business interruptions.

3.2 Risks from environmental and safety regulations

PTT's business operations must conform to relevant legislations and regulations about impacts on the environment and safety, which tend to be more difficult. If such new laws are promulgated or if changes are made to the enforcement policy, they may shackle PTT's operation or sharply raise operating costs. In addition, risks could arise in the time required and conditions for the approval of environmental impact assessment (EIA) or environmental and health impact assessments (EHIAs), including the participation process and community acceptance, including acceptance of PTT's business at all its sites which could cause project delays and affect its future businesses and income generation.

To address these risks, PTT monitors and analyzes the impacts of changes in environmental and safety laws and regulations on its operation. It also closely coordinates with government agencies, applies available information to develop work plans and response measures, and ensures ongoing community relations activities in operating areas with a constant focus on community participation.

3.3 Risks from project operation

Key factors supporting PTT's successful business expansion include a continued rise in gas consumption and the ability to expand its gas transmission system, PTT's management of gas delivery to meet customers' desired quality, and creation of value to sustain rising gas demand. In addition, PTT's business expansion is limited by the reach of its gas transmission system to customers, the maintenance of gas transmission systems for the longest service life, its gas separation capacity, and the success in building PTT Group's petrochemical plants. Development of projects could fall behind schedules for various reasons, including delays in identifying contractors, procurement of equipment with long lead time and transport time, communities' and landlords' cooperation, filing for approvals from relevant government agencies, and securing of EIA approvals. Thus, if projects are delayed, PTT's financial and performance outcomes are at stake.

PTT takes the administration of critical-path matters seriously, including the acceleration of construction contractor hiring, close monitoring of construction equipment purchases, preparation of mitigating measures for environmental impacts, constant monitoring of new legislation and regulations, monitoring and analysis of impacts on project execution, development of people participation plans, and preparation of contingency plans and measures to ease potential implications of delayed project completion.

4. Financial Risks

4.1 Risks from volatility of Thai Baht

Changes in the exchange rate between Thai Baht and US dollar directly and indirectly affect the majority of PTT's revenue and impact PTT's net accounting profits/losses, since PTT and its subsidiaries are exposed through outstanding foreign loans. Therefore, the fluctuation of Thai Baht and the government's economic, monetary, and treasury policies could affect PTT's overall financial status and performance.

To alleviate these risks, PTT has balanced its foreign-currency loans with its foreign-currency revenue (that is, taking a natural hedge), while managing its foreign-currency deposits, leveraging financial derivates to convert such loans (the participating swap) and purchasing forward foreign currencies to match the quantity of foreign currencies required for repayment and for commercial transactions. PTT has also developed a treasury and credit policy as an effective, uniform guideline for PTT Group, which includes terms of reference for instituting assorted risk management practices.

4.2 Risks from financial support to affiliated companies

To promote constant growth, PTT invests in new projects, expands its businesses, or adjusts its operation. Sometimes such investment may be undertaken through new companies or link-ups with strategic partners or through PTT Group companies. Some of these companies may probably still starting projects or may not yet be financially strong, Thus shareholders or PTT will still need to extend cost overrun support to allow these companies to operate under strategies and business policies of PTT Group as a whole. Some of these companies may need cash deficiency support during commercial operation, which may be a force majeure; thus, calling for financial help from the shareholders is essential. PTT will consider extending loans or commercial credit, or both, to individual affiliates in the belief that such a policy and action would foster sustainable strength for PTT Group.

In extending such financial support to these affiliates, whether through subordinated loans, commercial credit, or loans from the shareholders, PTT cannot guarantee that these companies can repay such loans or credit, that they will not face financial woes again, or that they will not need financial support from PTT again. Reasons mentioned above could affect PTT's performance and financial status. Moreover, if PTT or any member of PTT Group becomes a default party under any agreement on shareholder support, some creditors may accelerate debt repayment. Therefore, PTT cannot guarantee that PTT will not raise its shareholding, raise its shareholding to more than half, or take over such a company if such action is considered more beneficial. If this should happen, the Thai accounting standards require that PTT consolidate the financial statements of the company in question with those of PTT Group, effective from the date of such control. In short, such consolidation puts PTT's overall financial standing at stake.

4.3. Risks from acquisition of funds for plan execution

The businesses of PTT - in particular, petroleum exploration and production, natural gas transmission systems, gas separation plants, and the petrochemical businesses - require massive capital investments that are paid in advance. Although PTT closely monitors and manages business risks, the actual investment capital required may deviate from project plans due to factors beyond its control, which could potentially affect the success and project capital costs.

Since PTT's business focuses on fostering long-term growth and good corporate governance, it has continuously grown. PTT plans to invest in prudent business expansion, with due consideration for sources of capital, particularly capital structuring that will enable it to maintain essential financial ratios at suitable levels comparable to companies in the same industry. Continuous monitoring of factors concerning the sourcing of investment capital has assured PTT that it can secure sufficient and suitable funds for future business expansion.

Capital Structure

PTT's Securities

Common shares

As of December 31, 2012, PTT's registered capital stood at 28,572,457,250 baht, which was made up of 2,857,245,725 common shares at 10 baht per share. These consisted of 28,562,996,250 baht in paid-up capital and 2,856,299,625 common shares.

Bonds and Debentures

As of December 31, 2012, PTT had secured domestic loans of 7,000 million baht in the form of PTT bonds, guaranteed by the Ministry of Finance, together with bonds and debentures not guaranteed by the ministry, worth 164,304 million baht, for a total of 171,304 million baht. Foreign loans were in the form of PTT debentures of US dollar and yen denominations, not guaranteed by the ministry, equivalent to 80,914 million baht. These bonds and debentures are summarized below.

Bonds and Debentures	Amount (Million Baht)	Redemption Date	Guarantee
PTT bonds guaranteed by the Ministry of Finance			
• Domestic bonds	7,000	2013 - 2020	None
PTT bonds not guaranteed by the Ministry of Finance			
• Domestic debentures[1/ 4/]	164,304	2013 - 2110	None
• Foreign debentures[2/ 3/ 4/]	80,914	2014, 2017, 2022, 2035, 2042	None
Total	245,218		
Grand total	**252,218**		

1/ Fitch Rating's national rating of long-term PTT debentures at 'AAA (tha)' with a stable outlook

2/ Moody's international rating of foreign PTT debentures at 'Baa1' with a stable outlook

3/ S&P's international rating of foreign PTT debentures at 'BBB+' with a stable outlook

4/ Details of domestic and foreign PTT debentures

Domestic, unsecured, unsubordinated debentures (Unit: Million Baht)

Debentures	Amount (Million Baht)	Annual Coupon Rate (%) (Payment Frequency)	Maturity Period (Years) / Redemption Schedule
PTTC13NA	11,700	(Year 1 - 5) 4.50, (Year 6 - 10) 5.75 (every six months)	10 / 2013
PTTC13OA	7,450	(Year 1 - 3) 5.00, (Year 4 - 5) 5.50 (every six months)	5 / 2013
PTTC13OB	5,400	(Year 1 - 3) 5.00, (Year 4 - 5) 5.50 (every six months)	5 / 2013
PTTC14DA	2,946	(Year 1 - 3) 5.00, (Year 4 -7) 5.95 (every six months)	7 / 2014
PTTC14DB	3,000	3.20 (every six months)	4 / 2014
PTTC15OA	2,550	(Year 1 - 3) 5.00, (Year 4 - 5) 5.50, (Year 6 - 7) 6.00 (every six months)	7 / 2015
PTTC15OB	2,600	(Year 1 - 3) 5.00, (Year 4 - 5) 5.50, (Year 6 - 7) 6.00 (every six months)	7 / 2015
PTTC153A	6,000	4.86 (every six months)	8 / 2015
PTTC156A	4,040	4.75 (every six months)	10 / 2015
PTTC15NA	5,000	7.40 (every six months)	10 / 2015
PTTC150C	1,951	3.80 (every six months)	3 years, 8 months and 20 days / 2015
PTTC165A	3,000	(Year 1 - 6) 5.00, (Year 7 - 12) 5.95 (every six months)	12 / 2016
PTTC165B	2,970	6.17 (every six months)	10 / 2016
PTTC167A	17,100	(Year 1 - 5) 4.25, (Year 6 - 7) 5.25 (every six months)	7 / 2016
PTTC16OA	8,000	5.79 (every six months)	10 / 2016
PTTC17DA	1,500	5.87 (every six months)	10 / 2017
PTTC17DB	1,000	(Year 1 - 4) 3.20, (Year 5 - 6) 4.20, (Year 7) 5.00 (every six months)	7 years and 15 days / 2017
PTTC18DA	500	5.91 (every six months)	11 / 2018
PTTC18NA	18,049	(Year 1 - 4) 4.00, (Year 5 - 6) 4.40, (Year 7) 5.50 (every six months)	6 years, 9 months, and 19 days / 2018
PTTC195A	1,000	5.90 (every six months)	15 / 2019
PTTC195B	15,000	(Year 1 - 4) 4.10, (Year 5 - 6) 5.10 (every six months)	6 years, 11 months and 24 days / 2019

Debentures	Amount (Million Baht)	Annual Coupon Rate (%) (Payment Frequency)	Maturity Period (Years) / Redemption Schedule
PTTC195C	10,000	(Year 1 - 4) 4.10 (Year 5 - 6) 5.10 (every six months)	6 years, 9 months and 15 days / 2019
PTTC208A	4,118	5.95 (every six months)	15 / 2020
PTTC215A	1,030	6.53 (every six months)	15 / 2021
PTTC243A	15,000	(Year 1 - 5) 5.00, (Year 6 - 8) 6.20, (Year 9 - 15) 6.80 (every six months)	15 / 2024 (redeemable after Year 8)
PTTC247A	9,400	(Year 1 - 5) 4.25, (Year 6 - 10) 5.50, (Year 11 - 15) 5.75 (every six months)	15 / 2024 (redeemable after Year 10)
PTTC10DA	4,000	5.90 (every six months)	100 years / 2110 (redeemable after Year 50 and Year 75, and as defined in the terms on rights and duties of the issuers and the holders)

Foreign, unsecured, unsubordinated debentures (Unit: Million Baht)

Debentures	Amount (Million Baht)	Annual Coupon Rate (%) (Payment Frequency)	Maturity Period (Years) / Redemption Schedule
USD bond, 2004	12,311.00	5.75 (every six months)	10 / 2014
USD bond, 2005	10,772.13	5.875 (every six months)	30 / 2035
Samurai bond, 2007	8,941.17[1/]	2.71 (every six months)	10 / 2017
USD bond, 2012	15,388.75	3.375 (every six months)	10 / 2022
USD bond, 2012	18,466.50	4.50 (every six months)	30 / 2042
PTTC14DA swapped to USD	2,769.98[2/]	4.74 on average (every six months)	7 / 2014
PTTC14DB swapped to USD	3,041.00[3/]	1.375 on average (every six months)	4 / 2014
PTTC172A swapped to USD	2,445.13[4/]	LIBOR plus 1.04% (every six months)	7 / 2017
PTTC17DB swapped to USD	3,067.52[5/]	1.375 on average (every six months)	7 / 2017
PTTC222A swapped to USD	3,710.37[6/]	LIBOR plus 1.05% (every six months)	12 / 2022

1/ PTT entered into a cross-currency swap from yen-denominated debentures worth 36,000 million Yen to dollar-denominated ones worth 290.51 million US$ and used financial derivatives to conduct a switchable swap and a cross-currency swap linked to LIBOR as follows: 96.84 million US$ at a fixed rate of 4.975% per year, convertible by a derivative into a floating rate at LIBOR + 0.65% per year; another 96.84 million US$ at a floating rate of LIBOR + 0.20% per year if LIBOR exceeds 4.25% per year, or 5.5% per year if LIBOR is up to 4.25% per year; and another 96.84 million US$ at a fixed rate of 5.37% per year, convertible by a derivative to LIBOR + 0.20% per year.

2/ PTT entered into a cross-currency swap from baht-denominated debentures worth 3,054 million baht to dollar-denominated ones worth 90 million US$ at a fixed interest rate averaging 4.74% per year, thus leaving 2,946 million baht in baht-denominated loans.

3/ PTT entered into a cross-currency swap from baht-denominated debentures worth 3,000 million to dollar-denominated ones worth 98.81 million US$ at a fixed interest rate averaging 1.375% per year.

4/ PTT entered into a cross-currency swap from baht-denominated debentures worth 2,636 million baht to dollar-denominated ones worth 79.45 million US$ at a floating interest rate of 6mLIBOR + 1.04%.

5/ PTT entered into a cross-currency swap from baht-denominated debentures worth 3,000 million baht to dollar-denominated ones worth 99.67 million US$ at a fixed interest rate averaging 1.375% per year.

6/ PTT entered into a cross-currency swap from baht-denominated debentures worth 4,000 million baht to dollar-denominated ones worth 120.55 million US$ at a floating interest rate of 6mLIBOR + 1.05%.

PTT Warrants

1. On April 12, 2005, the 2005 Annual General Meeting of Shareholders (AGM) acknowledged the issuance and offer of 60,000,000 warrants to the President, the management, PTT employees, and employees of PTT Group companies seconded to PTT. The warrants consisted of two batches:

- PTT-W1, numbering 40,000,000 units, offered in 2005
- PTT-W2, numbering 20,000,000 units, offered in 2006

The AGM approved the issuance and offer of all PTT-W1 units covering the purchase of 40,000,000 common shares. Each warrant contained four portions, each exercisable on the last operating day of a three-month period throughout the life of the warrant. Detailed summary of the allocation is as follows:

Portion	Units	Life (Years)	Value (Baht/ Share)	Ratio of Warrants Exercised (Unit: Common Shares)	Exercisable Period Details
1.	10,000,000	5	183	1 : 1	• First exercisable date was August 31, 2006, then every last operating date of every three months from the above-mentioned date throughout the life of the warrants. The last exercise date is August 31, 2010.
2.	10,000,000	5	183	1 : 1	• First exercisable date was August 31, 2007, then every last operating date of every three months from the above-mentioned date throughout the life of the warrants. The last exercise date is August 31, 2010.
3.	10,000,000	5	183	1 : 1	• First exercisable date was August 31, 2008, then every last operating date of every three months from the above-mentioned date throughout the life of the warrants. The last exercise date is August 31, 2010.
4.	10,000,000	5	183	1 : 1	• First exercisable date was August 31, 2009, then every last operating date of every three months from the above-mentioned date throughout the life of the warrants. The last exercise date is August 31, 2010.

From the issuance date to the last exercise date of PTT-W1 on August 31, 2010, warrant exercise for PTT-W1 covering 39,407,300 units was recorded.

Notes: • *The issued warrants, bearing holders' names, were non-transferable except when transferred to a legitimate heir or representative.*
• *Eligible under this scheme were the President, the management, all PTT employees, and employees of PTT Group companies seconded to PTT. No other directors of the Board received these warrants.*

2. On April 11, 2006, the 2006 AGM approved the issuance and offer of all PTT-W2 units covering the purchase of 20,000,000 common shares for the President, the management, PTT employees, and employees of PTT Group companies seconded to PTT. Each warrant contained four portions, each exercisable on the last operating day of a three-month period throughout the life of the warrant. A detailed summary of the allocation is as follows:

Portion	Units	Life (Years)	Value (Baht/ Share)	Ratio of Warrants Exercised (Unit: Common Shares)	Exercisable Period Details
1.	5,000,000	5	234	1 : 1	• First exercisable date was September 28, 2007, then every last operating date of every three months from the above-mentioned date throughout the life of the warrants. The last exercise date is September 28, 2011.
2.	5,000,000	5	234	1 : 1	• First exercisable date was September 28, 2008, then every last operating date of every three months from the above-mentioned date throughout the life of the warrants. The last exercise date is September 28, 2011.
3.	5,000,000	5	234	1 : 1	• First exercisable date was September 28, 2009, then every last operating date of every three months from the above-mentioned date throughout the life of the warrants. The last exercise date is September 28, 2011.
4.	5,000,000	5	234	1 : 1	• First exercisable date was September 28, 2010, then every last operating date of every three months from the above-mentioned date throughout the life of the warrants. The last exercise date is September 28, 2011.

From the issuance date to the last exercise date of September 28, 2011, warrant exercise for PTT-W2 covering 19,646,600 units was recorded.

Notes: • *The issued warrants, bearing holders' names, were non-transferable except when transferred to a legitimate heir or representative.*
• *Eligible under this scheme were the President, the management, all PTT employees, and employees of PTT Group companies seconded to PTT. No other directors of the Board received these warrants.*

Shareholders

PTT's shareholder structure as of September 10, 2012, the book closing date for 2012 interim dividend payment, was as follows:

Item	Shares (in million)	Value (Million Baht)	%
Registered Capital	2,857.2	28,572	-
Paid-Up Capital as of September 10, 2012	2,856.3	28,563	99.967
• Ministry of Finance	1,459.9	14,599	51.111
• Vayupak Fund 1 by MFC Asset Management Plc.	217.9	2,179	7.629
• Vayupak Fund 1 by Krung Thai Asset Management Plc.	217.9	2,179	7.629
• Institutional and Public Investors	960.7	9,607	33.631
Unpaid Capital	1	9.5	0.023

PTT's top 13 shareholders as of September 10, 2012, were as follows:

No.	Name	Shares	%
1.	Ministry of Finance	1,459,885,575	51.111
2.	Vayupak Fund 1 by MFC Asset Management Plc.	217,900,000	7.629
3.	Vayupak Fund 1 by Krung Thai Asset Management Plc.	217,900,000	7.629
4.	Thai NVDR Co., Ltd.	104,844,600	3.671
5.	Chase Nominees Limited 42	72,852,101	2.551
6.	HSBC (Singapore) Nominees Pte. Ltd.	63,928,176	2.238
7.	State Street Bank and Trust Company	34,240,032	1.199
8.	Nortrust Nominees Ltd. - NT0 SEC Lending Thailand	25,924,443	0.908
9.	State Street Bank Europe Limited	24,886,102	0.871
10.	Social Security Office (2 cases)	24,019,200	0.841
11.	Government of Singapore Investment Corporation C	17,812,200	0.624
12.	The Bank of New York Mellon-CGT Taxable	15,813,217	0.554
13.	The Bank of New York (Nominees) Limited	14,980,134	0.524
	Total	2,294,985,780	80.350

Notes: 1. Numbers 5, 6, 8 and 13 were nominee accounts. PTT's investigation at Thailand Securities Depository Co., Ltd. (TSD), found that the ultimate shareholders' names could not be disclosed. However, the Ministry of Finance remained the single majority shareholder on behalf of the state, which in part dictated PTT's management policy. The ministry nominated directors to the Board for approval by shareholders. Other substantial shareholders, including the four above-mentioned ones, did not exercise any influence over PTT's management policy formulation, for example, nominating directors.

2. Shareholders of Thai NVDR Co., Ltd., who held non-voting depositary receipts in item 4, were ineligible for voting at shareholders' meetings except when exercising their voting rights on delisting the shares from SET.

Dividend Policy

PTT's dividend policy

PTT's policy is to pay out dividends at no less than 25% of its net income after deducting all provisional reserves required by law and by PTT. The net income is based on the consolidated financial statements. Dividend payment, however, is subject to future investment plans, necessity, and suitability. Once the Board has decided on the annual dividend payment, it requires approval from a shareholders' meeting. An exception is for interim dividend payment, in which case the Board is authorized to approve such payment and report to the next meeting of the shareholders.

Subsidiaries' dividend policy

As for the dividend policy for subsidiaries, it depends on each subsidiary to decide dividend payment by taking into account its remaining cash flow in relation to the investment capital. If the cash flow is substantial enough after legal provisions, the subsidiary may proceed with the payment on a case-by-case basis.

PTTEP's dividend policy

Barring other necessity, the Board's policy is to propose to the meeting of the shareholders dividend payments at no less than 30% of PTTEP's net income after deducting its annual income tax each year, with occasional interim dividend payment. PTTEP's policy allows no subsidiary to pay dividends.

Management Structure and Corporate Governance

What gives the shareholders trust and confidence in their investment with PTT is its policy and operations that preserve the basic, lawful rights of the shareholders.

In conducting its businesses, PTT constantly recognizes that all shareholders own this company. What gives the shareholders trust and confidence in their investment with PTT is its policy and operations that preserve the basic, lawful rights of the shareholders, or more, in addition to suitable, efficient, and most effective management that is consistently acceptable to investors and relevant parties.

Ever since the privatization into PTT Plc and distribution of its shares on the Stock Exchange of Thailand (SET) in late 2001, it has valued corporate governance (CG) as its guiding principles. PTT regulations state: "The Company must have and implement a policy on its business ethics, including the ethics of its Board of Directors, senior executives, the management, and employees in compliance with good corporate governance practices as its code of conduct for the proper conduct of the organization with a high standard." PTT subsequently issued its rules on good corporate governance in 2001 and first published PTT Principles of Good Corporate Governance in 2003 for directors, executives and employees to sign, acknowledge, and comply with. The handbook was revised in 2005 and 2009 under the direction of the Board to align with the Stock Exchange of Thailand (SET)'s the Principle of Good Corporate Governance for Listed Companies 2006 as well as the Organisation for Economic Co-Operation and Development (OECD) Principles of Corporate Governance in five sections, namely the rights of shareholders, equitable treatment of shareholders, roles of stakeholders, information disclosure and transparency, and the responsibilities

of the Board. New topics-respect for human rights, for consumers' rights, and for intellectual property-were added to suit business circumstances and laws. Such handbooks were regarded as a code of ethics under the Thai Constitution of B.E. 2550 (2007). The revised 2009 Handbook and the Code of Conduct were disseminated on PTT's intranet and website. Below are the essences of PTT's CG practices:

1. Rights of Shareholders

As the owners, the shareholders are entitled to dictate PTT's direction or decide on matters of significant impacts. Shareholders' meetings therefore serve as their key forums for the expression of views, asking of questions, and voting, apart from election of directors to supervise PTT's operation on behalf of the shareholders. Shareholders are entitled to attend shareholders' meetings, take adequate deliberation time, and acknowledge meeting minutes.

1.1 Shareholders' Meetings

As a rule, PTT schedules an annual general meeting of shareholders (AGM) within four months of the annual closing date of its accounting books. For urgent matters that affect or involve the shareholders' interests or involve conditions, regulations, and laws that require the shareholders' approval, it calls an extraordinary meeting of the shareholders.

In 2012, the AGM fell on April 10 with the venue being Queen Sirikit National Convention Center (Plenary Halls 1 - 3) in Bangkok. No extraordinary meeting was held this year.

1.2 Delivering Meeting Notices

For the 2012 AGM, the Board at the meeting No. 2/2555 on February 17, 2012, decided to call a shareholders' meeting on April 10, 2012. Its decision, meeting date, and meeting agenda was disclosed in details ahead of time by announcing on SET's website to alert the shareholders before sending meeting notices.

PTT assigned Thailand Securities Depository Co., Ltd. (TSD), its securities registrar, to mail meeting notices together with details of the agenda and accompanying documents, supplementary and supporting information for decision-making, opinions of the Board, complete minutes of the past meeting, the annual report, meeting documents, proxy forms with complete instruction, to the shareholders more than 14 days ahead of the meeting date. The meeting notices were sent on March 19 - 20, 2012 and three days ahead of the meeting, and the invitation was announced through one Thai and one English newspaper, each for three days (April 4 - 6, 2012), to allow the shareholders enough time to prepare themselves for the meeting.

The AGM meeting notice and supporting documents were made available at PTT's website (www.pttplc.com) 30 days ahead of the meeting date (starting March 9, 2012).

1.3 On the Meeting Date

Before each meeting, the chairman of the meeting introduces the directors, management team members, the external auditor and the legal adviser who acts as a moderator. After explaining PTT's rules on voting and vote counting for individual agenda items, the chairman must clearly address how to vote on each agenda item. Once information has been provided for each item, the chairman gives the floor to all attendants to express opinions or recommendations and ask questions, giving adequate time for debate. The chairman and the management are to address and answer all questions clearly and precisely, treating all questions with due respect. For the election of directors, individual votes are required.

The chairman ensures that the meeting proceeds according to the order of the agenda and does not add an item without notifying shareholders in advance. If the meeting should decide to change the order of the agenda, it would need at least two-thirds of the vote of the shareholders in attendance. Alternatively, the shareholders with at least one-third of all the sold shares may ask the meeting to consider other matters not mentioned in the meeting notice. At the 2012 AGM, the order of the agenda was not changed, and there was no request to consider any other matter.

The minutes of the meeting must be completely and accurately recorded. Voting completes each applicable agenda item. As a rule, shareholders' meetings last 3 - 4 hours. The 2012 AGM began at 9.30 a.m., with registration beginning at 7.30 a.m. At the meeting's opening, a total of 4,357 shareholders registered, of whom 1,747 were shareholders and 2,610 were proxy holders, holding a total of 2,004,521,214 shares, accounting for 70.18% of the total shares sold, which exceeded one-third of all the sold shares of 2,856,299,625 with the following attendees:

Board of Directors

1.	Dr. Norkun Sitthiphong	Chairman
2.	Mr. Chulasingh Vasantasingh	Independent director/ Chairman, Audit Committee
3.	Mr. Surapon Nitikraipot	Independent director/ Chairman, Corporate Governance Committee
4.	Mr. Krairit Nilkuha	Director/ Member, Remuneration Committee/ Nominating Committee
5.	Mr. Krairit Euchukanonchai	Independent director/ Member, Audit Committee
6.	Ms. Benja Louichareon	Director/ Member, Remuneration Committee
7.	Mr. Sihasak Phuangketkeow	Independent director
8.	Gen. Warawat Indradat	Independent director
9.	Gen. Prin Suvanadat	Independent director
10.	Mr. Waroonthep Watcharaporn	Independent director
11.	Dr. Chitrapongse Kwangsukstith	Director
12.	Dr. Pailin Chuchottaworn	Director & Secretary to the Board/ Member, Nominating Committee/ President & CEO
Directors absent from the meeting to attend the collection of the royal relics and ashes of HRH Princess Bejaratana (The schedule of the ceremony was announced after the AGM date was fixed)		
13.	Mr. Arkhom Termpittayapaisith	Independent director/ Chairman, Remuneration Committee/ Member, Audit Committee
14.	Mr. Watcharakiti Watcharothai	Independent director/ Chairman, Nominating Committee/ Member, Corporate Governance Committee
15.	Mr. Montri Sotangkur	Independent director

Executives

1.	Mr. Tevin Vongvanich	CFO
2.	Mr. Wichai Pornkeratiwat	COO, Uptream Petroleum and Gas Business Group
3.	Mr. Nuttachat Charuchinda	COO, Downstream Petroleum Business Group

Also in attendance were several senior executive vice presidents and executive vice presidents of business units to address queries.

External Auditors

1.	Ms. Kretnatee Sasikarn	Office of the Auditor-General
2.	Ms. Mayuree Chanthamat	Office of the Auditor-General
3.	Ms. Methavee Suasom	Office of the Auditor-General

Legal advisers (to proctor balloting in case of disputes during the meeting)

1.	Ms. Pheangphanaw Boonklam	Weerawong, Shinawatra & Pheangphanaw Co., Ltd.
2.	Ms. Sawitta Pitiwan	Weerawong, Shinawatra & Pheangphanaw Co., Ltd.
3.	Mr. Akraphol Phichetwanitchoke	Allen & Overy (Thailand) Co., Ltd.
4.	Ms. Mananya Thitinanthawan	Allen & Overy (Thailand) Co., Ltd.

Number of Shareholders (at meeting's end at 12:34 hrs)

8,301 shareholders registered, of whom 3,649 were shareholders and 4,652 were proxy holders, holding a total of 2,469,376,937 shares, accounting for 86.45% of the total shares sold.

1.4 Practical Guidelines for Reporting Conflicts of Interest

As specified by the CG Handbook, all directors, management team members, and employees must prepare reports on conflicts of interest, consisting of annual reporting forms and a new annual format in case of changes during the year. At a given meeting, people with vested interests or conflicts of interest with PTT must inform the meeting to excuse themselves and abstain from voting on each connected matter.

Similarly, at shareholders' meetings, directors are supposed to behave likewise in case they are connected with any agenda item.

1.5 Disclosure of Shareholders' Meeting Outcomes

For the 2012 AGM, PTT duly submitted the summary of resolutions made to SET and the SET Board within the afternoon of the date of the meeting (April 10, 2012). It also duly submitted the report of the shareholders' meeting with minutes, voting records, and every question raised by shareholders to SET and the SET Board within 14 days after the meeting. Meeting information, videotapes, and audiotapes are accessible through PTT's website.

2. Equitable Treatment of Shareholders

PTT treats all shareholders fairly despite different shareholding proportions and thus different voting proportions. The fundamental rights of the shareholders are conserved regardless of their gender, age, origin, nationality, religious belief, physical impairment, or political inclinations. At the AGM, seats at the most convenient spots were reserved for the elderly, disabled, and pregnant women with officers to attend to their needs. All shareholders have equal rights to take part in PTT's activities.

2.1 Proposing Additional Meeting Agenda Items and Nominating Directors

To enable minor shareholders to earnestly take part in business operations and auditing, PTT has defined the criteria and consideration process for entitling them to propose meeting agenda items and/or nominate directors in advance to deliberate agenda items that could be useful to PTT, including the selection of qualified directors to perform their duties efficiently in the best interests of PTT and all stakeholders alike. In practice, shareholders with a combined holding of at least 100,000 shares could propose agenda items or nominate qualified directors before the AGM during the last quarter of the previous year.

For the 2012 AGM, PTT posted such criteria on its website and posted an announcement on the website of SET from October 1, 2011, to December 30, 2011, so that the shareholders could propose meeting agenda items and/or nominate directors in advance. For the 2013 AGM, PTT posted such criteria on its website and posted an announcement on the website of SET from October 1, 2012, to December 31, 2012. However, it attracted no recommendation of such agenda items and no nomination of directors, and the Corporate Secretary had duly informed the Board meeting on the matter.

2.2 Facilitating Shareholders at the Meeting

For the 2012 shareholders' meetings, PTT facilitated all shareholders by manning officers to welcome and take care of them, and provided a dequate convenience. The meeting venue was well chosen to facilitate the elderly and those on wheelchairs. Back-up meeting rooms were in place, as was a signal relay system between meeting rooms. Security precautions and emergency contingency plans were in hand. Examination of registration

credentials one day ahead of the meeting was possible. Officers provided photocopying services and verified documents. On the meeting day, registration opened two hours ahead of the meeting and extended until the period before the last meeting agenda. A barcode system quickened registration. Finally, the shareholders had access to a reception.

Since most of the shareholders attending the AGM were Thais, each meeting was conducted in Thai. However, for the benefit of foreign shareholders, PTT commissioned the translation of shareholders' meetings, supplementary documents, and other relevant documents in English. Its website is also bilingual. It also provided officers skilled in English on hand at meetings to facilitate foreign shareholders. If shareholders cannot communicate in Thai but want to pose queries or discuss in the meetings, PTT does arrange for suitable communication and provide translation into Thai for both the queries and the answers for other shareholders to preserve their interests and ease communication needs for foreign shareholders.

2.3 Appointing Proxies

To maintain the rights of shareholders who cannot attend the 2013 AGM in person, they can appoint proxies or delegate their votes to any PTT's independent director in attendance. To this end, PTT has specified these independent directors' names in proxy forms defined by the Ministry of Commerce for voting on behalf of shareholders without conditions. PTT treats proxies as if they were shareholders. Thirty days ahead of each meeting, PTT discloses the proxy form, which is attached along with details and procedures on its website. Shareholders may make further inquiries about this by phone or other channels such as PTT's website and e-mail.

3. Roles toward Stakeholders

As the national energy company, PTT accounts for all stakeholders' rights and interests by establishing guidelines for addressing the needs of each group in and outside PTT, as well as its own responsibility to society and the environment. The following spells out PTT Group's missions for each of the six following groups:

To the country: Ensuring long-term energy security by providing adequate high-quality energy supply at fair prices to support economic growth.

For community and society: Maintaining a good standing corporate status in society by exercising environment stewardship of internationally accepted standards and helping to improve the quality of life for the community and society.

To shareholders: Operating profitable businesses that lead to sustainable growth while generating optimum returns.

To customers: Ensuring customers' satisfaction and loyalty by delivering world-class quality products and services at fair prices.

To business partners: Conduct fair practice with all partners while promoting trust, relationship, and cooperation to extend business capability and increase efficiency in long-term business partnerships.

To employees: Promoting capability building professionally and ensuring that employees' well-being is on a par with other leading companies in order to strengthen organization/employee engagement.

3.1 Treatment of Six Main Stakeholder Groups

3.1.1 Thailand

As a state enterprise serving as the national energy company, PTT secures natural resources to address the needs of the country while accommodating public policy on research, development, production, and distribution of alternative energy and clean energy to lower import dependence. Also, PTT generates income for the public sector (its major shareholder) for national development and is the leader in alternative energy.

PTT's businesses consist of procurement and supply, transport, distribution, gas processing, and investment in NGV stations, in addition to businesses that exploit and add value to natural gas through PTT Group companies. To achieve this, it secures gas supply from indigenous sources, imports from neighboring countries, and imports Liquefied Natural Gas or LNG in the future to satisfy demand. PTT secures more natural gas from indigenous sources to sustain the demand posed by the power, industrial, and transport sectors. The efficiency of gas separation plants (GSPs) has been improved to raise the total capacity for gas processing into assorted products for value addition and for downstream applications.

PTT distributes its petroleum products (fuels, LPG, lubricating oil, and other products) through three main channels. First, retail marketing, conducted through PTT service stations, now developed into sophisticated and integrated 'Life Stations'. Second, commercial marketing, conducted through government agencies, state enterprises, industries, airliners, cargo ships, fishing boats, gas bottling plants, LPG outlets, and exports. And third, distribution of products through fuel traders under the Fuel Trade Act. PTT also constantly promotes biofuels-namely gasohol to replace gasoline, and biodiesel to replace diesel.

In addition, to enhance energy security, PTT invests in the exploration and production business, the oil refinery business, and the petrochemical business through its affiliates. It is also a way to maximize the benefit of natural resources, a vital element of national economic development. Details appear under "Nature of Business and Business Performance".

3.1.2 Society and Communities

PTT values the well-being of society, communities, and the environment of the areas where it operates and gets involved in solving social problems through the project management process and CSR activities in various forms that are beneficial to social, community, and environmental development. PTT's Corporate Communications and Social Responsibility Department was appointed to take charge from the preparation of enterprise policy, annual strategy planning, and implementing projects in conjunction with related business sectors, including follow-ups of the projects. Progress of the projects and activities are reported to the President/CEO and the Corporate Governance Committee.

PTT remains committed to continually proceeding with social, community, and environmental development work. For details of 2012 activities, please refer to the "Power for Sustainable Future" section.

3.1.3 Shareholders

The Sustainable Growth Strategy finds application in PTT management to achieve a High-Performance Organization (HPO) that is based on Corperate Governance (CG) in tandem with CSR (Corporate Social Responsibility) to ensure investors that PTT provides sound investment returns and is sustainable, apart from being a part of Thai society in years to come.

Activities for shareholders

Since 2006, PTT has continually arranged trips for minor shareholders to visit our operation, update information, and meet the management as well as participating in PTT's CSR activities in Rayong. This year the trip was planned for November 20 - 22, 2012 for a visit to Rayong GSP in Map Ta Phut Industrial Estate (a tour around the compound by bus with officers from the Rayong GSP providing information and answering questions from the visitors) and a CSR field trip to the HRH Princess Maha Chakri Sirindhorn Herbal Garden in Rayong for 480 shareholders in three groups.

• On the arrangement of the visits, PTT mailed invitations and reply letters to the shareholders whose names appeared on the roster at the registration book closing for the interim dividend of 2012 on September 10, 2012. With an overwhelming response from more than 2,400 investors, Visitors' names were drawn and witnessed by the management and the Corporate Governance Committee. The names were announced on PTT's website. In addition, PTT officers phoned the winners to confirm their interest. A survey of the visitors showed that 94.31% of them found the visit satisfactory to very satisfactory.

Those interested in visiting PTT's operation sites can follow project updates and details on PTT's website. PTT reserves the rights to invite only those that have never taken part in this activity.

Activities for debenture holders

After the overwhelming response and success of our relations activities "Variety Concert" with debenture holders from the "Infinite Miracle Concert" in 2010 and "The Everlasting Concert" in 2011, PTT held the third concert, called "The Impression Concert", in 2012 for about 25,000 debenture holders and their companions. The star singers, both solo and bands, included Nantida Kaewbuasai, Christina Aguilar, Oad Kiriboon, and Nuvo, while the actors and actresses included the adored couples Nadech and Yaya, and special appearence by comedian Koh Ti, as well as other CSR activities and fun booths held at the concert.

Other activities were also held to create and maintain good relationship with our debenture holders who invested in our debentures included activities on health and family relations, and a seminar on "Find Prosperity During Uncertain Situation and Analysis on the Future of the Country 2012" for debenture holders in and around Bangkok Metropolis and major provincial areas.

Activities for Institutional Investors

In 2012, besides investor meetings to inform institutional investors and securities analysts on its quarterly performance, PTT organized regular Company visits and meetings with its executives in January and organized a visit to Rayong GSP Unit 6. There such visitors learned about PTT's business direction from executives first-hand and had an opportunity to be involved in PTT's CSR activities.

3.1.4 Customers

PTT takes customers' satisfaction seriously, since they buy our products and services. It offers fair prices, quality, and accountability to customers and is committed to consistently developing its products and provides safe, integrated, prompt, and quality services in response to their needs.

PTT has implemented Quality, Security, Safety, Occupational Health, and Environmental Management Systems (QSHE) in its operations to focus on quality management through efficient work processes to deliver products and services that satisfy customers. At the heart of its operations is the continual implementation of assorted systems, including ISO 9001, TIS 18001, and ISO 14001.

PTT manages customers and marketing in compliance with its vision and mission to cater to consumers' diverse needs and expectations. It thus divides its market into three units: 1) Gas - with two groups of customers: natural gas customers and products customers, 2) Oil - with three groups of customers: retail customers, commercial customers, and supply sales, and 3) International Trading - with three groups of customers, namely products, product transportation, and risk management. Customers' life cycles are divided into four groups: potential, current, growing, and ex-customers.

PTT has three processes in taking in views, comments, and complaints from customers: 1) Direct contact through the likes of visits, meetings, training, seminars, 2) Contact through information media with channels such as phone, fax, website, social network, and call center, 3) Through surveys by a third party covering all groups of customers and their life cycles. Frequencies of the processes vary with each channel. Information received from customers will be used as data on their needs so that PTT can design new products or innovations to match the needs, such as PTT Blue Innovation products of novel formulas, PTT Performa Synthetic lubricating oil, PTT Life Station, Café Amazon coffee shops, and Amazon Embrace outside service stations. The data are also used in the Customer Relationship Management plan (CRM Plan) to develop business consultant programs designed for area sale managers to provide business consultancy to sale agents, in holding sales promotion with other products/services, and in PTT Motor Sport for race cars, motorcycles, and jet skis using PTT lubricating oil. A total of 24 activities were held in 2012.

PTT applied the QSHE Management System to maintain its operation standards. Users' Guide and Operating Manual and service standards for every process are in place to ensure that all personnel and process throughout the chain could keep up with the same high standards in response to customers' needs.

PTT has instituted a complaint management process should the customers become dissatisfied with its products or services. It provides diverse channels of taking in views, comments, and complaints from customers and consumers through the three processes mentioned above. All complaints will be handled within the day and the customers will be informed on the method and time in handling problems from time to time until the matter is resolved and the customers acknowledge that the case is closed. Complaints are efficiently handled to keep the customers' confidence and trust in PTT.

PTT has set up processes to assess customers' satisfaction, dissatisfaction, and loyalty. Data on customers' needs help improve products/services, work processes, strategic plans, marketing plans, and CRM plans to enable PTT to respond to customers' needs beyond their expectation.

3.1.5 Business Partners

Since business partners are the key to business success through mutual support, PTT takes them seriously and treats them fairly on the basis of fair competition and mutual respect, and in good cooperation. PTT strictly complies with contracts and values procurement processes, as they are vital to the determination of expenses and the quality of PTT products and services. For transparency, a clear procedure is therefore essential for openness to scrutiny and maximum benefit.

PTT requires price bidders to strictly conform to the rules about work safety and handling of tools, as well as other regulations, particularly in the type of work affecting safety, health and environment. PTT visits business partners' operation sites to assess their capabilities, particularly those on the QSHE side. In addition, business partners' employees must undergo the practice and operation training in PTT's operating areas in addition to conforming to the requirements for entering sites to work, as described for each site.

PTT is committed to operating businesses that lead to sustainable growth and adheres to corporate governance for social, community, and environmental development. To efficiently achieve its goals, PTT stresses the importance of supply chain management and development through monitoring our business partners. In 2012, PTT's **"Supplier's Sustainable Code of Conduct"** was defined with the contents and scope of the code in line with related rules, regulations, and laws. The Code consists of four major practices:

1. Business Ethics
2. Human Rights
3. Occupational Health and Safety
4. Environmental Management

The Code came into effect on April 1, 2012, and will be enforced on PTT's contracted suppliers with contract value over 2 million baht and/or on work with operations with potential impacts on safety and the environment.

PTT also implemented Total Cost of Ownership (TCO), a method to calculate the costs of delivering materials and communication convenience, as a criterion in selecting business partners, to enable those with production bases and offices in Thailand to compete better. This represents our support of locally produced materials, resulting in a higher number of domestic business partners for certain materials where they have no procurement limitation.

Efficient and competent operation of suppliers is important to PTT, which targets sustainable growth for itself as well as its suppliers. Approaches for the management and development of suppliers were set up to:

• Exchange information and knowledge between PTT and suppliers and develop suppliers' potential to support PTT's performance and success in its operations, business continuity, and social responsibility. This year, PTT held three "Suppliers Relationship Management (SRM)" seminars.

• **The 1st Suppliers Relationship Management Seminar** was held on July 31 to communicate with all units' major suppliers. The suppliers learned the following from the seminar:

- PTT's business direction
- Understanding of Suppliers Relationship Management (SRM)
- Sustainable Supply Chain Management
- Acts on counter-corruption related to procurement.

The 2nd and the 3rd Suppliers Relationship Management Seminars were workshop with joint activities and exchange of views between procurement staffs and suppliers to create sustainable partnership.

• **The 2nd Suppliers Relationship Management Seminar** was held on August 21, 2012 to communicate with major suppliers of Rayong GSP. The suppliers learned the following from the seminar:

- Sustainable Supply Chain Management
- Acts on counter-corruption related to procurement.

• **The 3rd Suppliers Relationship Management Seminar** was held on December 13, 2012 to communicate with major suppliers of service stations. The suppliers learned the following about PTT's present and future operating direction for service station business in the following fields:

- Design and engineering
- Service station maintenance
- Procurement and material management.

3.1.6 Employees

Our employees are pivotal to our business success. All employees - wherever they work - must be treated without prejudice. Unity, trust, impartiality, polite manners, and respect for human dignity are stressed. A good and safe work environment, with suitable compensation, welfare, and innovation, is essential. Sexual harassment is not tolerated. Besides, PTT promotes the exercising of wage earners' rights under laws governing labor unions and state enterprise relations.

Convinced that the quality of its people is key to its high performance, PTT is committed to the development of human resource management systems compatible with technological advancement and international standards. It not only promotes both conscientious merit and business competence for its employees, but also encourages them to actively take part in public service activities. It is indeed through employees that PTT focuses on its development toward a high-performance organization to increase competitiveness and respond to changes in the organization.

Headcount of Personnel and Compensation

As of December 31, 2012, the PTT employee headcount (including those seconded to PTT's affiliates) stood at 4,227. PTT has continued to set its manpower plan in line with its operations under uncertain economic conditions, with a focus on allocating resources where significant value supplementation is likely or where continuing investment is needed. PTT formulates human resource plans and earnestly develops the potential of all its employees, as well as streamlining its business procedures to enhance work efficiency.

Labor Disputes

No report of PTT's labor disputes was made during the past three years.

The headcounts for the business groups from 2009 to 2012 are as follows:

Business Unit Unit: Persons	2009		2010		2011		2012 (Jan.1 - Dec. 31)	
	PTT	PTT Group	PTT	PTT Group	PTT	PTT Group	PTT	PTT Group
1. Natural Gas	1,196	-	1,206	-	1,270	-	1,367	-
2. Oil	1,199	-	1,182	-	1,387	-	1,296	-
3. Petrochemicals and Refining	72	-	61	-	68	-	103	-
4. Support staff/secondees to PTT affiliates	938[1/]	276[2/]	1,077[1/]	274[2/]	1,045[1/]	276[2/]	1,197[1/]	265[2/]
5. Subsidiaries and jointly-controlled entities	-	7,676	-	8,743	-	17,964	-	20,551
Total	**3,405**	**7,952**	**3,526**	**9,015**	**3,770**	**18,240**	**3,963**	**20,816**

Notes: *1/ Excludes PTT secondees*

2/ PTT secondees

Compensation for Personnel (excluding the President & CEO and Senior Management)

Unit: Baht

Compensation	2009	2010	2011	2012 (Jan.1 - Dec. 31)
Total Salary	2,900,872,989	2,976,806,620	3,044,018,5892	3,311,831,273
Total Bonus	1,336,855,751	1,482,437,324	1,465,345,881	1,653,647,970
Provident fund contribution	280,726,154	284,638,508	293,871,121	318,714,613
Others (if applicable)	1,346,214,160	1,592,691,853	2,076,671,038	2,331,060,076
Grand Total	**5,864,669,055**	**6,336,574,305**	**6,879,906,629**	**7,615,253,932**

Other Compensation

PTT has instituted employee welfare and other compensation apart from salary, bonus, and provident fund contribution for management and all employees in keeping with economic conditions, cost of living, and other standards for peer companies, such as housing allowance, upcountry allowance, and overtime payment. In 2005 and 2006, PTT approved two tranches of 60 million units of warrants for the President, the management, employees, and employees from affiliated companies serving PTT in a move to boost motivation and at the same time reward the management and employees for their total, consistent dedication. This incentive was designed to create a sense of ownership and encourage participation in the management and development of PTT, benefiting its performance and business operations. Details were reported under "PTT's Warrants".

Human Resource System Development and Improvement

To become a high-performance organization, PTT had since 2010 improved the process and mechanism for human resource management to ensure higher efficiency and realize the full potential of its employees. PTT employees are able to fully demonstrate their competence, advance in their careers, and continue to grow with PTT.

PTT has focused on participation across the board in designing business plans to suit its direction and targets, since this will efficiently align all components of the Company. To this end, it has instituted a process in which the senior management of PTT and its affiliates along with support staff jointly define a vision and direction before propagating the agreed items for other units to use in defining business strategies and business plans and come up with budget plans in broad alignment. All PTT employees defined individual objectives and KPIs cascaded through the ranks from the corporate, department, to the individual level. Such objectives and indicators defined by employees then serve as a framework for performance and performance assessment standards.

PTT applies Career Management to prepare and promote the management and all employees with skills and knowledge to fit the PTT-designed model in coping with the missions and creating values for the organization. PTT has applied this model in developing its employees for greater efficiency by dividing employees into two professional groups with clear and efficient interconnected (senior management and staff) with a system on recruitment, assessment, and individual development plan in place.

• Senior management (equivalent to vice presidents upward) are subject to staff development called Group Leader Development, which sustains the needs of high-level executives in both quantity and quality. Management of this group is supervised by a panel of CEO's in PTT Group called the PTT Group Management Committee (PTTGMC) with responsibility for defining directions and the policy on development plan for senior management, and a PTT career-counseling team called PTT Group Executive Counseling Team (ECT) with the responsibility for supporting the designing of development plans for senior management.

• Staff (Division Manager or equivalent downward): This internal management is specific to PTT or a PTT Group company in developing employees to suit operation needs. The Corporate Human Resources Committee is appointed to promote and monitor the development plan of each staff member. A Career Counseling Teams (CCT) for 14 professional groups takes charge of defining and developing individuals, and of providing counseling and guidance to them. The development plan is a tool for employees to set their goals and development of their career paths and put value in their work in line with PTT's direction and goals. Such staff development can be undertaken through proper training via competency and success profiles or via job rotation in line with their career paths, which will enable them to develop skills in their new positions, as do suitable appointments and promotions for their responsibilities and potential. Finally, development of staff to suit their competencies and needs of both staff and the organization would in time lead PTT to its goals.

This year, PTT improved its Career and Competency Management. The success profile of each position was set up and reviewed, competency assessment system improved, Individual Development Plan (IDP) under COACH system prepared, and an operation handbook revised to develop each staff member for his or her position and in line with PTT's business.

PTT also implemented the Lifetime Learning Organization Mechanism. It also evolved its knowledge management system for essential, relevant information while encouraging the management and all to do the same and update this regularly. It made this system available for all to facilitate learning and efficient problem-solving, while actively promoting employees' own

development of their potential, since this is a cornerstone to a high-performance organization, that is "To become a Learning Organization, we rely on human intelligence. Learning is an ongoing, lifelong process". PTT provided training and development programs to its management and employees from their recruitment to retirement to enhance their competence toward corporate directions and needs, resulting them to be **personals with performance excellence and ethics of the organization and society**.

Besides a human resource management system focusing on making employees both smart and responsive to its expectations, PTT encourages its people to participate in CSR activities while observing CG principles. PTT is convinced that achievement of competence and righteousness will foster steady and sustainable growth for itself.

Fostering Positive Relations between the Management and Staff in Search of the Same Goal

Communication between the management and staff at PTT comes in various forms. Needing to be aware of corporate business, obstacles, and potential repercussions, all employees should be allowed to share their views and take part in business efficiency improvement. This year, besides the monthly labor relations committee meetings, PTT held joint consultation committee (JCC) meetings between its management team and staff of regional offices nationwide. In addition, the President & CEO not only continually held regular meetings with employees and attended meetings among the management and staff (both in and outside PTT), but also surveyed employees' satisfaction for views and suggestions for improvement. PTT is convinced that proper communication and information exchange among all will induce smooth relationship cooperation, thus moving the organization forward to its goals. Moreover, PTT surveyed basic human resource needs of the management and staff through the operation of numerous committees, such as the Human Resource Management Committee, PTT Labor Relations Committee, and Career Path Management Committee. A survey of staff opinions was undertaken once by an external human resource management adviser. There was also cooperation with PTT Group to jointly develop a database of the management as well as development plans of senior management.

PTT Group Core Values

PTT's management and employees believe that the PTT Group Core Values, known as SPIRIT, will help PTT Group, the executives, and staff create a common work path, direction, and belief that align with the vision of PTT Group to become a sustainable high-performance organization. These core values serve as guidelines in formulating ideas and beliefs which influence work practice and behavior. Thus, SPIRIT is a key element to strengthen PTT cultures, decision-making, and sense of belonging, while inspiring

employees to be both smart and conscientious. SPIRIT consists of:

S = Synergy
P = Performance excellence
I = Innovation
R = Responsibility for society
I = Integrity & ethics
T = Trust & respect.

Succession Planning

Because PTT is a state enterprise, the nomination and appointment of the President & CEO must follow the Standard Qualifications of Directors and State Enterprise Officer Act. Directors must have the qualifications as specified in Section 8 ter and the nominating procedures as specified in Section 8 quarter. The Board is to appoint a Nominating Committee, with five members duly qualified, which nominates persons with appropriate knowledge, capability, and experience to fill the positions of PTT management. Candidates must be legitimately qualified and cannot be PTT directors, except for management team members who are directors by title. They must not be older than 58 years old when submitting the application form. When the Nominating Committee selects appropriate candidates, it submits the results to the authority. The appointment must be completed within one year from the day the incumbent vacated the position. Each employment contract lasts up to four years for each term. If the Board wishes to hire a previous management team member after the completion of his term as specified in the hiring contract, it does not have to go through the nominating process, but it cannot hire the person for more than two consecutive terms.

In 2011, the Board recruited a new President & CEO to replace Mr. Prasert Bunsumpun, who completed his term under his employment contract on September 9, 2011. The New President & CEO Selection Committee was appointed under the Standard Qualifications of Directors and State Enterprise Act. A total of four candidates, three from PTT executives and one non-PTT person applied for the position. The selection process was conducted transparently under the guidelines on senior executive position selection under article 8, paragraph 3 of the Standard Qualifications of Directors and State Enterprise Act (No. 6) B.E. 2550 (2007).

This committee proposed Dr. Pailin Chuchottaworn to the Board for consideration. The Board, on May 27, 2011, approved Dr. Chuchottaworn as the new President & CEO, replacing Mr. Bunsumpun, with effect from September 10, 2011, for a four-year term.

PTT has taken steps to nominate the next President & CEO and to prepare for the retirement of senior management team members in 2012 - 2017 under succession planning under PTT Group's policy/ guidelines. A management pool has been developed, consisting of 312 management executives, and another potential pool for key areas.

In 2009 and 2010, PTT improved the Group Leader Development Project (GLDP) to lay down a succession plan for personnel when the time comes for assuming higher positions that become vacant, namely:

- President
- Senior Executive Vice President (SEVP) or equivalent
- Executive Vice President (EVP) or equivalent
- Vice President (VP) or equivalent.

Core responsible management parties and units are as follows:

- PTT Group Management Committee (PTTGMC)
- PTT Group Executive Counseling Team (ECT)
- Corporate Human Resources Committee (HRC)
- SEVP, Corporate Management or equivalent in PTT Group
- EVP, Corporate Human Resources
- Human Resource Strategy and Policy Department
- Executive and Personnel Capability Management Department

- Human Resource Management Department of each business unit
- Learning and Development Department.

Systems and policies have been defined for guidance, including these aspects:

- Principles and rationales
- Performance assessment
- Approaches
- Roles and duties of involved parties
- System processes

Key Procedures:

1. Defining for each position the business driver and success profiles
2. Selection of pool members
3. Individual assessment of potential against the profiles of promoted positions, resulting in aspects needing development
4. Individual development planning and implementation, with a mentoring system designed to enable the plans to achieve targets.

Performance in 2012

- Selection of SEVP pool members from EVPs
  - 75 pool members (as of December 31, 2012)
  - 13 pool members already promoted (2008 - 2012)
- Selection of EVP pool members from VPs
  - 135 pool members (as of December 31, 2012)
  - 20 pool members already promoted (2008 - 2012)
- Selection of VP pool members from PTT division managers
  - 164 pool members (as of December 31, 2012)
  - 53 pool members already promoted (2009 - 2012).

3.2 Respect for International Human Rights Principles

PTT requires that all its directors, the management, and employees observe laws, customs, and culture which differ in each country that PTT invests in and strictly respect international human rights principles under the Universal Declaration of Human Rights; it does not condone its violation.

PTT encourages its group of companies to apply human rights principles to their CSR framework. As a member of the United Nations Global Compact (UNGC) since March 1, 2012, PTT indicated its intention to observe principles on human rights, labor rights, environmental conservation, and anti-corruption as its guidelines for doing business, which will resolve fundamental problems faced by the business sector and communities, as a responsible corporate citizen should do. PTT Group of companies, including PTTGC, PTTEP, IRPC, Bangchak Petroleum, and Thaioil, joined the UNGC. Relevent performance was detailed in the Corporate Sustainability Report 2012.

3.3 Significant Disputes with Stakeholders

Details appear under “Legal Dispute”.

4. Disclosure of Information and Transparency

Disclosure of information is a key index of transparency, an important factor to create confidence among investors and stakeholders. PTT values correct, accurate disclosure of information and creates numerous channels of disclosure of information so that all stakeholders can gain easy access to information. PTT promotes awareness among directors, the management, and employees of the importance of good corporate governance and transparency to their work, and creates appropriate mechanisms to receive complaints and fair treatment both for those who file complaints and those who have been complained against.

4.1 Financial and Non-financial Reports

PTT prepared the Sustainability Report 2012 to communicate its policy, management approach, and outcomes of its economic, social, and environmental performance by relying on the Sustainability Reporting Guidelines and Oil and Gas Sector Supplement (OGSS), Version 3.1, of the Global Reporting Initiative (GRI) approach, to ensure that the information disclosure was suitable to and more specific for the business, with completeness assessed at the A+ level. PTT has commissioned an external party for the certification of the report's accuracy, transparency, and accountability for the second consecutive years and years to come. This report together with the annual report was delivered to the shareholders and is accessible to those interested via www.pttplc.com.

4.2 Investor Relations

Ever since PTT's privatization and share trading on SET in October 2001, the Investor Relations Department has been established as a clearing house for disclosing essential information to investors and financial reporting, which includes performance reports, financial statements, and information reported to SET, together with quarterly management discussion and analysis (MD&A) reports with updated performance and corporate directions. These are disclosed to domestic and international shareholders fairly, regularly, and thoroughly. A quarterly investors' magazine under the "happiness" title has been prepared to communicate business information and data, as well as PTT's performance, aimed at debenture holders and the quarterly newsletter "PTT Bizway" with the same purpose, aimed at common shareholders. The two publications are in Thai and English to communicate PTT's vision, mission, quarterly performance, CG, management toward sustainability, and other current major activities. Investors may contact the department directly or through the PTT website, which is regularly updated, for information in Thai and English, which includes:

- Annual report/Form 56-1
- Major investment project information
- Procurement and hiring
- Policy statements by the management
- Implementation of government policies
- Key plans
- Corporate governance policies and promotional activities
- Financial performance
- Non-financial performances
- Highlights of social responsibility activities.

Through the years, PTT has valued the disclosure of information that is accurate, complete, transparent, and comprehensive, as well as direct and indirect presentation of performance and keeping investors, shareholders, and relevant parties informed of its information. A summary of our activities appears below:

- **Direct**: PTT regularly presents information to analysts, investors, and employees at analysts' meetings, roadshows, conference calls, and conferences. PTT also holds joint activities with SET to meet minor investors. Analysts, investors, and interested parties also join company visits to meet our management and always inquire about our updates.

In 2012, these key activities took place:

Activities	2011 (times)	2012 (times)
International roadshows	11	14
Domestic roadshows	4	6
Analyst meetings	4	4
Credit rating reviews	3	5
Company visits/ conference calls	148	163
E-mail/ phone calls	8 - 10 times daily	8 - 10 times daily
Joint activities with SET and other agencies to meet investors	2	3
Trips for institutional investors to visit and meet management team members	2	4
Trips for minor investors to visit and meet management team members	The planned visit (three batches) in November 2011 was moved to February 2012 because of the Great Floods	The visit (three batches) was planned in November 2012
Relations activities with debenture holders	15	18

- **Indirect**: Information about PTT, its performance, financial statements, and reports filed with SET are found at www.set.or.th, PTT's website, and the "happiness" magazine for debenture holders as well as the quarterly newsletter "PTT Bizway" for common shareholders.
- Investors and interested parties can also make inquiries to Investor Relations at Tel. 0-2537-3518-9, through e-mail at ir@pttplc.com, or through PTT website at www.pttplc.com.
- In addition, PTT has constantly publicized news, business activities, and project updates, apart from addressing questions and facilitating contacts for the media and the public. The activities this year appear as follow:

Activities	2011 (Units)	2012 (Units)
E-mails	216	350
News/ photo releases	216	350
Press conferences	55	65
Media visits to operations (domestic and international)	8 per year	15
Welcoming and information provision to visiting agencies for assorted purposes	49 groups = 2,181 persons	78 groups = 3,932 persons

4.3 Complaint-Filing and Access to Information

All stakeholders have equal access to PTT's public information, including reporting of news and leads, whether inside the Company through the intranet webboard or outside the Company through its website, by phone, letter, or e-mail. Please contact Investor Relations, Office of the President and Corporate Secretary, Corporate Communications, or the Ordering & Customer Relations Center through these channels:

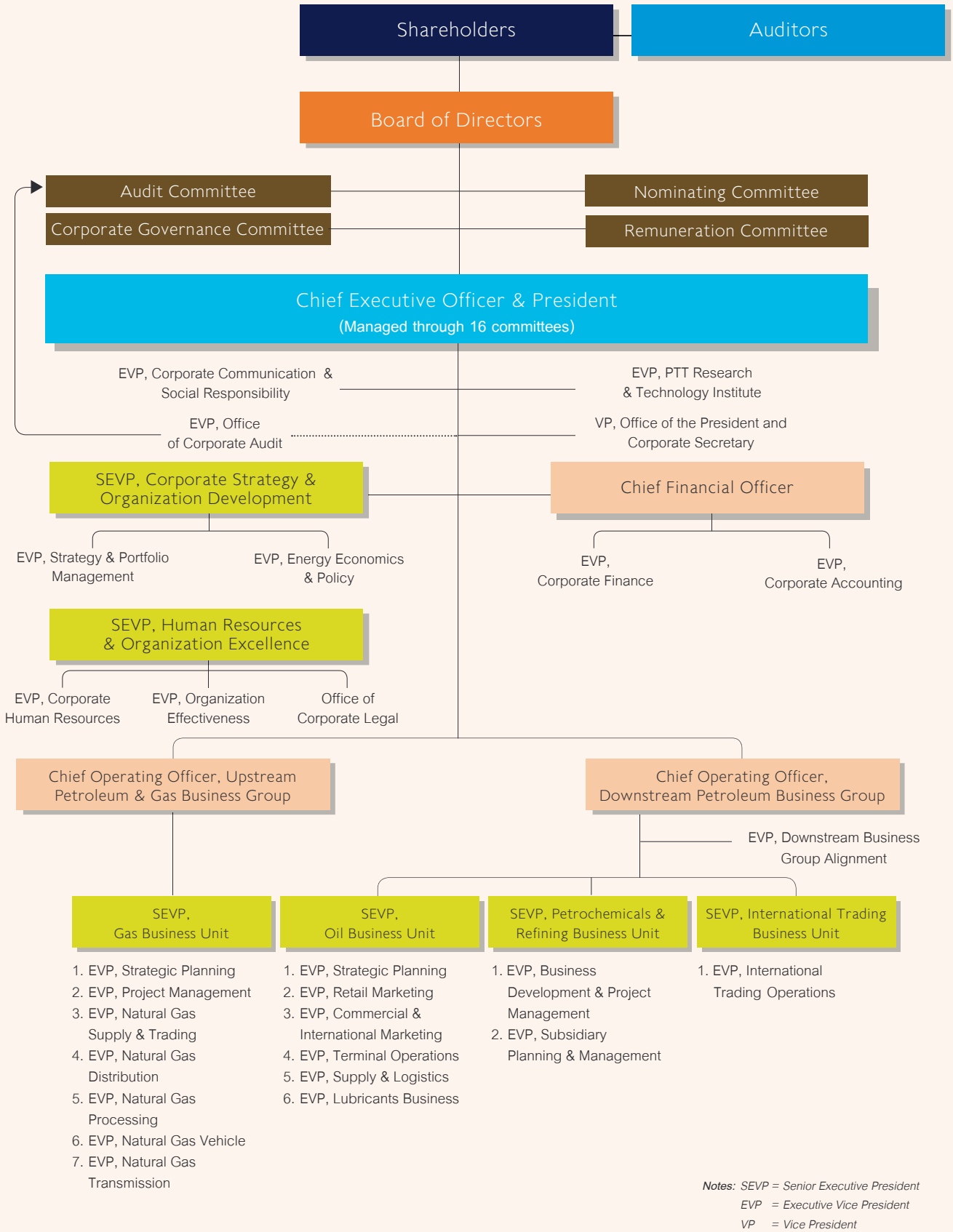
- Telephone: Call Center 1365, 0-2537-2000
- Website: www.pttplc.com
  - Investor Relations: ir@pttplc.com
  - Office of the President and Corporate Secretary: corporatesecretary@pttplc.com
  - Corporate Communication Department: corporate@pttplc.com
  - Ordering & Customer Relations Center: orc@pttplc.com.

The queries, comments and recommendations will be forwarded to relevant units to take actions through complaints management system. Follow-up on the action is done through e-mail every three days. If the action is not completed, a notification will be sent to another level of supervisors for action. When completed, responsible units will notify the contact person(s), with another follow-up to find out about their satisfaction with the services of the call center officers, which will help improving information system management. The management tracks all information every month to detect trends and apply them as an approach for refinement of processes, products, and services to respond to all stakeholders. This year, the queries, comments, and recommendations received totaled 72,091, mostly on energy credit cards, product orders, and PTT's projects.

PTT offers opportunities for the public to file complaints on improper behavior of directors, the management, and staffs or their violation of PTT's business ethics. They are to be directed to the Office of Corporate Audit, Office of the President and the Corporate Secretary, and Human Resources Department. PTT treats all complaints on the basis of equality, transparency, and fairness to all concerned. An appropriate timeframe to consider the complaints is set and the secrecy and the protection of those who file the complaints will be observed. No complaint on ethics was made in 2012.

5. Responsibility of the Board of Directors

The organization structure of PTT Plc as of December 31, 2012:



Notes: *SEVP = Senior Executive President*
EVP = Executive Vice President
VP = Vice President

5.1 Composition of the Board of Directors

According to PTT's regulations, the Board consists of:

- At least five and no more than 15 persons
- A minimum of three independent directors
  (PTT's CG requires that independent directors account for no less than half of the Board.)
- At least one director must be knowledgeable in accounting and finance.

Today the Board of PTT Plc, according to the certification of the Ministry of Commerce, dated February 28, 2013, consists of 15 directors:

- 14 non-executive directors (ten of whom are independent directors, which exceeded half of the Board)
- One management director.

The Board of Directors consisted of:

No.	Name	Position	Appointed date
	Dr. Norkun Sitthiphong (resigned on February 1, 2013)	Chairman (from January 18, 2008, to December 24, 2010, and from April 29, 2011 - February 1, 2013)	April 10, 2009
1.	Mr. Vichet Kasemthongsri	Independent Director/ Chairman (since February 22, 2013)	January 18, 2013
2.	Mr. Watcharakiti Watcharothai	Independent Director	April 10, 2009
3.	Mr. Chulasingh Vasantasingh	Independent Director	April 20, 2011
4.	Mr. Krairit Nilkuha	Director	April 9, 2010
5.	Mrs. Benja Louichareon	Director	April 9, 2010
6.	Mr. Arkhom Termpittayapaisith	Independent Director	October 11, 2011
7.	Mr. Waroonthep Watcharaporn	Independent Director	October 11, 2011
8.	Dr. Chitrapongse Kwangsukstith	Director	October 25, 2011
9.	Mr. Montri Sotangkur	Independent Director	November 4, 2011
10.	Gen. Warawat Indradat	Independent Director	November 4, 2011
11.	Mr. Sihasak Phuangketkeow	Independent Director	December 23, 2011
12.	Mr. Insorn Buakeow	Independent Director	April 10, 2012
13.	Mr. Boonsom Lerdhirunwong	Independent Director	April 21, 2012
14.	Mr. Suthep Liumsirijarern	Director	February 23, 2013
15.	Dr. Pailin Chuchottaworn	Director and Secretary to the board (President & CEO)	September 10, 2011

Note: For 2012, the Board appointed new directors to replace those that either completed their terms or resignedas follows:

No. 11, Mr. Insorn Buakeow, replaced Mr. Surapon Nitikraipot, who completed his term on April 10, 2012.

No. 12, Mr. Boonsom Lerdhirunwong, replaced Mr. Krairit Euchukanonchai, who resigned on April 20, 2012.

No. 13, Mr. Vichet Kasemthongsri, replaced Gen. Prin Suvanadat, who resigned on October 22, 2012.

No. 14, Mr. Suthep Liumsirijarern, replaced Dr. Norkun Sitthiphong, who resigned on February 1, 2013.

5.2 Authority and Responsibilities of the Board

Authority of the Board

- The Board is authorized to supervise and manage PTT under applicable laws, objectives, regulations, and resolutions of shareholders' meetings.
- The Board is to elect one director to serve as Chairman. If suitable, one Vice Chairman or more may be elected.
- The Board is to elect one director to serve as President and Secretary to the Board, if suitable.

Duties and Responsibilities of the Board

The Board is to:

- Carry out its duties under PTT's regulations, including ensuring management of the Company under applicable laws, objectives, regulations and resolutions of shareholders' meetings.
- Define the Company's vision, directions, and strategies.
- Endorse the Company's major strategies and policies, including objectives, financial targets and operating plans, budget, as well as monitor and ensure plan implementation and budgeting.
- Institute systems for corporate accounting, financial reporting, and financial auditing; institute efficient and effective internal control and internal audit systems.
- Supervise and remedy problems arising from conflicts of interest and connected transactions.
- Define comprehensive risk management guidelines and ensure an efficient risk management system or process.
- Ensure a suitable compensation system or mechanism for senior management to induce short-term and long-term motivation.
- Assess the performance of the President and decide suitable compensation.
- Ensure suitable communicating channels with each group of shareholders and stakeholders.
- Ensure accurate, clear, transparent, reliable, and high-quality disclosure of information.
- Show leadership and lead by example.

5.3 Directors Authorized to Sign and Bind for the Company

According to PTT's regulations, as of February 8, 2013, the Directors whose signatures are recognized as binding PTT consist of either (1) Dr. Pailin Chuchottaworn, President & CEO, authorized to sign and affix the Company's seal, or (2) Mr. Krairit Nilkuha, Dr. Chitrapongse Kwangsukstith, and Mr. Watcharakiti Watcharothai. Two of these three are authorized to jointly sign and affix the Company's seal.

**Note: Dr. Norkun Sitthiphong resigned from Director and Chairman of the Board on February 1, 2013.*

5.4 Appointment and Dismissal of Directors

1. The Board consists of at least five, and no more than 15 persons, elected at shareholders' meetings. It consists of a minimum of three independent directors, and at least half of the directors are to reside in the Kingdom, and at least one must be qualified in accounting and finance. All directors must be qualified by law and the Company's regulations. Since 2004, the Board decided that independent directors are to make up at least half of the Board, a requirement which remains in effect today. As of February 28, 2012, it had 10 independent directors, all of whom resided in Thailand. Six directors are experts in accounting and finance: Mrs. Benja Louichareon, Mr. Arkhom Termpittayapaisith, Mr. Montri Sotangkur, Mr. Chulasingh Vasantasingh, Mr. Boonsom Lerdhirunwong, and Dr. Pailin Chuchottaworn.

2. The shareholders' meetings are to elect qualified directors who have previously been nominated by the Nominating Committee under the following criteria:

(1) Each shareholder has one vote per share held.

(2) Each shareholder exercises all votes applicable under (1) in electing one or more persons as directors, but cannot allocate only part of the votes to any candidate.

(3) Candidates with the most votes are to be appointed directors up to the number open at a given meeting.

(4) If more candidates receive equal votes than the number of directors required, the chairman of the meeting must cast a deciding vote.

3. At every AGM, one-third of the directors, or if this number is not a multiple of three, then the number nearest to one-third, must retire. The names of the directors to retire during the first and second year after PTT was listed are to be drawn by lots. For subsequent years, those with the longest terms must retire.

4. If a post is vacated because of reasons other than term completion, the Board may elect a qualified person according to PTT's regulations to fill the post at the next Board meeting, except when the vacated director position has less than two months left. A new director must get at least three-quarters of the votes by the remaining directors and must remain in office for only as long as the remaining term.

5. Any director wishing to resign may submit a resignation letter to PTT. The resignation is to be effective on the date when PTT receives the letter.

6. In voting for the dismissal of directors from office before the expiry of their terms, a three-quarter vote of eligible shareholders present at the meeting is required, provided that the number of shares represented by the three-quarter votes is at least half of the total number of shares represented by the total number of eligible shareholders present at the meeting.

5.5 Qualifications of Directors

All directors are qualified and have no disqualifying characteristics under the Public Company Limited Act and the Standard Qualifications for Directors and State Enterprise Officers Act (No. 6) of 2007, as well as relevant Cabinet resolutions, including:

- Aged up to 65
- Maximum of three state-enterprise directorships, including appointments due to their positions and those due to acting assignments.
- Independent directors must be qualified under the SET's announcement governing the characteristics and scope of operation of audit committees.
- Have never received a jail sentence, except for violations of the law by negligence or petty crimes.
- Do not hold a political position, except for a director position required by law.
- Do not belong to a political party or work for one
- Have never been expelled, dismissed, or made to leave a position because of malfeasance.
- Do not hold shares of the state enterprise in question or a shareholder of a juristic person where the state enterprise in question holds shares. Exceptions apply to directors of state enterprises who are not government officials, government employees, or wage earners with positions or position salaries for centralized governments, provincial governments, local governments or other government units. Also, such state-enterprise directors hold no more than 0.5% of the paid-up capital of the state enterprise in which they serve as directors or juristic persons where the state enterprise in question holds shares.
- Are not position holders in the juristic person where the state enterprise in question holds shares. Exceptions apply when the board of directors of that state enterprise appoints them as directors or other positions in the juristic person.
- Are not directors, management team members or authorized managers or hold vested interests in a juristic person that serves as a concessionaire, a joint venture, or ones with vested interests in the affairs of the state enterprise in question. Exceptions apply for the board chairman, director, or manager assigned by that state enterprise.

5.6 Qualifications of Independent Directors

At its, meeting No. 1/2556 of January 17, 2013, the Board endorsed a proposal of the Corporate Governance Committee to redefine PTT independent directors in a way that is more stringent than the criteria of SEC and SET and to define their roles and responsibility in a manual, signed by the Chairman on January 21, 2013, as follows:

(1) Hold up to 0.5% of the voting shares of PTT, its subsidiaries, associates, or related companies (including the shares held by connected parties under Section 258 of Securities and Exchange laws)

(2) Have not been involved in the management or employees, wage earners – including audit advisors, legal or other advisors – on the payroll of PTT, or have

control over PTT, its subsidiaries, associates or juristic persons that could pose conflicts of interest for the past two years

(3) Have no blood relationship or relationship through registration as parents, spouses, siblings, and children. This definition also applies to children's spouses, executives, major shareholder, controllers, or people due to be nominated as an executive or controller of PTT or its subsidiaries.

(4) Business relationship with PTT

a. Types of relationship

- Professional service rendering
  - Types of relationship: Auditor and other professional service provider, including legaladviser, financial adviser, property valuator
  - "Non-independent" criteria:
    - Total prohibition for auditors
    - Other professional services: when the total value exceeds 2 million baht per year
- Commercial/business relationship (similar to SET's requirements for connected transactions)
  - Types of relationship: Full coverage of business transactions, that is, normal transactions, real-estate leasing, asset/ service transactions, and financial assistance transactions
  - "Non-independent" criteria: Transaction value from 20 million baht or 3% of PTT's NTA upward (**whichever is lower**); the total value must include items occurring within six months before this transaction.

b. Should the relationship under (a) apply to a juristic person, the parties regarded as "non-independent" consist of the major shareholder, directors that are not independent ones or not a member of the audit committee, and executives (or partners) of that juristic person

c. The forbidden periods for (a) and (b): Two years before the appointment

d. Exceptions: **If necessary and suitable (exceptional cases)**, independent directors/ audit committee members may have more relationship than the non-independent criteria **while holding directorship**, provided that a prior unanimous approval has been given by the Board. Besides, PTT must disclose such relationship in Form 56-1 and its annual report (Form 56-2). And should PTT should decide to extend the term of that independent director, it must disclose details about such relationship in the meeting notice for the next shareholders' meeting (in the directors' election agenda item).

(5) Are not appointed to represent PTT's directors, its major shareholder, or shareholders that are related to PTT's major shareholder.

(6) Have no qualifications that compromise the expression of free views.

(7) Independent directors with qualifications (1) through (6) above may be assigned by the Board to decide on business matters of PTT, its subsidiaries, associated companies, sister companies, or juristic persons that could pose conflicts of interest; such decisions will be collective decisions.

Incidentally, if independent directors serve in this position in PTT, its subsidiaries, associated companies, or sister companies, PTT must also disclose information about such service and the total compensation of such directors in Form 56-1 and Form 56-2.

Roles and responsibility of PTT's independent directors

(1) Recommend essential and beneficial matters to PTT and all its shareholders to the Board and/or the President & CEO.

(2) Advocate roles and responsibility of the Board and provide views commonly expected of independent directors for the benefit of PTT and all its shareholders.

(3) Review matters to ensure PTT's compliance with the law dealing with independent directors, and revise the definition of independent directors for suitability and legal completeness.

(4) Take other Board-assigned actions provided that these actions do not compromise their independence.

(5) An independent director's term begins once he or she fulfills all the requirements under the definition for PTT's corporate governance; it ends when he or she lacks qualifications or completes the PTT term.

(6) The independent directors must hold their own meeting at least once a year.

5.7 Segregation of the Chairman and the President & CEO Positions

To segregate policy-making duties from those of day-to-day management and to enable directors to oversee, look after, and assess performance effectively, PTT has required that the Chairman and the President & CEO are always two distinct persons. This is because the Chairman needs to oversee the management's performance, guide, and assist, but not to take part in or interfere with day-to-day management, which is the duty of the President & CEO under the authority delegated by the Board.

In addition, the Chairman must exercise leadership and ensure that directors do not fall under the influence of the management, partly by chairing Board meetings and shareholders' meetings fairly and efficiently, while encouraging participants to exercise their voting rights and strictly comply with good CG principles.

5.8 Independence of the Chairman

PTT highly values the independence of the Board; however, since it is a listed company on SET while remaining a state enterprise under the Ministry of Energy, with the Ministry of Finance serving as the major shareholder, most of the elected Chairmen to date have come from the management of either ministry. Yet, they have consistently displayed strong independence.

5.9 Corporate Secretary

To comply with the good CG principles of listed companies under the category of directors' responsibility and the terms of the Securities and Exchange Act, PTT has appointed Ms. Sumon Rungkasiri as Corporate Secretary. She has a master's degree in public administration, National Institute of Development Administration (NIDA), and has taken a course in company secretary, the Company Reporting Program, the Board Reporting Program, and the Effective Minutes-Taking course of IOD. The Corporate Secretary provides the Board with legal advice and reminds them of assorted regulations that they need to know and comply with; holds meetings; supervises assorted Board activities to enable them to perform efficiently and effectively for the maximum benefit to PTT; prepares and maintains critical documents, including directors' registration, Board meeting notices and minutes, annual reports; issues shareholders' meeting notices and minutes, and keeps reports on connected transactions reported by directors or the management.

5.10 Committees

The Board values CG by initially appointing the Audit Committee, the Nominating Committee, and the Remuneration Committee. For a period, the Audit Committee also looked after corporate governance and risk management for the Board.

In 2004, the Board set up the Corporate Governance Committee, charged with promotion and screening of CG and promotion of excellence in such areas. PTT today therefore has four committees investigating critical matters under the CG principles to create maximum benefit for shareholders, taking into account stakeholders' concerns and interests, business ethics, transparency, and accountability. Each of these committees consists of qualified, non-management directors as required by SET, with clearly written roles and responsibilities in a charter.

Since 2009, the duties of the Corporate Governance Committee have been expanded to cover additional policy, implementation, and monitoring of the operation on the responsibilities toward society, community, and the environment, so that the committee may be responsible for the stakeholders in a more comprehensive and efficient way.

5.10.1 The Audit Committee

Each quarter, together with Accounting and the Office of the Auditor-General, the Audit Committee reviews PTT's financial reports and presents its findings to the Board. The Board is accountable for PTT Group's consolidated financial statements, as well as other financial information ('Report on the Board's Responsibility to Financial Reports') presented in the annual report. The financial statements are prepared under generally accepted accounting principles and are audited and certified by the Office of the Auditor-General. Essential information, financial and otherwise, is completely and consistently disclosed.

The Board approved the appointment of the Audit Committee on October 1, 2001, which consisted of directors with the qualifications specified by securities and exchange laws and SET. The committee must consist of at least three members. As of December 31, 2012, it consisted of three independent directors as follows:

Name	Position	Remarks
1. Mr. Chulasingh Vasantasingh	Chairman	Independent Director
2. Mr. Boonsom Lerdhirunwong	Member	Independent Director
3. Mr. Waroonthep Watcharaporn	Member	Independent Director

Note: *Mr. Chulasingh Vasantasingh, Mr. Boonsom Lerdhirunwong, and Mr. Waroonthep Watcharaporn meet the qualifications required to review the accountability of financial statements. The Executive Vice President, Office of Corporate Audit, served as secretary.*

Duties and Responsibilities

- Ensure the suitability and effectiveness of the internal control system and internal audit procedures and consider the adequacy of the budget and personnel, as well as the independence of the Office of Corporate Audit.
- Review PTT's financial reporting process to ensure accuracy and adequacy.
- Consider connected transactions or transactions of potential conflicts of interest and ensure compliance with SET's laws and regulations.
- Review compliance with securities and exchange laws, SET regulations, policies, regulations, rules, stipulations, cabinet resolutions, and laws relevant to PTT's business.
- Review the roles of business ethics and the code of conduct by ensuring that the management have a mechanism to receive complaints and supervise the system of complaints.
- Select, nominate, and recommend fees for the external auditor.
- Examine accurate and complete disclosure of PTT's information for connected transactions or potential conflicts of interest.
- Regularly review PTT's risk management system and recommend improvements.
- Ensure accuracy and effectiveness of Information Technology concerning reports on financial and internal controls.
- Promote development of the system of financial reporting on par with international standards.
- Review evidence if in doubt about the action that may seriously affect PTT's operations or conflicts of interest that may affect PTT's operation.
- Prepare a performance report as set by the criteria.
- When it is necessary to provide its opinions on PTT's assorted operations, seek independent opinions from or hire advisers or specialists, at the expense of PTT, provided that reasonable fees are paid.

- The chairman or members of the Audit Committee must attend the meetings of shareholders.
- Attend meetings with the external auditor in the absence of the management at least once a year.
- Hold a formal meeting with the management at least once a year.
- Review the Audit Committee's charter every year.
- Perform other Board-assigned tasks within the committee's duties and responsibilities.

This year the committee held 16 meetings and duly reported its findings to the Board. In addition, it participated in quarterly financial audits along with the external auditor and Accounting.

5.10.2 The Nominating Committee

The Board approved the appointment of the Nominating Committee on October 1, 2001, made up of three of its directors. As of December 31, 2012, it consisted of:

Name	Position	Remarks
1. Mr. Watcharakiti Watcharothai	Chairman	Independent Director
2. Mr. Krairit Nilkuha	Member	Director
3. Dr. Pailin Chuchottaworn	Member	Independent Director & Secretary

Duties and Responsibilities

- Select qualified candidates for directors or the President.
- Define the recruitment procedures and criteria for directors or the President to ensure transparency.

The recruitment procedures for directors are as follows:

1. The committee defines the qualifications needed for the replacement to ensure that the new directors meet the criteria and qualifications as required by related laws and regulations, in line with PTT's business operation, and defines the procedures for nominating qualified candidates.

2. The committee summarizes its recruitment results and presents to the Board a shortlist of qualified candidates along with supporting rationale.

3. The Board appoints the qualified candidates from the list prepared by the committee and submits their names to the shareholders' meeting for approval.

This year the committee held two meetings.

5.10.3 The Remuneration Committee

The Board approved the appointment of the Remuneration Committee on October 1, 2001, by appointing three directors. As of December 31, 2012, it consisted of:

Name	Position	Remarks
1. Mr. Arkhom Termpittayapaisith	Chairman	Independent Director
2. Mr. Krairit Nilkuha	Member	Director
3. Mrs. Benja Louichareon	Member	Director

Duties and Responsibilities

- Define compensation guidelines for directors and the President.
- Define procedures and criteria for fair and sensible compensation paid to directors and the President for approval at the Board's or shareholders' meetings.

This year the committee held two meetings.

5.10.4 The Corporate Governance Committee

The Board approved the appointment of the Corporate Governance Committee on June 24, 2004, consisting of three directors. As of December 31, 2012, the names of these directors were as follows:

Name	Position	Remarks
1. Mr. Watcharakiti Watcharothai	Chairman	Independent Director
2. Mr. Sihasak Phuangketkeow	Member	Independent Director
3. Gen. Warawat Indradat	Member	Independent Director

The Vice President, Office of the President and Corporate Secretary, served as secretary.

Duties and responsibilities

- Propose CG guidelines to the Board.
- Advise the Board on CG matters.
- Ensure that the duties and responsibilities of directors and the management conform to CG principles.
- Revise guidelines for PTT's CG against those of international organizations and present its recommendations to the Board.
- Delegate corporate governance policies to the Corporate Governance Task Force.
- Delegate policy and guidelines to implement CSR
- Monitor the implementation of CSR and report its findings to the Board.

This year the committee held four meetings.

5.11 Board Meetings

Board meetings are planned for the entire year-this year, the fourth Friday of each month-with additional meetings called to discuss special items as necessary. Seven days ahead of the meeting, the Office of the President and Corporate Secretary issues a meeting notice along with the meeting agenda and relevant supplementary documents contained in a CD to each director. Currently, Board meetings have been made electronic (paperless) for speed and convenience in information access and management, while considerably reducing accompanying documents. Moreover, PTT is in the process of developing and testing application software in meetings to reduce process and provide speed in the delivery of the agenda.

At the meetings in 2012, directors openly and freely expressed their views. Particularly if they might be involved in a connected transaction or a potential conflict of interest with PTT, they abstained or refrained from voting or attending that portion of the meeting. The minutes of each meeting were properly documented and, after the adoption from the Board was given, were filed for auditing purposes and reference by directors and related persons. By and large, each Board meeting lasted three hours. Details about directors' meetings were summarized as follow:

Summary of PTT Board of Meeting Attendance (2012)

	1/2012	Special 1/2012	2/2012	3/2012	4/2012	5/2012	6/2012	7/2012	Special 2/2012	8/2012	9/2012	10/2012	Special 3/2012	11/2012	12/2012
1. Dr. Norkun Sitthiphong	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
2. Mr. Surapon Nitikraipot	/	/	/	/	Term expired Apr. 10, 2012										
3. Mr. Insorn Buakeow	Appointed Apr. 10, 2012				/	/	/	/	/	/	/	/	/	/	/
4. Mr. Watcharakiti Watcharothai	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
5. Mr. Chulasingh Vasantasingh	/	/	/	/	X	/	/	/	/	/	/	/	/	/	/
6. Mr. Krairit Nilkuha	/	/	/	/	/	X	/	/	/	X	/	/	/	/	/
7. Mrs. Benja Louichareon	/	/	X	/	/	/	/	/	/	/	/	/	/	X	/
8. Mr. Arkhom Termpittayapaisith	/	X	X	/	/	/	/	/	X	/	X	/	/	/	X
9. Mr. Waroonthep Watcharaporn	X	/	/	/	/	/	/	/	/	/	X	/	/	/	/
10. Mr. Krairit Euchukanonchai	/	/	/	X	Resigned Apr. 20, 2012										
11. Mr. Boonsom Lerdhirunwong	Appointed Apr. 21, 2012				/	/	/	X	/	/	/	/	/	/	/
12. Dr. Chitrapongse Kwangsukstith	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
13. Mr. Montri Sotangkur	/	/	/	/	X	X	/	/	/	/	X	/	X	/	X
14. Gen. Warawat Indradat	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
15. Gen. Prin Suvanadat	/	/	/	/	/	/	/	/	X	/	/	Resigned Oct. 22, 2012			
16. Mr. Sihasak Phuangketkeow	/	/	/	X	X	/	/	X	X	X	X	/	/	/	/
17. Dr. Pailin Chuchottaworn	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Total attendance	14	14	13	13	12	13	15	13	12	13	11	14	13	13	12
Total directors	15	15	15	15	15	15	15	15	15	15	15	14	14	14	14

Attendance Record of the Board and the Committee Meetings (2012)

Name	Meeting Attendance in 2012					Appointment during the Year
	Board of Directors (Total 15)	Audit Committee (Total 16)	Corporate Governance Committee (Total 4)	Nominating Committee (Total 2)	Remuneration Committee (Total 2)	
1. Dr. Norkun Sitthiphong	15/15	–	–	–	–	–
2. Mr. Watcharakiti Watcharothai	15/15	–	4/4	2/2	–	–
3. Mr. Chulasingh Vasantasingh	14/15	15/16	–	–	–	–
4. Mr. Krairit Nilkuha	13/15	–	–	2/2	2/2	–
5. Mrs. Benja Louicharoen	13/15	–	–	–	2/2	–
6. Mr. Arkhom Termpittayapaisith	10/15	1/4	–	–	2/2	–
7. Mr. Waroonthep Watcharaporn	13/15	12/12	1/1	–	–	–
8. Dr. Chitrapongse Kwangsukstith	15/15	–	–	–	–	–
9. Mr. Montri Sotangkur	10/15	–	–	–	–	–
10. Gen. Warawat Indradat	15/15	–	3/3	–	–	–
11. Mr. Sihasak Phuangketkeow	9/15	–	3/3	–	–	–
12. Mr. Insorn Buakeow	11/11	–	–	–		Appointed Apr. 10 (replacing Mr. Surapon Nitikraipot)
13. Mr. Boonsom Lerdhirunwong	10/11	12/12	–	–		Appointed Apr. 21 (replacing Mr. Krairit Euchukanonchai)
14. Dr. Pailin Chuchottaworn	15/15	–	–	2/2	–	–

Three Directors who completed their terms or resigned (2012)

Name	Meeting Attendance in 2012					Appointment during the Year
	Board of Directors (Total 15)	Audit Committee (Total 16)	Corporate Governance Committee (Total 4)	Nominating Committee (Total 2)	Remuneration Committee (Total 2)	
1. Gen. Prin Suvanadat	10/11	–	–	–	–	–
2. Mr. Surapon Nitikraipot	4/4	–	1/1	–	–	–
3. Mr. Krairit Euchukanonchai	3/4	4/4	–	–	–	–

Note: *A total of 15 Board meetings took place during the year: 12 regular meetings and 3 extraordinary meetings, as well as one meeting among independent directors in the absence of the management.*

5.12 Self-assessment of the Board

By the resolution of Board meeting No. 9/2012 of September 28, 2012, the Board approved the self-assessment forms used last year for this year. This year, the Board also approved additional self-assessment of the Committees, that is, the Nominating Committee, the Remuneration Committee, and the Corporate Governance Committee. The forms aligned with PTT's good CG principles. It was to be a vital tool for improving Board performance, provide reference data for the corporate governance rating, cover the assessment of all committees, as well as serving as information for the monitoring/assessment from external auditors. Four types of self-assessments were applied, whereby the percentages corresponded to the following levels of performance achieved in each of the areas detailed below. These are the assessment criteria for the entire Board, individual self-assessment, cross-assessment, and the entire Committees:

Over	85%	=	Excellent
Over	75%	=	Very good
Over	65%	=	Good
Over	50%	=	Fair
Below	50%	=	Need improvement

The findings from the self-assessments were as follows:

1. **Self-assessment of the Board** consisted of four categories: Board Policy, Board Composition Board Practices and Board Meeting.

The results indicated excellent/most suitable overall performance, with an average score of 94.78%.

2. **Self-assessment of Individual Directors** consisted of six categories: accountability for decisions and actions; responsibility for performing the job with full ability and efficiency; equitable treatment of all stakeholders; transparency in job performance and information disclosure; vision to create long-term value; and business ethics.

Overall results were excellent for most directors, with an average score at 96.63%.

3. **Individual Assessment of Other Directors** (Cross-assessments) consisted of six identical categories as listed above for direct comparison.

Cross-assessment results in these six categories indicated excellent conformance by most directors, with an average score of 97.33%.

4. **Self-assessment of the Committees** (the entire committees) consisted of four identical categories as self-assessment of the Board for direct comparison.

The results indicated excellent/most suitable overall performance for the committees as follows:

4.1 The Nominating Committee with an average score of 98.75%

4.2 The Remuneration Committee with an average score of 97.08%

4.3 The Corporate Governance Committee with an average score of 97.92%.

5. **Assessment of the Audit Committee's Performance**

Under PTT Plc's Audit Committee charter 2012 on performance assessment, the Audit Committee Manual for State Enterprises under the Ministry of Finance, and SET's Good Governance handbook for internal auditors and the audit committee section 1.1: responsibility of the Audit Committee, the Audit Committee must assess its performance by undertaking self-assessment at least once a year. The individual self-assessment or the entire Committee's assessment is presented yearly to the Board, specifying problems leading to unfulfilled objectives. The Audit Committee's meeting no. 11/2012 of November 13, 2012, passed a resolution to use the same assessment forms as the previous year, since they conformed to the good governance stipulated by State Enterprise Policy Office (SEPO) and SET, with a waive of cross-assessments because there were only three Audit Committee members. The Audit Committee's meeting No. 14/2012 of December 6, 2012, passed a resolution to approve the assessment of the Audit Committee's performance 2012 with the following details:

• Self-assessment consisted of business knowledge/ specific expertise/ duties and authorities/ independence and fairness/ understanding of duties and responsibilities of the members/ commitment to work and meetings.

The assessment criteria were 4 = Excellent, 3 = Very good, 2 = Good, 1 = Need improvement

The result of the Audit Committee's self-assessment indicated very good to excellent overall performance, with a score of 3.7 - 4.0.

• Assessment of the entire committee consisted of the structure and composition/ role and responsibilities/ relationship with the Office of Corporate Audit and the external auditor/ relationship with the management/ reporting/ quality consistency.

The assessment criteria were 4 = regularly implemented, 3 = mostly implemented, 2 = sometimes implemented, 1 = never implemented

The result of the assessment of the entire Audit Committee was at the regularly implemented level, with a score of 3.9 - 4.0.

5.13 Corporate Management

5.13.1 Duties and Responsibilities of the President & CEO (President)

Under PTT's regulations, the President & CEO has the authority and responsibility to manage PTT's business as assigned by the Board. The business is to be managed strictly, prudently, and with integrity under the plans or budget approved by the Board, and must be in the best interests of PTT and its shareholders. The President & CEO's authority and responsibility include the following duties:

• Operate and/or manage day-to-day business.

• Hire, appoint, remove, transfer, promote, demote, reduce the salary or wages of, and take disciplinary action against employees and contractors, as well as dismissing employees or contractors under the Board's regulations.

• Ensure the preparation and submission of business policies, including operating plans and budget estimates, to the Board for approval, and report performance against them to the Board every three months.

• Ensure the implementation of the policies, plans, and budget approved by the Board.

The Board authorizes the President & CEO to manage PTT's business under the following scope of authority:

• Manage business under all objectives, regulations, policies, rules, specifications, directives, and resolutions of the Board or shareholders' meetings, or both.

• Order, contact, command, implement, and sign juristic acts, agreement, orders, announcements, or any correspondence with government agencies, state enterprises, or other parties, and engage in any necessary and suitable action to facilitate this duty.

• Command all employees and contractors, including hiring, appointing, removing, promoting, demoting, cutting the salary or wages of, taking disciplinary action, and dismissing any employee or contractor under the rules, regulations, and directives of the Board. For employees or contractors serving as advisers, senior executive vice presidents or equivalent upward, prior approval of the Board is required. The President & CEO is also authorized to specify employment conditions for employees and contractors, and issue rules governing PTT's operations, provided that they do not conflict with the rules, regulations, and directives of the Board.

• Assign the power of attorney and/or delegate specific tasks to other persons, provided that the action complies with the document concerning the power of attorney or rules, regulations, or directives of the Board and/or PTT.

The authority and duties of the President & CEO are invalid in case of conflicts of interest with PTT in any form resulting from the President & CEO's exercise of the authority. This year no such cases have arisen.

5.13.2 The Management Committee

The Management Committee was appointed on October 1, 2001, with the mandate of operating PTT's business. As of year-end 2012, it consisted of 10 members as follows:

	Name	Position
1.	President & CEO	Chairman
2.	Chief Financial Officer	Member
3.	Chief Operating Officer, Upstream Petroleum & Gas Business Group	Member
4.	Chief Operating Officer, Downstream Petroleum Business Group	Member
5.	Senior Executive Vice President, Corporate Management	Member
6.	Senior Executive Vice President, Gas Business Unit	Member
7.	Senior Executive Vice President, Oil Business Unit	Member
8.	Senior Executive Vice President, Petrochemicals and Refining Business Unit	Member
9.	Senior Executive Vice President, International Trading Business Unit	Member
10.	Senior Executive Vice President, Corporate Strategy and Organization Development	Member and Secretary

The Vice President, Office of the President & Corporate Secretary, served as Assistant Secretary.

The Management Committee meets at least once a month. This year there were altogether 40 meetings.

Duties and Responsibilities

- Provide advice and recommendations to the President & CEO on significant issues on corporate strategy and business directions, investment plans, budgets, allocation of resources to PTT and its affiliates, and ensure that the operation of PTT affiliates is uniform.
- Rank decisions made by the Board to ensure effective implementation.
- Screen meeting agendas before presenting to the Board.
- Rank significant matters about the allocation of human and financial resources of PTT and its affiliates.
- Jointly resolve significant issues about PTT affiliates before the meeting of the Board of each affiliated company.
- Establish standards for the systems of business administration, human resources and information, as well as the organizational structure of PTT and its affiliates.
- Establish a policy on human resource management.

In addition, PTT appointed 15 committees to oversee specific internal areas of work for accurate, suitable, efficient, and effective implementation as follows:

1. Enterprise Plan Committee
2. Corporate Finance and Accounting Committee
3. PTT Plc Credit Committee
4. Risk Management & Internal Control Committee
5. Corporate Human Resource Committee
6. Quality, Security, Safety, Health, and Environment Committee
7. Corporate Social Responsibility Committee
8. Petroleum Procurement Committee
9. Upstream Petroleum and Gas Business Group Synergy Management Committee
10. Downstream Petroleum Business Group Synergy Management Committee
11. Oil Business Strategic Plan Committee
12. Gas Business Strategic Plan Committee
13. Petrochemicals and Refining Strategic Plan Committee
14. International Trading Business Unit Risk Management Committee
15. Innovation Promotion Committee.

5.13.3 Current Management Team Members

Name	Position
1. Dr. Pailin Chuchottaworn	President & CEO
2. Mr. Surong Bulakul[1/]	Chief Financial Officer
3. Mr. Wichai Pornkeratiwat	Chief Operating Officer, Upstream Petroleum & Gas Business Group
4. Mr. Nuttachat Charuchinda	Chief Operating Officer, Downstream Petroleum Business Group
5. Mr. Pitipan Tepartimargorn	Senior Executive Vice President, Corporate Management
6. Mr. Supattanapong Punmeechaow	Senior Executive Vice President, Corporate Strategy
7. Mr. Charcrie Buranakanonda[2/]	Senior Executive Vice President, Gas Business Unit
8. Mr. Sarun Rungkasiri	Senior Executive Vice President, Oil Business Unit
9. Mr. Sukrit Surabotsopon	Senior Executive Vice President, Petrochemicals & Refining Business Unit
10. Mr. Sarakorn Kulatham	Senior Executive Vice President, International Trading Business Unit
11. Mr. Tevin Vongvanich[3/]	Senior Executive Vice President, seconded to President & CEO, PTT Exploration and Production Plc
12. Mr. Anon Sirisaengtaksin[4/]	Senior Executive Vice President, seconded to CEO, PTT Global Chemical Plc
13. Mr. Veerasak Kositpaisal[5/]	Senior Executive Vice President, seconded to CEO, Thaioil Plc
14. Mr. Bowon Vongsinudom	Senior Executive Vice President, seconded to President, PTT Global Chemical Plc
15. Mr. Atikom Terbsiri	Senior Executive Vice President, seconded to President, IRPC Plc
16. Mr. Wirat Uanarumit	Executive Vice President, Corporate Finance
17. Ms. Prisana Prahankhasuek	Executive Vice President, Corporate Accounting

Notes: 1/ Appointed on May 1 this year, replacing Mr. Tevin Vongvanich, who was seconded to PTTEP.

2/ Appointed on October 1 this year, replacing Mr. Peerapong Achariyacheevin, who retired.

3/ Appointed on May 1 this year, replacing Mr. Anon Sirisaengtaksin, who was seconded to PTTGC.

4/ Appointed on May 1 this year, replacing Mr. Veerasak Kositpaisal, who was seconded to Thaioil Plc.

5/ Appointed on May 1 this year, replacing Mr. Surong Bulakul, who was appointed to resume work at PTT.

5.14 Compensation Paid to Directors and the Management

With the oversight of the Remuneration Committee, PTT fairly and sensibly specifies the compensation paid to directors, taking into account each director's responsibility, its financial performance, and compatibility with industry peers. Compensation consists of meeting allowances and bonuses. Directors appointed to specific committees receive additional allowances for additional responsibilities. Directors' compensation rates have been approved by shareholders as follows:

5.14. Directors' Compensation

• **Board of Directors' compensation**

The following compensation structure for the Board was approved at the AGM of April 10, 2012:

1. Meeting Allowances

1.1 Board Meeting compensation remained the same as in 2011, and consisted of:

- Retainer allowance of 30,000 baht per month
- Meeting allowance of 20,000 baht for each meeting (for those in attendance only)

1.2 Compensation for meetings of Committees consisted of:

1.2.1 Audit Committee

- Monthly allowance of 15,000 baht each
- Meeting allowance of 15,000 baht for each meeting (for those in attendance only), and the Secretary received a monthly allowance of 7,500 baht.

1.2.2 Compensation for the Nominating, Remuneration, and Corporate Governance Committees consisted of:

- Meeting allowance of 24,000 baht for each meeting (for those in attendance only).

1.3 Compensation for the Chairman of each committee was 25% higher than for others.

• **Directors' Bonuses in 2012** (no change from 2011):

Bonus payouts to each director, at 0.05% of the net income for 2012, corresponded to PTT's performance and net income and up to 2,000,000 baht per person were completed. The bonus was prorated to each director's term, with the Chairman receiving 25% more than individual directors.

Compensation Paid to Individual Directors (2012)

Unit: Baht

No.	Name	Days of Service	Bonus	Board Meeting Allowance	Committee Meeting Allowance	Total Allowance	Total Compensation
1.	Dr. Norkun Sitthiphong	366	2,500,000.00	825,000.00	-	825,000.00	3,325,000.00
2.	Mr. Watcharakiti Watcharothai	366	2,000,000.00	660,000.00	174,000.00	8 34,000.00	2,834,000.00
3.	Mr. Chulasingh Vasantasingh	366	2,000,000.00	865,000.00	281,250.00	1,146,250.00	3,146,250.00
4.	Mr. Krairit Nilkuha	366	2,000,000.00	620,000.00	96,000.00	716,000.00	2,716,000.00
5.	Mrs. Benja Louichareon	366	2,000,000.00	620,000.00	48,000.00	668,000.00	2,668,000.00
6.	Mr. Arkhom Termpittayapaisith	366	2,000,000.00	620,000.00	75,000.00	695,000.00	2,695,000.00
7.	Mr. Waroonthep Watcharaporn	366	2,000,000.00	740,000.00	204,000.00	944,000.00	2,944,000.00

Unit: Baht

No.	Name	Days of Service	Bonus	Board Meeting Allowance	Committee Meeting Allowance	Total Allowance	Total Compensation
8.	Dr. Chitrapongse Kwangsukstith	366	2,000,000.00	660,000.00	-	660,000.00	2,660,000.00
9.	Mr. Montri Sotangkur	366	2,000,000.00	560,000.00	-	560,000.00	2,560,000.00
10.	Gen. Warawat Indradat	366	2,000,00.00	660,000.00	72,000.00	732000.00	2,732,00.00
11.	Mr. Sihasak Phuangketkeow	366	2,00,000.00	540,000.00	72,000.00	612,000.00	2,612,000.00
12.	Mr. Insorn Buakeow	266	1,453,551.91	481,000.00	-	481,000.00	1,934,551.91
13.	Mr. Boonsom Lerdhirunwong	255	1,393,442.62	570,000.00	180,000.00	750,000.00	2,143,442.62
14.	Dr. Pailin Chuchottaworn	366	2,000,000.00	660,000.00	48,000.00	708,000.00	2,708,000.00
	Total		**27,346,994.53**	**9,081,000.00**	**1,250,250.00**	**10,331,250.00**	**37,678,244.53**

Note: *No. 12: Appointed on April 10, 2012.*

No. 13: Appointed on April 21, 2012.

Retired and Resigned Directors (2012)

Unit: Baht

No.	Name	Days of Service	Bonus	Board Meeting Allowance	Committee Meeting Allowance	Total Allowance	Total Compensation
1.	Gen. Prin Suvanadat	296	1,617,486.34	490,322.58	-	490,322.58	2,107,808.92
2.	Mr. Krairit Euchukanonchai	111	606,557.38	225,000.00	60,000.00	285,000.00	891,557.38
3.	Mr. Surapon Nitikraipot	101	551,912.57	180,000.00	30,000.00	210,000.00	761,912.57
	Total		**2,775,956.29**	**895,322.58**	**90,000.00**	**985,322.58**	**3,761,278.87**

Note: *No. 1: Appointed on November 25 and resigned on October 22, 2012.*

No. 2: Ended his term on April 10, 2012.

No. 3: Resigned on April 20, 2012.

Directors' Compensation Profile of 2009 - 2012

Unit: Baht

Compensation	2009		2010		2011		2012	
	Persons	Baht	Persons	Baht	Persons	Baht	Persons	Baht
Meeting Allowance	15	10,863,879.03	15	11,398,213.71	15	11,355,399.76	14	11,316,572.58
Total Bonus	15	29,173,972.62	15	29,657,534.24	15	28,802,739.73	14	30,122,950.82
Total		**40,037,851.65**		**41,055,747.95**		**40,158,139.49**		**41,439,523.40**

Compensation to Independent Directors Serving as an Independent Director in Subsidiaries

This year, the Board has three independent directors on the board of PTTEP, a PTT subsidiary. They received compensation for their service to that company for this year as follows:

Unit: Baht

Name	Compensation		Committee meeting allowance	Total compensation
	Bonus	Meeting and monthly allowances		
1. Mr. Krairit Euchukanonchai	790,478.33	240,000.00	40,000.00	1,070,478.33

Total Compensation paid to the Management

Unit: Baht

Compensation	2009		2010		2011		2012	
	Persons	Baht	Persons	Baht	Persons	Baht	Persons	Baht
Salary	8	52,677,119.00	7	50,470,620.00	10	62,091,720.00	9	62,769,000.00
Bonus	8	24,143,679.00	7	22,183,379.00	6	24,581,820.00	9	23,993,379.77
Total		76,820,798.00		72,653,999.00		86,673,540.90		86,762,379.77

Provident Fund Contribution to the Management

Unit: Baht

Compensation	2009		2010		2011		2012	
	Persons	Baht	Persons	Baht	Persons	Baht	Persons	Baht
Provident Fund	7	3,384,852.00	7	2,925,340.00	7	3,980,468.00	8	6,276,900.00

Additional Information on the Board and the Management as follows:

Records have shown no violation of the law within the past 10 years regarding:

1) Being sentenced for criminal charges, except for violations of traffic law, minor charges, or similar charges.

2) Being sentenced to bankruptcy or having assets controlled.

3) Serving as an executive or a person with authority in a company or partnership sentenced to bankruptcy or whose assets are controlled.

5.15 Policy on Serving as Directors of Other Companies

PTT has 49 affiliated companies, six of which are SET-listed in which it has invested and held shares. About 60% of its current net income is derived from these companies. Thus, PTT has adopted the PTT Group management structure for synergy and alignment of policies. To achieve this, it appoints directors or management team members to serve as directors in these companies to supervise policies and business management which align with PTT's policies for the benefit and value addition for all stakeholders. The objectives for such appointments are as follows:

1) To ensure that the management of a given company aligns with the policy of PTT Group companies; to monitor its overall business performance to align with PTT's policy and institute comparable standards.

2) To establish synergy for the business of PTT Group companies and add value to all related parties, including Thailand as a whole.

3) To apply specific expertise in support of business, including financial know-how to improve accounting and financial processes to enable a given company to grow robustly. This includes assistance to companies outside PTT Group. The resulting application of the knowledge and expertise gained from serving in such leading companies will enhance the benefit to PTT and foster cordial relations and business alliances for PTT.

4) This is part and parcel of the responsibility of directors and the management of PTT.

PTT ensures its consideration of executives or outsiders from the Ministry of Finance's Director's Pool for appointment within PTT Group, which are regarded as state enterprises, based on an act on standard qualifications of directors and state enterprise officials. Chosen directors from the pool must make up no less than one-third of other directors of a given state enterprise. At present, PTT has 6 members who are on the list of the Director's Pool. It also ensures that PTT executives and such outsiders who serve as directors in PTT affiliates serve on no more than three PTT affiliates or other state enterprise affiliates. This is designed to lower risks of conflicts of interest and ensure conformance to applicable laws, as well as conformance to a Cabinet resolution of January 24, 2011, on fraud prevention measures at state enterprises, entitled "The appointment of senior government officials or persons as directors on multiple state enterprises", as proposed by the National Anti-Corruption Commission.

5.16 Directors' Development

The Board and the management value regular participation in development training relevant to their performance, as seen in each of their profiles. Most directors have undergone training with IOD. PTT supports and encourages their training with IOD as well as other institutions in all relevant courses throughout the year. In addition, it stages study trips to other agencies and organizations to promote helpful initiatives for application to PTT's business. This year, the following directors underwent training and seminars.

Name	Course
1. Mr. Chulasingh Vasantasingh	- Financial Institutions Governance Program (FGP 4/2012)
2. Mr. Insorn Buakeow	- Director Certification Program (DCP 162/2012) - Financial Statements for Directors (FSD 17/2012) - Seminar "The Responsibilities of Company Directors in Fighting Corruption" organized by IOD
3. Mr. Waroonthep Watcharaporn	- Director Certification Program (DCP 157/2012) - Financial Statements for Directors (FSD 17/2012) - Audit Committee Program (ACP 40/2012) - Monitoring the Internal Audit Function (MIA 13/2012) - Monitoring the system of Internal Control and Risk Management (MIR 13/2012)
4. Mr. Boonsom Lerdhirunwong	- Audit Committee Program (ACP 41/2012) - Monitoring Fraud Risk Management (MFM 8/2012) - Monitoring the Internal Audit Function (MIA 13/2012) - Monitoring the System of Internal Control and Risk Management (MIR 13/2012) - Financial Statements for Directors (FSD17/2012) - Director Certification Program (DCP 162/2012) - Monitoring the Quality of Financial Reporting (MFR 16/2012) - Seminar "The Responsibilities of Company Directors in Fighting Corruption" organized by IOD
5. Gen. Warawat Indradat	- Director Certification Program (DCP 162/2012) - High-level Executive Program on Energy batch 2 organized by Thailand Energy Academy - Seminar "The Responsibilities of Company Directors in Fighting Corruption" organized by IOD - Seminar "Moving Corporate Governance Forward: Challenge for Thai Directors" on ASEAN CG Scorecard organized by IOD
6. Mr. Watcharakiti Watcharothai	- Seminar "Moving Corporate Governance Forward: Challenge for Thai Directors" on ASEAN CG Scorecard organized by IOD
7. Dr. Pailin Chuchottaworn	- Anti-Corruption Training Program for Corporate Directors and Executives (ACEP 4/2012)

PTT's policy is to organize periodic visits and study trips to work sites, both domestic and overseas, for the directors to foster their understanding of the business and apply their expertise and experience to their consideration of matters related to energy concerning PTT and Thailand. To this end, this year PTT organized the following overseas trips:

1. A study visit to TOTAL's headquarters in France. TOTAL, a multinational company operating the energy business, was ranked 11th in Fortune 500 Magazine in 2012 and has been PTT's close and long-standing partner in petroleum exploration and production, natural gas, and oil matters. The visiting directors exchanged views on energy management with TOTAL's senior management. The information, knowledge, and experience obtained will help identify directions, policies, and strategies of PTT's and national energy business management.

2. A study visit to oil sands facilities, PTTEP's energy investment, in Canada. It is considered the world's largest crude oil reserves, next to the Middle East. The visiting directors were exposed to the knowledge and understanding of the business of this new energy resource. They also recognized PTT's potential for securing energy to the country through overseas investment.

The policy is to promote directors' education about various countries' energy usage and directions so that the Board may compare practices with Thailand's energy policy formulation, while enabling directors to monitor data and progress in the energy business and directly share views with experts in world-class energy companies. This broadens their views on PTT Group's overseas investment expansion, which is in line with future Group business directions. The data, knowledge, and first-hand experience derived will certainly contribute to knowledge and understanding of the global energy business and help in the deliberation of suitable businesses for PTT and Thailand.

5.17 Directors' Orientation

For new directors, PTT arranges an orientation program to inform them of its business policies, capital structure, shareholding structure, business performance, information systems, as well as related laws and regulations. Moreover, each director receives a Director's Handbook, which includes the following topics:

Director's Handbook

1. The Public Company Act
2. Securities and Exchange Act
3. Standard Qualifications of Directors and State Enterprise Officer Act
4. Company Registration Certificate
5. Company Certificate
6. Company Objectives
7. Company Regulations
8. Company Rules (14 Rules)
9. PTT Corporate Governance Handbook
10. Guidelines for Directors of Listed Companies

Information kit for directors

1. Overview business presentation of PTT by the President & CEO
2. List of directors, subcommittees, and management structure
3. Director Fiduciary Duty Check List
4. Good corporate governance principles for listed companies
5. Connected transactions of listed companies
6. Guidance on providing information for listed company management
7. PTT Plc Company Profile (short version)
8. Annual Report
9. Financial Report
10. Annual Sustainability Report
11. Governance book
12. "PTT The S-Curve Story" book
13. Debenture book journal
14. PTT Spirit journal

In his briefing to new directors, the President & CEO presents information about PTT, its policies, and relevant information for their overview of the business operation and performance. At the same time, the above-mentioned documents and handbook for new directors are handed over on two occasions.

5.18 Succession Planning

Because PTT is a state enterprise, the nomination and appointment of the President & CEO must follow the Standard Qualifications of Directors and State Enterprise Officer Act. The directors must have the qualifications as specified in Article 8 ter and the nominating procedures as specified in Article 8 quarter. The Board is to appoint a Nominating Committee with five members legitimately qualified to nominate persons with appropriate knowledge, capability, and experience to fill the positions of PTT management. They must be legitimately qualified and cannot be PTT directors, except for the management who are directors by title. They must not be older than 58 years old when submitting the application form. When the Nominating Committee selects appropriate candidates, it submits the results to the authority's consideration. The appointment must be completed within one year from the day the incumbent vacated the position. The hiring contract lasts up to four years for each term. If the Board wishes to hire the previous management team member after the completion of his term as specified in the hiring contract, it does not have to go through the nominating process, but it cannot hire that person for more than two consecutive terms.

5.19 Internal Control System

PTT consistently values internal controls, particularly a system that is comprehensive in scope of activities and dimensions, as well as adequate and suitable for its businesses. Adding efficiency and effectiveness to business, resource utilization, and stewardship of properties, this system consists of an accurate and reliable accounting system and financial reporting. In addition, it calls for strict conformance to laws and regulations related to PTT's business.

The President & CEO has authorized the Risk Management Committee to define work procedures under PTT's internal control standards, together with assessing the outcomes and reporting the overview of PTT's internal control.

PTT has conducted an internal control assessment by the rule of the Office of the Auditor-General governing the formulation of internal control standards, B.E. 2544, article 6, under which the head of a government agency or state enterprise must report to the Office of the Auditor-General, the Monitoring Agency, and the Audit Committee on internal control at least once a year. The Board has assigned the Audit Committee to review the findings of such an internal control assessment, annually conducted by the management and the Office of Corporate Audit, as highlighted below.

5.19.1 Control Environment

PTT commands a sound overall control environment that is adequate for business efficiency and effectiveness. Its executives have promoted an organizational culture focusing on the code of conduct as a role model with the following implementations:

- PTT Group has defined a policy and procedures in writing on integrity and a code of conduct. The Corporate Governance Committee defines a CG policy in line with international standards. Disclosures are made about conflicts of interest to ward off activities of such conflicts, illegal, and improper activities. The policy and the handbook are revised each year. Each director, management team member, and employee sign to acknowledge and conform to such policy and handbook as part of their work, illustrating the commitment to apply the good CG policy and code of conduct to bring practical results.
- PTT has instituted an organizational structure that decentralizes power for business flexibility and alignment with prevailing circumstances, as well as clear and suitable lines of command. Duties and responsibilities are defined in writing, with definitions of key performance indicators (KPIs) early in the year as guidelines for employee performance, and performance is regularly monitored against goals and measured at the year-end. Goals are revised each year. All employees are aware of their roles, authority, duties, and responsibility.
- Integrate CG in the organization's vision, mission, and core values by setting the goal for PTT as a company with sustainable growth strategy, a high-performance organization with CSR, and provide proper benefit to the stakeholders on the basis of CG, as detailed below.

Corporate Governance Policy

PTT duly reviewed its CG policy and handbook to suit prevailing economic and social circumstances and requires all directors, the management, and employees to acknowledge in writing and observe all policies at work to illustrate the commitment to practical application of such policy and business code of conduct to their jobs. The Board's policy on CG is as follows:

1. The Board, management, and all employees are committed to the elements of CG: Accountability, Responsibility, Equitable Treatment, Transparency, Vision to Create Long-Term Value, and Ethics. An organization structure fairly balances the roles of the Board, the management, and the shareholders.

2. Directors must perform their duties independently with full commitment, responsibility, and independence. There is a clear division of responsibilities between the Chairman and the President & CEO.

3. Playing a key role in the formulation of the corporate vision, strategies, policies, and key plans with due regard for risk factors and suitable risk management, the Board must also ensure the credibility of the accounting system, financial statements, and accounting audits.

4. Leading the rest of PTT on ethics and CG, the Board must supervise the management and solution to any conflict of interest or connected transactions.

5. The Board may appoint committees to help it screen and scrutinize critical issues.

6. The Board must undergo annual self-assessment to obtain a framework for its performance assessment.

7. The Board must establish a code of conduct for itself, the management, employees and all contract employees to observe in addition to PTT's rules and regulations.

8. Disclosure of financial and non-financial information must be carried out adequately, credibly, promptly, and fairly for all shareholders and stakeholders. To investors and the general public, Investor Relations is responsible for such disclosure.

9. For fair treatment, PTT shareholders can access information through suitable communication channels with PTT.

10. A proper selection procedure must be in place for the appointment of key management personnel under a fair and transparent nomination process.

Code of Conduct

PTT's written policy and a code of conduct are in place for integrity and ethics. In the handbook, the Corporate Governance Committee has defined the code of conduct based on international standards. Violators of the code are subject to disciplinary action.

The essential aspects of the code are included below:

1. Respect the law and the Universal Declaration of Human Rights principles

2. Stay politically neutral

3. Stay free of vested interests and conflicts of interest

4. Maintain confidentiality and refrain from using inside information for self-gains

5. Respond to customers' needs and show responsibility to consumers

6. Compete freely and fairly

7. Use a transparent procurement system and treat business partners fairly

8. Show responsibility to communities and society

9. Support employees' rights and establish employee engagement

10. Have an efficient internal control system and an internal audit system

11. Have a guideline for accepting and giving gifts, assets, or other benefits

12. Maintain safety, promote health, and preserve the environment

13. Respect intellectual property and properly apply information technology.

Conflicts of Interest

PTT requires information disclosure to prevent conflicts of interest and illegal, improper activities. Under the Board's policy, business decisions made by the management and employees must be solely for PTT's best interests. All staff must not only avoid engaging in financial and other relationships with external parties that would lead to financial losses for PTT or a conflict in loyalty or interest, but also must not compromise the efficiency of business operation. Those staffs with interests or related businesses which may require PTT's review and decisions must report their relationships and connection with a possible conflict of interest. PTT is to disallow such connected persons from exercising their authority for and involvement in such transactions.

Reporting Connected Transactions with PTT

PTT has required the directors, management, and all employees to disclose potential conflicts of

interest through a specific disclosure form. In addition, any approval of such items must not contain special conditions or specifications that are out of the ordinary, which forms a part of PTT's internal controls. PTT's Office of Corporate Audit and the Audit Committee have been entrusted with the monitoring and resolution of issues related to conflicts of interest. This year, however, no such cases of significance have arisen.

Reporting Vested Interests of Directors, the Management, and Related Parties

In the first quarter of each year, PTT requires reporting of the vested interests of directors, the management, and related parties as basic information to manage vested interests for directors and the senior management. The directors and the management are to report such matters every year and with every change. The Corporate Secretary is to compile and submit the copy to the Chairman of the Board and the Chairman of the Audit Committee to check and manage the conflicts of interest. This year no such cases have arisen.

Reporting Changes in Share Ownerships (Portfolios)

As part of the oversight of inside-information measures, all PTT directors and management, including their spouses and children not yet of legal age, must report any changes in their PTT share ownership to the SEC under Article 59 of the Securities and Exchange Act B.E. 2535 within three days from the date of sale, purchase, disposal, or receipt of such shares. PTT defines the policy of disclosing or reporting the sale, purchase, disposal, or receipt of such shares, changes of share ownerships of the directors and the management to the monthly Board meeting, contained in advance as a regular agenda item.

Moreover, one week before the closing of the quarterly and yearly financial statements, the Office of the President and Corporate Secretary issues a letter forbidding directors, the management, or internal units with inside information to disclose such information to external parties or unrelated parties, and to buy or sell PTT shares within 45 days of the last effective date of the financial statements to the notification date of the financial statements to SET, ahead of the public dissemination of the statements so as to prevent abuse of such inside information. During the year, all directors and management have strictly observed this policy. The notifications of forbidding the sale, purchase, disposal, or receipt of PTT's shares were sent to the directors and the management four times: (1) between January 1 - February 29, 2012 (2) between April 1 - May 15, 2012 (3) between July 1 - August 14, 2012 and (4) between October 1 - November 14, 2012.

Report on Directors' Securities Portfolios (as of December 31, 2012)

No.	Name	Shares		Change during the Year	Remark
		Dec. 31, 2011	Dec. 31, 2012		
1.	Dr. Norkun Sitthiphong	-	-	-	
2.	Mr. Watcharakiti Watcharothai	-	-	-	
3.	Mr. Chulasingh Vasantasingh	-	-	-	
4.	Mr. Krairit Nilkuha	-	-	-	
5.	Mrs. Benja Louichareon	-	-	-	
6.	Mr. Arkhom Termpittayapaisith	-	-	-	
7.	Mr. Waroonthep Watcharaporn	-	-	-	
8.	Dr. Chitrapongse Kwangsukstith & spouse	258,690	258,690	-	
9.	Mr. Montri Sotangkur	-	-	-	
10.	Gen. Warawat Indradat	-	-	-	
11.	Mr. Sihasak Phuangketkeow	-	-	-	
12.	Mr. Insorn Buakeow	N/A	-	-	Appointed Apr. 10, 2012
13.	Mr. Boonsom Lerdhirunwong	N/A	-	-	Appointed Apr. 21, 2012
14.	Dr. Pailin Chuchottaworn	-	-	-	A report appears in "Management"

Securities Portfolio for Directors Who Completed Their Terms and Resigned during theyear (as of year-end 2012)

No.	Name	Shares		Change during the Year	Remark
		Dec. 31, 2011	Dec. 31, 2012		
1.	Gen. Prin Suvanadat	-	-	-	Appointed on Nov. 25, 2011 and resigned on October 21, 2012
2.	Mr. Surapon Nitikraipot	-	-	-	Completed his term on Apr. 10, 2012
3.	Mr. Krairit Euchukanonchai	80,000	N/A	N/A	Resigned on Apr. 20, 2012

Management's Ownership of Shares (as of December 31, 2012)

No.	Name	Shares			Warrant # 1		Warrant # 2		Remarks
		Dec. 31, 2010	Dec. 31, 2011	Increment	Allocated in 2005	Remaining	Allocated in 2006	Remaining	
1.	Dr. Pailin Chuchottaworn & spouse	62,000	62,000	-	52,600	-	27,600	-	
2.	Mr. Surong Bulakul[1/]	118,183	118,183	-	63,300	-	33,000	-	Resumed work at PTT on May 1, 2012
3.	Mr. Wichai Pornkeratiwat	55,559	55,559	-	46,900	-	25,200	-	
4.	Mr. Nuttachat Charuchinda	17,563	19,563	2,000	60,800	-	31,800	-	
5.	Mr. Pitipan Tepartimargorn	8,334	8,334	-	38,500	-	20,400	-	
6.	Mr. Supattanapong Punmeechaow	-	-	-	-	-	-	-	
7.	Mr. Charcrie Buranakanonda[2/]	N/A	55,408	-	N/A	-	N/A	-	Appointed on Oct. 1, 2012
8.	Mr. Sarun Rungkasiri & spouse	43,579	43,579	-	56,900	-	30,000	-	
9.	Mr. Sukrit Surabotsopon	2,000	2,000	-	-	-	-	-	
10.	Mr. Sarakorn Kulatham & spouse	63,900	56,900	(7,000)	54,200	-	28,300	-	
11.	Mr. Atikom Terbsiri	-	-	-	-	-	-	-	
12.	Mr. Bowon Vongsinudom	12,100	12,100	-	-	-	12,100	-	
13.	Mr. Wirat Uanarumit	25,500	25,500	-	-	-	-	-	
14.	Ms. Prisana Prahankhasuek	82,863	47,363	(35,500)	35,100	-	18,400	-	

Notes: *1/ The Board resolution No. 3/2012 of March 23, 2012, approved the appointment of PTT executives to be seconded to PTT affiliates and resume work at PTT, effective May 1, 2012.*

2/ Mr. Charcrie Buranakanonda replaced Mr. Peerapong Achariyacheevin, who retired on October 1, 2012.

Securities Portfolios of Executives Transferred/Resigned, and Retired (2012)

No.	Name	Shares			Warrant # 1		Warrant # 2		Remarks
		Dec. 31, 2010	Dec. 31, 2011	Increment	Allocated in 2005	Remaining	Allocated in 2006	Remaining	
1.	Mr. Tevin Vongvanich**	56,000	56,000	-	40,300	-	21,000	-	Seconded to PTTEP on May 1, 2012
2.	Mr. Anon Sirisaengtaksin**	141,700	141,700	-	79,800	-	41,900	-	Seconded to PTTGC on May 1, 2012
3.	Mr. Veerasak Kositpaisal **	31,400	31,400	-	-	-	26,400	-	Seconded to Thaioil Plc. on May 1, 2012
4.	Mr. Suwanunt Chatiudompunth	22,900	8,000	(14,100)	60,300	-	31,600	-	Retired on September 30, 2012
5.	Mr. Peerapong Achariyacheevin	107,363	107,363	-	40,300	-	21,200	-	Retired on September 30, 2012

*Note: ** The Board resolution No. 3/2012 of March 23, 2012, approved the appointment of executives to work in PTT affiliates, effective May 1, 2012.*

- **Reporting List of Assets and Debts to the Office of the National Anti-Corruption Commission (NACC)**

Under Article 39 of the Anti-Corruption Act B.E. 2542, PTT's directors and senior management, including directors and senior management in the companies where PTT holds more than 50% of shares, are required to submit a list of their own assets and debts, including those of their spouses and children not yet of legal age, to the NACC Board every time they take up a position, every three years during their terms, and when they no longer hold their positions. To achieve this, PTT will issue a reminder to each of the directors and senior management as required.

• **Declaring Vested Interests at Meetings**

At every Board meeting, the Chairman reminds the directors to conform to the policy on conflicts of interest on all agenda items, which requires those with vested interests must declare such interests to the meeting to abstain from voting or giving any views. This year, a total of 17 notices were made to the Chairman out of 15 Board meetings.

• **Review of Connected Transactions**

The Audit Committee presents these transactions to the Board along with items of conflicts of interest, which have been examined for conformance to SET's criteria. Such transactions are strictly disclosed in the reports and disclosed in every quarter of the year.

• **Corporate Governance Promotional Activities**

The Corporate Governance Committee is assigned to promote and screen CG matters so that PTT may actively campaign for compliance with CG principles. A working group on CG, headed by an executive vice president, has implemented assorted matters under the policy and conducted campaigns to cultivate awareness in the directors, management, employees, and related parties as described below:

- PTT constantly reviews and amends its values and corporate culture to suit and align with its vision and business context. Senior leaders show their commitment to the values and communicate with all staff across PTT through assorted channels. They also define promotional plans and activities for such values and culture, together with indicators for monitoring and assessment to lend effectiveness to internal communication, personnel skill sharing, and innovation in the workplace.

- PTT has defined its policy and management procedures for human resources in writing, including selection, training, promotion, and compensation procedures. A policy is in place to constantly develop competencies so that employees' capability matches business needs and accommodates work expansion.

- PTT has set up a complaint management center, with Corporate Communications as the main responsible unit, charged with the management of external complaints and responses to queries, together with internal complaints. Suitable periods have been defined for these purposes. Issues are compiled, managed, and regularly submitted to the management for comprehensive improvement and development of PTT.

- This year, the Corporate Governance Committee held 4 meetings, during the second of which it endorsed the approach to amend and revise the CG handbook and code of business conduct. Key topics included a policy to educate and train employees on environmental matters; an additional policy on disclosure of securities trading, transfer, or portfolio changes for directors and executives to the Board, to be reported each quarter or with every change; a policy requiring a limit on company directorships at three; stating directors' terms; amendment to disclosure forms for reporting conflicts of interest via a code of conduct; addition of a policy and/or guidelines for security; addition of sustainable guidelines for PTT's business partners; and addition of a charter to cover all sub-committees. PTT followed SET's CG principles for listed companies (2012 edition), which had been modified to align with the ASEAN CG Scorecard.

- A channel for directly communicating CG with all stakeholders that are shareholders is a quarterly newsletter called "PTT Bizway" in Thai and English, mailed to shareholders. It contains key information, including the vision, mission, message from the President & CEO, performance outcomes, CG, and management for PTT's sustainability. PTT enclosed an attitude survey form for shareholders and received cooperation from the readers. For the topic on satisfaction with PTT on CG, it received assessment at "very satisfied" to "most satisfied" of about 90%.

- In late 2012, the CG taskforce engaged in a survey through internal communication channels to assess PTT employees' mastery of CG matters. Its

conclusion was that nearly 90% of them commanded a good understanding of CG and the code of business conduct. It also developed CG E-learning on the intranet as a learning media for CG and the code of business conduct for all employees; this is due for completion in 2013. The plan is to assess employees' understanding to promote the cultivation of awareness and campaign for it in their performance under the code of business conduct.

- Besides promoting CG knowledge within the organization, PTT shared this knowledge with external parties by agreeing to requests for visits by assorted organizations/institutions. PTT's top management were also invited to give talks or join seminars on the subject.

- Periodic promotional campaigns were conducted through various media within PTT, including exhibitions, a CG website packed with information, two-way communication channels, internal news broadcasts, video shows, a CG column in the "PTT Spirit" magazine, and a CG-Digest via email-newsletters, are among the publicity and awareness tools, with positive responses from all. In addition, the Corporate Governance Committee distributed the Thai and English versions of the Good Corporate Governance Handbook (2nd Revision) to investors, international interested parties, and stakeholders for their reference. This will also be posted on PTT's website.

- In addition, PTT focused on CG among PTT Group to align with PTT's CG management standards. To this end, they agreed to jointly study and develop CG guidelines based on international best practices to establish a standard suitable for PTT Group as a step toward future ranking. Implementation plans and proactive promotional strategies for CG were also established as follows:

R-E-A-C-T

R = Responsibility
E = Equitable Treatment
A = Accountability
C = Creation of Long Term Value
T = Transparency

- Below is a description of PTT's activities promoting CG among PTT Group companies:
  - Appointment of a PTT Group CG Steering Committee
  - Staging a PTT Group CG Day, a key annual activity designed to campaign, promote, and publicize CG practices among PTT Group companies, namely PTT, PTTEP, PTTGC, TOP, BCP, and IRPC. The event this year was held on October 3 under the name "PTT Group CG Day 2012: Surfing the Global Wave" at the PTTGC Office in Rayong. The event featured CG practices under the group and promoted the awareness among exectives and employees of CG application to their work. The all-day event consisted of exhibitions and recreational games that also educated visitors, in addition to a top-management seminar on how to get ahead with CG on international forums and an employee show called "CG Synergy" among six PTT Group companies, featuring employees from all. Guest visitors also paid a visit, including representatives of SET, Thai Listed Companies Association, and PTT Group executives. Knowledge and impression were evident in the spirit shown by senior executives and employees that participated in growing good awareness of the significance of CG to management and work.

- Anti-corruption

- PTT enlisted itself in the 2010 declaration of the Private Sector Collective Action Coalition against Corruption (CAC), a national-agenda project supported by the government and the National Anti-Corruption Commission (NACC), as one of the first 27 companies to do so.

- Regularly, PTT joined activities of the CAC. On October 17 this year, PTT participated in a seminar on the procedures under the process to certify coalition membership, hosted by IOD, which is the secretariat to CAC, designed to elaborate the certification procedure and development of self-assessment for prospective companies. In addition, the directors, executives, and employees joined seminars hosted by IOD, namely

"The Responsibilities of Company Directors in Fighting Corruption" and "Anti-Corruption Training Program for Corporate Directors and Executives (ACEP 4/2012)".

- Currently, PTT, as a signatory of the above-mentioned declaration, is under the certification process for further certification by CAC.

5.19.2 Risk Assessment

PTT recognizes the significance of risk management under changes that impact its businesses because of internal and external factors. Viewing risk management as a key component of every business process which must be linked with one another, PTT therefore defined a policy of corporate risk management that all must conform to and undertake at the operating level. As for corporate risks, this management is systematically undertaken by PTT's management committees. Operation risks fall under the oversight of respective operations. A risk management and an internal control committee manages overall risks for maximum efficiency. It is the responsibility of all units to manage and control at manageable levels, as is clearly stated in the functional job descriptions of all units.

5.19.3 Control Activities

The Management Committee is authorized to review reports, financial and otherwise, of all business groups and corporate overviews, and regularly review all reports to ensure conformance to regulations and job manuals. PTT has defined policies and procedures in writing, including those for performance assessment of all employees, which relies on KPIs to enable control of management activities to be suitable, adequate, and accountable. Portions of businesses have been identified for key risks, and mechanisms defined to control and minimize errors. Regular performance reviews by the management are in place, including financial, procurement, and general administrative transactions. Systematic delegation of duties to personnel groups ensures checks and balances. Authority is duly and totally segregated for approval, information processing, transaction recording, receipt and disbursement of cash, reviews and inspection, and stewardship of properties. In place is an internal control system for finance and accounting, dealing with cash collection, cash retention, receipt and disbursement, bank deposits, and cash advances. These follow the rules, with complete, accurate, and regular recording. Systematic storage of accounting documents, both documents and information, is in place to comply with the law.

In procurement and hiring, PTT follows rules and requirements on material and supply matters, which clearly define responsible parties, including the authority, approval limits, supply need assessment, inspection, control and storage of supplies, and property counting. As for human resource management, PTT has instituted a human resource management system, complete with adequate monitoring and assessment, covering recruitment, determination of compensation, duties, personnel development, performance, and communication so that employees may be competent and that PTT's human resource management may be both suitable and efficient.

If PTT enters into transactions with major shareholders, directors, the management ,or related persons, PTT applies strict measures to ensure that each such transaction goes through the required approval procedures every time and for every item. The stakeholders will not take part in the approval of such an item. PTT also closely monitors any subsequent actions.

SSHE (Safety, Security, Health, and Environment) is regarded as one of the key safeguarding mechanisms for PTT's business on its march toward an entity with sustainable growth and operational excellence in tandem with the strategy of TAGNOC (Technologically Advanced and Green National Oil Company).

The Board looks after, monitors, and provides policies and recommendations on QSHE standards applied as part of the control activities through the Management Committee, headed by the President & CEO, together with the PTT Group QSHE Policy Committee and PTT's own QSHE Committee.

The responsible corporate units are the QSHE and Corporate Quality Management departments.

PTT has defined a PTT Group SSHE Management Framework to bolster the strength of and define a clearer, integrated operation direction for PTT Group. Under this framework, PTT explicitly expresses its intention and commitment under the **PTT Group SSHE Management Standard (PTTG SSHE MS)**, designed to serve as a tenet or basic requirement for SSHE risk management for all business units and companies to apply, given each business's nature and risks. In 2013, PTT focuses on establishing processes and mechanisms from the corporate level to business units and PTT Group companies, while still valuing significant SSHE risks. The highlights are as follows:

- **Development of SSHE supervision processes:**

PTT has defined clear processes for the supervision of SSHE matters to ensure that all business units and companies align their businesses with relevant policies, strategies, and management standards. To this end, it has established the PTT Group SSHE Governance along with mechanisms for continually tracking the progress and performance outcomes, with the PTT Group QSHE Policy Committee (which meets every quarter) reviewing the efficiency and effectiveness of management as a whole.

- **Definition of a goal structure of safety, health, and environment for PTT Group:**

To illustrate the eco-efficiency of SHE management as a whole for the group, PTT has defined a goal structure for SHE, consisting of Socio (top-quartile safety performance), Eco (reduction of ecological footprint), and Efficient (alignment with Thailand's energy goals). All three indicators will feature short-term goals (annual) and long-term ones (2020).

- **Development of centralized processes and procedures:**

To ensure that the application of PTT Group SSHE MS in business units and companies is uniform, efficient, and can manage key SSHE risks in a systematic and sustainable way, this year PTT developed assorted processes and tested their implementation at pilot sites through several projects. These projects included contractor SSHE management, investigation and development of an energy management roadmap and system, improvement of PTT Group's inventory of greenhouse gases, environmental site assessment, logistics Zero Accident, preventive occupational health program, PTT Group security management standard, and product carbon footprint assessment projects.

In addition, centralized operating standards and approaches have been developed as a framework for assorted matters for the business units and companies to observe, including incident management, SSHE management for contractors, change management with potential SSHE impacts, corporate SSHE audit, a manual for investigating security breach, VOCs emission inventory, and engineering standards. For details about SSHE performance, please refer to the Sustainability Report 2012.

5.19.4 Information & Communication

Due to the vision of the Board, PTT and group companies have jointly established PTT ICT Solutions Co., Ltd. (PTTICT), to centralize IT services for the group, a cost-saving idea that reduces infrastructural spending and IT redundancies for each company, while adding bargaining power for the group. Until now, PTTICT has performed its role consistently well and has become PTT Group's flagship in IT operations.

Through the Audit Committee and the Internal Control Committee, the Board gave priority to IT system security and the safety of electronic information storage. The management information systems and internal controls were constantly reviewed. This year, in the wake of the Great Floods, PTT reviewed critical computer

systems and sought scope expansion for ISO/IEC 27001 (Information Security Management System, ISMS) to cover all key systems. PTT was successfully certified in November this year. It also sought certification under TIS 22301-2553 in preparing for business continuity management (BCM).

In addition, the Board supported PTT's upgrading of its enterprise resource planning (ERP) to establish the capability of its IT and communication on par with technologically advanced organizations. PTT, jointly with PTTICT, developed its key business systems by applying SAP ECC 6.0 to the compilation and processing of comprehensive business data, and reduced data redundancy in legacy system application, which is abundant in PTT, and link data from PTT Group companies for quick summaries for the management. Moreover, innovations have been devised in support of cash receipt and disbursement for greater efficiency by developing a payment gateway, leveraging the "Direct Approve" system in effectively shortening financial transaction time for PTT, customers, and banks.

As for performance measurement and comparison of performance against goals, PTT has improved its information system to accommodate future policies and organization structures–including the COACH, Balanced Scorecard, and KPIs to promote progress toward becoming a leading business organization with the Thailand Quality Award (TQA). Incidentally, PTT's work on ICT has been named a winner at the ICT Excellence Award, hosted by the Thailand Management Association, ever since 2009.

5.19.5 Monitoring & Evaluating Internal Audit System

- Internal Control System

The Office of Corporate Audit is an independent unit which directly reports to the Audit Committee. It fosters assurance and provides consultation to ensure that business processes are properly equipped with CG, risk management, and sound internal controls in support of PTT's objectives.

The office audits annual operating plans and three-year advanced audit plans in line with business strategic directions and the risk-based approach (key corporate risks), encompassing PTT Group's businesses, both domestic and international. It reports findings to the Audit Committee for consideration and reports to the Board for acknowledgment every quarter. Regular monitoring is undertaken for actions in response to the office's recommendations. In its work, the office freely expresses its opinions. No conflicts have arisen between audited units and the office that cannot be resolved.

- Control Self-Assessment (CSA)

In addition, PTT monitors internal controls and assesses them at least annually by defining this task as a part of the routine procedures of executives, supervisors, and relevant parties. It also instituted Control Self-Assessment (CSA) within PTT in a blended mode:

- Specific questionnaires on internal controls at corporate and departmental levels
- Facilitated Workshops to assess internal controls at the activity level, with a focus on process control, assessment outcomes, and plans to improve internal controls, which must have the buy-in of work process owners and monitoring by superiors.

The Risk Management Department compiles data and summarizes the analyses of those data in reports of self-assessment covering the entire PTT for the committee to screen, comment, and issues approaches for responsible units to proceed with corrective actions every year. In addition, the Office of Corporate Audit conducts reviews to ensure that the existing internal controls are adequate for handling risk management and are consistently conformed observed. The Audit Committee reviews the findings of the internal audit annually. If any areas needing improvement are found, PTT has instituted procedures to ensure that such areas receive due attention and

immediate corrective actions. As for the internal control assessment of accounting and finance, the audit and review is usually undertaken by the Office of the Auditor-General (the auditor), with the findings submitted to the Audit Committee for consideration quarterly and annually.

In monitoring and assessing internal controls, PTT conforms to the guidelines for report preparation issued by the Auditing Commission Regulation (Clause 6). It was concluded that the latest assessment was at a "good" level. All business groups also report their performance every month and have it regularly measured against KPIs.

The regular review of the assessment outcomes conducted by executives and the Office of Corporate Audit and the Audit Committee for this year indicated no significant problems or defects, a view shared by the external auditor. In summary, PTT's internal control system is adequate and effective from a business standpoint.

PTT Board of Directors

1 **Dr. Norkun Sitthiphong**
Former Chairman

2 **Mr. Vichet Kasemthongsri**
Chairman

3 **Mr. Chulasingh Vasantasingh**
Independent Director,
Chairman of the Audit Committee

4 **Mrs. Benja Louichareon**
Director,
Member of the Remuneration Committee

5 **Mr. Sihasak Phuangketkeow**
Independent Director,
Member of the Corporate Governance Committee

6 **Mr. Arkhom Termpittayapaisith**
Independent Director,
Chairman of the Remuneration Committee

7 **Mr. Krairit Nilkuha**
Director,
Member of the Remuneration Committee,
Member of the Nominating Committee

8 **Mr. Watcharakiti Watcharothai**
Independent Director,
Chairman of the Nominating Committee,
Chairman of the Corporate Governance Committee

9 **Mr. Boonsom Lerdhirunwong**
Independent Director,
Member of the Audit Committee

10 **Dr. Chitrapongse Kwangsukstith**
Director

11 **Mr. Montri Sotangkur**
Independent Director

12 **Gen. Warawat Indradat**
Independent Director,
Member of the Corporate Governance Committee

13 **Mr. Waroonthep Watcharaporn**
Independent Director,
Member of the Audit Committee

14 **Mr. Insorn Buakeow**
Independent Director

15 **Mr. Suthep Liumsirijarern**
Director

16 **Dr. Pailin Chuchottaworn**
Director, Secretary to the Board,
Member of the Nominating Committee

Dr. Norkun Sitthiphong
Former Chairman

Mr. Vichet Kasemthongsri
Chairman

Mr. Chulasingh Vasantasingh
Independent Director,
Chairman of the Audit Committee

Mrs. Benja Louichareon
Director,
Member of the Remuneration Committee

Mr. Sihasak Phuangketkeow
Independent Director,
Member of the Corporate Governance Committee

Mr. Arkhom Termpittayapaisith
Independent Director,
Chairman of the Remuneration Committee

Mr. Krairit Nilkuha
Director,
Member of the Remuneration Committee,
Member of the Nominating Committee

Mr. Watcharakiti Watcharothai
Independent Director,
Chairman of the Nominating Committee,
Chairman of the Corporate Governance Committee

Mr. Boonsom Lerdhirunwong
Independent Director,
Member of the Audit Committee

Dr. Chitrapongse Kwangsukstith
Director

Mr. Montri Sotangkur
Independent Director

Gen. Warawat Indradat
Independent Director,
Member of the Corporate Governance Committee

Mr. Waroonthep Watcharaporn
Independent Director,
Member of the Audit Committee

Mr. Insorn Buakeow
Independent Director

Mr. Suthep Liumsirijarern
Director

Dr. Pailin Chuchottaworn
Director, Secretary to the Board,
Member of the Nominating Committee

1. Dr. Norkun Sitthiphong — Age 59
Former Chairman

(%) Share Possession — None

Educations
- B.Eng. (Mechanical Engineering), Chulalongkorn University, Thailand
- M.Sc. (Mechanical Engineering), Oregon State University, USA
- Ph.D. (Mechanical Engineering), Oregon State University, USA

Certifications
- The National Defence Course, National Defence College, (Class of 47th), Thailand
- Capital Market Academy Leadership Program, (Class of 4th), Thailand
- Thai Institute of Directors Association (IOD), RCP 21/2009

Work Experiences

1998 - 2000	:	Vice President, Research and Assets Affairs, Chiang Mai University
2001 - 2003	:	Vice President, Academic Affairs, Chiang Mai University
2003 - 2010	:	Deputy Permanent Secretary, Ministry of Energy
2008 - Present	:	Director, Nuclear Power Program Development Office
2010 - Present	:	Permanent Secretary, Ministry of Energy

Relevant Important Positions
- Chairman, PTT Exploration and Production Public Company Limited (PTTEP)
- Chairman, Thaioil Public Company Limited (TOP)

2. Mr. Vichet Kasemthongsri — Age 51
Chairman

(%) Share Possession — None

Educations
- Bachelor of Business Administration, Institute of Technology and Vocational Education, Thailand
- Master of Public Administration, National Institute of Development Administration (NIDA), Thailand

Certifications
- None

Work Experiences

1998	:	Assistant Secretary to the Minister of Commerce
1999 - 2000	:	Secretary to the Foreign Affairs Committee Member of the Opposition Parties Whip
2001 - 2002	:	Member of House of Representatives (Party List), Assistant Secretary to the Prime Minister, Deputy Chairman of Industrial Committee, Acting Chairman of Industrial Committee, Member of the Coalition Parties Whip
2003 - 2004	:	Deputy Minister of Transport
2005	:	Member of House of Representatives (Party List) Deputy Chairman of the Coalition Parties Whip
2006 - 2007	:	Acting Secretary of Thai Rak Thai Party

Relevant Important Positions

- None

3. Mr. Chulasingh Vasantasingh — Age 62

Independent Director,
Chairman of the Audit Committee

(%) Share Possession — **None**

Educations

- Bachelor of Laws (LLB.) (Hons.), Chulalongkorn University, Thailand
- Barrister at Law, The Institution of Legal Education, Thailand
- Master of Comparative Law (MCL), University of Illinois, USA
- Honorary Doctorate Degree in Laws, Ramkhamhaeng University, Thailand
- Honorary Doctorate Degree in Laws, Chulalongkorn University, Thailand
- Honorary Doctorate Degree in Laws, Yonok University, Thailand

Certifications

- The National Defence Course, National Defence College, (Class of 388th), Thailand
- Politics and Governance in Democratic Systems for Executives Course, Thailand
- Capital Market Academy Leadership Program (Class of 5th), Thailand
- Thai Institute of Directors Association (IOD), DCP 35/2003, FND 7/2003, UFS 1/2006, ACP 17/2007, Refresher Course DCP 1/2008, FGP 4/2012
- Certificate in Top Executives in the Energy Education Program, Thailand Energy Academy (Class of 1st)

Work Experiences

2005 - 2009	:	Deputy Attorney General, The Office of the Attorney General
2009 - Present	:	Attorney General, The Office of the Attorney General

Relevant Important Positions

- None

4. Mrs. Benja Louichareon — Age 59

Director,
Member of the Remuneration Committee

(%) Share Possession — **None**

Educations

- B.A. (Accounting), Thammasat University, Thailand
- LL.B., Thammasat University, Thailand
- M.P.A., Chulalongkorn University, Thailand

Certifications

- Middle Management Professional Development, Revenue Canada
- EDI Taxation Technology for Middle Management Revenue Department (Australia and New Zealand)
- Strategic Thinking and Executive Action, Kellogg School of Management, USA
- The Joint State-Private Sector Course, National Defense College, (Class of 4616th), Thailand
- Certificate of Public Director Certification Program, Public Director Institute (PDI), Thailand
- Capital Market Academy Leadership Program, (Class of 8th), Thailand
- Thai Institute of Directors Association (IOD), DCP 75/2006, ACP 27/2009, SFE 7/2010 and RCP 23/2010

Work Experiences

2003 - 2004	:	Deputy Director-General, Revenue Department
2004 - 2005	:	Principal Advisor on Tax Base Management, Revenue Department
2005 - 2008	:	Inspector General, Office of Permanent Secretary for Finance
2008 - 2011	:	Deputy Permanent Secretary of Ministry of Finance
2011 - Sept. 2012	:	Director General, Excise Department, Ministry of Finance
Oct. 2012 - Present	:	Director General, Customs Department, Ministry of Finance

Relevant Important Positions

- None

5. Mr. Sihasak Phuangketkeow — Age 55

Independent Director,
Member of the Corporate Governance Committee

(%) Share Possession — None

Educations
- Bachelor of Political Science (International Relations), Chulalongkorn University, Thailand
- Master of Arts in International Public Policy, Johns Hopkins University, USA

Certifications
- None

Work Experiences

2002	:	Director General, Department of Information and Spokesman of the Ministry of Foreign Affairs
2006	:	Deputy Permanent Secretary, Ministry of Foreign Affairs
2007	:	Ambassador, Permanent Representative of Thailand to the United Nations Office and Other International Organizations in Geneva
2011 - Present	:	Permanent Secretary, Ministry of Foreign Affairs

Relevant Important Positions
- None

6. Mr. Arkhom Termpittayapaisith — Age 56

Independent Director,
Chairman of the Remuneration Committee

(%) Share Possession — None

Educations
- B.A. (Economics), Thammasat University, Thailand
- M.A. (Development Economics), Williams College, USA
- Honorary Degree, Doctor of Liberal Arts, Sisaket Rajabhat University, Thailand

Certifications
- Senior Executive, Civil Servant Commission (Class of 35th), Thailand
- The National Defence Course, National Defence College (Class of 46th), Thailand
- Thai Institute of Directors Association (IOD), DAP 51/2006, DCP 92/2007, ACP 22/2008
- Capital Market Academy, Top Executive Program (Class of 1st), Thailand

Work Experiences

2000 - 2003	:	Assistant Secretary-General, Office of National Economic and Social Development Board (NESDB)
2003 - 2004	:	Senior Adviser in Policy and Plan, NESDB
2004 - 2010	:	Deputy Secretary-General, NESDB
2010 - Present	:	Secretary-General, NESDB

Relevant Important Positions
- None

7. Mr. Krairit Nilkuha — Age 61

Director,
Member of the Remuneration Committee,
Member of the Nominating Committee

(%) Share Possession — None

Educations
- B.Sc. (Mechanics Engineering), Kasetsart University, Thailand
- M.Sc. (Petroleum Engineering), New Mexico Institute of Mining and Technology, USA

Certifications
- The National Defence Course, National Defence College, (Class of 48th), Thailand
- Capital Market Academy Leadership Program, (Class of 8th), Thailand
- Thai Institute of Directors Association (IOD), UFS 6/2006, DAP 53/2006, ACP 24/2008 and R-SS 1/2009

Work Experiences

2003 - 2005	:	Deputy Director - General, Department of Mineral Fuels
2005 - 2008	:	Director - General, Department of Mineral Fuels
2008 - 2009	:	Deputy Permanent Secretary, Ministry of Energy
2009 - Sept. 2012	:	Director General Department of Alternative Energy Development and Efficiency, Ministry of Energy
Oct. 2012 - Present	:	Chairman of the Board, Technical Petroleum Training Institute

Relevant Important Positions
- Director, Chairman of the Enterprisewide Risk Management Committee, Bangchak Petroleum Public Company Limited (BCP)

8. Mr. Watcharakiti Watcharothai — Age 52

Independent Director,
Chairman of the Nominating Committee,
Chairman of the Corporate Governance Committee

(%) Share Possession — None

Educations
- Bachelor of Arts (Political Science), Kasetsart University, Thailand
- M.P.A. (Master of Public Administration), Roosevelt University, USA
- Honorary Degree of Doctor of Philosophy, Department of Administration, Ramkhamhaeng University, Thailand

Certifications
- The State-Private & Political Sector Course, National Defence College, (Class of 4th), Thailand
- Capital Market Academy Leadership Program, (Class of 9th), Thailand
- Public Director Certification Program, Public Director Institute (PDI), (Class of 5th), Thailand
- Senior Executives on Justice Administration Batch, National Justice Academy (Class of 15th), Thailand
- Thai Institute of Directors Association (IOD), DCP 121/2009, Moving Corporate Governance Forward: Challenge for Thai Director 2012
- Certificate in Top Executive Program in Commerce and Trade (TEPCoT), Commerce Academy (Class of 5th)
- Certificate in Top Executives in the Energy Education Program, Thailand Energy Academy (Class of 1st)

Work Experiences

2001 - 2007	:	Assistant Lord Chamberlain
2007 - Present	:	Grand Chamberlain

Relevant Important Position
- Director, IRPC Public Company Limited (IRPC)

9. Mr. Boonsom Lerdhirunwong — Age 59

Independent Director,
Member of the Audit Committee

(%) Share Possession — None

Educations
- B.Eng. (Civil Engineering), Chulalongkorn University, Thailand
- M.Eng. (Civil Engineering), Chulalongkorn University, Thailand
- Dr.Ing. (Civil Engineering), INSA Toulouse, France

Certifications
- The National Defence Course, National Defence College (Class of 49th), Thailand
- Thai Institute of Directors Association (IOD) DCP 162, FSD 17, ACP 41, AACP (MFM 8, MIA 13, MIR 13, MFR 16)

Work Experiences

2004 - 2008	:	Vice President for Property Management Affairs, Chulalongkorn University
2007 - 2008	:	Member of Financial Policy Committee, Chulalongkorn University
2008 - 2010	:	Member of Chulalongkorn University Council
2010 - Present	:	Member of Thai Red Cross Society Board
2008 - Present	:	Dean, Faculty of Engineering, Chulalongkorn University, Thailand

Relevant Important Positions
- None

10. Dr. Chitrapongse Kwangsukstith — Age 63

Director

(%) Share Possession — 0.009054

Educations
- B.Eng. (Mechanical Engineering), Chulalongkorn University, Thailand
- M.Eng. (Industrial Engineering), Lamar University, USA
- Doctor of Industrial Engineering, Lamar University, USA

Certifications
- Stanford Executive Program, Stanford University, USA
- The National Defence Course, National Defence College, (Class of 4212), Thailand
- Thai Institute of Directors Association (IOD), DCP 42/2004, FND 9/2004, RCC 10/2010, NCGC

Work Experiences

2000 - 2003	:	Senior Executive Vice President, PTT, Working as President, PTT Exploration & Production Public Company Limited
2003 - 2007	:	Senior Executive Vice President, Gas Business Unit, PTT
2008 - 2009	:	Chief Operating Officer, Upstream Petroleum and Gas Business Group, PTT
Present	:	Chairman of the Board, PTT International Company Limited

Relevant Important Positions
- None

11. Mr. Montri Sotangkur — Age 50

Independent Director

(%) Share Possession — None

Educations
- B.A. (Faculty of Commerce and Accountancy), Chulalongkorn University, Thailand
- M.B.A., Northrop University, USA

Certifications
- Capital Market Academy Leadership Program, (Class of 9th), Thailand

Work Experiences

2008 - 2009	:	Executive Director, Geo - Informatics and Space Technology Development Agency, GISTDA (Public Organization)
2008 - 2010	:	Director, National Innovation Agency
2008 - 2011	:	Director, Provincial Waterworks Authority
2008 - 2011	:	Executive Director, National Housing Authority, Ministry of Social Development and Human Security
1992 - Present	:	Managing Director, Prestige Direct Marketing Co., Ltd.

Relevant Important Positions
- None

12. Gen. Warawat Indradat

Age 63

Independent Director,
Member of the Corporate Governance Committee

(%) Share Possession **None**

Educations
- Bachelor of Science (Army), Chulachomklao Royal Military Academy (Class of 21st), Thailand
- Command and General Staff College (Class of 62th), Thailand
- M.B.A., The Civil Military MBA Program, Kasetsart University in Cooperation with the National Defence Studies Institute, Thailand (Class of 6th)

Certifications
- Command and General Staff Officer Course, Ft.Leavenworth, Kansas, USA
- Defense Resources Management Course, Naval Postgraduate School (Monterey, California, USA)
- Certificate in Advanced Security Management Program, National Defence College, Thailand
- Thai Institute of Directors Association (IOD), DCP 162/2012, PDI 2012

Work Experiences

2002	:	Staff Officer to the Ministry of Defense
2004	:	Deputy Commanding General Chulachomklao Royal Military Academy
2005	:	Assistant Chief of the General Staff, Ministry of Defence
2008	:	Senior Expert, Royal Thai Army
2008	:	Secretary to the Ministry of Defence
Present	:	Advisor to the Secretary of the Minister of Defence

Relevant Important Positions
- None

13. Mr. Waroonthep Watcharaporn

Age 44

Independent Director,
Member of the Audit Committee

(%) Share Possession **None**

Educations
- Bachelor Degree in Business Administration, Major in Marketing, The University Thai Chamber of Commerce, Thailand
- Master of Science in Information System (MIS), Engineering School, George Washington University, USA

Certifications
- TLCA Executive Development Program (EDP) Class 5, Thai Listed Companies Association
- Game for Global Growth Class 2 (April 2010 - March 2011), Singtel
- Thai Institute of Directors, DCP 157/2012, FSD 17/2012, ACP 40/2012, AACP 2012, MIA 13/2012, MIR 13/2012

Work Experiences

2006 - 2007	:	Assistant Vice President, Marketing One-2-Call, Advance Info Service Plc.
2007 - 2008	:	Managing Director, Advance mPAY Company Limited
2008 - 2010	:	Assistant Vice President, Corporate Business, Advance Info Service Plc.
2010 - 2011	:	Vice President, Corporate Sales, Advance Info Service Plc.
2011 - Present	:	Vice President, Vice Chairman of the Board Executive Office, Advance Info Service Plc.

Relevant Important Positions
- None

14. Mr. Insorn Buakeow

Age 62

Independent Director

(%) Share Possession **None**

Educations
- Bachelor of Education, Burapha University (Bangsaen Educational College), Thailand
- Master of Public Administration, National Institute of Development Administration (NIDA), Thailand
- Doctorate of Public Administration, Century University, USA

Certifications
- Thai Institute of Directors Association (IOD), FSD 17/2012, DCP 162/2012

Work Experiences

1976 - 1980	:	Coordinator, the United Nations High Commissioner for Refugees (UNHCR)
1984 - 2009	:	Executive of Surathip Co., Ltd. and Thai Beverage Public Co., Ltd.
1990 - 1995	:	Advisor, Lao Shinawatra Telecom Co., Ltd.

1992 - 2002	:	Advisor, Sanpatong Agricultural Cooperative, Chiangmai
2010 - Present	:	Executive Advisor, Thai Beverage Public Co., Ltd. and T.C.C. Group

Relevant Important Positions

- None

15. Mr. Suthep Liumsirijarern

Age 58

Director

(%) Share Possession **None**

Educations

- B.Sc. in Civil Engineering, Chiang Mai University
- Post-Graduate Diploma, Hydraulic Engineering, International Institute of Hydraulic Engineering, Delft, the Netherlands (Dutch Government Scholarship Program via the Department of Technical and Economic Cooperation)

Certifications

- National Defence Studies Institute, Supreme Command Headquarters, Joint Staff Program (Class of 43rd)
- Energy Executive Program (Class of 1st), Ministry of Energy
- Civil Service Training Institute (CSTI), Office of the Civil Service Commission (OCSC), Civil Service Executive Program 1 (Class of 44th)
- National Defence Studies Institute, National Defence College, The National Defence Course (Class of 51st), Thailand
- Thai Institute of Directors Association (IOD), DAP 96/2012 and ACP 39/2012

Work Experiences

1998	:	Director, Operation and Maintenance Division 1, Bureau of Operation and Maintenance, Department of Energy Development and Promotion (DEDP), Ministry of Science, Technology and Energy
2003	:	Director, Bureau of Technology Transfer and Dissemination, Department of Alternative Energy Development and Efficiency (DEDE), Ministry of Energy
2007	:	Director, Bureau of Alternative Energy Development, Alternative Energy Development and Efficiency (DEDE), Ministry of Energy
2009	:	Deputy Director General, DEDE, Ministry of Energy
2011 - Present	:	Director General, Energy Policy and Planning Office (EPPO), Ministry of Energy

Relevant Important Positions

- Independent Director, Director to the Risk Management Committee, PTT Global Chemical Public Company Limited

16. Dr. Pailin Chuchottaworn

Age 56

Director, Secretary to the Board,
Member of the Nominating Committee

(%) Share Possession **0.002170**

Educations

- B.Eng (Chemical Engineering) (Hons.), Chulalongkorn University, Thailand
- Master of Engineering in Chemical Engineering, Tokyo Institute of Technology, Japan
- Doctor of Engineering in Chemical Engineering, Tokyo Institute of Technology, Japan
- Honorary Doctorate Degree in Sustainable Energy and Environment Technology and Management, Rajamangala University of Technology Rattanakosin, Thailand

Certifications

- PTT Executive Leadership Program 2008, GE Crotonville, USA
- NIDA Executive Leadership Program 2007, Wharton University of Pennsylvania, USA
- Industrial Liaison Program (ILP) 2005, Massachusetts Institute of Technology, USA
- Diploma, The Joint State-Private Sector Course National Defence College (Class of 22th), Thailand
- Thai Institute of Directors Association (IOD), DAP 24/2004, DCP 51/2004, FND 14/2004, ACEP 4/2012
- Certificate in Top Executives in the Energy Education Program, Thailand Energy Academy (Class of 1st)
- Corporate Governance Program for Directors and Executives of State Enterprises and Public Organizations (Class of 7th), King Prajadhipok's Institute
- Top Executives Program, Capital Market Academy (Class of 8th), Thailand
- Top Executive Program in Commerce and Trade (TEPCoT), (Class of 1st), University of the Thai Chamber of Commerce

Work Experiences

2006 - 2008	:	Executive Vice President, Petrochemicals & Refining Business Unit, PTT, working as President of PTT Asahi Chemical Company Limited
2008 - Dec. 2009	:	Senior Executive Vice President, Petrochemicals & Refining Business Unit, PTT, working as President of PTT Polymer Marketing Company Limited and PTT Asahi Chemical Company Limited
Jan. 2009 - June 2011	:	Senior Executive Vice President, PTT, working as President, IRPC Public Company Limited
June - Sept. 2011	:	Chief Operating Officer, Upstream Petroleum and Gas Business Group, PTT
Sept. 2011 - Present	:	President & Chief Executive Officer, PTT

Relevant Important Positions

- Director, IRPC Public Company Limited
- Director, PTT Exploration and Production Public Company Limited

PTT Executives

1. **Dr. Pailin Chuchottaworn**
President & Chief Executive Officer

2. **Mr. Surong Bulakul**
Chief Financial Officer

3. **Mr. Wichai Pornkeratiwat**
Chief Operating Officer,
Upstream Petroleum and
Gas Business Group

4. **Mr. Nuttachat Charuchinda**
Chief Operations Officer,
Downstream Petroleum Business Group

5. **Mr. Pitipan Tepartimargorn**
Senior Executive Vice President,
Human Resources & Organization Excellence

6. **Mr. Supattanapong Punmeechaow**
Senior Executive Vice President,
Corporate Strategy

7. **Mr. Charcrie Buranakanonda**
Senior Executive Vice President,
Gas Business Unit

8. **Mr. Sarun Rungkasiri**
Senior Executive Vice President,
Oil Business Unit

9. **Mr. Sukrit Surabotsopon**
Senior Executive Vice President,
Petrochemicals & Refining Business Unit

10. **Mr. Sarakorn Kulatham**
Senior Executive Vice President,
International Trading Business Unit

11. **Mr. Tevin Vongvanich**
President and Chief Executive Officer,
PTT Exploration and Production
Public Company Limited

12. **Mr. Anon Sirisaengtaksin**
Chief Executive Officer,
PTT Global Chemical Public Company Limited

13. **Mr. Veerasak Kositpaisal**
Chief Executive Officer,
Thaioil Public Company Limited

14. **Mr. Bowon Vongsinudom**
President,
PTT Global Chemical Public
Company Limited

15. **Mr. Atikom Terbsiri**
President,
IRPC Public Company Limited

Dr. Pailin Chuchottaworn
President & Chief Executive Officer

Mr. Surong Bulakul
Chief Financial Officer

Mr. Wichai Pornkeratiwat
Chief Operating Officer,
Upstream Petroleum and Gas Business Group

Mr. Nuttachat Charuchinda
Chief Operations Officer,
Downstream Petroleum Business Group

Mr. Pitipan Tepartimargorn
Senior Executive Vice President,
Human Resources & Organization Excellence

Mr. Supattanapong Punmeechaow
Senior Executive Vice President,
Corporate Strategy

Mr. Charcrie Buranakanonda
Senior Executive Vice President,
Gas Business Unit

Mr. Sarun Rungkasiri
Senior Executive Vice President,
Oil Business Unit

Mr. Sukrit Surabotsopon
Senior Executive Vice President,
Petrochemicals & Refining Business Unit

Mr. Sarakorn Kulatham
Senior Executive Vice President,
International Trading Business Unit

Mr. Tevin Vongvanich
President and Chief Executive Officer,
PTT Exploration and Production Public Company Limited

Mr. Anon Sirisaengtaksin
Chief Executive Officer,
PTT Global Chemical Public Company Limited

Mr. Veerasak Kositpaisal
Chief Executive Officer,
Thaioil Public Company Limited

Mr. Bowon Vongsinudom
President,
PTT Global Chemical Public Company Limited

Mr. Atikom Terbsiri
President,
IRPC Public Company Limited

1. Dr. Pailin Chuchottaworn — Age 56

President & Chief Executive Officer

(%) Share Possession 0.002170

Educations

- B.Eng (Chemical Engineering) (Hons.), Chulalongkorn University, Thailand
- Master of Engineering in Chemical Engineering, Tokyo Institute of Technology, Japan
- Doctor of Engineering in Chemical Engineering, Tokyo Institute of Technology, Japan
- Honorary Doctorate Degree in Sustainable Energy and Environment Technology and Management, Rajamangala University of Technology Rattanakosin, Thailand

Certifications

- PTT Executive Leadership Program 2008, GE Crotonville, USA
- NIDA Executive Leadership Program 2007, Wharton University of Pennsylvania, USA
- Industrial Liaison Program (ILP) 2005, Massachusetts Institute of Technology, USA
- Diploma, The Joint State-Private Sector Course National Defence College (Class of 22nd), Thailand
- Thai Institute of Directors Association (IOD), DAP 24/2004, DCP 51/2004, FND 14/2004, ACEP 4/2012
- Certificate in Top Executives in the Energy Education Program, Thailand Energy Academy (Class of 1st)
- Corporate Governance Program for Directors and Executives of State Enterprises and Public Organizations (Class of 7th), King Prajadhipok's Institute
- Top Executives Program, Capital Market Academy (Class of 8th), Thailand
- Top Executive Program in Commerce and Trade (TEPCoT), (Class of 1st), University of the Thai Chamber of Commerce

Work Experiences

2006 - 2008	:	Executive Vice President, Petrochemicals & Refining Business Unit, PTT, working as President of PTT Asahi Chemical Company Limited
2008 - Dec. 2009	:	Senior Executive Vice President, Petrochemicals & Refining Business Unit, PTT, working as President of PTT Polymer Marketing Company Limited and PTT Asahi Chemical Company Limited

Jan. 2009 - June 2011	:	Senior Executive Vice President, PTT, working as President, IRPC Public Company Limited
June - Sept. 2011	:	Chief Operating Officer, Upstream Petroleum and Gas Business Group, PTT
Sept. 2011 - Present	:	President & Chief Executive Officer, PTT

Relevant Important Positions

- Director, IRPC Public Company Limited
- Director, PTT Exploration and Production Public Company Limited

2. Mr. Surong Bulakul

Age 57

Chief Financial Officer

(%) Share Possession **0.004136**

Educations

- Bachelor of Science in Industrial Engineering and Operations Research, Syracuse University, New York, USA
- Master of Engineering in Operations Research, Cornell University, New York, USA
- Master of Business Administration, Cornell University, New York, USA

Certifications

- PMD, Harvard University, Boston, USA
- Democratic Politics and Governance for High-Level Administrators Program, King Prajadhipok's Institute, Thailand (Class of 8th)
- The Joint State-Private Sector Course, National Defense College, Thailand (Class of 4919th)
- Capital Market Academy Leadership Program, Thailand (Class of 10th)
- The Program for Senior Executives on Criminal Justice Administration, National Justice Academy, Thailand (Class of 15th)
- Thai Institute of Directors Association (IOD), DCP 121/2009, R-SS 1/2011
- Thai Intelligent Investors Program, Thai Investors Academy (Class of 1st)

Work Experiences

2005 - 2008	:	Executive Vice President, International Trading, PTT
2008 - 2009	:	Senior Executive Vice President, International Trading, PTT
2009 - 2012	:	Senior Executive Vice President, PTT working as Chief Executive Officer, Thaioil Public Company Limited
2012 - Present	:	Chief Financial Officer, PTT

Relevant Important Positions

- Director, Thai Lube Base Public Company Limited

3. Mr. Wichai Pornkeratiwat

Age 59

Chief Operating Officer,
Upstream Petroleum and Gas Business Group

(%) Share Possession **0.001944**

Educations

- B.Eng. (Electronic Engineering), Khon Kaen University, Thailand
- Master of Public Administration, National Institute Development Administration (NIDA), Thailand

Certifications

- Asia Executive Program (AEP), GE Management Development Institute
- Senior Executive Program (SEP), Sasin Graduate Institute of Business Administration, Chulalongkorn University, Thailand
- NIDA-Wharton Executive Leadership Program, The Wharton School, University of Pennsylvania, USA
- Thai Institute of Directors Association (IOD), DCP 111/2008

Work Experiences

2002 - 2008	:	Executive Vice President, Project Management, Exploration, Production and Gas Business Group, PTT
2008 - 2009	:	Executive Vice President, PTT, working as President, PTT LNG Company Limited
2009 - 2010	:	Executive Vice President, Natural Gas Vehicle, PTT
2010 - 2011	:	Senior Executive Vice President, Gas Business Unit, PTT
2011 - Present	:	Chief Operating Officer, Upstream Petroleum and Gas Business Group, PTT

Relevant Important Positions

- Chairman, PTT Green Energy Pte. Ltd.
- Director, Executive Director, Member of Nomination and Remuneration Committee, Member of Corporate Governance Committee, IRPC Public Company Limited
- Director, PTT Exploration and Production Public Company Limited

4. Mr. Nuttachat Charuchinda — Age 57

Chief Operations Officer,
Downstream Petroleum Business Group

(%) Share Possession 0.000685

Educations

- B.Eng. (Civil Engineering), Chiang Mai University, Thailand
- M.B.A., Thammasat University, Thailand

Certifications

- Program for Global Leadership (PGL), Harvard Business School, USA
- Oxford Energy Seminar, UK
- Break Through Program for Senior Executives (BPSE), IMD Institute, Switzerland
- The Joint State-Private Sector Cource, National Defence College (Class of 20th), Thailand
- Thai Institute of Directors Association (IOD), DCP 129/2010
- Top Executive Program, Capital Market Academy (Class of 15th)

Work Experiences

2004 - 2005	:	Executive Vice President, Supply and Logistics, PTT
2005 - 2009	:	Executive Vice President, Natural Gas Vehicle, PTT
2009 - 2010	:	Executive Vice President, International Trading Business Unit, PTT
2010 - 2011	:	Senior Executive Vice President, Corporate Strategy, PTT
2011 - Present	:	Chief Operations Officer, Downstream Petroleum Business Group, PTT

Relevant Important Positions

- Director, Bangchak Petroleum Public Company Limited
- Director, PTT Global Chemical Company Limited
- Director, Thaioil Public Company Limited

5. Mr. Pitipan Tepartimargorn — Age 56

Senior Executive Vice President,
Human Resources & Organization Excellence

(%) Share Possession 0.000292

Educations

- B.Eng., King Mongkut's Institute of Technology Ladkrabang, Thailand
- Master of Political Science (Public Administration), Thammasat University, Thailand

Certifications

- Strategic Human Resource Management, Harvard University, USA
- NIDA-Wharton Executive Leadership Program, The Wharton School, University of Pennsylvania, USA
- Senior Executive Program (SEP) Sasin Graduate Institution of Business Administration of Chulalongkorn University, Thailand
- Thai Institute of Directors Association (IOD), DCP 138/2010, ACEP 4/2012

Work Experiences

2001 - 2003	:	Vice President, Corporate Development, PTT
2003 - 2004	:	Vice President, Human Resources Policy, PTT
2004 - 2010	:	Executive Vice President, Human Resources, PTT
2010 - Present	:	Senior Executive Vice President, Human Resources & Organization Excellence, PTT

Relevant Important Positions

- Chairman, PTT Polymer Logistics Company Limited
- Chairman, PTT ICT Solutions Company Limited
- Director, PTT Polymer Marketing Company Limited

6. Mr. Supattanapong Punmeechaow — Age 53

Senior Executive Vice President, Corporate Strategy

(%) Share Possession None

Educations

- Bachelor Degree, Chemical Engineer, Chulalongkorn University, Thailand
- Master Degree, Business Administrative, Chulalongkorn University, Thailand

Certifications

- Advance Management Program, INSEAD University, France
- The Joint State-Private Sector Course, National Defense College, (Class of 5020th), Thailand
- Thai Institute of Directors Association (IOD), DCP 131/2010

Work Experiences

1998 - 2005	:	Managing Director, SCB Securities Co., Ltd.
2006 - 2008	:	Managing Director, SCB Securities Co., Ltd.
2009 - 2011	:	Executive Vice President Business Development, PTT International Company Limited and Executive Vice President Corporate Strategy, PTT
2011- Present	:	Senior Executive Vice President, Corporate Strategy, PTT

Relevant Important Positions

- Vice Chairman, PTT International Company Limited (PTTI)

7. Mr. Charcrie Buranakanonda — Age 58

Senior Executive Vice President, Gas Business Unit

(%) Share Possession **0.001939**

Educations

- B.Eng. (Mechanical Engineering), Kasetsart University, Thailand

Certifications

- King Prajadhipok's Institute, Advanced Certificate Course in Public Administration and Law for Executives 2010
- Thai Institute of Directors (IOD), DCP 138/2012
- PTT - GE Executive Program, GE Crotonville, USA 2012

Work Experiences

2008 - 2009	:	Vice President, Rayong Gas Plant, Gas Business Unit, PTT
2009 - 2011	:	Executive Vice President, Natural Gas Transmission, Gas Business Unit, PTT
2011 - 2012	:	Executive Vice President, Natural Gas Processing, Gas Business Unit, PTT
2012 - Present	:	Senior Executive Vice President, Gas Business Unit , PTT

Relevant Important Positions

- Director, East Mediterranean Gas (S.A.E.), Arab Republic of Egypt

8. Mr. Sarun Rungkasiri — Age 55

Senior Executive Vice President, Oil Business Unit

(%) Share Possession **0.001525**

Educations

- B.Eng. (Industrial Engineering), Chulalongkorn University, Thailand
- M.S. Management, Polytechnic Institute of New York, USA

Certifications

- Thirty Fourth Oxford Energy Seminar, St.Catherine's College, Oxford University, UK
- NIDA-Wharton Executive Leadership Program 2009, The Wharton School of the University of Pennsylvania, USA
- The Joint State - Private Sector Course, National Defense College, (Class of 23rd), Thailand
- Thai Institute of Directors Association (IOD), CSP 8/2004, DCP 61/2005, FND 19/2005

Work Experiences

2003 - 2005	:	Vice President, Office of President
2006 - 2007	:	Vice President, Corporate Public Relation
2008 - 2009	:	Executive Vice President, Corporate Communication & Social Responsibility
2009 - 2010	:	Executive Vice President, Commercial & International Marketing
2010 - 2011	:	Executive Vice President, Retail Marketing
2011 - Present	:	Senior Executive Vice President, Oil Business Unit

Relevant Important Positions

- Chairman, PTT Retail Business Company Limited (PTTRB)
- Chairman, PTT Retail Management Company Limited (PTTRM)
- Director, Thai Petroleum Pipeline Company Limited (Thappline)

9. Mr. Sukrit Surabotsopon — Age 54

Senior Executive Vice President, Petrochemicals & Refining Business Unit

(%) Share Possession **0.000070**

Educations

- B.Eng. (Chemical Engineering), Chulalongkorn University, Thailand

Certifications

- TLCA Executive Development Program (EDP), Thai Listed Companies Association, Thailand
- Thai Institute of Directors Association (IOD), DCP 132/2010, ACP 38/2012, MIR 12/2012

Work Experiences

2007 - 2008 : Assistant Managing Director - Business, Thaioil Public Company Limited (TOP)
2008 - 2009 : Assistant Managing Director - Strategic Planning & Business Development, TOP
2009 - 2010 : Executive Vice President, Subsidiary Planning & Management Petrochemicals & Refining Business Unit, PTT
2010 - Present : Senior Executive Vice President - Petrochemicals & Refining Business Unit, PTT

Relevant Important Positions

- Director, PTT Global Chemical Public Company Limited (PTTGC)
- Director, Star Petroleum Refining Company Limited (SPRC)
- Director, PTT International Company Limited (PTTI)

10. Mr. Sarakorn Kulatham

Age 58

Senior Executive Vice President,
International Trading Business Unit

(%) Share Possession **0.002096**

Educations

- B.Eng., Chulalongkorn University, Thailand
- M.S. (Science) Civil Engineering, University of Missouri, USA

Certifications

- Leadership Program, IMD Institute
- NIDA-Wharton Executive Leadership Program, The Wharton School, University of Pennsylvania, USA

Work Experiences

2005 - 2006 : Executive Vice President, PTT, Working as Supply and Planning Manager, Alliance Refining Company Limited
2006 - 2007 : Executive Vice President, PTT, Working as Deputy CEO-Supply Planning, Star Petroleum Refining Company Limited
2007 - 2008 : Executive Vice President, International Trading Business Unit, PTT
2008 - Present : Senior Executive Vice President, International Trading Business Unit, PTT

Relevant Important Positions

- Director, Bangchak Petroleum Public Company Limited
- Chairman, PTT International Trading Pte. Ltd.

11. Mr. Tevin Vongvanich

Age 54

President and Chief Executive Officer,
PTT Exploration and Production Public Company Limited

(%) Share Possession **0.000196**

Educations

- B.Eng. (Chemical Engineering) (Hons.), Chulalongkorn University, Thailand
- M.S. (Chemical Engineering), Rice University, USA
- M.S. (Petroleum Engineering), University of Houston, USA

Certifications

- Program for Global Leadership (PGL), Harvard Business School, USA
- Democratic Politics and Governance for High-Level Administrators Program, (Class of 10th), King Prajadhipok's Institute, Thailand
- Senior Executive Program (SEP), Sasin Graduate Institute of Business Administration, Chulalongkorn University, Thailand
- Capital Market Academy Leadership Program, (Class of 6th), Thailand
- The Joint State Private Sector Course, National Defense College, (Class of 22nd), Thailand
- The Programme for Senior Executives on Justice Administration, (Class of 16th), Thailand
- Thai Institute of Directors Association (IOD), DCP 21/2002, FSD 6/2009, RCC 13/2011

Work Experiences

2008 - 2009 : Senior Executive Vice President, Corporate Strategy & Development, PTT
2009 - 2010 : Chief Financial Officer and Senior Executive Vice President, Corporate Strategy, PTT
2010 - 2012 : Chief Financial Officer, PTT
2012 - Present : President and Chief Executive Officer, PTT Exploration and Production Public Company Limited

Relevant Important Positions

- Director, PTT Exploration and Production Public Company Limited (PTTEP)

12. Mr. Anon Sirisaengtaksin

Age 60

Chief Executive Officer,
PTT Global Chemical Public Company Limited

(%) Share Possession **0.004959**

Educations

- B.Sc. (Geology), Chulalongkorn University, Thailand
- M.B.A., Thammasart University, Thailand
- The Honorary Degree of Doctor in Public Administration, Bangkokthonburi University, Thailand

Certifications

- Project Investment Appraisal and Management and Global Leadership, Harvard University, USA
- Capital Market Academy Leadership Program (Class of 1st), Thailand
- Thai Institute of Directors Association (IOD), DAP 52/2006, LBP 1/2011, R-CAC 1/2011

Work Experiences

2002 - 2008	:	Senior Executive Vice President Corporate Strategy and Development, PTT
2008 - 2010	:	Senior Executive Vice President, PTT, working as Chief Executive Officer, PTT Exploration and Production Public Company Limited
2010 - 2012	:	Senior Executive Vice President, PTT, working as President & CEO, PTT Exploration and Production Public Company Limited
2012 - Present	:	Senior Executive Vice President, PTT, working as CEO, PTT Global Chemical Public Company Limited

Relevant Important Positions

- Director and Secretary to the Board of Directors, PTT Global Chemical Public Company Limited (PTTGC)
- Chairman, PTT Phenol Company Limited (PTCL)
- Chairman, PTT Polyethylene Company Limited (PTTPE)
- Chairman, PTT Chemical International Private Limited
- Chairman, PTT Chemical International (Asia Pacific ROH) Limited
- Chairman, Emery Oleochemicals (M) Sdn. Bhd.
- Vice Chairman, Vinythai Public Company Limited (VNT)
- Director, VENCOREX Holding France SAS
- Director, PTTGC International (Netherlands) B.V.

13. Mr. Veerasak Kositpaisal

Age 58

Chief Executive Officer,
Thaioil Public Company Limited

(%) Share Possession **0.001099**

Educations

- B.Eng. (Mechanical), Chulalongkorn University, Thailand
- M.S. (Mechanical Engineering), Texas A&I University, USA

Certifications

- Top Executive Program in Commerce and Trade (TEPCOT) 2/2009
- Capital Market Academy Leadership Program, (Class of 11th), Thailand
- Thai Institutes of Directors Association (IOD), DCP 82/2006, FND 30/2006
- Certificate in Leadership Development Program "Enhancing Competitiveness" by International Institute for Management Development (IMD) 11/2012

Work Experiences

2006 - 2008	:	Executive Vice President, PTT, working as Senior Executive Vice President, Trading Business, PTT Chemical Pubilc Company Limited (PTTCH) and Managing Director, Bangkok Polyethylene Public Company Limited
2008 - 2008	:	Executive Vice President, PTT, working as Senior Executive Vice President, Polymer Product Business Unit, PTTCH
2008 - 2009	:	Executive Vice President, PTT, working as President, PTTCH
2009 - 2011	:	Senior Executive Vice President, PTT, working as President, PTTCH
2011 - 2012	:	Senior Executive Vice President, PTT, working as Chief Executive Officer, PTT Global Chemical Public Company Limited (PTTGC)
2012 - Present	:	Senior Executive Vice President, PTT, working as Chief Executive Officer, Thaioil Public Company Limited (TOP)

Relevant Important Positions

- Director and Secretary of Board Directors, Thaioil Public Company Limited
- Chairman, Thai Lube Base Public Company Limited
- Chairman, Thaioil Power Company Limited
- Chairman, Independent Power (Thailand) Company Limited

14. Mr. Bowon Vongsinudom

Age 58

President,
PTT Global Chemical Public Company Limited

(%) Share Possession **0.000042**

Educations

- B.Eng. (Chemical Engineering), Chulalongkorn University, Thailand
- Master of Engineering in Chemical Engineering, Chulalongkorn University, Thailand
- Master of Business Administration (Management), Sasin Graduate Institute of Business Administration, Thailand

Certifications

- The Joint State - Private Sector Course, National Defence College, (Class 17), Thailand
- Thai Institute of Directors Association (IOD), DAP 76/2008

Work Experiences

2007 - 2009	:	President, Alliance Refining Company Limited (ARC)
2009 - 2010	:	Senior Executive Vice President, PTT Aromatics and Refining Public Company Limited (PTTAR)
2010 - 2011	:	Senior Executive Vice President, PTT, working as President & CEO, PTTAR
2011 - Present	:	Senior Executive Vice President, PTT, working as President, PTT Global Chemical Public Company Limited

Relevant Important Positions

- Director, PTT Global Chemical Public Company Limited
- Director, Thai Tank Terminal Company Limited
- Director, PTT Utility Company Limited
- Director/ President, PTT Polyethylene Company Limited
- Chairman, PTT Maintenance and Engineering Company Limited
- Chairman, NPC Safety and Environmental Service Company Limited

15. Mr. Atikom Terbsiri

Age 50

President, IRPC Public Company Limited

(%) Share Possession **None**

Educations

- B.B.A., Assumption University, Thailand
- M.B.A. (Finance & International Business), High Distinction, Armstrong University, USA

Certifications

- Doctoral Course in Human Resources Management and Managerial Economics, Golden Gate University, USA
- Executive Education Program, Harvard Business School, USA
- Diploma, The National Defence College, The State, Private Sector and Political Sectors Course (Class 5), Thailand
- Thai Institute of Directors Association (IOD), DCP 125/2009
- PTT Group EVP Leadership Development Program, co-hosted by PTT Public Company Limited and Development Dimensions International (DDI)
- Advanced Security Management Program (ASMP1), The National Defence College Association of Thailand

Work Experiences

2002 - 2007	:	Executive Vice President, Business & Finance, The Aromatics (Thailand) Public Company Limited
2007 - 2009	:	Executive Vice President, Corporate Strategy & Commercial, PTT Aromatics and Refining Public Company Limited (PTTAR)
2009 - 2011	:	Senior Executive Vice President, Corporate Strategy & Planning, Acting Senior Executive Vice President, Port & Asset Management Business Unit, IRPC Public Company Limited (IRPC)
2011 - Present	:	Senior Executive Vice President, PTT, working as President, IRPC Public Company Limited

Relevant Important Positions

- Director and Secretary of the Board, IRPC Public Company Limited
- Director, PTT Polymer Marketing Company Limited
- Director, Thai ABS Company Limited
- Director, IRPC POLYOL Company Limited
- Director, IRPC Oil Company Limited
- Chairman, IRPC A&L Company Limited
- Director, UBE Chemicals (Asia) Public Company Limited

Positions held by the Management and Authorized Controllers of PTT Plc., Subsidiaries, Associates, and Related Companies

As of December 31, 2012

			Company \ PTT Executive		1 Dr. Norkun Sitthiphong	2 Mr. Chulasingh Vasantasingh	3 Mr. Sihasak Phuangketkeow	4 Mr. Krairit Nilkuha	5 Mrs. Benja Louichareon	6 Mr. Watcharakiti Watcharothai	7 Dr. Chirapongse Kwangsuksiith	8 Mr. Arkhom Termpittayapaisith	9 Gen. Warawat Indradat	10 Mr. Waroonthep Watcharaporn	11 Mr. Montri Sotangkur	12 Mr. Boonsom Lerdhirunwong	13 Mr. Insom Buakeow	14 Dr. Pailin Chuchottaworn	15 Mr. Surong Bulakul	16 Mr. Supattanapong Punmeechaow	17 Mr. Pitipan Tepartimargorn	18 Mr. Nuttachat Charuchinda	19 Mr. Sarun Rungkasiri	20 Mr. Sukrit Surabotsopon	21 Mr. Sarakorn Kulathamrongchai	22 Mr. Wichai Pornkeratiwat	23 Mr. Charcrie Buranakanonda	24 Mr. Anon Sirisaengtaksin	25 Mr. Tevin Vongvanich	26 Mr. Veerasak Kositpaisal	27 Mr. Bowon Vongsinudom	28 Mr. Atikorn Terbsiri	29 Mr. Wirat Uanarumit	30 Mrs. Prisana Praharnkhasuk
			PTT Plc.	PTT	x	/	/	/	/	/	/	/	/	/	/	/	/	*/0/	//	//	//	//	//	//	//	//	//	//	//	//	//	//	//	//
Subsidiaries	E & P	1	PTT Exploration and Production Plc.	PTTEP	x													/									/		*0/					
	Gas	2	PTT Natural Gas Distribution Co., Ltd.	PTTNGD																														
		3	PTT LNG Co., Ltd.	PTTLNG																														
		4	Combined Heat and Power Producing Co., Ltd.	CHPP																														
		5	PTT Green Energy Pte., Ltd.	PTTGE																							x							
		6	PTT International Trading Pte. Ltd.	PTTI							x									/					/									
	Oil	7	PTT (Cambodia) Co., Ltd.	PTTCL																														
		8	PTT Retail Business Co., Ltd.	PTTRB																				x										
		9	Subic Bay Energy Co., Ltd.	SGECL																														
		10	Business Service Alliance Co., Ltd.	BSA																														
		11	Thai Lube Blending Co., Ltd.	TLBC																														
		12	PTT Tank Terminal Co., Ltd.	PTT TANK																														
	Petrochemical &Refining	13	PTT Polymer Marketing Co., Ltd.	PTTPM																		/										/		
		14	PTT Polymer Logistics Co., Ltd.	PTTPL																		x												
	Trading	15	PTT International Trading Pte. Ltd.	PTTT																						x								/
	Other	16	Energy Complex Co., Ltd.	EnCo																														
Associated and Related Companies	Gas	17	PTT Utility Co., Ltd.	PTTUT																												/		
		18	Thaioil Power Co., Ltd.	TP																										x				
		19	Independent Power (Thailand) Co., Ltd.	IPT																										x				
		20	Trans Thai Malaysia (Thailand) Co., Ltd.	TTM (T)																								x						
		21	Trans Thai Malaysia (Malaysia) Co., Ltd.	TTM (M)																								x						
		22	District Cooling System and Power Plant Co., Ltd.	DCAP																														
		23	Ratchaburi Power Co., Ltd.	RPCL																														
		24	B. Grimm BIP Power co., Ltd.	B.Grimm BIP																														
		25	Nava Nakorn Electricity Generating Co., Ltd.	NNEG																														
		26	Bangpa-in Cogeneration Co., Ltd.	BIC																														
	Oil	27	Thai Petroleum Pipeline Co., Ltd.	THAPPLINE																				/										
		28	Petro Asia (Thailand) Co., Ltd.	PA (Thailand)																														
		29	Bangkok Aviation Fuel Service Plc.	BAFS																														
		30	Intoplane Services Co., Ltd.	IPS																														
		31	Fuel Pipeline Transportation Co., Ltd.	FPT																														
		32	Vietnam LPG Co., Ltd	VLPG																														
		33	Keloil-PTT LPG Sdn.Bhd.	KPL																														
		34	Petro Asia (Huizhou) Co., Ltd.	PA (Huizhou)																														
		35	Petro Asia (Maoming) Co., Ltd.	PA (Maoming)																														
		36	Petro Asia (Sanshui) Co., Ltd.	PA (Sanshui)																														
	Petrochemical &Refining	37	PTT Global Chemical Plc.	PTTGC																			/		/			*/			0/			
		38	PTT Phenol Co., Ltd.	PPCL																								x					/	
		39	Star Petroleum Refining Plc.	SPRC																					/								/	
		40	Thaioil Plc.	TOP	x																		/							*/				
		41	Bangchak Petroleum Plc.	BCP				/															/			/								
		42	IRPC Plc.	IRPC						/								/									/					0/		
		43	HMC Polymers Co., Ltd.	HMC																														
		44	PTT Asahi Chemical Co., Ltd.	PTTAC																														
		45	PTT Maintenance and Engineering Co., Ltd.	PTTME																												/		
		46	PTT MCC Biochem Co., Ltd.	PTTMCC																														
		47	PTT Energy Solutions Co., Ltd.	PTTES																														
	Other	48	Dhippaya Insurance Plc.	TIP																														/
		49	PTT ICT Solutions Co., Ltd.	PTTICT																		x												

*Notes: Symbol x = Chairman, * = CEO, 0 = President, / = Director, // = Executive*

Awards of Success

Recognition for PTT in 2012

In 2012, PTT won 89 awards, prestigious rankings, and certificates from 44 institutions:
- National Level: from 32 entities for a total of 57 awards
- International Level: from 12 entities for a total of 32 awards.

Presented by
Management System Certification Institute (Thailand) (MASCI) & Department of Industrial Works

Award/ Ranking/ Criteria

Business Continuity Management (BCM)

- PTT was the first Thai company certified with BCM under the TIS 22301-2553 standard

Date

January 30, 2012

Notes (Reference/ Criteria)

- Based on efficient, systematic capability in organizational management and on maintaining uninterrupted operation of all its businesses under normal situations or crises.

Award/ Ranking/ Criteria

Energy Management System Certification (ISO 50001)

- Rayong GSP and Natural Gas Transmission

Date

May 2012

Notes (Reference/ Criteria)

- This award is recognized worldwide. Rayong GSP was the first among PTT Group to achieve such recognition, a testimony to its firm commitment to developing internal management systems and raising energy efficiency in pursuit of conscientious consumption of resources for optimal benefit while easing environmental impacts.

Award/ Ranking/ Criteria

Quality Management Sytem Certification (ISO 9001)

- Natural Gas Transmission

Date

June 2012

Notes (Reference/ Criteria)

- ISO 9001 is an international standard of excellence in quality and efficiency of organizational management.

Award/ Ranking/ Criteria

Environmental Management System Certification (ISO 14001)

- Natural Gas Transmission

Date

July 2012

Notes (Reference/ Criteria)

- ISO 14001, dealing with environmental management systems (EMS), calls for three fundamental principles: pollution prevention, compliance with the law, and continuous improvement of EMS.

Award/ Ranking/ Criteria

Assorted International Standard Certification

- Master NGV stations (ISO 9001, ISO 14001, TIS 18001, Integrated Management System (IMS))

Date

December 2012

Award/ Ranking/ Criteria

Occupational Health and Safety Management System for personnel (OHSAS 18001)

- Natural Gas Transmission

Date

December 2012

Notes (Reference/ Criteria)

- TIS 18001 (OHSAS 18001), dealing with occupational health and safety of personnel from top management to operators. Its focus is on management to lower risks of injuries and illnesses, as well as property losses.

Award/ Ranking/ Criteria

Energy Management System (ISO 50001)

- National Gas Transmission

Presented by
Securities Analysts Association (SAA)

Award/ Ranking/ Criteria

SAA Awards for Listed Companies 2011

- Best CEO Award in Resources

Date

January 30, 2012

Notes (Reference/ Criteria)

- Presented to Mr. Prasert Bunsumpun, ex-CEO, in recognition of his 2011 outstanding performance as a leader of a successful major listed company.

Presented by
Marketing Guru Program,
FM 100.5 News Network,
MCOT Plc.

Award/ Ranking/ Criteria

Marketing Guru Award 2011

- PTT was among the ten organizations awarded

Date

February 2, 2012

Notes (Reference/ Criteria)

- In recognition of outstanding marketing success in income, market shares, and corporate image.
- Past awards including TAQA (2 consecutive years), Reader's Digest Trusted Brand (11 consecutive years), Thailand's Most Admired Brand (8 consecutive years), and SET Awards 2011, which confirmed consumers' trust in PTT products and services, and PTT is the most recognized brand with the most service stations in Thailand.

Presented by
Chulalongkorn University Engineering Alumni Association &
Faculty of Engineering, Chulalongkorn University

Award/ Ranking/ Criteria

Outstanding CU Engineer 2011 Award

- Dr. Pailin Chuchottaworn, President & CEO

Date

February 13, 2012

Notes (Reference/ Criteria)

- Presented to CU engineering alumni with outstanding career performance and success in a socially responsible way which contributed to national development.

Presented by
Thai Institute of Directors (IOD), Stock Exchange of Thailand (SET), Thai Chamber of Commerce, Federation of Thai Industries, Thai Bankers' Association, Thai Listed Companies Association, and Federation of Thai Capital Market

Award/ Ranking/ Criteria

Board of the Year Awards 2010/2011 - Hall of Fame, under the Board of the Year 2010/2011 Acclaim Project

Date

February 21, 2012

Notes (Reference/ Criteria)

- Based on the Board's performance in compliance with corporate governance principles while increasing long-term benefit and value to the shareholders.
- A proof of PTT's commitment to operating business with integrity, transparency, and efficiency.
- This was the second "Board of the Year - Hall of Fame" Awards for PTT (2008/2009, 2010/2011).

Presented by
Office of Thailand Quality Award

Award/ Ranking/ Criteria

Thailand Quality Class (TQC) 2011

Awarded to three business units
- Gas BU
- Oil BU
- International Trading BU

Date
February 28, 2012
(Presented on July 25, 2012)

Notes (Reference/ Criteria)
- In recognition for outstanding organizational management of international standard.
- Natural Gas Transmission had won TQC for three consecutive years (2007 - 2009).

Presented by
BrandAge Magazine

Award/ Ranking/ Criteria

Thailand's Most Admired Brand & Why We Buy 2012 Award:

PTT topped the ballots in
- Service Stations
- Lubricant Products

Date
February 2012

Notes (Reference/ Criteria)
- Based on a survey among customers on products and services for 2012.
- PTT service stations was voted the 'Most Trusted Service Station' for nine consecutive years (2004 - 2012).
- PTT lubricants was voted the 'Most Outstanding Brand' for three consecutive years (2010 - 2012).

Marketeer

Presented by
Marketeer Magazine

Award/ Ranking/ Criteria

"No.1 Brand Thailand" Award

- Service Stations
- Lubricant Products

Date

February 2012

Notes (Reference/ Criteria)

- Based on a customer behavior research and survey conducted by Video Research Ltd. (VR).

กระทรวงพลังงาน
MINISTRY OF ENERGY

Presented by
Ministry of Energy

Award/ Ranking/ Criteria

Outstanding Energy Executive, at the Thailand Energy Awards 2011 event

- Dr. Pailin Chuchottaworn, President & CEO, as former President of IRPC Plc.

Date

March 30, 2012

Notes (Reference/ Criteria)

- In recognition for outstanding performance in energy conservation and alternative energy development.

Presented by
Red Cross Fair

Award/ Ranking/ Criteria

Best Exhibition Award, Education and Learning category, under the concept "HM The Queen, Mother & Educator of Intellectual and National Development"

Date

March 30 - April 7, 2012

Notes (Reference/ Criteria)

- PTT used special techniques to design a unique "Education Museum in Honor of HM The Queen" exhibition.

Presented by
Superbrands

Award/ Ranking/ Criteria

Superbrands Thailand 2011, at the Superbrands Tribute Event - Trophy Presentation Ceremony to Superbrands 2011

Date

April 25, 2012

Notes (Reference/ Criteria)

- Based on managerial capability, which earned consumers' confidence and trust.
- Hosted by Superbrands, the only independent agency with the highest standard for branding success through brand quality, brand affinity, and brand personality.

Presented by
Thailand Greenhouse Gas Management Organization (TGO) (Public Organization)

Award/ Ranking/ Criteria

Certificate for Carbon Footprint of Product for PTT lubricant: PTT Performa Super Synthetic API-SN 0W-30 (one-liter-size and four-liter-size)

Date

April 2012

Notes (Reference/ Criteria)

- PTT was the first ASEAN oil company to win the certificate for its Performa Super synthetic API-SN 0W-30, with 20% less carbon footprint than ordinary lubricants.
- A proof of PTT's commitment to conducting business with environmental awareness through reducing impacts of product application throughout the life cycle, and efficiently developing green products accepted by the world community.

XXX_2
คาร์บอนฟุตพริ้นท์ของผลิตภัณฑ์

Presented by
The Thai Bond Market Association (ThaiBMA)

Award/ Ranking/ Criteria

ThaiBMA Best Bond Award 2011

- Best Investor Relations Issuer

Date

May 10, 2012

Notes (Reference/ Criteria)

- Votes given by bond market stakeholders, including institutional investors, sellers, and bond issuers, with final decisions made by a panel of experts. The Best Investor Relations Issuer award recognizes bond issuers who provide accurate and transparent information disclosure and have close relationship with investor through continual activities-illustrating the quality of PTT Investor Relations.

Presented by
Reader's Digest

Award/ Ranking/ Criteria

Trusted Brands 2012 Awards

- Thailand's Top Brand - Platinum Award for Service Stations
- Thailand's Top Brand - Gold Award for Lubricant Products

Date

May 25, 2012

Notes (Reference/ Criteria)

- PTT was the only brand that had won Thailand's Top Brand (service stations) for 12 consecutive years, with Gold awards from 2001 to 2008 and Platinum awards from 2009 - 2012 (sole recipient).
- The second annual consumer survey on lubricant products was conducted in 2012, and PTT lubricants were voted the most trusted product with a Gold award for two consecutive years.
- The awards confirmed PTT's service station standard and product innovation development recognized by consumers.

Presented by
National Science, Technology and Innovation Policy Office

Award/ Ranking/ Criteria

STI Thailand Award 2012 on Green Innovation

- Category: National State Enterprise

Date

June 28, 2012

Notes (Reference/ Criteria)

- Conferred on organizations with outstanding innovation management and highly accepted research which can raise commercial value, and innovation products which can support green operations.
- Conferred on PTT for its research on "Bi-Fuel ECU". Through outstanding innovation management, PTT efficiently developed products based on this initiative, which not only promotes energy efficiently but also benefits society, communities, and the environment as a whole, as well as enhancing national competitiveness.

Presented by
Occupational Safety and Health Bureau, Department of Labour

Award/ Ranking/ Criteria

National Outstanding Business Operator in Safety, Occupational Health, and Work Environment Awards 2012

for 22 projects

- Surat Thani Petroleum Terminal (PT) (16 consecutive years - the longest in Thailand)
- Lampang PT (13 consecutive years)
- Phitsanulok Oil Terminal (OT) (12 consecutive years)
- Phra Khanong OT, Chiang Mai OT, Pak Phanang OT, Nakhon Sawan PT, Lum Luk Ka OT, Phuket OT, Operation Center Chonburi (11 consecutive years)
- Udon Thani OT, Region 4 and 5 Pipeline Operation Unit (10 consecutive years)
- Ubon Ratchathani OT and Khon Kaen PT (9 consecutive years)
- Khao Bo Ya LPG Terminal, Ban Rong Po LPG Terminal, Songkhla PT (8 consecutive years)
- Bangchak PT Region 3 Pipeline Operation Unit (7 consecutive years)
- Den Chai OT (6 consecutive years)
- Sara Buri OT and Phra Khanong Office Building (5 consecutive years)
- Region 2 Pipeline Operation Unit (4 consecutive years)
- Region 6 and 8 Pipeline Operation Unit (2 consecutive years)
- Region 7 Pipeline Operation Unit

Date

July 5, 2012

Notes (Reference/ Criteria)

- Awarded to workplaces with strong commitment to the management and operation of safety, occupational health, and work environment.
- PTT Group won 35 awards in total, including oil, petroleum, and LPG terminals, Pipeline Operation Center, and PTTGC's Olefins I-4 plant, among others.

Award/ Ranking/ Criteria

Thai Labour Standard Certification (TLS 8001), top level (initial step)

- Khanom GSP
- Natural Gas Transmission

Date

August 2012

Notes (Reference/ Criteria)

- Based on rules and practices of the use of labor (hiring conditions, work conditions) for labor's equitable protection, resulting in quality living, safety, good labor relations, and morale

Award/ Ranking/ Criteria

White Industrial Estate Certificate (Anti-Drug)

- Rayong GSP

Date

September 2012

Award/ Ranking/ Criteria

Zero Accident Campaign 2012 Awards

- Khanom GSP (bronze certificate)
- Region 8 Pipeline Operations Division (initial certification)

Date

September 2012

Notes (Reference/ Criteria)

- Based on facilities without lost work days under a project on zero work accident.

Presented by
Revenue Department, Ministry of Finance

Award/ Ranking/ Criteria

Rassadakon Phiphat Award 2011: Juristic Person Category

Date

August 29, 2012

Notes (Reference/ Criteria)

- Conferred on cooperative taxpayers who properly paid all taxes due, with full appreciation of tax systems and excellent records of tax payment. The criteria are tax payment records, tax assessment, accountability of booking systems, and the internal control of selected companies. PTT has dutifully paid taxes as a role-model social citizen should so as to benefit the country.

Presented by
Thailand Management Association (TMA) & Sasin Graduate Institute of Business Administration of Chulalongkorn University

Award/ Ranking/ Criteria

The awards bestowed by HRH Princess Maha Chakri Sirindhorn: Thailand Corporate Excellence Awards 2011

PTT won

- Leadership Excellence Award
- Financial Management Excellence Award

And three runners-up awards

- Innovation Excellence
- Human Resource Management Excellence
- Corporate Social Responsibility Excellence

Date

September 6, 2012

Notes (Reference/ Criteria)

- Based on a survey conducted annually among senior executives of 1,000 leading and top-grossing companies in Thailand and experts in business management, such as university professors and executives from relevant association/ organizations

Presented by
Office of Natural Resources and Environmental Policy and Planning, Ministry of Natural Resources and Environment

- This was the 11th survey conducted, and PTT had won it for 11 consecutive years, thus confirming the competency of PTT's leader in business management, which resulted in strong financial performance recognized by domestic and international investors, as well as financial institutions. PTT was also recognized for its innovation in conducting business, efficient and transparent human resource management, and balance among all stakeholders, all of which enabled PTT to be a leading transnational company to bolster domestic energy security and strengthen the national economy.

Award/ Ranking/ Criteria

EIA Monitoring Award 2011

- Best Award:
  - Jetty, Songkhla Petroleum Terminal Project
- Four Outstanding Awards:
  - Jetty, Phuket Oil Terminal Project
  - Jetty, Si Racha Petroleum Terminal Project (Khao Bo Ya LPG Terminal and Si Racha Oil Terminal)
  - Jetty, Surat Thani Petroleum Terminal Project
  - Jetty, Pak Phanang Oil Terminal Project

Date

September 26, 2012

Notes (Reference/ Criteria)

- Awarded to facilities that conformed to EIA and showed outstanding environmental management standards.
- PTT Group won awards for 16 projects, represented by 9 companies: PTT, PTTGC, IRPC, TOP, TLB, PTTTANK, TPX, IPT, and HMC.

Presented by
Ministry of Finance

Award/ Ranking/ Criteria
Best State Enterprise 2012

- Best State Enterprise (Best of the Best) (4 consecutive years)
- Best Innovation Award (3 consecutive years) this year for "PTT Electromagnetic Induction", designed to dissolve crude oil sludge

Date
October 5, 2012

Notes (Reference/ Criteria)
- Best State Enterprise is the most prestigious award, covering Best State Enterprise Board of Directors, Best Organizational Management, and Best Social and Environmental Operations
- Best Innovation Award was conferred on organizations supporting learning process and promoting internal innovations. (The product awarded was created by PTT's research team, Petroleum Geology and Engineering Research, PTT Research and Technology.)

Presented by
National Innovation Day 2012

Award/ Ranking/ Criteria
HM The King's Awards

- Best National innovation: Economic category, for PTT Electromagnetic Induction

Date
October 5, 2012

Notes (Reference/ Criteria)
- Conferred on products which signified continual development and success in innovation management. The technology can be used to the organization's utmost benefit and contributes to sustainable economic, social, and technological development of the country.
- The product awarded was created by PTT's research team, Petroleum Geology and Engineering Research, PTT Research and Technology Institute.

สมาคมส่งเสริมผู้ลงทุนไทย
THAI INVESTORS ASSOCIATION

Presented by
Thai Investors Association, under the
Shareholders' Rights Protection Volunteer Project

Award/ Ranking/ Criteria
Investors' Choice Award

Date
October 15, 2012

Notes (Reference/ Criteria)
- Conferred on listed companies that scored 100% in all criteria at their AGMs. PTT had won full scores for 2009 through 2012 and had consistently given the shareholders a top priority, during the pre-AGM, the AGM, or post- AGM periods.

Presented by
Foundation of Science and
Technology Council of Thailand

Award/ Ranking/ Criteria
"Businessman of the Year 2012", Energy and Public Utilities Business Sector

- Mr. Nuttachat Charuchinda,
  Chief Operating Officer,
  Downstream Business Group

Date
October 19, 2012

Notes (Reference/ Criteria)
- Conferred on role-model businessmen who applied science and technology to benefit their organization and society-a key trait of PTT personnel.

Presented by
Faculty of Commerce and Accountancy, Chulalongkorn University

Award/ Ranking/ Criteria
The Most Powerful Brand 2012

- Named the strongest and mightiest brand among service stations

Date
November 20, 2012

Notes (Reference/ Criteria)
- Based on a survey among consumers nationwide on "Product Brand Valuation and Ranking."
- Confirmed PTT's commitment to maintaining PTT service stations' standard to remain consumers' most preferred brand.

Presented by
SET and Money & Banking Magazine

Award/ Ranking/ Criteria
SET Awards 2012

- Best Corporate Social Responsibility Awards (2 consecutive years)

Date
November 22, 2012

Notes (Reference/ Criteria)
- Based on performance which benefits all stakeholders: employees, consumers, shareholders, society, communities, and the environment.
- The awards illustrated PTT's earnest, consistent commitment to CSR operations.

Presented by
Rattanakosin College of Sustainable Energy and Environment, Rajamangala University of Technology Rattanakosin

Award/ Ranking/ Criteria

Honorary Doctor of Philosophy Degree, Sustainable Energy and Environment Technology and Management

- Dr. Pailin Chuchottaworn, President & CEO

Date
November 28, 2012

Notes (Reference/ Criteria)
- In recognition for his outstanding sustainable management of energy and the environment

Presented by
Thailand Productivity Institute, Ministry of Industry, Inter-Media Consultant Co., Ltd., and Custom Asia Co., Ltd.

Award/ Ranking/ Criteria

Thailand Automotive Quality Awards 2012 (TAQA 2012)

- Fuel products (3 consecutive years)
- Service stations (3 consecutive years)
- Lubricant products (2 consecutive years)

Date
November 30, 2012

Notes (Reference/ Criteria)
- In recognition of PTT's continuing efforts and determination to improve service stations and products of international standards to address all consumers' lifestyles and gain their trust and satisfaction

Human Resources Institute
Thammasat University

Presented by
Human Resources Institute,
Thammasat University

Award/ Ranking/ Criteria

Thailand Top 100 HR

- Dr. Pailin Chuchottaworn, President & CEO

Date

December 20, 2012

Notes (Reference/ Criteria)

- In recognition of the role model for human resource management and education. The awards were presented to qualified personnel from the public sector, private sector, and state enterprises

Presented by
Department of Industrial Works (DIW)

Award/ Ranking/ Criteria

Green Industry Award (Level 3), Green System

- Rayong GSP
  (Environmental Governance Project Award)

Date

May 2012

Notes (Reference/ Criteria)

- Based on environmentally friendly operation, certified by the Rayong Industrial Office

Award/ Ranking/ Criteria

Certificate, Environmental Governance Project for Industrial Facilities and Green Industry Award (Level 3), Green System

- Khanom GSP

Date

August 2012

Notes (Reference/ Criteria)

- Based on environmentally friendly operation, certified by the Rayong Industrial Office.

Presented by
Office of Industrial Economics (OIE)

Award/ Ranking/ Criteria

Certificate for Participating Facilities, Project to Develop Industrial Productivity under the Sufficiency Economy Standard (Industrial Sector)

- Natural Gas Transmission

Date

August 2012

Notes (Reference/ Criteria)

- Based on leadership in application of Sufficiency Economy to the organization in pursuit of security and sustainability.

Presented by
Thai Industrial Standards Institute (TISI)

Award/ Ranking/ Criteria

International Standard Certification of Technical Competency Assessment of Laboratories (ISO/IEC 17025)

- Natural Gas Transmission

Date

December 2012

Notes (Reference/ Criteria)

- Based on an assessment of competency in all aspects of laboratory management, ranging from specimen preparation, skilled analysis and testing, recording, to reporting outcomes. While stressing several aspects of components, the standard goes beyond the laboratory's quality system, document control, remedy and prevention, settings, and instruments.

Presented by
Bureau Veritas (A neutral organization in charge of ISO assessment)

Award/ Ranking/ Criteria

International Standard Certification of Vital Information Security Management Systems (ISO/IEC 27001)

- Natural Gas Transmission

Date

December 2012

Notes (Reference/ Criteria)

- Based on the implementation success of the international standard.

INTERNATIONAL
12 entities
32 awards

Presented by
Dow Jones Sustainability Indexes (DJSI)

Award/ Ranking/ Criteria

Dow Jones Sustainability Indexes (DJSI)
• DJSI 2012

- PTT was among the top 15% in DJSI's Oil & Gas Producers categories, ranked 17th of 118 companies.

Date

January 2012

Notes (Reference/ Criteria)

- Based on business performance focusing on economic, social, and environmental responsibility in 2011.

Award/ Ranking/ Criteria

Dow Jones Sustainability Indexes (DJSI)
• DJSI 2012/13

- PTT was chosen by Sustainable Asset Management (SAM) as "DJSI Member 2012/13" and was among Oil & Gas Producers' top 15 of 125 companies worldwide.

Date

September 2012

Notes (Reference/ Criteria)

- In recognition of its role model in sustainable, balanced development – to be a high-performance organization while adhering to knowledge management, technological development, innovation for green energy, and social responsibility under corporate governance.
- PTT underwent assessment by SAM for the second times and was the sole Thai company among the top 15 leading companies worldwide in the Oil & Gas Producers category.

Presented by
Newsweek Magazine

Award/ Ranking/ Criteria

The Global Green Rankings List 2011

- Ranked 16th of 37 energy companies worldwide
- Ranked 384th of 500 companies worldwide (the sole Thai company in the ranking, which indicated PTT's environmental management caliber)

Date

March 2012

Notes (Reference/ Criteria)

- Newsweek is a US-based leading magazine that ranks the top 500 companies worldwide with the best overall environmental practices for 2011, based on environmental impacts (45%), environmental management (45%), and management transparency (10%).

Presented by
Corporate Governance Asia Magazine

Award/ Ranking/ Criteria

Asian Excellence Recognition Awards 2012 (Investor Relations, CSR, Business Ethics, Environmental Responsibility and Financial Performance)

Six awards won at the 2nd Asian Excellence Recognition Awards 2012
3 in Individual categories

- Asia's Best CEO (2 consecutive years)
  Dr. Pailin Chuchottaworn, President & CEO
- Asia's Best CFO (2 consecutive years)
  Mr. Tevin Vongvanich, Chief Financial Officer
- Best Investor Relations Professional: Thailand (2 consecutive years)
  Ms. Pannalin Mahawongtikul, Vice President Investor Relations

And 3 in Corporate categories

- Best Investor Relations Website/ Promotion (2 consecutive years)
- Best Investor Relations Companies: Thailand (2 consecutive years)
- Best Environment Responsibility (2 consecutive years)

Date

March 30, 2012

Notes (Reference/ Criteria)

- Based on scores and interviews among investors.
- In recognition of listed companies in each country with outstanding investor relations practices in all aspects and without ranking them. The awards reflected PTT's caliber for organizational management and investors' confidence.

Award/ Ranking/ Criteria

Corporate Governance Asia Recognition Awards 2012 (CG)

- Asian Corporate Director Recognition Awards 2012 (3 consecutive years)
  Dr. Pailin Chuchottaworn, President & CEO
- Corporate Governance Asia Recognition Awards 2012 (7 consecutive years)

Date

June 20, 2012

Notes (Reference/ Criteria)

- Asian Corporate Director Recognition Awards: in recognition of Thai's listed companies' leaders and directors with outstanding management performance and good governance promotion
- Corporate Governance Asia Recognition Awards: in recognition of companies with outstanding corporate governance (CG) in each Asian country, based on:
  1. Public recognition of CG performance
  2. CG promotional activities during the past year
  3. Substantial improvement of CG practices

Forbes

Presented by
Forbes Magazine

Award/ Ranking/ Criteria

Ranked 167th in the Forbes Global 2000 Ranking 2012

Date

March 2012

Notes (Reference/ Criteria)

- Among 2,000 out of 3,300 major companies, based on 2011 performance in sales revenue, profit, asset value, and market value
- Best among Thai companies
- This year, 17 Thai companies (as in 2011) were ranked, with PTTGC (ranked 665th) and TOP (1,288th) from PTT Group.
- Past rankings:
  - 171st/ 2011
  - 196th/2010
  - 244th/2009
  - 205th/2008
  - 354th/2007
  - 372nd/2006
  - 425th/2005
  - 461st/2004

THE ASIAN BANKER

Presented by
The Asian Banker Magazine

Award/ Ranking/ Criteria

The Asian Banker Annual Achievement Awards 2012

- The Leading Corporations in Thailand (jointly with Kasikornbank Plc.)
- The Leadership Achievement Award 2012 for the Asia Pacific Region: Dr. Pailin Chuchottaworn, President & CEO

Date

April 26, 2012

Notes (Reference/ Criteria)

- The Asian Banker is Asia's leading money and banking magazine.
- The Leading Corporations in Thailand Award was presented to PTT and Kasikornbank jointly as high-performance organizations and financial business partners that efficiently added value to the integrated business, from upstream to downstream.
- The Leadership Achievement Award for the Asia Pacific Region: in recognition of Dr. Pailin Chuchottaworn's leadership for leveraging the financial supply chain to add value for customers and business partners in a globalized, connected world

FinanceAsia

Presented by
FinanceAsia Magazine

Award/ Ranking/ Criteria

PTT topped Thai companies in seven categories

PTT topped Thai companies in 7 categories:
(out of 9 categories)

- Best CEO: Dr. Pailin Chuchottaworn
  (2 consecutive years)
- Best CFO: Mr. Surong Bulakul
  (4 consecutive years)
- Best Managed Company (5 consecutive years)
- Best Corporate Governance (4 consecutive years)
- Best Corporate Social Responsibility
  (2 consecutive years)
- Best Investor Relations (4 consecutive years)
  Most Committed to a Strong Dividend Policy
  (2 consecutive years)

Date

May 2012

Notes (Reference/ Criteria)

- Based on an annual survey among 265 investors and analysts on outstanding listed companies in Asia.
- Past rankings
  - 1st Best CEO / 2011
  - 1st Best CFO / 2006, 2008, 2011
  - 1st Best Managed Company / 2005, 2006, 2008, 2011
  - 1st Best CG / 2005, 2006, 2011
  - 1st Best CSR / 2011
  - 1st Best IR / 2006, 2008, 2011
  - 1st Most Committed to a Strong Dividend Policy / 2011

THE Asset

Presented by
The Asset Magazine

Award/ Ranking/ Criteria

The Asset's Platinum Award for All-Round Excellence (4 consecutive years)

Date

June 30, 2012

Notes (Reference/ Criteria)

- Based on a survey of leading worldwide institutional investors, analysts, and experts in Asian stock markets.
- Based on: Financial Performance, Corporate Governance, Social Responsibility, Environmental Responsibility, Investor Relations.
- PTT is the sole Thai recipient of the Platinum Award. (4 consecutive years)

Presented by
Fortune Magazine

Award/ Ranking/ Criteria

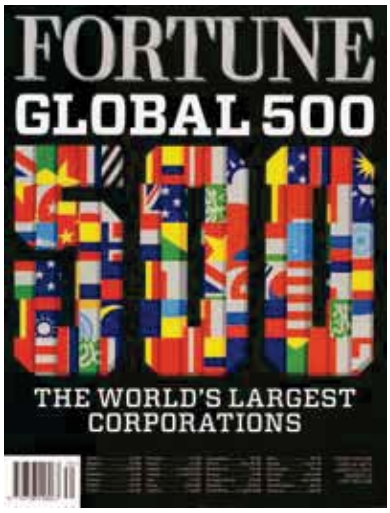
Ranked 95th among the world's largest companies in 2012

Date

July 2012

Notes (Reference/ Criteria)

- Based on revenue in 2011
- PTT remained the sole Thai company among the top 500.
- Past rankings:
  - 128th/2011
  - 155th/2010
  - 118th/2009
  - 135th/2008
  - 207th/2007
  - 265th/2006
  - 373rd/2005
  - 456th/2004



Presented by
Asian Network for Quality (ANQ)

Award/ Ranking/ Criteria

ANQ Recognition for Excellence in Quality Practice (ARE-QP) Award at the ANQ Congress 2012

Date

August 2, 2012

Notes (Reference/ Criteria)

- Conferred on Asian organizations with outstanding quality practice
- ANQ (Asian Network for Quality) is a non-profit Asian organization, with members from Thailand, Bangladesh, China, Taiwan, Dubai, Hong Kong, Kazakhstan, India, Indonesia, Japan, Korea, Pakistan, Russia, Singapore, Vietnam, and New Zealand

Presented by
The Alpha Southeast Asia Magazine

Award/ Ranking/ Criteria

The "6th Annual Best Financial Institution Awards 2012 & 2nd Annual Corporate Awards 2012 (Thailand)"

Awards in 5 categories

- Most Organised Investor Relations
- Best Senior Management IR Support
- Strongest Adherence to Corporate Governance
- Most Consistent Dividend Policy
- Best Strategic CSR

Date

September 18, 2012

Notes (Reference/ Criteria)

- Based on a survey among some 460 regional investors and analysts to select Southeast Asia's top companies.

Award/ Ranking/ Criteria

Dr. Pailin Chuchottaworn, President & CEO, was ranked among Southeast Asia's top 25 most powerful man

Date

November 2012

Notes (Reference/ Criteria)

- Over 60 leading ASEAN personalities were considered for their influence on the financial market in the next decade and their intention, actions, and business decisions, which will influence the market.
- 4 Thai corporate leaders were in the top 25, including Dr. Pailin Chuchottaworn, President & CEO of PTT, and Mr. Tevin Vongvanich, President & CEO of PTTEP.

Presented by
Platts

Award/ Ranking/ Criteria

Platts Top 250 Global Energy Company Ranked 6th in "Overall Performance in Asia Pacific 2012"

Date

October 23, 2012

Notes (Reference/ Criteria)

- Based on asset value, sales revenue, profit, and ROI of energy companies worldwide with over 2 billion US$ in assets.
- Indicated PTT's caliber as a leading transnational energy company in pursuit of corporate excellence and energy security to satisfy domestic needs with the ultimate goal of energy independence while readying itself for AEC and international competition.

Presented by
Japan Institute of Plant Maintenance

Award/ Ranking/ Criteria

TPM-JIPM Award

• Consistency Award

6 pilot terminals (Group 1): Lampang PT, Nakhon Sawan PT, Saraburi OT, Lam Luk Ka OT, Ban Rong Po LPG Terminal, and Phuket OT

• Excellence Award

1 terminal (Group 2): Khao Bo Ya LPG Terminal

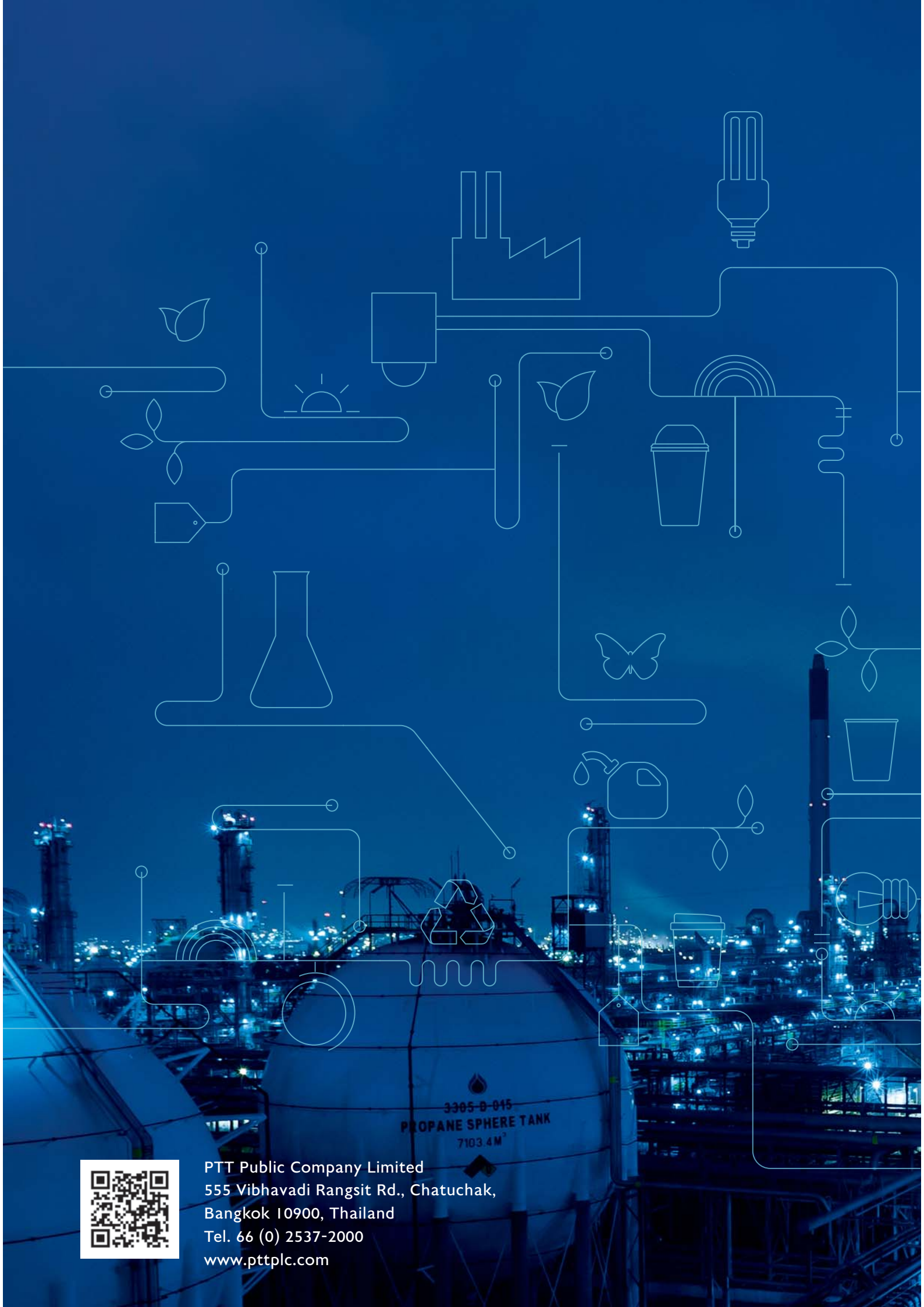
Date

December 2012

Notes (Reference/ Criteria)

- Presented to prototype oil terminals with TPM standard application, with a focus on outcome, maximum efficiency, and lower losses.

Sculpture : Power for Sustainable Future
Technique : Sculpting, Metal Casting, and Gold Leaf Gilding
Material : Bronze and gold leaf
Dimension : Height 920 cm. Width 900 cm.
Establish : December 28, 2012
Sculptor : Nontiwat Chandhanaphalin (National Artist in Visual Arts 2006, Sculpting)



PTT Public Company Limited
555 Vibhavadi Rangsit Rd., Chatuchak,
Bangkok 10900, Thailand
Tel. 66 (0) 2537-2000
www.pttplc.com

PTT GROUP VISION

THAI PREMIER MULTINATIONAL ENERGY COMPANY

PTT GROUP MISSION

To conduct integrated energy and petrochemical business as the nation's energy company whose mission to equally respond to all stakeholders through the following aspects:

To the country
Ensuring long-term energy security by providing sufficient high-quality energy supply at fair prices to support economic growth

To community and society
Maintaining a good standing corporate status in Thai society by exercising environmental stewardship of internationally accepted standards and helping to improve the quality of life for community and society

To shareholders
Operating profitable business that leads to sustainable growth while generating optimum returns

To customers
Ensuring customer satisfaction and loyalty by delivering world-class quality products and services at fair prices

To business partners
Conducting fair business practice with all partners while promoting trust, relationship, and cooperation to expand business capability and increase efficiency in long-term business partnership

To employees
Promoting capability building professionally and ensuring employees' well-being is on the level with other leading companies in order to embolden organization/ employee bond

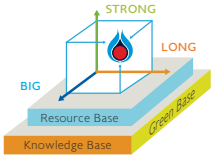
PTT GROUP VALUES

SPIRIT
The way we work together

Synergy | Performance Excellence | Innovation | Responsibility for Society | Integrity & Ethics | Trust & Respect

S P I R I T

BUSINESS DIRECTION



BIG - LONG - STRONG

BIG
A world class Company to be listed in FORTUNE 100 by 2020

LONG
A Company with sustainable growth to be listed in DJSI in 2013

STRONG
Operational excellence to achieve Top Quartile Performance by 2020

ptt TAGNOC
Technologically Advanced and Green National Oil Company

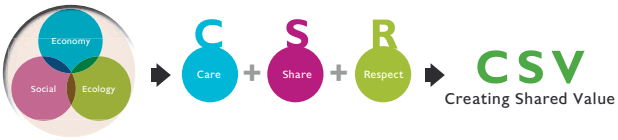
TA: Technologically Advanced
Leading-edge technology to maximize value of the business

G: Green roadmap
Growth and profits are achieved in a sustainable manner

NOC: National Oil Company
- Energy security
- National wealth
- Support Thailand into a knowledge based economy

PTT STRATEGIC FRAMEWORK

CSR STRATEGY



"The Balance and Harmony among Economy, Social and Ecology will be a new framework for sustainable growth"

Financial Highlights

		2010	2011	2012
Statement of Income	(Million Baht)			
Sales and Service Income		1,898,682	2,428,126	2,793,833
Earnings before Finance Costs, Income Taxes, Depreciation, and Amortization including Other Non-operating Income and Expenses (EBITDA)		170,330	211,373	227,842
Net Income (Loss)		83,992	106,260	104,666
Statement of Financial Position	(Million Baht)			
Total Assets		1,229,109	1,401,846	1,631,320
Total Liabilities		671,695	758,133	899,656
Total Equity		557,414	643,713	731,664
Total Equity Attributable to Equity Holders of the Company		480,704	555,763	605,784
Shares or Information about Common Shares				
Shares and Fully Paid-up Share Capital	(Million Shares)	2,849.04	2,856.30	2,856.30
Book Value per Share[1/]	(Baht)	169.31	194.57	212.09
Earnings per Share[1/]	(Baht)	29.58	37.24	36.64
Dividend per Share	(Baht)	10.25	13.00	13.00[2/]
Dividend Payout Ratio to Net Income	(%)	34.65	34.91	35.48
Share Price at the End of Financial Period	(Baht)	320.00	318.00	332.00
Financial Ratios				
Net Income to Total Revenues	(%)	4.35	4.29	3.69
Return on Equity	(%)	18.46	20.50	18.02
Return on Total Assets	(%)	7.20	8.08	6.90
Debt to Equity	(Times)	1.21	1.18	1.23
Net Debt to Equity	(Times)	0.41	0.44	0.43
Net Debt to EBITDA	(Times)	1.35	1.33	1.37
Interest Coverage	(Times)	12.30	13.23	12.33

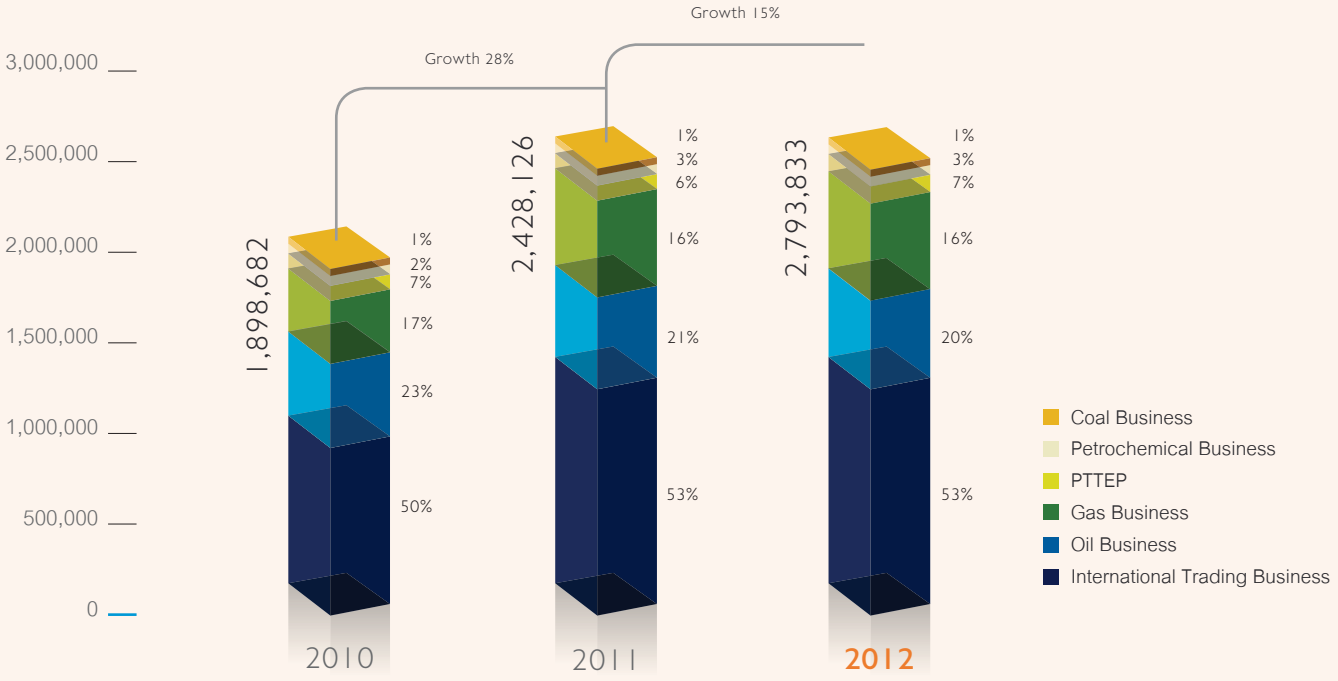
Remarks:

1/ Based on the weighted common shares of 2,839.222 million (as of December 31, 2010), 2,853.013 million (as of December 31, 2011), and 2,856.300 million (as of December 31, 2012).

2/ The Board of Directors, on February 22, 2013, approved the rate of dividend paid to the shareholders, which will be tabled for the 2013 AGM's approval on April 11, 2013.

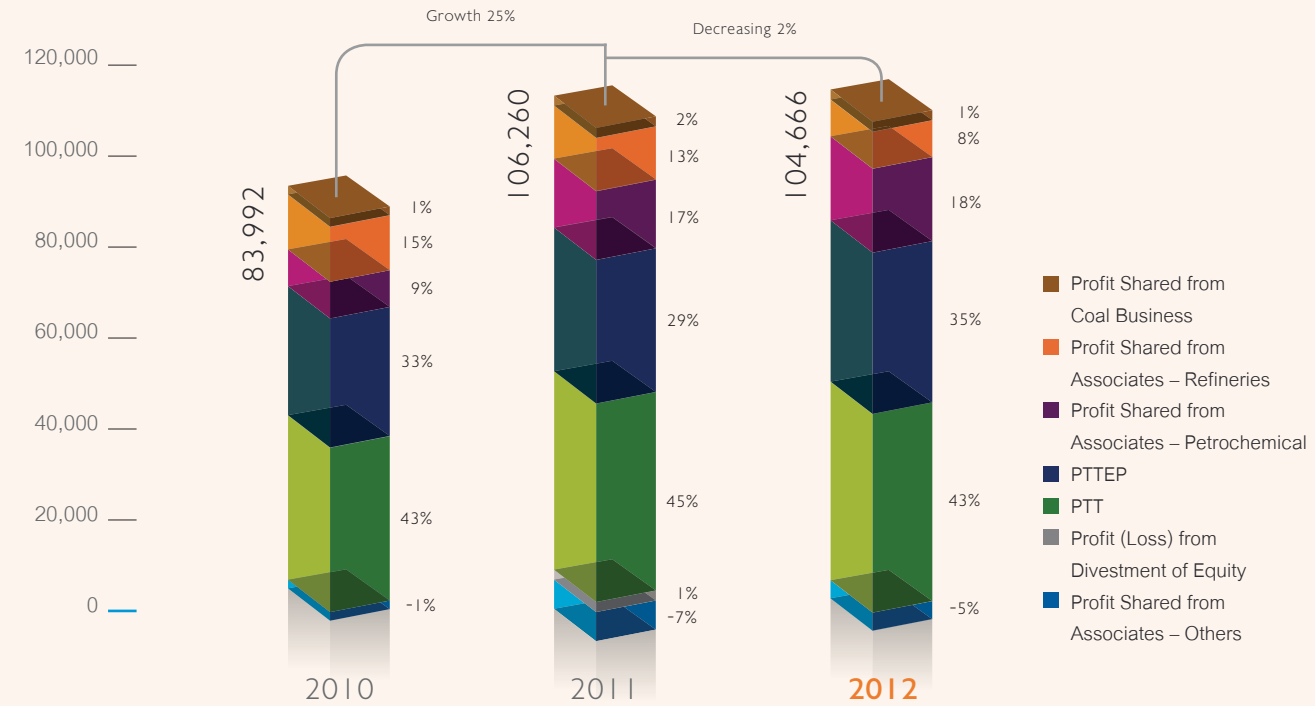
Sales and Service Income

(Unit: Million Baht)



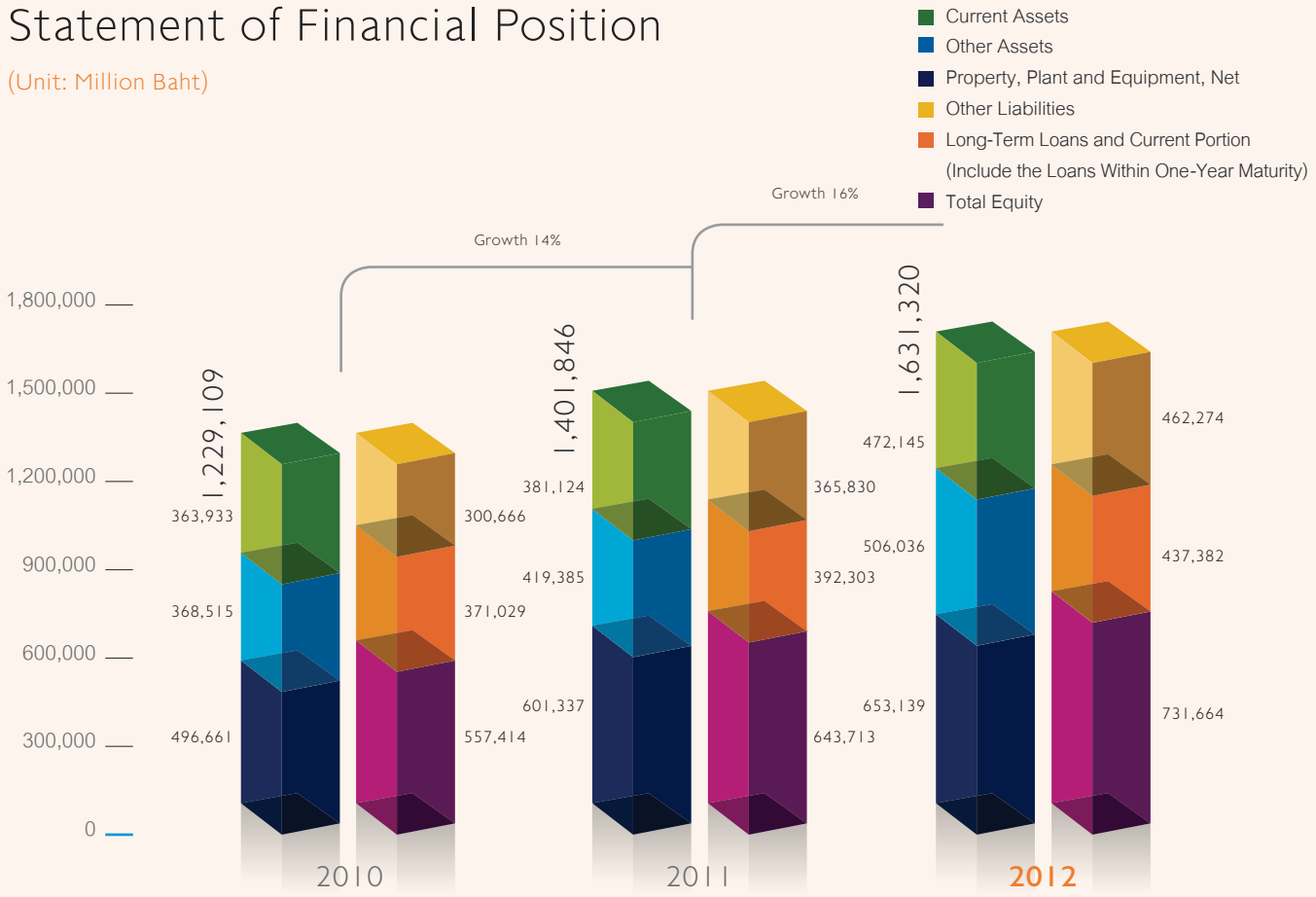
Net Income

(Unit: Million Baht)



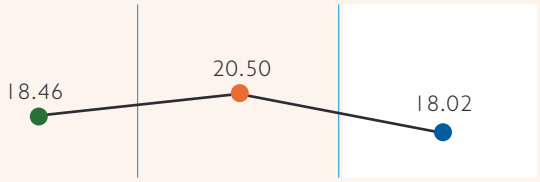
Statement of Financial Position

(Unit: Million Baht)

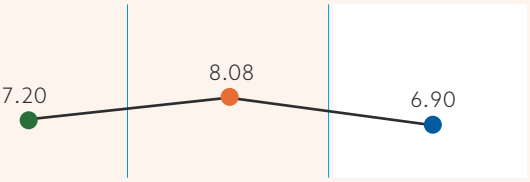


Financial Ratios

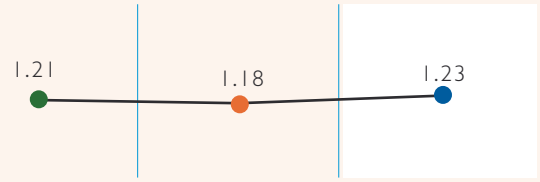
Return on Equity (%)



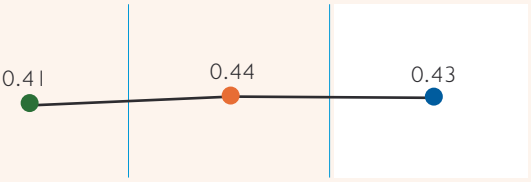
Return on Total Assets (%)



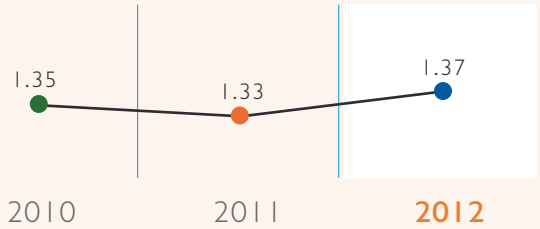
Debt to Equity (Times)



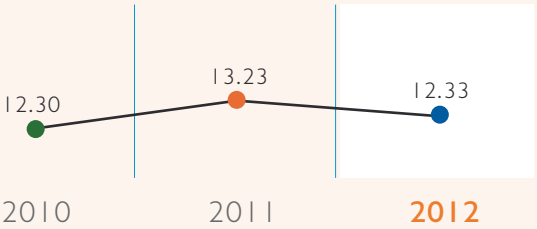
Net Debt to Equity (Times)



Net Debt to EBITDA (Times)



Interest Coverage (Times)



PTT Information

Name	PTT Public Company Limited
Initial	PTT
Registered Number	0107544000108
Type of Business	Energy in petroleum business via investment through subsidiaries, jointly controlled entities, and associated (Group of Companies) who operate upstream and downstream petroleum business and coal business.
Registered Capital	28,572,457,250 baht, including 2,857,245,725 common shares, 10 baht per share (as of December 31, 2012)
Paid of Capital	28,562,996,250 baht including 2,856,299,625 common shares, 10 baht per share (as of December 31, 2012)

Location	555 Vibhavadi Rangsit Road, Chatuchak, Bangkok 10900, Thailand Telephone : 66 (0) 2537-2000 Telefax : 66 (0) 2537-3498-9 Website : www.pttplc.com
Corporate Communication Department	Telephone : 66 (0) 2537-2150-1 Telefax : 66 (0) 2537-2169, 66 (0) 2537-2171 E-mail : corporate@pttplc.com
Investor Relations Department	Telephone : 66 (0) 2537-3518 Telefax : 66 (0) 2537-3948 E-mail : ir@pttplc.com
Office of the President and Corporate Secretary	Telephone : 66 (0) 2537-3885-6 Telefax : 66 (0) 2537-3883 E-mail : corporatesecretary@pttplc.com

Reference

• Share Registrar	Thailand Securities Depository Company Limited 4th Floor, SET Building, 62 Ratchadapisek Road, Klongtoey, Bangkok 10110 Telephone : 66 (0) 2229-2888 Telefax : 66 (0) 2229-2800
• Auditor	Office of the Auditor General Rama VI Road, Phayathai, Bangkok 10400 Telephone : 66 (0) 2271-8000 Telefax : 66 (0) 2618-5807
• Registrar	Siam Commercial Bank Plc. Registrar 1, Markets Operations Division 2nd Building, 3rd Floor, 1060 Petchaburi Road, Ratchathewi, Bangkok 10400 Telephone : 66 (0) 2256-2323-8 Telefax : 66 (0) 2256-2406 Corporate Trust Sales, Corporate Trust 9 Ratchadapisek Road, Chatuchak, Bangkok 10900 Telephone : 66 (0) 2544-3937, 66 (0) 2544-2923 Telefax : 66 (0) 2937-7662

Message from the Board of Directors

Dear Shareholders

It was another truly auspicious year in 2012, when HM Queen Sirikit observed her 80th birthday anniversary. Revered as the Mother of Thailand, HM the Queen graciously carried out her duties by not only teaching her subjects all along, but taking into her care the needy, patients, and those that showed gratitude to their parents-thus contributing to peace and happiness in this land. To show our gratitude, PTT Group invited the public to join in expressing our good wishes and our allegiance through the "A Million Hearts for Our Mother" project while campaigning for gratitude for mothers' sacrifice and love. To achieve this, people were asked to share mothers' valuable teachings for others to emulate so as to be good children of Thai society and strengthen Thai society with the warmth of families.

This past year, PTT Group's mission of strengthening energy security and economic stewardship proved successful in our achievement of two key goals ahead of schedule. First, getting ranked on the Fortune 100 list: PTT is now No. 95. Second, being listed on the Dow Jones Sustainability Indexes (DJSI): PTT, in fact, achieved such distinction in 2011 and 2012 and is now the sole Thai company among the 15 world's leading oil and gas-producing corporations.

Businesswise, this year's global economic overview was more lethargic than 2011, a result of developed countries' weaker-than-expected economies, the shrinking Eurozone economy, the declining consumption and investment accompanying austerity measures in the Eurozone, and debt crises in several countries. Still, for Thailand, in the wake of the Great Floods of late 2011 - which affected all sectors - the public sector has enforced several economic-stimulus measures, with a focus on the industrial sector's recovery so as to drive economic momentum through hiring as well as job and income creation to spur purchasing power, while inducing domestic cash flow and boosting confidence among business people and investors. As a result, the Thai economy this past year posted 6.4% growth, in turn raising the consumption of primary commercial energy (excluding renewable energy) by 6.8% from last year. Registering 9.6% consumption growth was natural gas; 5.3% growth, crude oil. LPG staged a healthy 9.7% rise in consumption - particularly in the transport sector (15%) and the household sector (14.4%). The industrial sector, however, consumed 14.7% less than last year. Meanwhile, NGV consumption registered remarkable 20.6% growth since NGV is cheaper than liquid fuels - this despite the National Energy Policy Council's decision to adjust its price in stages in a move to reflect true costs. In addition, global energy prices this year proved higher because of the conflicts between Iran and the western bloc-Israel and the unrest in oil-producing countries in the Middle East and northern Africa. All these contributed to a 2.7% higher price for the Dubai crude and to higher prices of petroleum products in Singapore's spot market, which rose with higher crude oil prices and higher demand. The tight supply of petroleum products was caused by the shutdowns of refineries in the US due to hurricanes and fires. As a result of these, the year saw PTT and its subsidiaries gross sales revenue of 2,793.833 billion baht, a 15.1% rise from last year; EBITDA, meanwhile, climbed 7.8% to 16.469 billion baht; and a forex gain was registered at 7.615 billion baht with the baht appreciation late in the year. Still, the realization of a reversal in the asset values of Montara (in Australia) and EMG lowered the net profit for PTT and its subsidiaries last year to 104.666 billion baht, a 1.5% loss - or 36.64 baht per share.

Apart from its mission of nurturing national energy security, PTT Group has defined a key strategy of being an energy conglomerate in relentless pursuit of knowledge, innovation, and technological breakthroughs, with management and outcomes designed to ease environmental impacts - the so-called Technologically Advanced and Green National Oil Company (TAGNOC) - in several ways: pursuit of new energy resources, development of innovative energy forms, application of advanced process technologies, and encouragement of information sharing so that all may create better innovations to be in turn shared with communities under PTT's care. Projects through which these measures were taken included the Forest Conservation and Human Development in 84 Tambon under the Sufficiency Economy Initiative Project, which promoted knowledge of community energy and joint natural resources and environmental conservation alike. The efforts under this project enabled PTT to grow its business and investment while grooming its personnel more efficiently, and to retain its market leadership for the 20th consecutive year with a market share of 38.2%, together with lubricating oil market leadership for the fourth consecutive year with a market share of 38.9%. This year, PTT successfully launched 14 new lubricant products to accommodate motoring innovations at a time when more alternative-energy forms joined the scene; PTT also grew its export lubricant markets in 28 countries. Our PTT Performa Super Synthetic API-SN 0W30 secured a carbon footprint label from the Thailand Greenhouse Gas Management Organization (Public Organization) (TGO), the first lubricant product in ASEAN to do so.

Because of our commitment to develop innovations in product quality and services, PTT secured the following awards for the year. **Best State Enterprise (Best of the Best)** for the fourth straight year and an **Outstanding Innovation Award** for the third straight year, presented by the Ministry of Finance. An **award bestowed by HM the King: Best National Innovation (Economic) for PTT's Electromagnetic Induction**, a crude oil sediment dissolver. An **STI Award 2012 on Green Innovation**, presented by the National Science Technology and Innovation Policy Office, recognized our research work on PTT Bi-Fuel ECU, an electronics control of natural gas distribution in gasoline engines, conducted by the PTT Research and Technology Institute. Apart from these, our PTT DDF ECU development work was designed for natural gas-powered diesel engines to save more than 60% diesel consumption.

Our pride also comes from this year's various awards and recognition by institutions and magazines that surveyed consumers' opinions, summarized as follows. First of all, we were among **"The Leading Corporations in Thailand"** according to The Asian Banker magazine. Then, we swept seven outstanding company awards presented by the Finance Asia magazine. The **ANQ Recognition for Excellence in Quality Practice (ARE-QP) Award** was also granted to us by the Asian Network for Quality, a non-profit organization of 16 Asian countries. Also, **The Asset magazine conferred its Platinum Award for All-Round Excellence** on PTT for the fourth straight year. Then there was an **Investor's Choice Award**, presented by the Thai Investors Association under the Shareholders' Rights Protection Volunteer Project; this award recognized listed companies that scored 100% in all assessed criteria out of a survey of AGMs. Incidentally, PTT has won this award for four straight years. Also, we were voted **Thailand's No. 1 Brand** for both service stations and lubricants by the Marketeer magazine. Public recognition also came through **Reader's Digest's Trusted Brand Awards** (gold and platinum): our service stations garnered the gold and platinum awards for 12 consecutive years now, and our lubricants have won the gold award for two

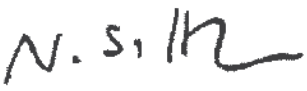
straight years. Finally, BrandAge magazine's reader voted for us as the **Most Trusted Service Stations** for eight straight years, along with the **Most Outstanding Brand** of lubricants for the third straight year.

This year, PTT Group successfully introduced environmental innovations. For instance, PTT Global Chemical Plc. developed HDPE under the InnoPlus trademark, which also secured a carbon footprint label from TGO. IRPC Plc's specialty polymer known by the POLIMAXX BANBAXX brand gives highly extended anti-bacterial protection. PTT MCC Co., Ltd., meanwhile, developed biodegradable polybutylene succinate (PBS) and polyactic acid (PLA) bioplastics; the latter is now coated on Café Amazon's containers to lower the residual waste volume.

Outside Thailand, PTT Group has ventured in a bid to generate income and pursue energy resources to accommodate the country's spiraling energy demand. PTT LNG Co., Ltd., has constructed a receiving terminal for LNG (liquefied natural gas) to accommodate the import, storage, and conversion of LNG into natural gas. We have invested in the generation of electricity, steam, and industrial water through Combined Heat and Power Producing Co., Ltd., to supplement value to natural gas consumption in industries and raise international business competitiveness. Apart from these, PTTEP has acquired Cove Energy Plc., listed on the Alternative Investment Market (AIM) of the United Kingdom, to explore for new energy resources in the Mozambique Rovuma Offshore Area One Project in Africa; it is also a joint-venture partner in the Canada Oilsands KKD Project in North America and invest in exploration under the Oman 44 Project in the Arab Peninsula as well as a floating LNG (FLNG) Project in Australia. Finally, PTT this year launched its first platinum service station under the PTT Life Station concept in Laos.

On behalf of the Board of Directors, we therefore wish to express our sincere appreciation to all stakeholders for their firm support and trust, which have enabled PTT Group to constantly achieve business successes and be poised for business undertaking to underscore our commitment to the vision of becoming a **Thai multinational energy company**. This vision will in turn give Thailand sustained energy security, together with technologies and innovation to stay abreast of the world. Yet, PTT Group has by no means any intention to make these strides alone, but desires concurrent growth of both the country and the people. The critical goal, however, is the strengthening of the national economy, strong and contented communities, and good ecology for all. This way, PTT Group can remain a sustainable force of Thailand far into future years.

Mr. Vichet Kasemthongsri
Chairman



Dr. Norkun Sitthiphong
Former Chairman
(to February 1, 2013)

Dr. Pailin Chuchottaworn
President & CEO

Report of the Audit Committee

Mr. Chulasingh Vasantasingh
Chairman of the Audit Committee

The Audit Committee consists of three independent directors who are knowledgeable as well as experienced in law, finance, information technology, and organization management, chaired by Mr. Chulasingh Vasantasingh, with Mr. Boonsom Lerdhirunwong and Mr. Waroonthep Watcharaporn as members, replacing Mr. Krairit Euchukanonchai and Mr. Arkhom Termpittayapaisith, effective from April 28, 2012.

The committee carried out Board-assigned duties under PTT's regulations on the criteria and guidelines for its Audit Committee, in alignment with the regulations of the Stock Exchange of Thailand (SET). The committee's policy focused on conformance to corporate governance and on good internal controls by:

- Focusing on preventive audit to promote systematic business performance, with knowledge creation mechanisms for PTT Group officers to understand and master that enable complete, proper job performance and reduction of errors.
- Managing business risk with a focus on the identification of comprehensive risk factors, particularly those of international investment.
- Valuing the compliance by executives and employees with relevant legislation, regulations, and requirements.

In 2012, the committee held 16 meetings, occasionally with the Management, the Office of Corporate Audit, and the external auditor, as summarized below.

1. Review of financial reports The committee reviewed quarterly, annual, and consolidated financial statements, together with connected transactions and those with potential conflicts of interest, with the Management and the Office of Corporate Audit. Each time quarterly and annual financial statements were examined with the external auditor presented. The Committee assessed validity and accuracy of PTT financial statement, adjustments of key accounting entries affecting the statements, adequacy and suitability of accounting entry methods and audit scope, accuracy and adequacy of information disclosure, and the external auditor's discretion. The Committee findings determined that PTT financial statements had complied with legal and accounting standard requirements under generally accepted accounting principles, and that adequate, timely information had been disclosed in the financial statements for the benefit of investors or users of such statements. This year the committee and the external auditor held a meeting in the absence of the Management to examine the external auditor's work scope, approaches, and annual audit plan.

2. Review of risk management The committee examined PTT's risk management policy, plans and approaches under the corporate risk profile, risk management arising from impacts of world oil prices, sourcing of energy supply, and other event risks. It also reviewed risk management resulting from PTT's internal and external circumstances, including those arising from operating in other countries. To this end, the committee visited such operations and held quarterly meetings with the Management to examine the efficiency and suitability of risk management processes and provide recommendations for further improvement.

3. Review of internal control effectiveness Together with the external auditor and the head of the Office of Corporate Audit, the committee reviewed the internal control system for each quarter with a focus on operation, resource consumption, stewardship of properties, and prevention or minimization of errors, losses, waste, and fraud. The committee also reviewed the credibility of financial reports together with PTT's compliance with legislation, regulations, and cabinet resolutions. The external auditor agreed that no significant issues or shortcomings had been detected. In 2012, PTT also assessed its internal controls against the regulations of the Auditor Commission on internal control standards of 2001, with 100% responses by executives to assessment questionnaires. PTT improved control self-assessment forms on the basis of a list of key controls by functional description and executives' responsibility under the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Management and the Office of Corporate Audit agreed that PTT's internal control system was both adequate and effective for its businesses.

4. Review of corporate governance Reviewing PTT's performance against the designed business processes, the committee found that PTT's businesses had been conducted with virtue, and that PTT had complied with securities and securities exchange legislation, SET's requirements, and other legislation relevant to its businesses (particularly connected transactions among PTT Group) to ensure regular transactions conducted under normal, sensible conditions. In addition, the committee carried out its own performance assessment, both as a whole and individually, against state-enterprise audit committee best practices and SET's criterion. The findings indicated very good quality.

5. Oversight of internal audit The committee reviewed the Office of Corporate Audit's strategic plans, its annual and long-term audit plans, as well as their implementation. The audit findings were reviewed and recommendations were given to follow up the corrective actions of key items, thus leading to good corporate governance and adequate internal controls. The committee examined PTT's amended regulations on the committee's criteria and guidelines together with PTT's requirements for internal audits and a related internal audit manual to ensure international standard achievement. As a final measure, the Committee reviewed the annual budget of the Office of Corporate Audit, including development, recruitment and rotation plans, training, assessment of resource adequacy and suitability, key performance measurement indicators, and the annual merit consideration for its head. The committee concluded that PTT's internal audit system was adequate, appropriate, and effective, with continuous audit quality improvement in personnel and audit performance on par with international standards.

The committee provided recommendations on developing the role of internal auditors compatible with international standards by focusing on proactive audits and serving as a true business partner, including a greater role as an adviser on various business processes. The committee also prescribed an active role in Corporate Social Responsibility (CSR).

6. Appointment of the external auditor for 2013 The committee proposed the appointment of the Office of the Auditor General as PTT's external auditor for 2013 to the Board, which will in turn submit it, together with its fees, for shareholders' approval at the 2013 AGM.

In summary, the Audit Committee performed its duties as specified in the Board-approved charter with high caliber, prudence, and adequate independence in equitable interests of stakeholders. In the opinion of the committee, PTT's financial reports were accurately prepared in all material aspects under generally accepted accounting principles. PTT commanded adequate risk management practices, appropriate internal control and internal audit systems, compliance with good corporate governance, legislation, requirements, and obligations relevant to its businesses.

Report of the Corporate Governance Committee

Mr.Watcharakiti Watcharothai
Chairman of the Corporate
Governance Committee

Dear Shareholders

The Board of Directors of PTT Plc highly values the promotion and emphasis of PTT's business execution under corporate governance, its code of conduct, and the framework of social responsibility by PTT Group in an effort to improve PTT's corporate governance practices to bolster confidence of all stakeholders.

The Board has assigned the Corporate Governance Committee, consisting of three independent directors, to recommend corporate governance guidelines to the Board, oversee the work of the Board and the Management, and ensure compliance with corporate governance principles in alignment with the Stock Exchange of Thailand's (SET) corporate governance principles and the international elements of the Organisation for Economic Cooperation and Development. The committee's duties also encompass social, community, and environmental responsibility.

This year the committee held four meetings to follow up matters under the corporate governance plans as well as social, community, environmental, and sustainable development plans, as summarized below:

Disclosure of information and transparency

- Developed Form 56-1 and the annual report, together with disclosure of PTT's performance in quarterly reports and key information for shareholders, investors, and the public, marked by essential completeness, adequacy, credibility, and timeliness, constantly through various channels, including SET's channels and PTT's website (www.pttplc.com). Investor Relations and Corporate Communications are the core units for information distribution.
- Developed PTT Group's Sustainability Report for 2012 in conformance to the international approach defined by Global Reporting Initiative (GRI) Generation 3 (G3.1) and set a goal of A+ assessment, due for completion by March 2013.
- Developed the quarterly "PTT Bizway" newsletter for shareholders to communicate messages and foster proper understanding between the shareholders and PTT.
- Developed the quarterly "Happiness" magazine for debenture holders to communicate messages and foster positive relations between debenture holders and PTT.

Rights of the shareholders

- Organized the 2012 Annual General Meeting of Shareholders (AGM) and informed the shareholders about the date and time, venue, and agenda, as well as all other relevant data that are adequate and timely.
- Informed the shareholders about the AGM rules and posted such information on PTT's website ahead of the time the meeting notices went out. This ensured that the shareholders would have enough time to examine supporting documents well ahead of the AGM. PTT also made it easy for shareholders to exercise their full rights of attendance and voting. Thanks to these actions, PTT received full 100 marks against the AGM Checklist, scored by the Thai Investors Association.

Equitable treatment of shareholders

- Allowed the shareholders to propose additional agenda items and nominate directors ahead of the 2012 AGM meeting from October 1 to December 31, 2012, as specified by PTT.
- Required that the directors and the executives disclose their vested interests and those of their related persons for the year to enable the Board to examine PTT's transactions with potential conflicts of interest and decide matters in the best interests of PTT as a whole.
- Required that all directors, executives, and employees submit their reports of conflicts of interest every year. This year, no essential item needed remedial action.
- Required that all directors and executives must report their shareholding as required by law. The Corporate Secretary compiles these reports for the Board every quarter.

The Board's Responsibility

- Added the "Assessment Form for Subcommittees" so that all subcommittees may be assessed as well. Initially, three forms were required for Board assessment: overall assessment, self-assessment, and cross-assessment. The year saw "excellent" assessment all around.
- Defined the qualifications of independent directors, their roles and responsibilities, in developing manual for independent directors.
- Ensured that directors undergo key director training courses organized by the Thai Institute of Directors (IOD), including Anti-Corruption Training Program for Corporate Directors and Executives, Audit Committee Program, Director Certification Program, Financial Statements for Directors, Monitoring the Internal Audit Function, Monitoring the System of Internal Control & Risk Management, as well as "Corporate Governance for Directors and Top Management of State Enterprises and Public Organizations", organized by the Institute for Development of Public-Sector Directors and Top Management, by King Prajadhipok's Institute. Also, participated in the IOD National Director Conference 2012 seminar under the "Moving Corporate Governance Forward: Challenge for Thai Directors" and "The Responsibilities of Company Directors in Fighting Corruption" topics. Finally, joined senior executive training on energy management, organized by the Thailand Energy Academy.
- Participated in site visits in France, Canada, and Australia, where PTT Group companies have invested and operated businesses.
- Held at least one meeting among independent directors.

Valuing stakeholders

- Revised the manual on corporate governance and code of conduct in PTT's business for compatibility with the SET principles of corporate governance for listed companies (2012) and best practices of leading companies under the approach of DJSI Sustainability Assessment.
- Made final preparation for the establishment of PTT Group's university and science academy, focusing on educational and science personnel development for the country by optimizing the group's knowledge base in support of youth capacity building.

Social responsibility and sustainable development

- HRH Princess Maha Chakri Sirindhorn graciously inaugurated the "Learning for the Mass Institute", set up by PTT and its network to nurture community potential for sustainable development and raise their self-reliance.
- Defined PTT's 6 strategies of social project execution, encompassing child and youth development, community development, biodiversity development, urban environmental management, establishing network to build a name for Thailand, and corporate values.
- PTT was named among DJSI Members 2012/13 and included among the top 15 companies of the Oil & Gas Producers out of 125 contestant companies, cited for being a role model organization for sustainable development that maintained balance among the commitment to excellence through knowledge management, technological development, creation of energy innovations for the environment, and CSR under corporate governance.
- Developed an eco-industrial prototype with a focus on lowering greenhouse gas emissions and environmental friendliness, which begins with establishment of green areas in the Asia Industrial Estate and a relentless expansion plan to 165 rai of land surrounding the estate. The goal is to restore the biodiversity-filled ecology to nature and the environment.

Awards of pride

Thanks to the firm commitment to operating with transparency and fairness in the best interests of all stakeholders, this year saw worldwide recognition of PTT's corporate governance and social responsibility practices, including:

- Excellent ranking in the 2012 Survey of Good Corporate Governance of Listed Companies, presented by IOD, SET, and the Securities and Exchange Commission (SEC).
- SET Award 2012 in recognition of listed companies: Best Corporate Social Responsibility Award (second straight year).
- Two Corporate Governance Asia Recognition Awards 2012: Asian Corporate Director Recognition Award 2012 (third straight year) and Corporate Governance Asia Recognition Award 2012 (seventh straight year).
- Platinum Corporate Award 2012, presented by The Asset magazine (fourth straight year).
- Best Corporate Governance Award (fourth straight year) and Best Corporate Social Responsibility (second straight year), presented by FinanceAsia magazine.

The Corporate Governance Committee will remain committed to efficiency improvement of corporate governance and social responsibility work for the benefit of PTT, shareholders, communities, society, the environment, and all stakeholders, which will benefit Thailand as a whole.

Report of the Remuneration Committee

Mr. Arkhom Termpittayapaisith
Chairman of the Remuneration Committee

Dear Shareholders

Remuneration is a key success factor to attract and retain the talents in PTT and an incentive to a better performance. The Remuneration Committee must ensure competitive director remuneration, reasonable and prevent overpay. We maintain our performance-based pay system of the directors and top executive. The board reviews the Key Performance Indicator and assesses the outcomes annually.

The PTT directors' remuneration had been stagnated since a raise in 2005. Meanwhile, PTT performance has grown rapidly and has been expanded into integrated petroleum and petrochemical businesses. Our revenue rose from 0.65 trillion baht in 2004 to 2.43 trillion baht in 2011 (273% increase). Our net profit rose from 62.7 billion baht in 2004 to 105.3 billion baht in 2011 (68% increase). PTT and PTT Group have dominated the largest market capital among the Thai listed companies for years. However, the directors' remuneration does not reflect the increasing accountability and responsibility of the board and falling behind the peers.

The committee convened twice in 2012. Directors, committee members and executives' remuneration is disclosed in this annual report for transparency.

Report of the Nominating Committee

Mr. Watcharakiti Watcharothai
Chairman of the Nominating Committee

Dear Shareholders

The Stock Exchange of Thailand and relevant institutions are revising the Thai 2006 Good Corporate Governance Code in accordance with requirements in the new ASEAN Corporate Governance Scorecard requirements. Many proposals on board size, composition and diversity were initially introduced. For instance, a non-executive director with direct experience in the core business on board, half independent director composition for particular board, limitation of independent director's service terms and minimum meeting frequency of committees.

The Nominating Committee applied with the 2006 Code, international guidelines and most of the proposed draft in 2012. Ten out of fifteen board members are independent directors and delivering effective, transparent and independent decision making process to the company. The committee are composed of various businessmen, scholars and public servants who are from diverse backgrounds, educations and experiences. The current board composition delivers opinions in both state-owned enterprise related issues and private business practices equally.

The committee invited minor shareholders to nominate candidates as their representatives in 2012 and provided nomination requirements and procedures. However, none had proposed candidates for 2012 Annual General Meeting.

The committee convened twice in 2012 carefully, cautiously and reasonably. Its performance is disclosed in this report.

Economic, Petroleum, and Petrochemical Review

The 2012 global economic growth slowed down from the previous year. However, the oil price remains at high level due to uncertainty of supply disruption.

2012 World Economic, Petroleum, and Petrochemical Review

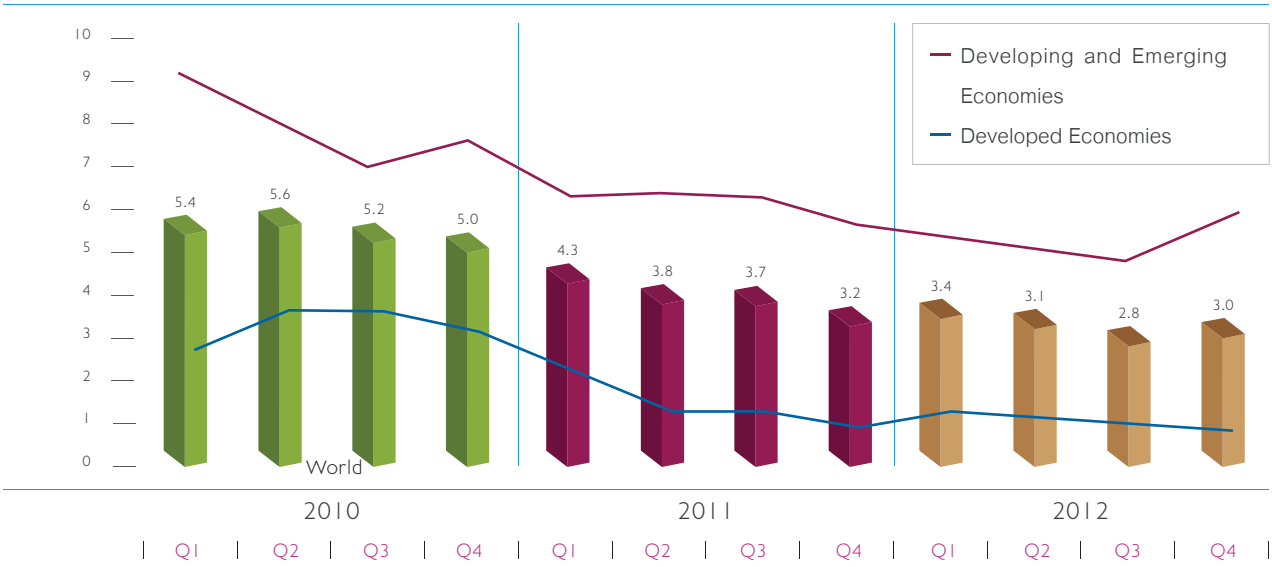
World economic review

This year, global economic growth slowed down from the 2011 level, following the contraction in developing and emerging economies due to declining domestic consumption and investments, resulting in more states' implementation of less stringent financial and monetary control policies. Subsequent to the weaker-than-expected economy of advanced economies, especially those with the Euro currency, the world's exports declined proportionately with the falling global demand, aggravated by states' tightening policies to control and minimize the escalation of trade deficits and high levels of public debts. The Eurozone sovereign debt crisis escalated and became more widespread, eventually sapping the economy of leading countries like Germany and France. Despite the introduction of mitigation measures by the European Central Bank (ECB), including Long-Term Refinancing Operation (LTRO) and Outright Monetary Transaction (OMT), the European economic turmoil became slightly relaxed at best, since these measures were enforced in delay. Equipped with the fragile recovery of the US economy, which showed some positive signals on increasing domestic consumption and slow revival of the property sector, but not the relatively high unemployment rate, the US Fed decided to extend the call for short-term debts by increasing the percentage of long-term ones to the end of 2012, known as "Operation Twist". To sustain the momentum, the Fed followed immediately with Quantitative Easing 3 (QE3) aiming to maintain the economic momentum until aa sizeable drop of the unemployment rate was seen. Meanwhile, the IMF put out a report in January 2013 showing that the 2012 global growth rate fell slightly to 3.2%,

a drop from 3.9% in the previous year-with 1.3% recorded for the developed economies versus 5.1% for the developing and emerging economies (Figure 1).

World's Economic Growth Rate during 2010 - 2012

Unit: % yoy



Source: IMF January 2013

Petroleum and Petrochemical Review

While crude oil demand in developed economies was declining, demand for petroleum in developing and emerging economies, particularly China, India, and the Middle East, kept rising this year, resulting in a slight rise of the world's crude oil demand. The International Energy Agency (IEA) published a report in February 2013, concluding the 2012 rise in global crude oil demand at 1.1% from the previous year to 89.8 million barrels per day.

World's Crude Oil Demand during 2010 - 2012

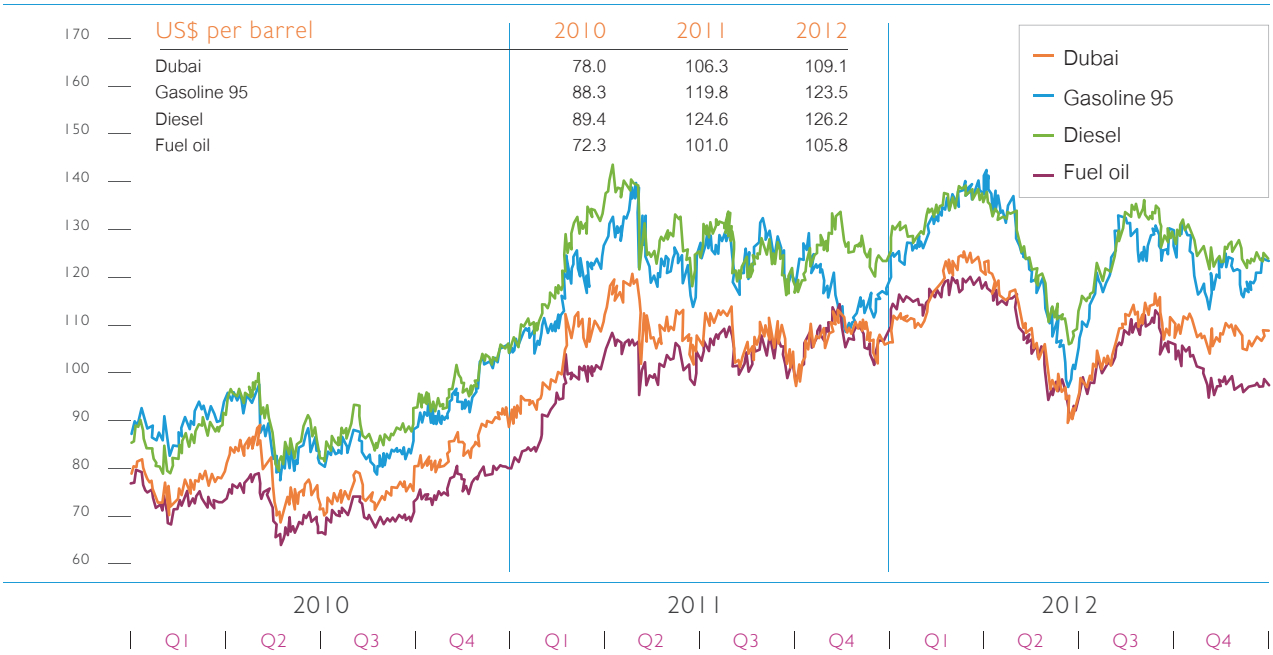
Unit: Million barrels/day

Source: IEA February 2013

Despite the feeble growth in world oil demand in 2012, the oil price remained high because of geopolitical factors, resulting in the uncertainty of supply disruption, especially on the tension between Iran and Western countries and Israel on the Iranian nuclear power development program. Political unrest in some producing countries in the Middle East and Northern Africa, including Nigeria, South Sudan, and Syria, and the major supply disruption caused by super hurricane Isaac in the Gulf of Mexico, also jacked up the world oil price. Furthermore, economic measures introduced by many countries to stimulate domestic consumption during 2012 helped push the oil price to high levels. The average Dubai crude price stood at 109.1 US$ per barrel, versus the 2011 average price of 106.3 US$ per barrel.

The Dubai Crude Prices and Petroleum Products Prices during 2010 - 2012

Unit: US$/barrel



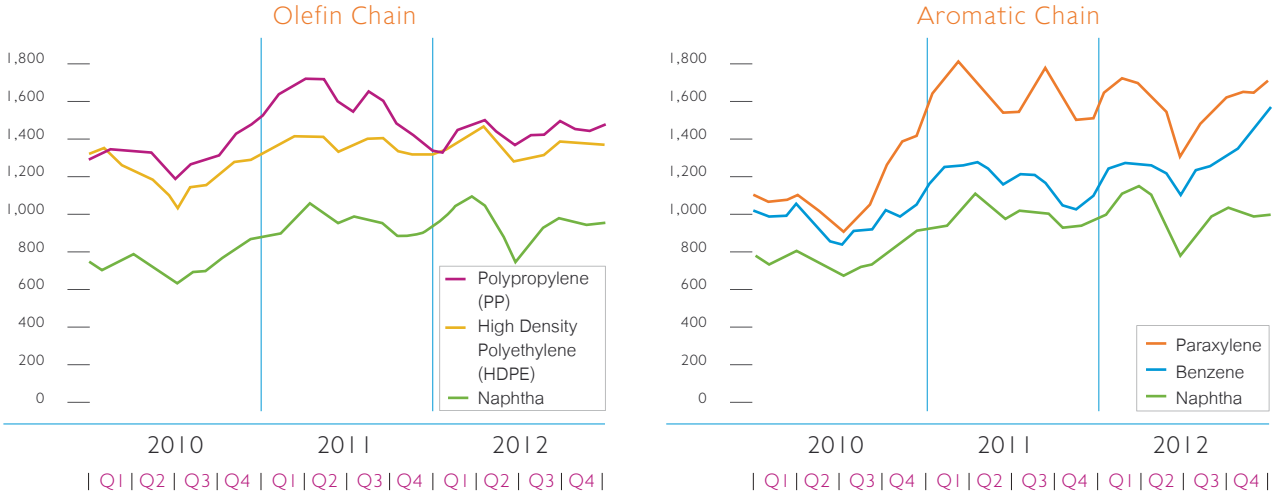
Spot prices of petroleum products in Singapore went up with the rise in crude oil prices and higher demand, aggravated by supply disruption caused by refinery closure in the US and some European countries following a fall in economic returns of some refineries. The average price of gasoline 95 in 2012 was 123.5 US$ per barrel, versus the 2011 average price of 119.8 US$ per barrel, as a result of higher regional demand, particularly Indonesia and Vietnam. Global supply experienced some hiccups, including the fire at Amuay Refinery in Venezuela and at a Chevron refinery in the US. The average diesel price in 2012 was 126.2 US$ per barrel, against the 2011 average price of 124.6 US$ per barrel,due to an unusually frigid winter in Europe and northern Asia, together with supply disruption caused by Amuay Refinery fire and Shell's Clyde Refinery closure in Australia. Diesel demand also rose sharply to compensate the short supply of coal for electricity generating. Similarly, fuel oil price went up to 105.8 US$ from 101US$ in 2011 due to Japan's higher demand for fuel oil to replace nuclear power used in electricity generating.Diesel demand in India rose sharply to compensate for the short supply of coal during the same period. Other higher demand for fuel oil came from the shipping sector and straight-run feedstock for certain teapot refineries like those in China. The 2012 average price of LPG CP (contract price) was 916 US$ per ton, versus 846 US$ in 2011. This higher price of LPG reflected the higher price of crude oil and higher demand in the petrochemical industry.

Despite the higher average prices of petroleum products in 2012, the spreads (price differential) between crude and refined products were down because price adjustments for crude oil proved higher than that of petrochemical. Incidentally, the cracking refining margin in Singapore fell from 8.3 US$ per barrel in 2011 to 7.4 US$ per barrel in 2012.

Economic contraction in Europe and the US in 2012 resulted in lower demand and lower prices of petrochemical products. Some olefins producers decided to cut their outputs as prices dipped below their economic thresholds. The year's average price of High Density Polyethylene (HDPE) was 1,378 US$ per ton, virtually the same as the 2011 level of 1,373 US$ per ton. For Polypropylene (PP), the average price fell from 1,580 US$ per ton in 2011 to 1,444 US$ per ton in 2012. With the exception of benzene, all other aromatics prices fell in 2012. The year's average benzene price stood at 1,212 US$ per ton, against the 2011 average of 1,105 US$ per ton, following the rise in the benzene price in the US due to reduction in benzene production impacted by higher production of shale gas and shale oil, together with some planned and emergency shutdowns of refineries. The year's average price of paraxylene was 1,497 US$ per ton, a sharp drop from 1,576 US$ per ton in 2011. The paraxylene price in June dropped to a historical low of 1,226 US$ per ton after sudden demand drops for midstream and downstream petrochemical products as a result of the debt crisis in Europe and economic slowdowns in the US and China.

Average Prices of Petrochemical Products in Asian Market during 2010 - 2012

Unit: US$/ton



US$/ton	2010	2011	2012
Polypropylene (PP)	1,340	1,584	1,444
High Density Polyethylene (HDPE)	1,222	1,373	1,378
Naphtha	713	922	933

US$/ton	2010	2011	2012
Paraxylene	1,042	1,540	1,497
Benzen	913	1,103	1,212
Naphtha	713	922	933

Source: ICIS

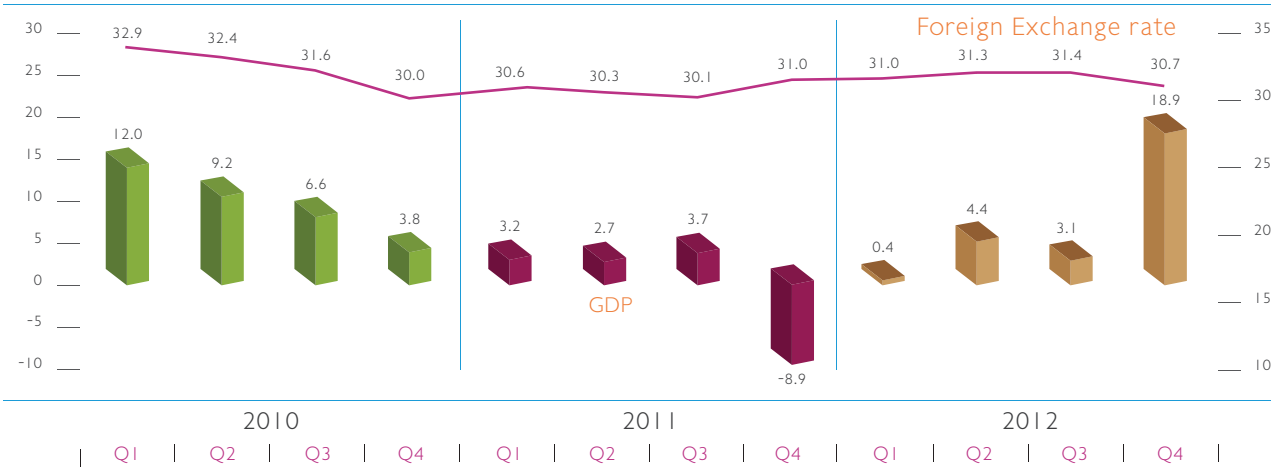
2012 Thailand Economic and Petroleum Review

Economic Review

In contrast to the economic slowdown of the global economy and trade counterpart economies, Thailand's economic growth this year rebounded strongly after the notorious Great Floods of late 2011. The Bank of Thailand announced in January 2013 a projection that Thailand's economic growth this year equaled 5.9%, a mild 0.1% higher than that of 2011. Factors contributing to this growth included a higher-than-expected domestic consumption driven by government stimulation policies, such as the first-car scheme, the minimum wage, and civil servants' minimum salary adjustments, higher domestic private capital investments (especially on equipment and machinery to restore the production lost during the disastrous floods of 2011), as well as the government's megaproject investments on infrastructure and water management. Nevertheless, even with the impressive domestic economic growth, foreign investors withdrew cash from the local monetary system for safe overseas assets in response to the global economic slowdown and Eurozone debt crisis uncertainty, resulting in a weakening of the baht. The average exchange rate this year amounted to 31.1 baht/US$ (Figure 5).

Thailand's Economic Growth Rate 2010 - 2012

Unit: % yoy baht per US$



Source : NESDB and The Bank of Thailand

Petroleum Review

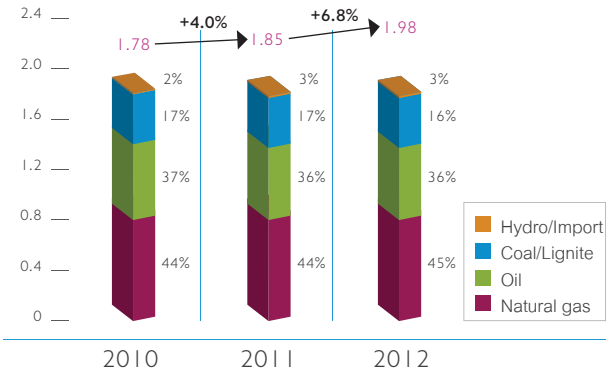
In parallel to domestic economic growth, Thailand's primary energy consumption (excluding alternative and renewable energy sources) rose by 6.8% from 2011, with the average consumption rate of 1.98 million barrels per day this year. Consumption of natural gas and crude oil, our primary and secondary sources of energy, was up by 9.6% and 5.3% accordingly, and LPG consumption grew by 9.7%. Of all the sectors, transportation consumed 15.0% and household and industrial sectors consumed 14.4% and 14.7% respectively. To meet domestic demand, Thailand imported more than 1.7 million tons of LPG this year. Meanwhile, consumption of NGV expanded by 20.6% to 280 million cubic feet per day.

Domestic energy consumption this year, categorized by key sector, is summarized below:

1. The average consumption in the transport sector amounted to 609,891 barrels per day, up by 5.5% from 2011, with 4.8% for gasoline and 5.8% for diesel. The higher consumption reflected an economic recovery after the Great Floods and the diesel price control below 30 baht/liter policy, imposed by the government. Consumption of LPG and NGV, with prices posted below those of gasoline and diesel, rose by 15.0% and 20.6%, with slower growth from last year caused by higher prices of both products following relaxed price control managed by the National Energy Policy Council (NEPC) to gradually allow the public to realize the true market prices. The price of LPG rose from 18.13 baht per

Thailand's Commercial Primary Energy Consumption 2010 - 2012

Unit: Million barrels/day

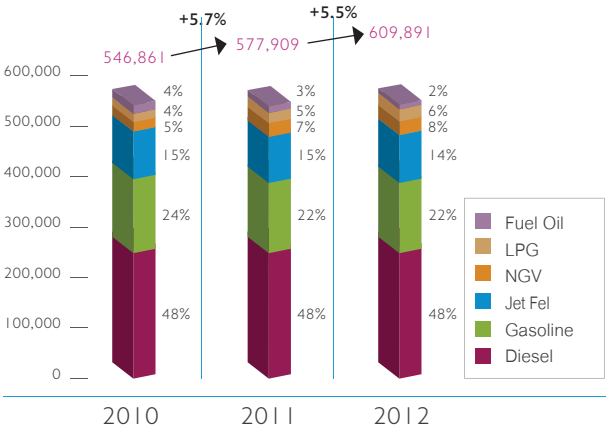


Remark: Excluding renewables

Source: Energy Policy and Planning Office

Thailand's transport sector consumption, 2010 - 2012

Unit: barrels/day



Remark: Excluding renewables

Source: Department of Energy Business, Energy Policy and Planning Office, and PTT

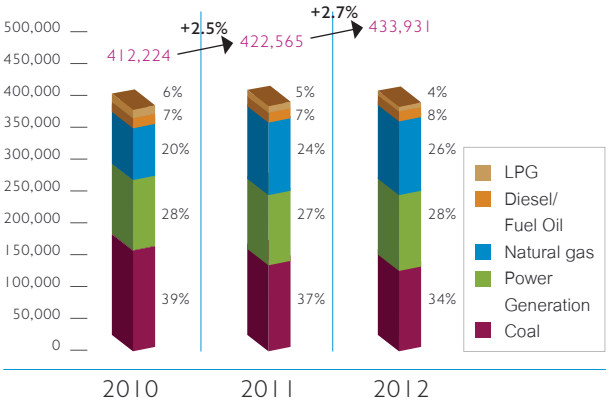
kilogram to 21.38 baht per kilogram in 2012: it gradually increased in five stages, 0.75 baht per kilogram for the first four adjustments from January to April, and 0.25 baht per kilogram in August. The price adjustment for NGV was made in four stages from January to April at 0.50 baht per kilogram each, resulting in a total rise of the NGV price from 8.50 baht per kilogram to 10.50 baht per kilogram. Ethanol consumption of 2012 rose by 13.0% as a result of the government's price intervention to reduce oil fund contribution from gasoline-gasohol mixture at a lower rate than for pure gasoline. More and more people have turned to gasohol 91 and gasohol 95. With more environmentally friendly combustion technologies, the public have consumed more gasohol E20 and E85. With fewer shortages of palm oil this year, the mixture of palm oil in B100 biodiesel was up from 2 - 3% to 3.5 - 5.0%. Meanwhile, B100 biodiesel consumption rose sharply by 75.2%.

2. The industrial sector consumed 433,931 barrels per day this year, up by 2.7%, as a result of manufacturing and production recovery in the wake of the Great Floods. Consumption of natural gas and electricity rose by 13.5% and 6.3%, and that of coal and LPG shrank by 5.4% and 14.7% due to higher world coal prices and higher LPG price gradually adjusted to reflect the true production cost under government policy. The 2012 year-end LPG price for the industrial sector was 30.13 baht per kilogram.

3. This year, energy consumption by the household and commercial sectors rose by 11.4% from 2011 to 240,908 barrels per day. The rise was partly caused by certain governmental stimulation policy related to increasing personal income, and partly due to the LPG stable price control policy for households at 18.13 baht per kilogram. Consumption of LPG and electricity, meanwhile, rose by 14.4% and 9.4% respectively.

Thailand's industrial sector consumption, 2010 - 2012

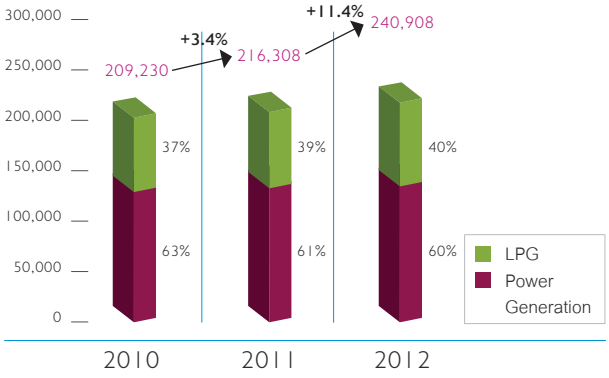
Unit: barrels/day



Remark: *Excluding renewables*
Source: *Department of Energy Business, Energy Policy and Planning Office, and PTT*

Thailand's Household and Commercial Energy Consumption 2010 - 2012

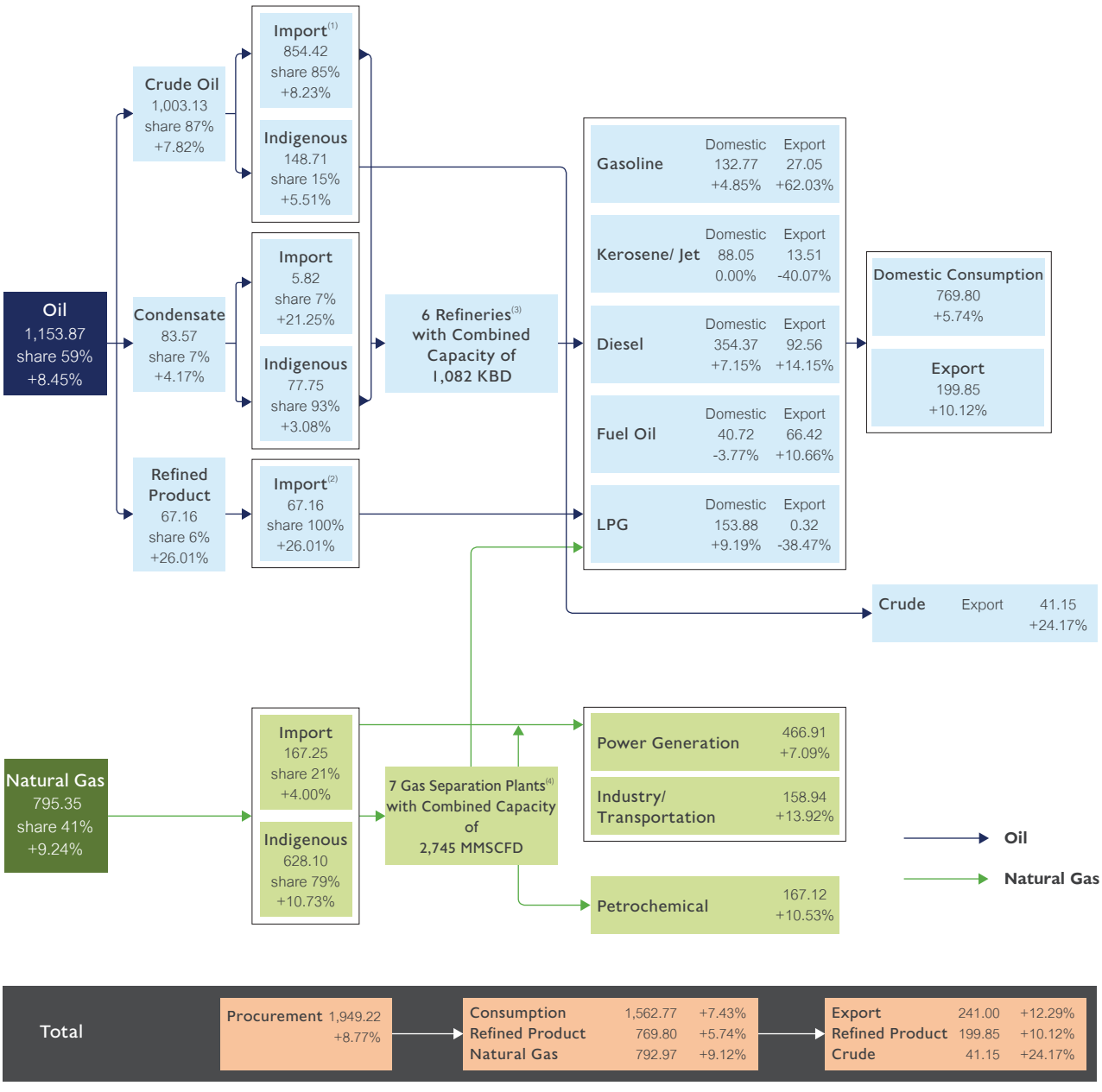
Unit: barrels/day



Remark: *Excluding renewables*
Source: *Department of Energy Business, Energy Policy and Planning Office, and PTT*

Thailand Petroleum Balance 2012

Procurement | Domestic Consumption/ Export | Unit: KBD



Total					
Procurement 1,949.22 +8.77%	Consumption	1,562.77	+7.43%	Export	241.00 +12.29%
	Refined Product	769.80	+5.74%	Refined Product	199.85 +10.12%
	Natural Gas	792.97	+9.12%	Crude	41.15 +24.17%

Source: *Energy Policy and Planning Office, Department of Energy Business, Department of Mineral Fuels, and PTT (as of February 2013)*

Notes: *(1) Imports of crude oil including Long Residue*

(2) Including LNG

(3) Capacity includes those of BCP, ESSO, IRPC, PTTGC, SPRC, THAIOIL and excludes PTTGC's condensate splitters & Fang refinery. (RPG is currently closed down)

(4) Capacity includes those of PTT/GSP 1-6, PTT/ESP and PTTEP Siam/Phalang Phet.

The Petroleum Procurement and Domestic Consumption/ Export exclude Bitumen.

Thailand's 2012 gross petroleum procurement and distribution stood at 1,949.22 thousand barrels per day, rising by 8.77% over 2011. Oil accounted for 59%; natural gas, 41%. Out of the total oil procurement, 80% was imported as crude oil at an average volume of 854.42 thousand barrels per day. Thailand also imported 167.25 thousand barrels of oil equivalent per day of natural gas. The distribution of total petroleum this year stood at 1,562.77 thousand barrels per day, up by 7.43% from the previous year with virtually identical ratios between petroleum products and natural gas. The export of petroleum products this year rose by 12.29%,including 199.85 thousand barrels per day of petroleum products, a 10.12% rise over 2011, and 41.15 thousand barrels per day of crude oil, up by 24.17%.

World Economic, Petroleum, and Petrochemical Outlook for 2013

World Economic Outlook

The IMF issued a forecast of global economic growth to rise from 3.2% in 2012 to 3.5% in 2013, mainly due to the continuing economic growth in developing and emerging countries, supported by higher local consumption and domestic investments, in turn driven by state investments on infrastructure megaprojects. Export is predicted to perform better as a result of the global economic recovery. For developed countries, the US economy is predicted to continue recovering gradually, reflecting economic measures including relaxed liquidity control and the Fed's Quantitative Easing (QE) injection of 85 billion US$ per month to absorb state bonds and securities with collateral agreements to stimulate the overall economy until the unemployment rate falls to controllable target levels while maintaining low interest rates. The White House has so far successfully pushed through Congress certain legislation to avoid the "fiscal cliff", resulting in the extension of tax exemption measure for the low-income and middle-income earners. On the contrary, the Eurozone debt crisis is believed to continue. More visible economic measures to counter the debt crisis have, however, been adopted and moved forward by EU members. To stabilize the overall debt level, the EU has been moving to use the European Stability Mechanism (ESM) to inject sufficient liquidity directly into the banking industry. EU members have therefore been pushing for the establishment of the Single Supervisory Mechanism (SSM) under European Central Bank (ECB), so that ECB can directly supervise more than 200 large commercial banks in controlling debt levels and eventually develop the mechanism into the formation of a single European Banking Union. Visible global economic risks in 2013 therefore involve US economic measures in handling debt ceilings and budget cuts, and the Eurozone debt crisis. These could sharply slow down the global economic recovery.

Petroleum and Petrochemical Outlook

IEA issued a 2013 energy demand forecast in its February 2013 report to increase by 0.9 million barrels per day to 90.7 million barrels per day. The increase will come from developing and emerging economies, particularly China, India, and Middle Eastern countries. On the supply side, IEA predicts no shortfall from Organization of Petroleum Exporting Countries (OPEC) and Non-OPEC countries. Moreover, significant supply would be added from the US shale oil and Canadian oil sands, as well as deepwater oil and gas production from Brazil. Considering this demand and supply scenario, the average Dubai crude price for 2013 should fluctuate around 100 .- 110 US$ per barrel, like this year's. A price jerk is possible, however, as supply disruption could develop if the Israel-Iran conflict on the Iranian nuclear development escalates. On the contrary, a price drop is also possible if the world economic troubles continue.

The 2013 refining margin in Singapore is expected to float around 7-8 US$ per barrel, very close to this year, paralleling the projected stable prices of most petroleum products.

By contrast, olefins prices are set to rise in 2013, reflecting the higher demand in China and developing Asian economies focusing their state budgets on infrastructure development and logistic improvement, as well as expansion of plastics and automobile industries. Price projections for HDPE and PP are 1,445 US$ and 1,483 US$ per ton. Similarly, aromatics products prices tend to rise; benzene is likely to increase by 1,292 US$ per ton while the paraxylene price will also climb to 1,637 US$ per ton. In parallel to the growth of the middle-income population, special-grade petrochemical products used in consumer specialty manufacturing, including bioplastics, will continue to grow exponentially in the long run. Incidentally, Thailand has a leading potential in the ASEAN region in bioplastics.

Thailand Economic and Petroleum Outlook for 2013

Economic Outlook

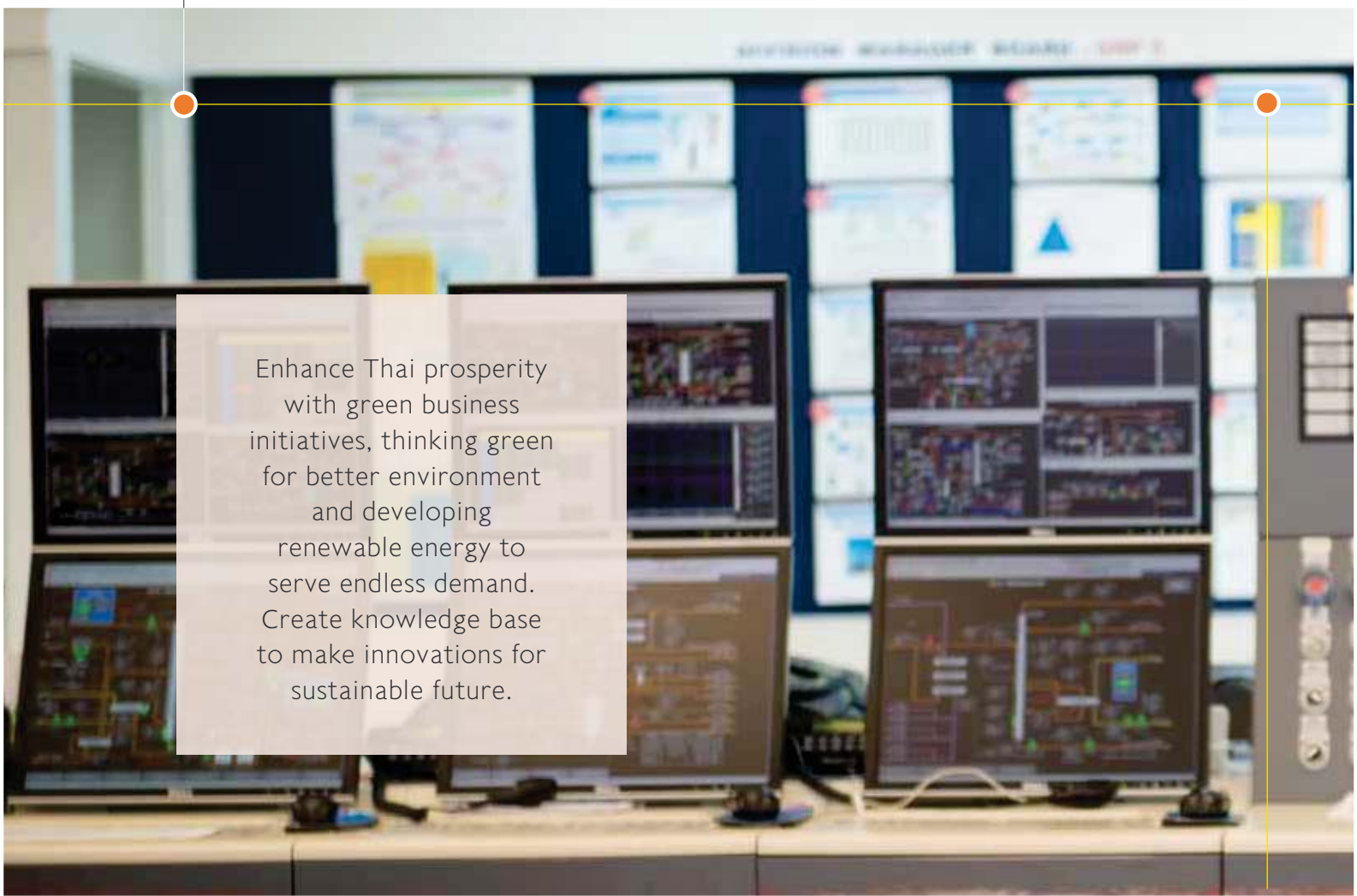
The 2013 economic growth forecast for Thailand favors a slowdown to the norm, driven mainly by higher domestic consumption, stimulated by economic measures launched this year. These measures include the first-car scheme, the increased minimum wage and income policy, and the restructuring of business income tax and personal withholding tax, set to be enforced in 2013. Moreover, capital investments are set to increase, with private investments on higher market demand and government investments on megaprojects, including a national water management plan and long-term infrastructure development. Export growth will gradually return to the pre-flood crisis, following the global economic recovery. The priority risk factor to watch for is the inflow and outflow of capital of the money market, which could significantly affect the baht currency. It is expected that the exchange rate between the baht and the US dollar in 2013 will hover around 29.5 - 30.5. Other risks to monitor are the physical progress of government infrastructural development projects and domestic political movement, which could affect foreign investment confidence. NESDB, in its February 2013 report, issued an economic forecast of about 4.5 - 5.5% increase.

Petroleum Outlook

Primary energy consumption, excluding that of renewable energy, in 2013 is expected to grow by 5.0 - 5.5%, a slight drop from that of this year, in line with GDP growth. Consumption of natural gas and oil will expand by 6.0% and 3.5% respectively. Because of the first-car scheme and the abolishment of sale of gasoline 91 from January 1, 2013, more vehicles will flood the traffic system and higher consumption of gasohol is unavoidable. Consumption of gasoline and diesel are therefore expected to soar from that of this year. However, given the success of the government's efforts to gradually increase the natural gas price to reflect the true cost without subsidy, consumption of NGV and LPG will rise only mildly.

Nature of Business and Business Performance

PTT's operations cover an entire business value chain from upstream to downstream with a focus on incremental value addition in tandem with the creation of innovation.



Nature of Business

PTT is a fully-integrated national petroleum and petrochemical company with a mission to foster national energy security, economic prosperity, and corporate sustainability with due regard for the stewardship of the environment and the Thai society.

PTT's operations cover an entire business value chain from upstream to downstream with a focus on incremental value addition in tandem with the creation of innovation. The overall operations of PTT, including those conducted by both PTT directly and through PTT Group companies, are summarized below.

PTT-operated businesses

• Upstream business

Gas Business Unit: The business unit conducts natural gas procurement, transmission, distribution, and processing, and invests in NGV service stations and sales, as well as gas-related value-added businesses through Group companies. Supply includes indigenous gas and imports from neighboring countries, plus liquefied natural gas (LNG), sufficient to meet the growing demand. The distribution network includes major power producers through PTT's transmission pipelines, industrial users through PTT-invested distribution pipelines, and NGV distribution through NGV service stations. NGV is an alternative fuel for vehicles, in addition to gasoline and diesel. PTT also invests in gas separation plants to supplement business value by extracting a variety of valuable chemical components from natural gas to provide petrochemical feedstock, which in turn represents essential elements of all other subsequent industries driving national economic growth. One of these products is LPG, used in households, industry and transportation.

Moreover, PTT LNG Co., Ltd., a wholly-owned subsidiary of PTT under the supervision of the Gas Business Unit, invests in LNG-receiving terminals, LNG storage, and LNG re-gasification. PTT LNG also invests in the gas-fired power business and conducts generation and distribution of power, steam, and water for industrial consumption as part of the value creation business and optimal energy utilization, under the Combined Heat and Power Producing Company Limited, another wholly-owned subsidiary of PTT.

Natural gas procurement, transmission, and distribution businesses are operated under the Energy Industry Act, B.E. 2550 (2007), supervised by the Energy Regulatory Commission (ERC), a body appointed by HM the King. The supply procurement and pricing structure to power producers and piped gas management fees are strictly controlled with a constant rate of return, while the pricing structure of procured gas to industrial users fluctuates with the world market price to ensure competitiveness with domestic fuel oil. For the gas sold to petrochemical industries from the gas separation plants (GSPs), the price is determined by world petrochemical feedstock prices. However, for the LPG sold domestically, the pricing is partially subsidized by the government policy as a mitigation measure to the impacts of rising world oil prices. The household LPG price is currently capped at 333 US$ per ton, which is lower than the world price. Meanwhile, the price of NGV was allowed to rise by 0.50 baht per kilogram per month for four months. Yet, at the same time, the public sector gradually lowered its contribution to the NGV price by 0.50 baht per kilogram per month. The net effect is therefore that NGV feels like its price remains unchanged at 10.50 baht per kilogram while PTT is no longer receiving NGV subsidy from the public sector.

Supply of natural gas included 79% from indigenous production, and the remaining consists of piped gas from Myanmar and LNG from Qatar and spot market.

- ## Downstream business

Oil Business Unit: The business unit is in charge of distribution of quality petroleum products, which break down into three core products. First, fuel products, consisting of gasoline and LPG. Second, lubricating oil and other lubricating products. Third, retail business products. All these are sold through three major distribution channels. First, B2C retail (through service stations, which have been upgraded and modernized into PTT Life Stations, catering to modern consumers' lifestyles that favor one-stop service made possible by diverse retail businesses found at service stations, like convenience stores, food and bakery outlets, Café Amazon coffee shops (now a full-fledged franchise business), auto-services, and banking services. Besides service stations, B2C features LPG sale through

bottling plants, LPG stand-alone outlets, and lubricant sale through lubricant outlets. Second, B2B (commercial market), sold through civil servant groups, state enterprise workers, industries, aircraft, ocean liners, fishing vessels, and exports. Third, sale of products to customers under Article 7 and Article 10 of the Fuel Trade Act.

Moreover, the business unit manages investments through PTT Group companies, most of which are wholly owned by PTT, and is engaged in domestic and overseas oil businesses, such as retail sales and service stations, lubricating oil blending and bottling, and aviation fuel services.

The oil business has become more liberalized and highly competitive under several laws, including the Fuel Trade Act, B.E. 2543 (2000) and Fuel Oils Control Act, B.E. 2542 (1999). As of December this year, PTT was one of 43 fuel oil traders (as of December 2012) registered with the Department of Energy Business. Moreover, the oil business is heavily regulated by various authorities, including the Energy Policy and Planning Office, Department of Energy Business, Department of Internal Trade, and Office of the Consumer Protection Board. Its financial performance therefore relies primarily on marketing margins in retail stores and partly on other supplementary products and year-end inventory (stocks).

International Trading Business Unit: The business unit operates fully-integrated international trading businesses, ranging from procurement, import and export of crude oil, condensate, petroleum products, petrochemical products (exclude plastics), to solvents and chemicals, as well as other commodities. The business unit is also in charge of providing shipment and logistics support, domestically and internationally, for PTT Group companies and generates revenues from external operations, mainly to provide energy security to the Kingdom and supplement business value to PTT Group.

To cope with the changing nature of international businesses, PTT International Trading has implemented an international risk management system covering all aspects of risk exposure equivalent to those systems adopted by leading international companies. Major risks affecting PTT's business are oil price volatility, reliability and integrity of trading partners, safety of delivery and shipment, and potential natural disasters. As world oil price volatility is the biggest risk, PTT's mitigation measures include not only closely monitoring of movements of all contributing factors, but also the exercise of necessary financial transactions including futures, swaps, and derivatives trading. State-of-the-art information technology verifies details of every transaction engaged in by operation staff. This year, International Trading undertook software refinement for the Trading Control System to add capability to the Commodity Trading and Risk Management System so as to accommodate more complicated transactions and

cover other commodities potentially traded in the future. This represents an application of technology to supplement trade capability by streamlining work, controlling risks more stringently, and reporting trade status in a more accurate and timelier way. Implementation of this new system is due in early 2014. Similar practices have been adopted to control and ease possible impacts from shipment and transport of petroleum and petrochemical products on the environment and communities. Procurement and logistics of all products are strictly managed and controlled to international standards and regulations through the PTT Group Ship Vetting Project.

To overcome possible cross-boundary legal barriers and to add competitiveness in international trading of petroleum and petrochemicals, PTT International Trading has founded and appointed subsidiaries and agencies in many countries, including PTT International Trading Pte. Ltd. (PTTT) in Singapore, PTT International Trading DMCC in Dubai, United Arab Emirates, PTT International Trading Guangzhou Representative in the People's Republic of China, and the latest office in Jakarta, Indonesia, known as PTT International Trading Jakarta Representative. Currently, PTT International Trading manages business transactions in more than 50 countries covering all regions of the world.

Businesses invested through PTT Group companies

• Upstream business

Petroleum exploration and production business: PTT Exploration and Production Plc. (PTTEP) operates domestic and international petroleum exploration and production (E&P) and invests in associated businesses for PTT. The bottom-line business objective is to seek and secure competitively priced crude oil and natural gas to ensure Thailand's energy security. PTTEP demonstrates this responsibility through its petroleum sales agreement with PTT on all produced petroleum in neighboring countries, mostly natural gas, for consumption in Thailand. Moreover, PTTEP has expanded its petroleum E&P business to other global regions, including the Canadian Oil Sands KKD project in North America, Mozambique Rovuma Offshore Area One in Africa, Oman 44 project in the Arab Peninsula, and the Floating LNG project in Australia. Petroleum production from these overseas projects is partially destined for distribution in Thailand, although it is sold internationally to produce a revenue inflow to support national economic growth.

PTTEP's financial performance is primarily dependent on the world oil price, petroleum exploration and field development success, efficient cost management of E&P projects, investment opportunities, and organizational competency development. E&P activities and petroleum pricing structures are governed by the Petroleum Act, B.E. 2514 (1971), under the supervision of the Petroleum Committee.

• Downstream business

Petrochemical business: PTT invests in the petrochemical business to add value to its domestic natural gas production and products from its refineries by providing export-substituting feedstock to support the development of the local petrochemical industry and other industries using petrochemicals as materials, such as the automotive industry, construction industry, and packaging industry. PTT operates its petrochemical business and integrated associated companies through its investment in 9 Group companies, including PTT Global Chemical Plc (PTTGC), HMC Polymers Co., Ltd. (HMC), PTT Phenol Co., Ltd. (PPCL), PTT Asahi Chemical Co., Ltd. (PTTAC), PTT Polymer Logistics Co., Ltd. (PTTPL), PTT Polymer Marketing Co., Ltd. (PTTPM), PTT Tank Terminal Co., Ltd. (PTT TANK), PTT Maintenance and Engineering Co., Ltd. (PTTME), and PTT MCC Biochem Co., Ltd. (PMBC). This wide range of investments covers businesses from the processing and distribution of upstream, midstream, and plastic products, and marketing and distribution in both domestic and international markets, to integrated logistical services and the supply of related public utilities, integrated maintenance and engineering projects, and engineering, architectural, industrial, and maintenance services to PTT Group and other industrial plants.

Performance is primarily subject to world petrochemical prices, moving up and down in a cycle of supply and demand, and the year-end inventory (stocks). The main feedstock in petrochemical production comes from PTT's GSPs, including ethane, propane, LPG and natural gas liquids (NGLs), together with products from PTT Group's oil refineries, like naphtha and reformate.

Refining business: PTT invests in the refining business mainly to provide refining product security to the country and substitute locally produced petroleum products for imports. PTT operates its oil refining business and associated businesses using refined products as raw materials (or feedstock) through its investment in Group companies, consisting of Thaioil Plc. (TOP), IRPC Plc (IRPC), Star Petroleum Refining Plc. (SPRC), and Bangchak Petroleum Plc.(BCP). The business structure allows PTT to provide crude oil as feedstock for these companies and, in turn, buy all refined and petrochemical products from them to market and distribute domestically, and export to international markets. In addition, PTT has invested in related business such as PTT Energy Solutions Co., Ltd. (PTTES) who provides technical consultancy.

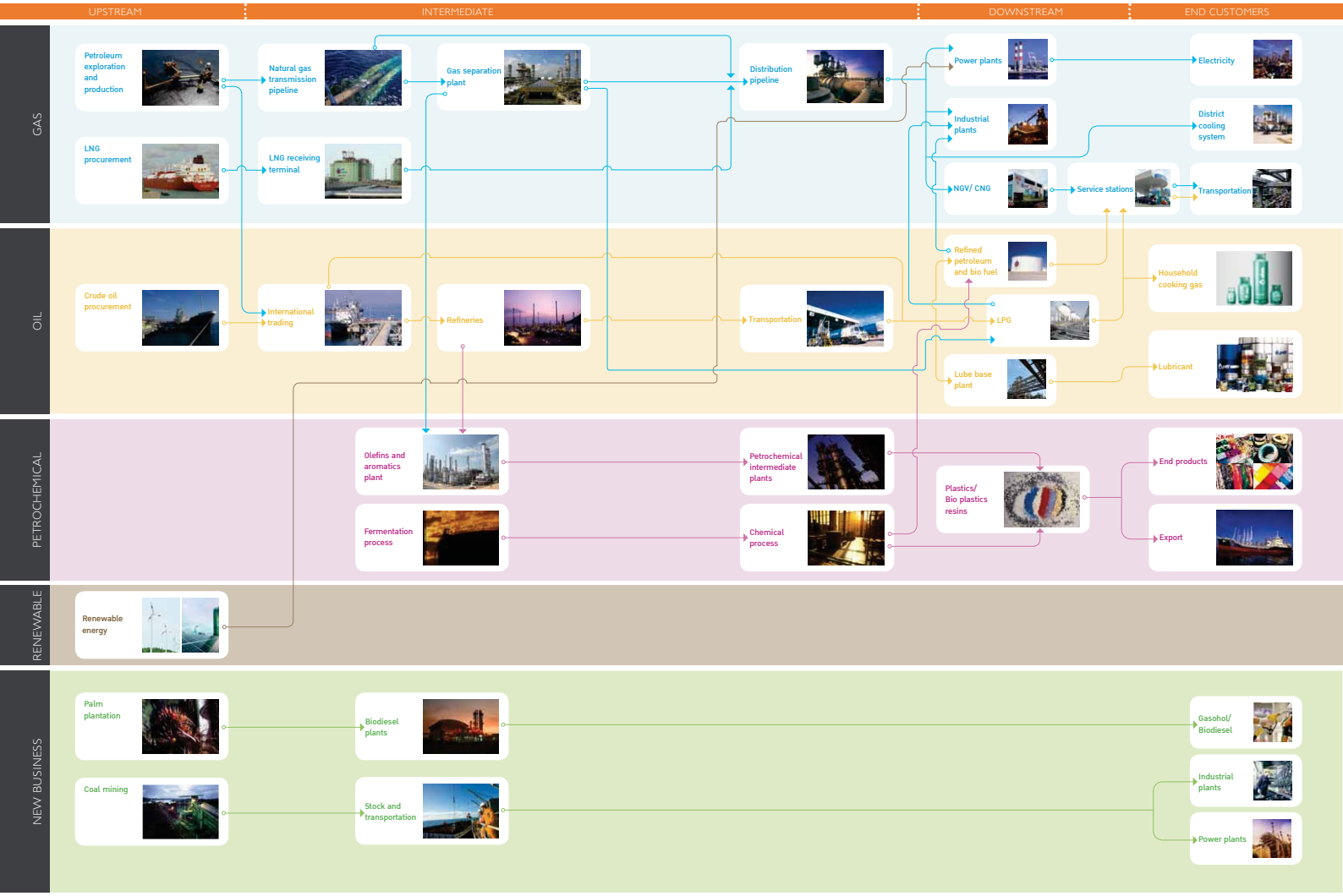
Performance is primarily subject to the refining margin-the average value of refined products less the average cost of crude runs (based on volatile world prices)-which is cyclical with the world-market supply and demand, world oil price volatility, and year-end inventory (stocks).

- **International investment business**

PTT intends to secure energy supply for Thailand with overseas energy and new alternative-energy sources by integrating its entire organizational capability of knowledge, skills, personal experiences, and cooperation among PTT Group. All international investments are made through PTT's wholly-owned subsidiaries, PTT International Co., Ltd. (PTTI), and PTT Green Energy Co., Ltd. (PTTGE).

Currently, PTTI's investment portfolio includes coal mining businesses in Indonesia and Madagascar as well as the joint study in coal resources in Brunei and Combodia, a hydro-power plant in Laos, and a gas pipeline business in Egypt for transmission from Egypt to Israel. PTT Green Energy has also invested in the development of palm plantations in Indonesia.

Create Value Through Business Chain



Business Performance 2012

The year was quite spectacular for PTT's upstream and downstream business operations. Of the upstream business, PTTEP sold a greater volume of products and acquired Cove Energy, a joint-venture partner in the Mozambique Rovuma Offshore Area One Project and other petroleum deposits in Mozambique and Kenya. The former project consists of a sizeable gas field estimated to contain more than 60 trillion cubic feet (TCF) in resources. PTT also secured more gas supply from Bongkot South, a new field, as well as a greater volume of LNG to sustain the spiraling demand. As for its downstream side, PTT Group successfully supplemented value from the Operational Excellence (OpEx) Project and enjoyed capacity growth among companies in the refining and petrochemical group. Besides, PTT continued to lead the domestic retail oil market, although the volatile global energy situation, the continued economic slowdown worldwide, and the lingering Euro debt crisis this year affected oil stocks and depressed all spread margins of the refining and petrochemical businesses. PTT recognized the loss arising from the impairment of its investment in EMG; likewise, PTTEP recognized the loss arising from the impairment of its Montara assets. Therefore, the net profit this year amounted to 104,666 million baht, a drop of 1,594 million baht from last year. Details of each business unit appear below.

PTT-operated businesses

• Upstream Business Group

Gas Business Unit

This year's operational success of the business unit resulted largely from the success in natural gas procurement from supplementary agreements with Chevron and PTTEP (South Bongkot), additional import shipment of LNG to meet the rising demand across the board, including the power, industrial, and transport sectors, together with GSPs. Key operational performance results this year for the business unit appear below:

Natural gas procurement

Supply procurement totaled 4,561 MMcf/d, a rise of 386 MMcf/d (9%) from 2011 at 4,175 MMcf/d, consisting of 3,602 MMcf/d from indigenous sources and 959 MMcf/d from import, or an equivalent indigenous/import ratio of 79 : 21.

Gas sales to the power sector

Sales to this sector totaled 2,680 MMcf/d, about 59% of total sales, representing a 7% rise from 2011 (at 2,500 MMcf/d), due to the rising demand for power. Note that 2011 saw an usually cold first quarter of the year and severe flooding in most parts of the country late in the year, thus contributing to an abnormally suppressed demand for power for the whole year. Sales were completed to the Electricity Generating Authority of Thailand (EGAT) at 1,331 MMcf/d, or 50% of the total; to seven independent power producers (IPPs) at a total of 922 MMcf/d, or 34% of the total; and to 24 small power producers (SPPs) at 427 MMcf/d, or 16% of total sales.

Gas sales to the industrial sector

Sales to this sector totaled 629 MMcf/d, equivalent to 14% of the total sales, an increase of 14% from last year (at 554 MMcf/d) to 313 customers, five more than last year, consisting of 310 industrial users and three commercial ones. Sales volumes rose as a result of the expansion of the gas distribution pipeline network to users, consisting of MTP HP JV Co., Ltd., in Asia Industrial Estate in Rayong, MTP HPPO Manufacturing Co., Ltd., and Glow Energy Plc located in the Map Ta Phut Industrial Estate in Rayong, which had started up in 2011 and took delivery of the gas to match their capacities this year.

Note that natural gas sold to industrial users is used for power and steam generation to raise power generation efficiency and reduce energy losses in the transmission system. For example, this year the total gas sales to Bangchak's refinery facilities amounted to 6 MMcf/d, virtually unchanged from those of last year, which was used for power and steam generation. PTT has continuously been expanding its gas distribution pipeline network. As of this year-end, PTT operated a gas distribution pipeline network of 511 kilometers, covering 10 provinces.

Gas sales to the transport sector

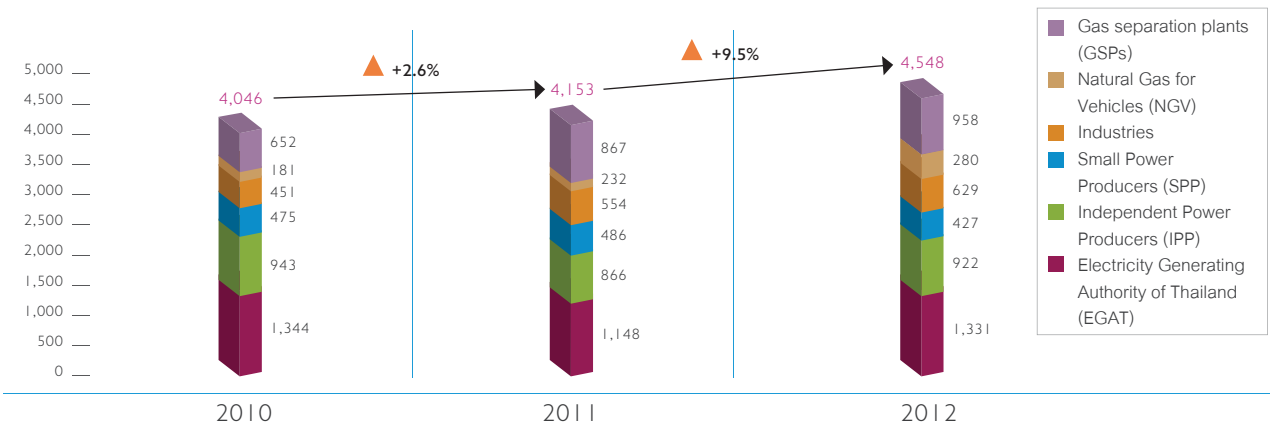
Sales to the transport sector averaged 280 MMcf/d (6%) of the total sales, recording a 21% increment from last year (232 MMcf/d) due to the ever-rising number of service stations. Currently, there are 483 PTT service stations, of which 392 are directly invested by PTT and 91 invested by independents, covering 54 provinces. Consumption of natural gas in the transport sector to replace gasoline and diesel rose from 9.2% last year to 11%. At the year-end, the number of vehicles fueled by natural gas increased by 74,276 (24.7%) from last year to 374,857 units.

Sales of products from GSPs

GSPs processed 958 MMcf/d of natural gas this year, or 21% of total sales, an increase of 10% from 2011 (867 MMcf/d). The increase resulted from the fact that both GSP 5 and GSP 6 approached their peak capacities this year; GSP 6, with a maximum capacity of 800 MMcf/d, started commercial operation in early 2011, and GSP 5 completed debottlenecking in July 2011, which increased its capacity from 545 to 570 MMcf/d from that month onward. Note that 2011 saw gas leaks from the offshore transmission pipeline around midyear and the Great Floods ravaging most parts of the country later in the year. The total output this year, therefore, was a jump in total processed product volume by 11% from 2011 to 6,452,137 tons a year this year from last year (5,827,131 tons). The products included 2,109,233 tons of ethane, 726,426 tons of propane, 2,905,594 tons of LPG, and 710,884 tons of NGLs.

Natural Gas Sales

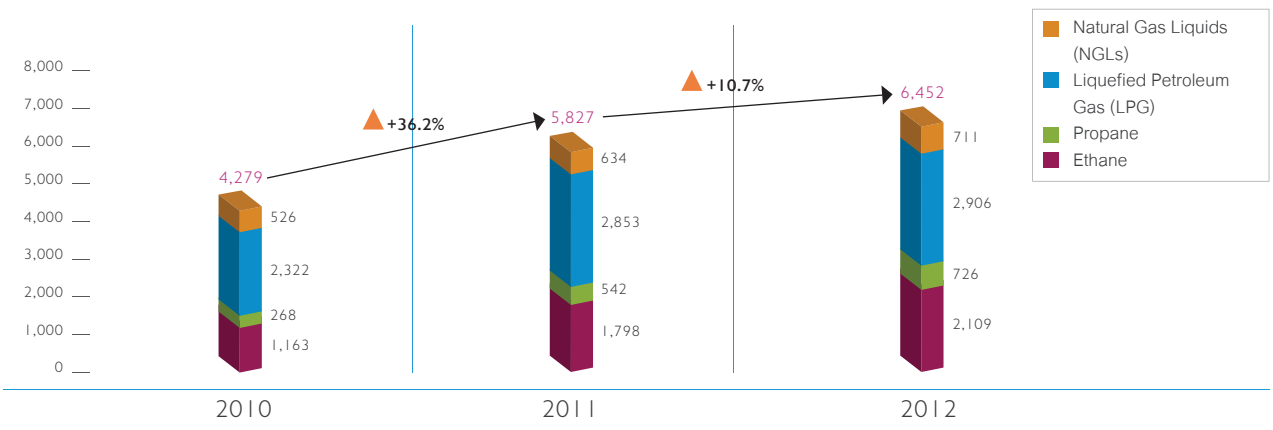
Unit: MMcf/d at 1,000 BTU/cu.ft.



Note: Excluding in the process gas consumption

Products from Gas Separation Plants

Unit: thousand tons



Gas Business Unit Milestones

January

• Under the Ministry of Energy's policy, PTT issued NGV discount cards to operators of taxis, motor tricycles (tuk tuk), associated Bangkok Metropolitan Mass Transit Authority (BMTA) vans, and minibuses in Bangkok and its perimeter. Discounts ranged from 0.50 to 2 baht per kilogram.

February

• PTT and Samsung Engineering Co., Ltd., signed an agreement on a project to generate power and combined thermal generation of 25-megawatt (MW) capacity for the ethane plant and GSP 6 in Rayong, and to use the surplus heat in generating electricity in supplementing value to the ethane plant's processes and lower the power fee otherwise paid to the Provincial Electricity Authority (PEA). Start-up is projected for April 2014.

Under the Ministry of Energy's policy, PTT issued NGV Discount Cards

PTT and Samsung Engineering Co., Ltd., signed an agreement on a project to generate power

March

• DCAP completed its capacity expansion for power and steam generation and expanded its commercial production in March, thus raising its power generation capacity to 94 MW and 34,300 cold tons of chilled water.

• The gas transmission pipeline project from Bongkot South was completed along with the installation of the production platform and production equipment. Gas has been delivered to PTT's transmission system for system testing.

May

• Rayong GSP achieved the ISO 50001:2011 energy management standard certification, the first ever among PTT Group. This internationally accepted management system was certified by MASCI and won the Green Industry award of the Department of Industrial Works (DIW).

June

• Bongkot South started its commercial production with an output under the GSA of 320 MMcf/d and 9,000 bbl/d of condensate. Combined with the original Bongkot field, the capacity became 900 MMcf/d, equivalent to 20% of the domestic gas demand.

August

• The Energy Regulatory Commission (ERC) endorsed the gas pipeline tariff, specifically the commodity charge (Tc) for offshore transmission pipeline at Rayong (zone 1), Khanom (zone 2), and onshore (zone 3) at 1.338 baht/MMBtu, and the Tc for the onshore portion at Chana (zone 4) at 0.0145 baht/MMBtu, effective from September onward.

• PTT, PTTGC, and PTTPE signed an amendment to the agreement on purchase and sale of products derived from GSPs, under which price formulas were to be adjusted to reflect the world prices of oil and natural gas while providing comparable returns on investment to the three parties to preserve competitiveness, effective from August 1, 2012. As a result, GBU derived 4 billion baht in additional income for the year.

• The Natural Gas Transmission business area won a certificate under the standard guidelines for application of Sufficiency Economy in the industrial sector.

PTT, PTTGC, and PTTPE signed an amendment to the agreement on purchase and sale of products derived from GSPs.

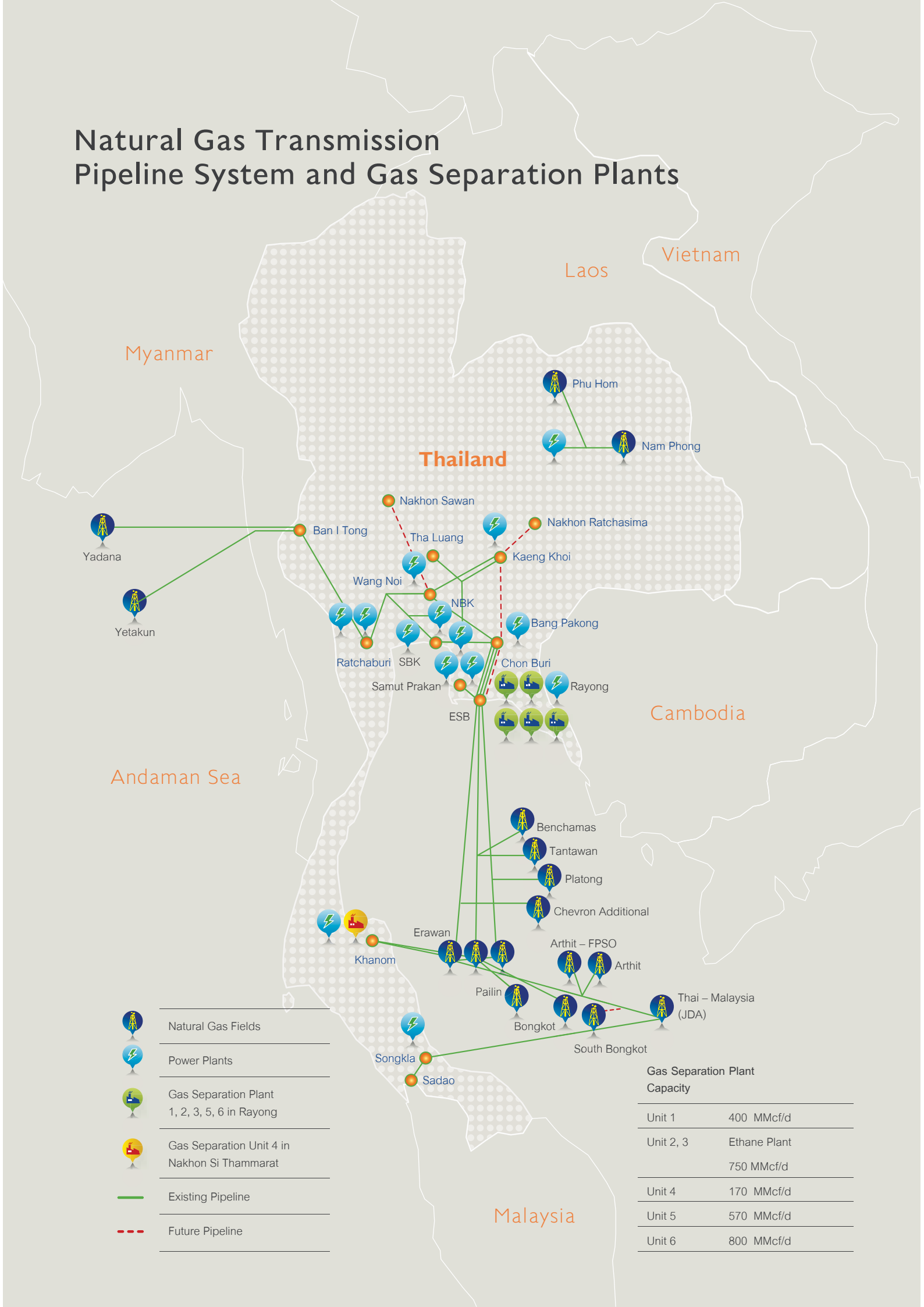
October

• The National Energy Policy Council (NEPC) endorsed PTT's signature in an LNG Sales and Purchase Agreement with Qatar Liquefied Gas Co., Ltd., of that country, amounting to 2 million tons per year. The 20-year agreement begins on January 1, 2015.

December

• A project for gas transmission pipeline from Navanakorn to Rangsit, spanning 17 kilometers, was completed, with gas entering the system from December 2012. As a result, PTT was able to meet the rising needs of power plants, industrial works in Navanakorn Industrial Estate, as well as those in Bangkadi Industrial Park, apart from NGV users in Bangkok and its perimeter.

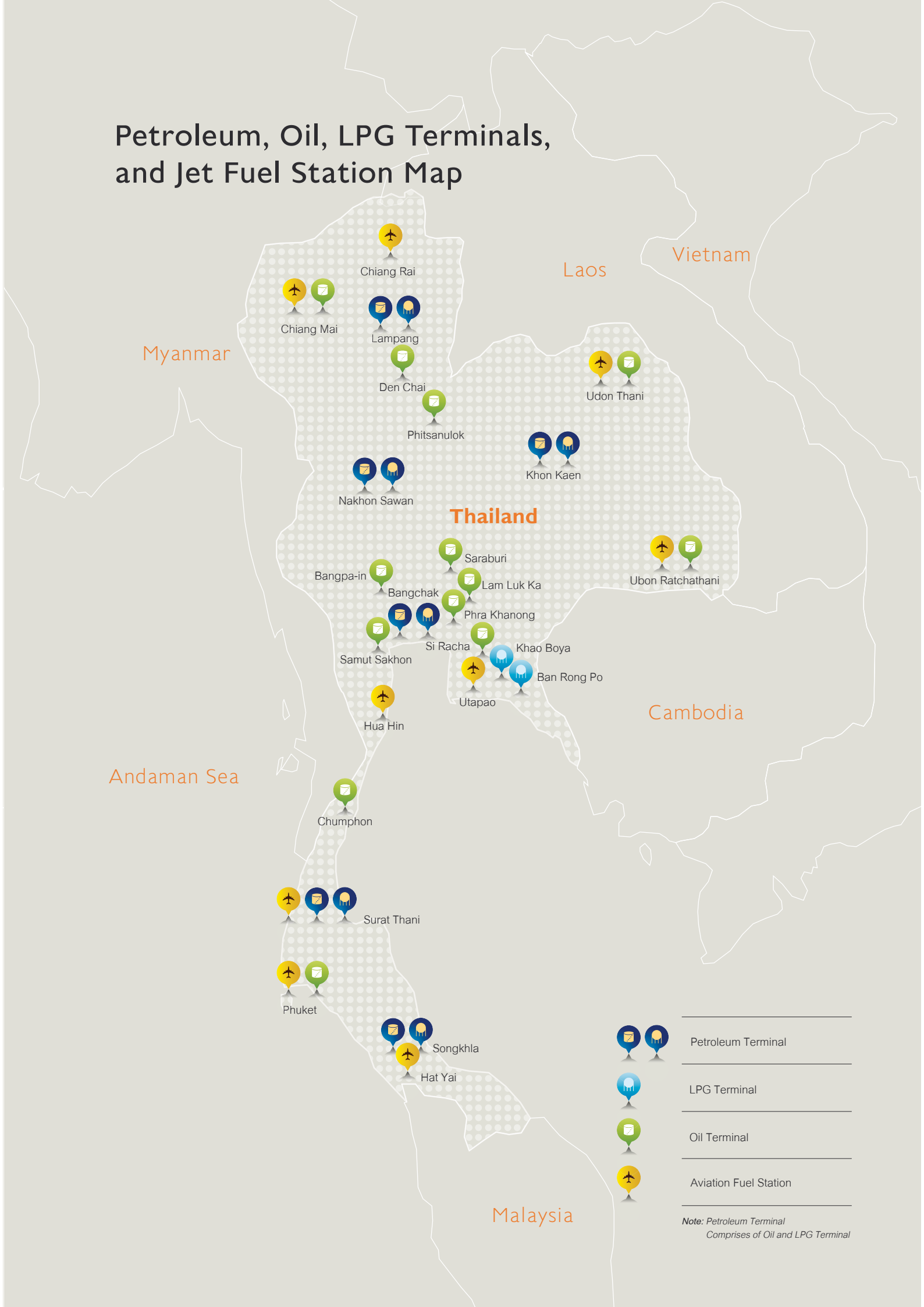
Natural Gas Transmission Pipeline System and Gas Separation Plants



Gas Separation Plant Capacity

Unit 1	400 MMcf/d
Unit 2, 3	Ethane Plant 750 MMcf/d
Unit 4	170 MMcf/d
Unit 5	570 MMcf/d
Unit 6	800 MMcf/d

Petroleum, Oil, LPG Terminals, and Jet Fuel Station Map



Oil Business Unit

PTT continued to maintain its top position in the domestic fuel retail market for 20 consecutive years, with a 38.2% market share. For the lubricating oil market, PTT also succeeded in maintaining its top position for four straight years. Sales of gasoline and lubricants grew by 4.5% and 10.2%. This year's business performance of the business unit appears below:

Fuel sales

In 2012, PTT sold 16,982 million liters of fuel, an increase of 732 million liters from the previous year. Sales consisted of 2,937 million liters of gasoline, 7,136 million liters of diesel, 1,827 million liters of jet fuel and kerosene, 1,696 million liters of fuel oil, and 3,386 million liters of LPG.

The year's average marketing margin was 1.43 baht/liter. This margin is lower than the suitable margin of 1.50 - 2.00 baht/liter, based on the coverage of operating expenses and appropriate financial returns for the Oil Business Unit and service station owners.

As of December 2012, PTT operated 1,352 service stations across the country, 9 jet (aviation) fuel stations, 13 oil terminals (PTT owned 10 and the others were joint/rented ones), two LPG terminals, six petroleum terminals, four LPG-bottling plants, 1,006 Seven-Eleven convenience stores, 777 Café Amazon outlets, 1,309 CO Brand outlets, and 161 auto-service centers.

Lubricating oil sales

This year, through its commitment to lubricant R&D, PTT launched 14 new lubricants while expanding its market abroad in 28 countries against 25 last year. In addition, PTT Performa Super Synthetic API-SN 0W-30 was certified as ASEAN's first lubricant with a carbon footprint label by the Thailand Greenhouse Gas Management Organization (Public Organization).

Biofuel sales

PTT continued to promote biofuel energy as an automotive option, with gasohol to replace gasoline and biodiesel to replace diesel. The distribution and sale of gasohol have been continuously increasing. Gasohol E85 is now found in 16 locations; Gasohol E20, 736 locations, with sales promotions all year round to capture the top domestic position, beginning in August this year. The market shares in 2012 for PTT Gasohol E10, Gasohol E20, and Gasohol E85, were 40.7%, 52.8%, and 27.7%. For high-speed diesel, PTT's market share for the year was 34.7%.

Reserve terminal service and operation

PTT has prepared for the expansion project of LPG terminal transfer facilities at Khao Bo Ya LPG Terminal to accommodate rising consumption and raise the efficiency of energy management to meet domestic demand.

Promotion of innovations and technology

The year marked the business unit's first year for creating innovations. New technologies were applied, and greater value assigned to environmental preservation under PTT's direction and operating policy, captured below:

- With eight leading banks in Thailand, came up with Direct Approved, an innovative payment system that converts cash payment into deduction from customers' bank accounts, thus easing and speeding up transactions.
- Reformatted the PTT Gas Smart Shop, based on the concept of developing single-brand PTT LPG and rebranding for a consistent image, leading to extension to other businesses (non-LPG) like the insurance business, Jiffy drinking water business, lubricants, and fire-extinguisher tanks.
- The PTT Free Wi-Fi Project at service stations invited applications from the public for free wireless internet access for two hours a day for each user. The pilot service station was at the "For the Welfare of First Infantry Division" service station on Vibhavadi Rangsit Road. The year saw 311 systems installed, whereas for 2013 the target is 750, to be installed at Café Amazon shops.
- The prototype Zero Waste project was launched in October 2012 at PTT's Sara Buri Branch service station in a bid to lower the emission of carbon dioxide through efficient transport and management of garbage at sources and promotion of Thai society's conscientious consumption of energy via an operation center and a knowledge center. Besides, solar-cell electricity generated was used at Café Amazon here.
- For the internal promotion on innovation of the oil business, the competition on innovation and creativity was organized for the first year. The event was successful, witnessed by as many as 51 projects of innovation and 16 projects of creativity were submitted by interested employees. In addition, the winning management project "Reduction of Errors in Transfer of Calibration and Product Testing" by PTT's Quality Analysis Department which won the award last year from the office of Thailand Quality Award was also submitted to compete at the International QC Meeting in Malaysia.

With eight leading banks in Thailand, came up with Direct Approve, an innovative payment system

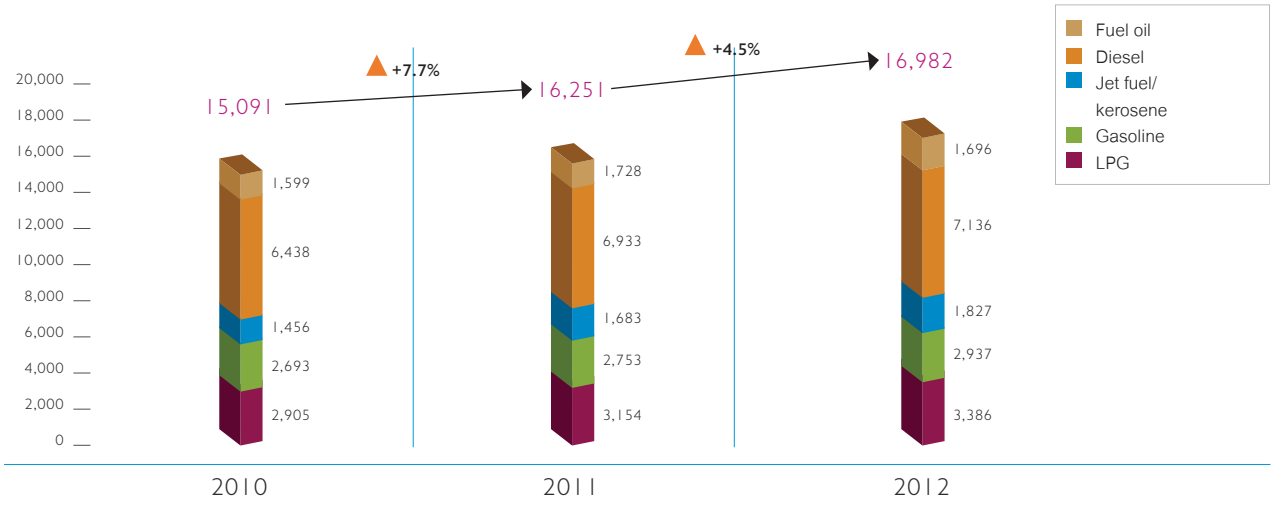
Reformatted the PTT Gas Smart Shop

The PTT Free Wi-Fi Project at service stations

The prototype Zero Waste project

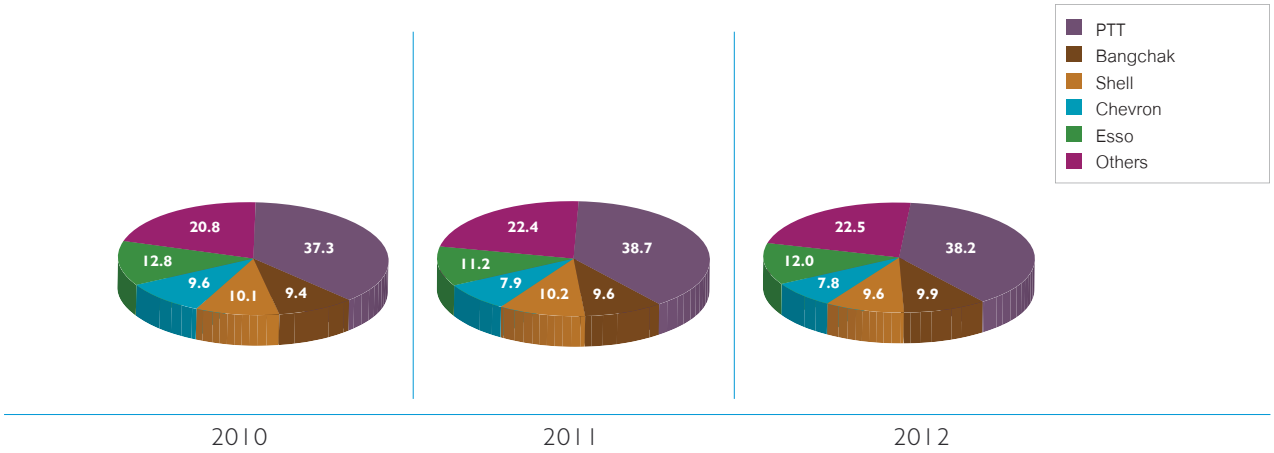
Domestic Petroleum Product Sales

Unit: million liters



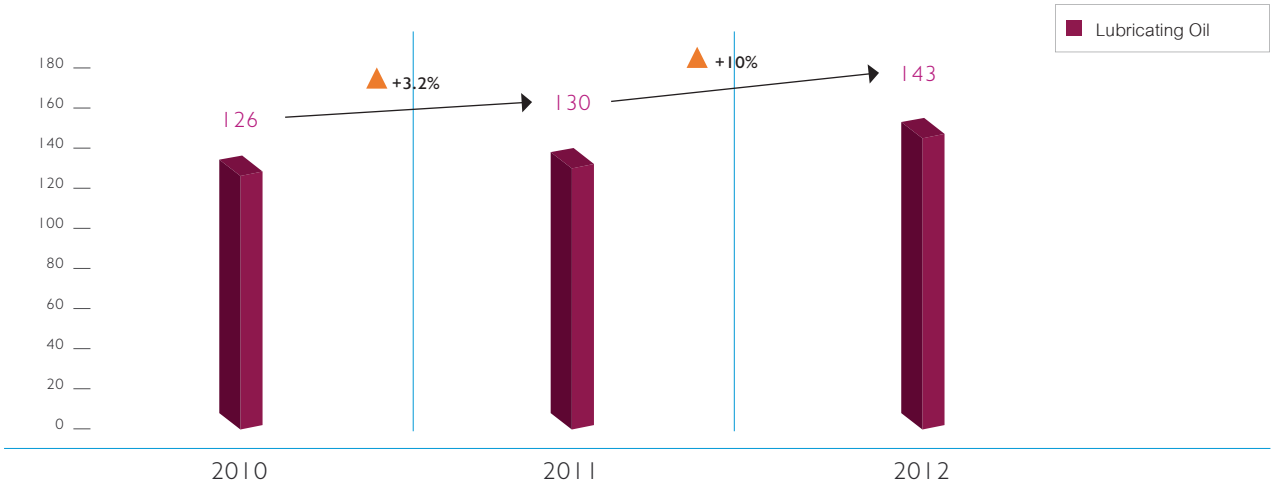
Domestic Market Share

Unit: %



Domestic Lubricating Oil Sales

Unit: million liters



Note: *Excluding LPG used as petrochemical feedstock*
Source: *Department of Energy Business, Ministry of Energy*

Oil Business Unit Milestones

February

• Signed an MOU for the provision of Jet A-1 with Lao State Fuel Co. (LSFC) worth 1.6 billion baht, under which PTT will be the sole procurer of jet fuel and fuel oil for LSFC for two years.

• Launched The Amazon's Embrace, a premium coffee outlet, on the second floor of Siam Paragon (Zone Beauty).

• Launched Performa RD-2 SAE 10W-60, a premium synthetic lubricant designed for maximum protection of every part of the engine while raising engine performance and responding to high-speed racing-suitable for race cars with standard engines and with performance-tuned engines alike.

March

• Signed a memorandum of cooperation on the "Project to Develop Fuels and Lubricants for the Royal Thai Navy fleet", to jointly research, develop, and test products before their full application.

April

• Launched an auto-service center at the PTT Sanam Pao Branch in Bangkok, known as "PTT Fit Station".

May

• Launched the PTT Free Wi-Fi Project by TOT for free Wi-Fi access two hours a day for each user at the "For the Welfare of First Infantry Division" service station on Vibhavadi Rangsit Road. The year saw 311 systems installed, whereas for 2013, the target is 750.

June

• With the Bank for Agriculture and Agricultural Cooperatives, supported the Project for Farmer Loans, under which PTT provided loan interest support and interest burden subsidies, together with credit card fees for 2,000,000 farmers buying fuels at PTT service stations under the project.

Signed an MOU for the provision of Jet A-1 with Lao State Fuel Co. (LSFC)

Launched Performa RD-2 SAE 10W-60

Signed a memorandum of cooperation on the "Project to Develop Fuels and Lubricants for the Royal Thai Navy fleet"

With the Bank for Agriculture and Agricultural Cooperatives, supported the Project for Farmer Loans

PTT Retail Business Co., Ltd., signed a joint-venture agreement to construct The Crystal PTT

Signed an agreement with Thai Airways International Plc. on joint sustainable development of bio-jet fuel

Grand opening of the first "Platinum" service station in Lao PDR.

Unveiled the PTT Blue Card, a point-accruing card for PTT product purchases

Launched “PTT Engine Tune Up 2012”, a project to inspect engines for energy saving

August

- PTT Retail Business Co., Ltd., signed a joint-venture agreement with K.E. Land to construct The Crystal PTT integrated community mall worth 600 million baht on Chaiyaphruek Road in Bangkok, which will feature a sizeable Jiffy Supermarket and a service station with EV Charger service for electric vehicles. The station will come into full service in October 2015.

September

- Signed an agreement with Thai Airways International Plc. on joint sustainable development of bio-jet fuel for energy security and reduction of greenhouse gas emission.

October

- Inaugurated the first platinum service station at Ban Nong Taeng, Vientiane, Lao PDR, which consisted of a service station and assorted supplementary businesses like The Amazon, PROCheck, U Express, and Wizard Auto Care.

November

- PTT Performa Super Synthetic API-SN 0W-30 (1-liter and 4-liter sizes) won certification for lubricants with a carbon footprint label for the first time in ASEAN. The certifying body was the Thailand Greenhouse Gas Management Organization (Public Organization).
- Unveiled the PTT Blue Card, a point-accruing card for PTT product purchases (in and outside service stations). Besides its value for cash or gifts, the card can be presented for discounts or privileges at participating leading restaurants, hotels, and spas.
- Launched “PTT Engine Tune Up 2012”, a project to inspect engines for energy saving, featuring free checks of engine conditions, signal lights, brake and power transmission systems (totaling 27 items) at 55 PTT service stations nationwide from November 26 to December 5. Besides, free engine inspection covering 15 items will be extended to the year-end at 97 PROCheck shops nationwide.

International Trading Business Unit

In 2012, the business unit successfully sharpened its competitiveness and increased its physical trading of crude oil, petroleum products, and petrochemical products. Another success was the application of risk management tools, including that done through the futures exchange market to mitigate price volatility for PTT and refineries within PTT Group. In addition, PTT worked with downstream group companies to form the Price Strategy and Risk Management Team (PRISM) to promote the caliber of market analysis and risk management as a result of cooperation within the group.

Crude oil, petroleum product, and petrochemical product trading

In 2012, the business unit's physical trading amounted to 72,338 million liters (about 1,243 MMBOED), a 15% rise or 9,654 million liters over that of last year, consisting of 43,686 million liters of crude oil, a 10% rise; 7,913 million liters of condensate, a 7% rise; 17,555 million liters of petroleum products, a 55% rise, thanks to out-out trading of fuel oil and LPG from South America and the Middle East to Asia. Trading of petrochemicals dropped to 3,184 million liters (or 25%) due to the lower demand for light naphtha by refineries, in turn a result of lower PE market demand.

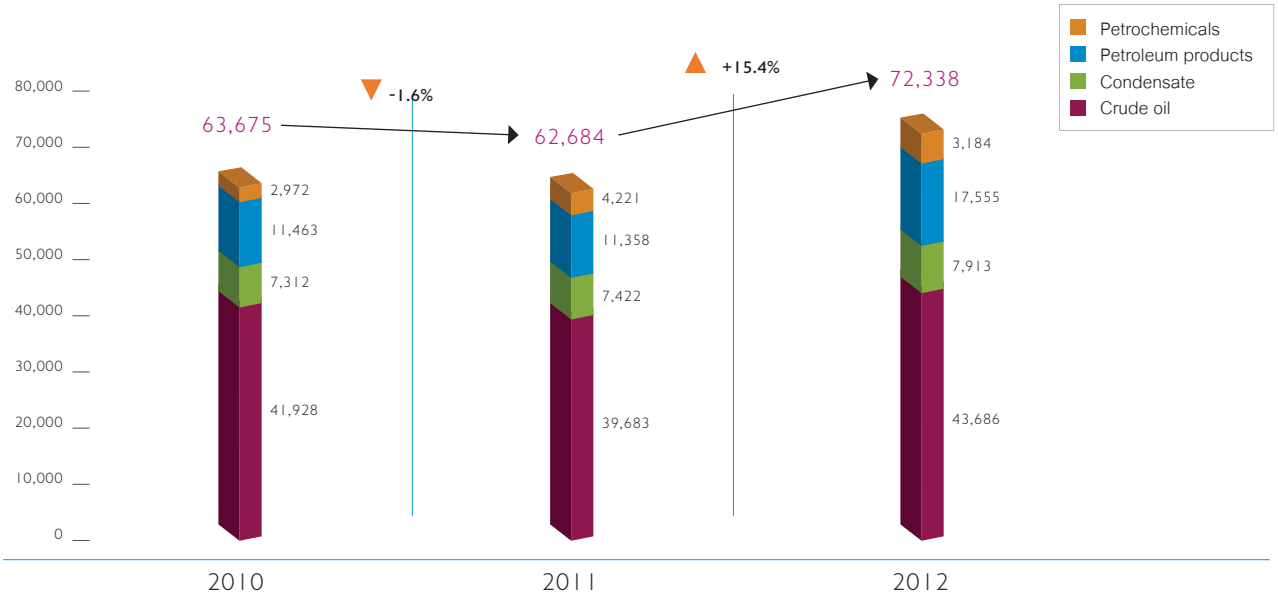
In addition, physical trading of other commodities like crude palm oil, amounting to 14,944 tons, and 1,407,138 tons of coal, represented growth in trading value in the market for non-energy merchandise, which agreed with PTT's strategic business option.

Price risk management

Price risk management this year amounted to 43,176 million liters, a 25% rise from last year, as a result of world oil price volatility, which demanded more price risk management for PTT Group.

International Trading Volumes

Unit: million liters



International Trading Business Unit Milestones

Signed a sales and purchase agreement for naphtha with Trafigula Pte. Ltd.

Signed a sales and purchase agreement for the Songkhla crude oil with CEC International Ltd.

Signed a sales and purchase agreement for petrochemicals with PTT Phenol Co., Ltd.

January

- Signed a sales and purchase agreement for naphtha with Trafigula Pte. Ltd. for 120,000 metric tons for delivery during January - June this year. The deal was worth 3.5 billion baht. The business unit will apply this deal to its out-out trading to generate income for the country in line with PTT's vision to become a Thai multinational energy company.
- Signed an MOU on "Cooperation on Optimization Trading Activities" in Singapore to expand international trading activities together with Pertamina Energy Services Pte. Ltd. (PES), including supply procurement, storage, and crude oil purchases from West Africa, assorted products (petrochemicals in particular), and development of fuel oil blending and gasohol blending, all of which give PTT Group additional competitive opportunities.
- Signed a sales and purchase agreement for crude oil and propylene in Singapore with Hyundai Oilbank Co., Ltd., a major petroleum and refinery business operator from South Korea. This deal made PTT one of the core crude oil suppliers for the Korean company this year. It also supplemented value to the exchange of propylene trading opportunities-regarded as further opportunities for out-out trading transactions for PTT of about 4 billion baht a year.
- Signed a sales and purchase agreement for the Songkhla crude oil with CEC International Ltd., a crude oil producer in the Gulf of Thailand. As a matter of fact, this was an extension of a previous deal from the offshore field with 10,000-15,000 b/d in output from January this year to January 2014. PTT in the process won the sole buyer right for the oil so as to lower imports and offer another option for domestic refineries.

February

- Signed a sales and purchase agreement for petrochemicals with PTT Phenol Co., Ltd., with deliveries to be made this year worth 3.6 billion baht. PTT Phenol will supply petrochemicals for PTT's negotiation with its Chinese customers for export to that country, a core Asian market, to supplement value to PTT Group, establish commercial benefits, and align with the corporate culture on synergy and trust.

• Signed a sales and purchase agreement for Seria Light crude oil with Brunei Shell Petroleum Co. Sdn. Bhd. for sale to domestic refineries this year, in a continuing agreement from last year. The 2.4-million-barrel deal was worth 8.3 billion baht. This was a milestone in the establishment of capability and cordial relations with Brunei Shell Petroleum, which is Brunei's national oil company, and fostered raw-material security for domestic refineries and the public alike.

• Signed a sales and purchase agreement for LPG with Abu Dhabi National Oil Company (ADNOC), UAE, for 264,000 metric tons, and a similar LPG agreement with Kuwait Petroleum Corporation for 88,000 metric tons. Both deals accounted for some 300 million US$, and delivery was from January to December this year.

• Signed a long-term sales and purchase agreement for phenol with Shanghai Puhsun Import & Export, covering 2,000 metric tons, worth some 990 million baht. The one-year deal with this major market of PTT Group's petrochemical companies furthered the group's business.

March

• Signed a term DES Sriracha sales and purchase agreement for LPG with E1 Corporation of the ship-to-ship type, sized at 440,000 metric tons and worth 400 million US$, and a joint agreement for VLGC hiring to grow the LPG business abroad.

April

• Signed a sales and purchase agreement for reformate with Mercuria, one of the world's top five petroleum and petrochemical traders with global business networks. Covering 360,000 metric tons and worth some 430 million US$, the deal expanded the reformate export business with China.

• Signed an MOU with Socar Trading Singapore for the import of 1 - 2 million tons a month of the Azeri crude from February this year to January 2013. The deal with this Azerbaijan oil producer was the third in six years, designed to grow the Asian customer base. Incidentally, PTT was the first Asian oil company to establish a direct contact with an Azeri crude producer.

Signed a sales and purchase agreement for reformate with Mercuria

Signed an MOU with Socar Trading Singpore for the import of Azeri Crude

PTT International Trading Pte Ltd signed an agreement under a memorandum of cooperation on securing coal supplies from Indonesia

Signed an agreement on marine transport and an MOU on a joint study and business development of the LPG business.

September

• PTT International Trading Pte Ltd signed an agreement under a memorandum of cooperation on securing coal supplies from Indonesia with Itochu Corporation. A one-year sales and purchase agreement for 200,000 tons a year began in October this year to September 2013. The deal developed PTT's potential and revenue generation, while establishing supply security of raw materials.

November

• Signed an agreement on marine transport and an MOU on a joint study and business development of the LPG business. Under the agreement, PTT and E1 will together charter a VLGC (very large gas carrier) for 10 years at a value of about 215 million US$, after which PTT is entitled to jointly buy the vessel. Besides fostering LPG security and transport capacity, this deal led to other business opportunities in other regions of the world, thus laying a foundation for PTT to become a leading multinational energy company.

Investment business through Group companies

• Upstream Business

Exploration and Production

This year, PTTEP and its subsidiaries grossed 7.021 billion US$ (218.137 billion baht), a rise of 1.336 billion US$ or 24% from last year's 5.685 billion US$ (173.375 billion baht). The bulk of this revenue was derived from higher prices, since the average product price this year had risen to 64.86 US$/BOE in line with the rising price of world oil; compare this with the average last year of 55.49 US$/BOE. Besides, the sales volume was 4% greater this year (275,923 BOED versus 265,047 BOED). Accounting for most of the sales increment were outputs from Bongkot and Vietnam 16-1 projects.

This year, PTTEP and its subsidiaries netted a consolidated profit of 1.846 billion US$ (57.316 billion baht), a rise of 26% from last year's 1.486 billion US$ (44.748 billion baht). At the year-end, PTTEP operated 44 projects in 12 countries, as seen below:

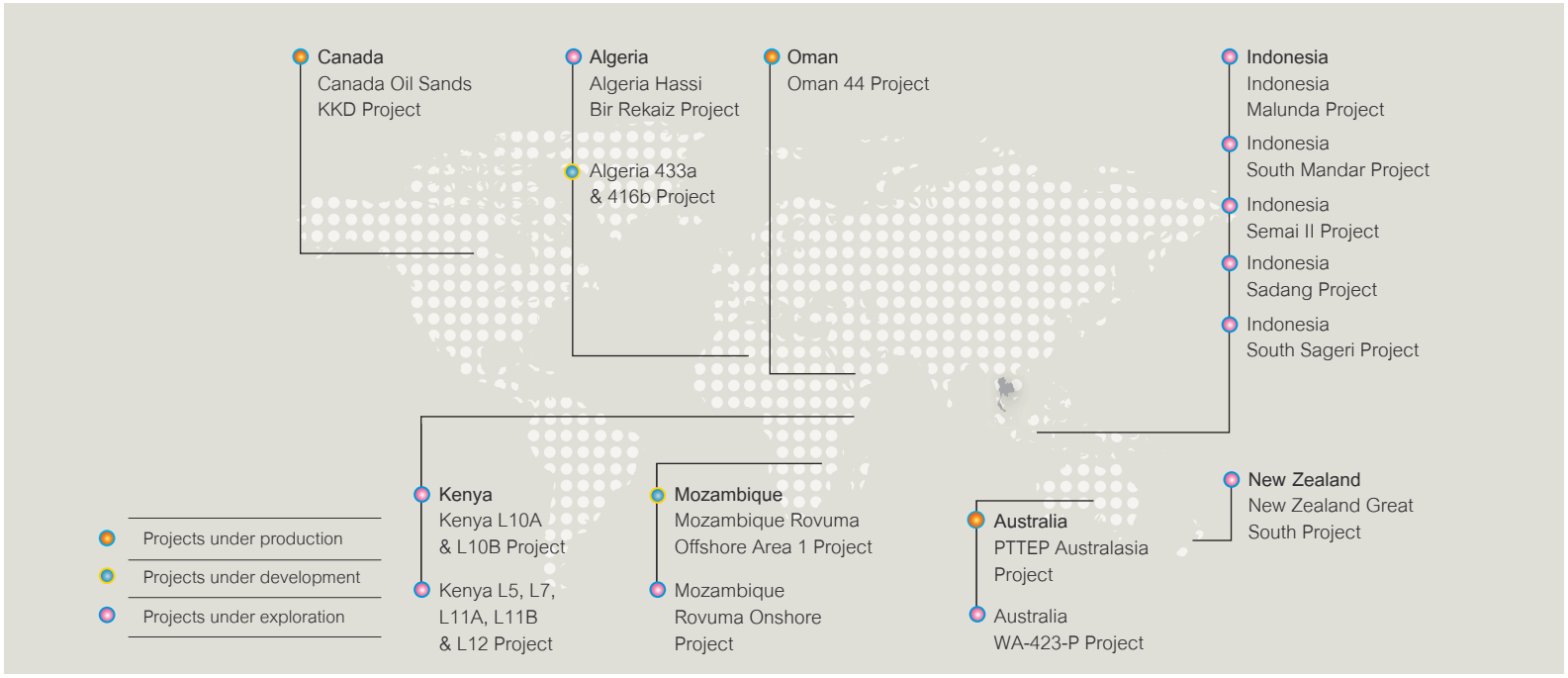
Exploration

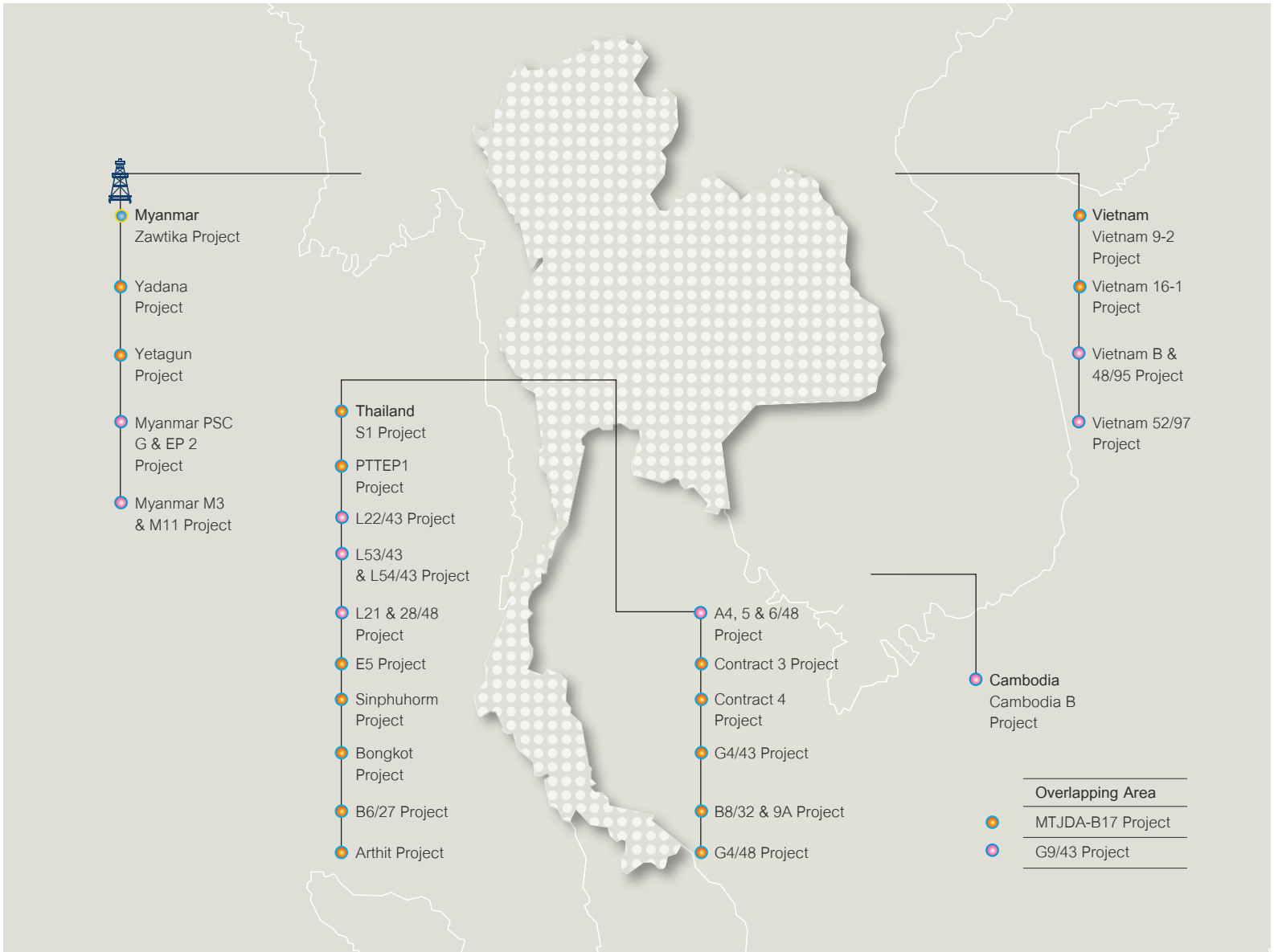
PTTEP has continuously conducted exploration activities in Thailand and overseas to assess the petroleum potential of interested blocks and increase petroleum reserves. This year PTTEP drilled a number of exploration and appraisal wells in many projects including:

- *PTTEP Australasia Project:* 3D seismic surveys were completed, along with the drilling of the Maple-2 appraisal well in the Cash-Maple field, located in the Timor Sea, Australia, in July this year. Additional natural gas was struck at the Cash-2 well, drilled late last year, with a flow rate of about 30 MMcf/d and 696 b/d condensate. The field is currently under investigation for commerciality.
- *Myanmar M3 and M11:* These blocks in the Gulf of Moattama, south of Yangon, are under a seven-year extended exploration period to appraise their commerciality. Appraisal wells are being prepared. In the deepwater M11 acreage, exploration drilling is also about to begin.
- *Semai II Project in Indonesia:* The project is now under study and additional geological analyses to assess its potential and locate the second exploration well in shallow water. Drilling is projected for 2013.
- *Algeria Hassi Bir Rekaiz Project:* Nine holes are planned for initial drilling, of which seven have been drilled, striking crude oil in six of them. The remaining wells are being drilled in early 2013 to confirm petroleum potential.
- *Canada Oil Sands KKD Project:* The Winter Evaluation Program (WEP) for 2011-2012 is completed, with 161 appraisal wells drilled. 3D and 4D seismic surveys have covered Leismer, Thornbury, and Hangingstone deposits for production assessment of the Leismer deposit; Thornbury and Hangingstone will undergo assessment for further production.

In the fourth quarter of 2012, WEP was being prepared for 2012 - 2013 together with the location of appraisal wells and determination of areas to undergo seismic surveys in a bid to conduct additional development in Leismer, Corner, and Thornbury deposits. A total of 92 wells are to be drilled, together with 3D and 4D seismic surveys totaling 134 square kilometers.

PTTEP Projects





Project development

PTTEP has accelerated various projects to enable it to begin production as planned, including:

- ***PTTEP Australasia Project:*** Three production wells have been drilled, along with one gas injection well, as of July this year. The FPSO arrived at the Montara field in November, and systems are being connected and tested, leading up to production.

As for the claim for insurance compensation, as of the last quarter this year, PTTEP had received 212 million US$, with the outstanding compensation being demanded. Reasonable progress has been made.

Concerning the compensation filing from the Indonesian government, PTTEP's negotiation with the government was in progress on the basis of evidence and possible impacts being scientifically proved.

- ***Zawtika Project in Myanmar:*** Early this year, PTTEP International Co., Ltd. (PTTEPI), signed a joint operating agreement with Myanmar Oil and Gas Enterprise (MOGE), giving MOGE 20% of the shares in the project, in line with the production sharing contract. PTTEPI (with 80%) will remain the operator. Construction is ongoing for the main production platform, wellhead platforms, inter-platform pipelines, offshore gas pipeline, and onshore gas pipeline along with related production equipment. Some 63% progress has been made, and PTTEPI expects gas delivery to begin in early 2014.
- ***Algeria 433a and 416b Project:*** The year's goal was to drill four production wells, and three have been drilled, striking 4,000 b/d of crude oil. The fourth well is in progress. Design of production processes and fabrication of the transmission pipeline (collectively called EPC1), living quarters, barracks, and public utilities (EPC2) in the development acreage are underway. Production is projected to begin in 2014.
- ***Canada Oil Sands KKD Project:*** Corner The Corner deposit is undergoing an extension of detailed investigation for the overall development plan and outlay for the maximum efficiency of investment and construction of process equipment. A final investment decision is expected in 2013, and production in 2016.
- ***Mozambique Rovuma Offshore Area One Project:*** PTTEP Africa Investment Limited (PTTEP AI), a subsidiary of PTTEP, was successfully acquired Cove Energy in August 2012, resulting in 8.5% of joint investment in Mozambique Rovuma Offshore Area One in which Anadarko Company is the project operator.

Mozambique Rovuma Offshore Area One Project is a sizeable gas field in Mozambique, where natural gas had been found. Resources could amount to 65 TCF. The project could be developed as an LNG source. With PTTEP AI's joint-venture participation, the project has reached a milestone: the joint venture has hired a contractor to undertake FEED (frontend engineering design) of two aspects, namely the construction of an onshore LNG plant and the installation of offshore production equipment and gas transmission pipeline.

Anadarko Company, the project operator, has reached an HOA (Heads of Agreement) with Eni (the operator of Mozambique Rovuma Offshore Area Four), under which they will be coordinating development work for offshore gas deposits while jointly planning and developing construction of an onshore LNG plant in the Cape Afugi industrial estate in Cabo Delgado in the north of that country.

Production

PTTEP has continuously strived to maintain its production capability and increase production from new projects, some of which are described below:

- ***Bongkot Project:*** On June 16 this year, Bongkot South successfully produced 320 MMcf/d as specified under the GSA with PTT, while managing an output of 9,000 b/d of condensate. Meanwhile, Bongkot North, in July is, 2012, established a condensate output record of 25,019 b/d, and on August 5, the field produced its 100 millionth barrel of condensate. For the year, the field averaged 596 MMcf/d.

In other words, the overall natural gas output from Bongkot North and Bongkot South is now as high as 900 MMcf/d, effectively meeting 20% of the domestic demand.

- ***S1 Project:*** The field hit a record output of 35,176 b/d in December this year, an all-time high. The year's average output was about 28,000 b/d.
- ***Canada Oil Sands KKD Project:*** In the fourth quarter this year, Leismer produced 15,700 b/d of bitumen. Production wells number 22 (one steam injection well and one production well each) from four well pads. Since the start-up, bitumen output has totaled 9 million barrels to November this year. The fifth well pad should be ready to start production in the fourth quarter of 2013.

As for the Leismer Expansion plan, well pads are being located and details studied on additional equipment to be installed to accommodate the expanded output of 40,000 b/d. In the works is filing for approval from the Energy Resources Conservation Board (ERCB).

- ***Oman 44 Project:*** Additional crude oil has been found as a result of development and appraisal drilling from the Muir Hamir field and a new field south of the Shams-E South structure, thus raising the average output in the fourth quarter from 1,500 b/d to about 4,600 b/d. This year saw, on average, 2,960 b/d of oil and condensate and 42 MMcf/d of natural gas recorded. Meanwhile, completed were the construction and testing of the system under engineering standards of the pipeline from the Shams-9ST well to the main production facilities of the field. Regular production of gas and condensate from the well began on December 30 this year.
- ***Vietnam 16-1 Project:*** the project began oil production from the WHP-H4 wellhead platform, the second one of the Te Giac Trang field. This raised the crude oil output from 41,000 to about 55,000 b/d.

Investment portfolio management

PTTEP has continued its investment portfolio management to enable its investment to suitably supplement value to projects and risk management. In place is a regular analysis of factors and impacts on investment to keep up with changes in social, economic, and political circumstances. Focused countries are revised for investment expansion through grouping countries by opportunity and suitability while aligning with PTTEP's directions and goals. To this end, several factors are analyzed, including petroleum potential, geographical factors, government takes, political and business risks, and competitive edges.

- ***Joint-venture participation by Total and JX NOEX in Block M11:*** PTTEPI has chosen Total E&P Myanmar and JX Nippon Oil & Gas Exploration (Myanmar) Ltd. as joint-venture partners in the block, with 40% and 15% shareholding respectively. PTTEPI, with 45% shares, will continue to operate the project. Such participation by the two companies is subject to approval by the Myanmar government. These choices of joint-venture partners were part of the strategies for portfolio management and risk management.
- ***Acquisition of Cove Energy Plc:*** May 23 this year, PTTEP (through PTTEPI) announced its offer to buy issued and unissued common shares in Cove Energy at 240 pence per share, worth about 1,221.4 million pounds sterling. Cove's main asset was its 8.5% equity in Rovuma Offshore Area One in Mozambique and 10% in the Rovuma Offshore Area, also in Mozambique, and 10 - 25% equity in seven deepwater concession blocks in Kenya.

On August 17 this year, PTTEP AI successfully acquired shares in Cove, fulfilling the conditions of its offer. Therefore, effective from August 23, PTTEP AI initiated the process of forced sale of the shares under Cove's shareholders that had not responded to its offer. PTTEP AI, on October 5 (the last day of such forced sale), commanded all of the shares in Cove.

Incidentally, on September 18, the London Stock Exchange announced the discontinuation of Cove's share trading on its Alternative Investment Market (AIM).

• Downstream businesses

Petrochemicals and Refining Business Unit

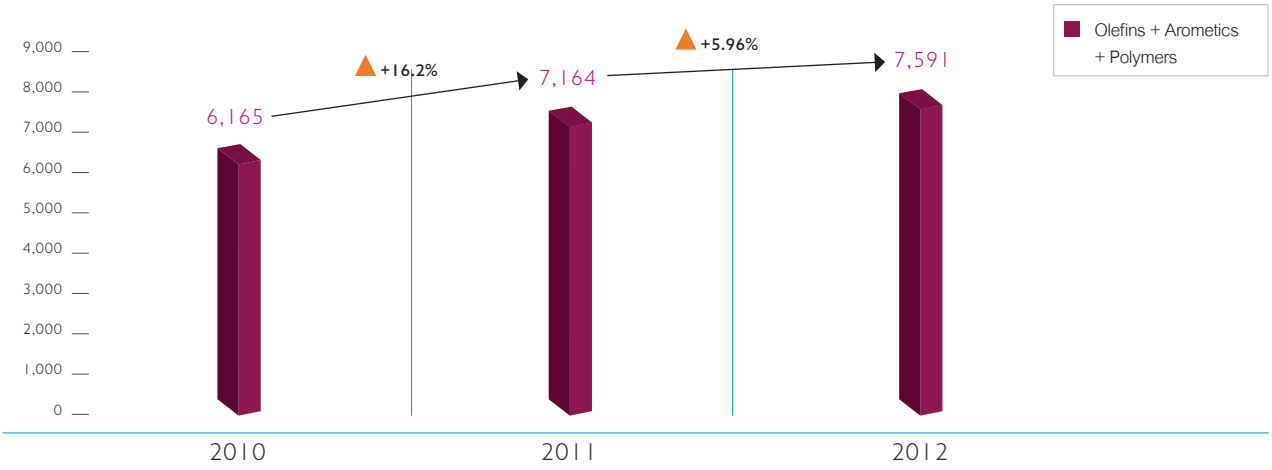
This business unit has consistently improved and grown their capacities, while adding products and services together with constant expansion of investment worldwide to sharpen the competitive edge for PTT Group. It has managed Group Integrated Supply Chain Management & Optimization (GISMO), which consisted of the Petrochemical and Refining Integrated Synergy Management (PRISM) Project and the PTT Group Operational Excellence Project. In PRISM, it expanded and pushed a Green Growth Roadmap for alternative energy and bioplastics in a concrete way. In the Operational Excellence Project, it added the OEMS (PTT Group Operational Excellence Management System) to establish a single set of standards for the group, encompassing all aspects of operation and leading to efficient and effective performance on a par with top-quartile performance. The business unit's performance this year is captured below:

Petrochemical and refining performance

The overall distribution of petrochemical products this year, led by PTT Global Chemical Plc. (PTTGC), equaled 70.72 million barrels from the petroleum products and public utilities group, a rise of 15.63 million barrels from last year due to greater sales; 3.26 million tons from the aromatics group, a rise of 1.02 million tons from last year; and 2.55 million tons from the olefins and downstream business group, a rise of 0.28 million tons from last year. However, the accounting gross refining margin declined due to the decreasing of the spread between the prices of refined products and crude, and the minor loss in the net realizable value (NRV) compared to the gain in NRV in 2011. In addition, there was also a continuous in products to feed margin on olefins and related products. The decrease derived from the price drop in low density polyethylene products together with the rising cost of feed stocks due to the price-formula revision of feed stocks from the gas separation plants. Meanwhile, the product to feed margin of aromatics products rose as a result of the declining condensate cost. New source of import condensate has the cheaper price. The declining crude price is another factor to boost PTTGC's 2015 earnings to be higher than a year earlier. The crude price was used price was used as a reference in the calculation of selling/buying price of olefins and related products.

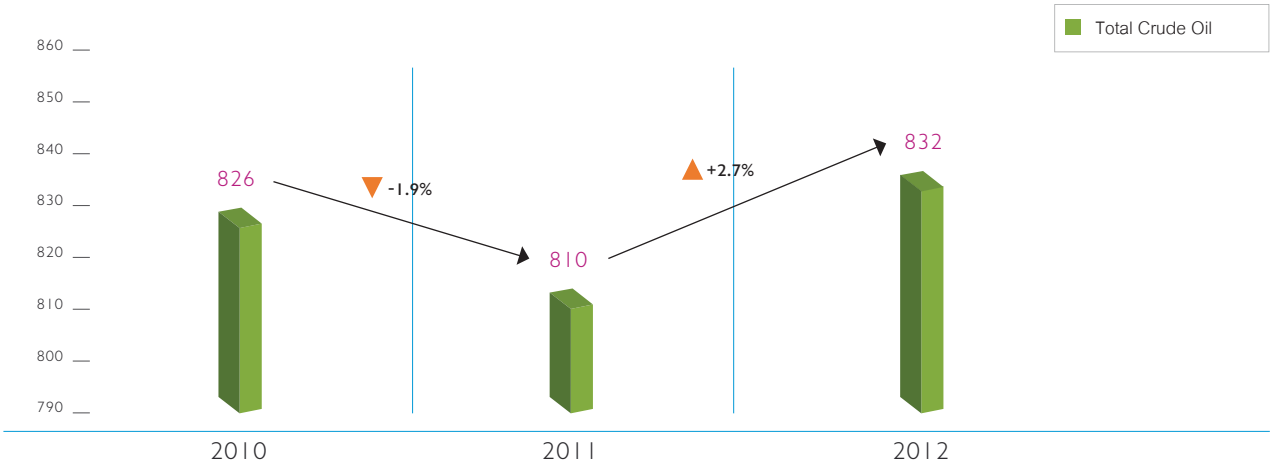
Total Sales Volume of Petrochemicals (Olefins + Arometics + Polymers)

Unit: KT/year



Total Crude Oil for Refining of PTT Group

Unit: Kbd



HMC Polymers Co., Ltd. (HMC), recorded a total output of 650,554 tons this year, a rise of 61,707 tons from 2011, a result of the rise in exports and customer base expansion during the year. Yet, prices and average product-to-feed margins for the year fell with the supply glut, which in turn stemmed from the output rate reduction by downstream producers while petrochemical raw material and feedstock costs were climbing and product-to-feed margins were on the decline. HMC's performance outcome for the year was therefore less remarkable than last year.

PTT Phenol Co., Ltd. (PPCL), recorded overall product sales at 380,980 tons, a rise of 41,937 tons from last year. Nevertheless, prices and average product-to-feed margins for the year fell with the supply glut due to output rate reduction by downstream producers. PPCL's performance this year was therefore inferior to last year.

PTT Polymer Marketing Co., Ltd. (PTTPM), the main distribution arm of petrochemical products for PTT, achieved a sales record of 1,635,905 tons, a hike of 196,610 tons. Sales of High Density Polyethylene rose by 24, 228 tons; Linear Low Density Polyethylene increased by 61,925 tons; Low density Polyethylene hiked by 98,246 tons; and others grew by 12,271 tons. However, lower forex gain and higher operating cost brought about poorer performance for 2012 against a year earlier.

PTT Polymer Logistics Co., Ltd. (PTTPL), the fully-integrated logistics arm of PTT Group's polymer production, achieved services totaling 8,426,389 tons, a surge of 1,091,184 tons from last year. Transportation service increased by 210,035 tons; Bagging and Packing grew by 265,056 tons; warehouse rose by 232,387 tons; and storage shot up by 311,706 tons from 2011. As a result, PTTPL's 2012 performance improved over last year.

For the shareholding in refineries as of 2011, PTT owned 35% stakes of the country's overall refining capacity or equivalent to 1,087,000 b/d (exclude 135,000 b/d of PTTGC's condensate splitter unit and 17,000 b/d of Rayong Purifier which the production was halted since February 7, 2012). Crude input entering PTT Group's refining units (exclude those of PTTGC condensate splitter unit) stood at 832,000 b/d, increased by 22,000 b/d of last year, or equivalent to this year's utilization rate at 91% against 89% of a year ago. The rise was due to the 2011 temporarily shut down of IRPC and PTTGC for annual maintenance of 49 and 47 days respectively. Thus, PTT Group's gross integrated margin stood at 8.50 US$ per barrel. Lower GIM was due to the shrinkage of the price differences between product price and crude, especially in lubricant products. In addition, fluctuation of crude oil price also caused stock loss as of ending of the year. As a result, PTT Group's refining business posted a lower net profit in 2012 compared to a previous year.

Petrochemicals and Refining Business Unit Milestones

January

• Launched the Petrochemical and Refining Integrated Synergy Management (PRISM), which resulted from the combination of the Oil Supply Chain Integrated Management Project (OIM) and the Petrochemicals Integrated Supply Chain Management (PIM) to strengthen the group's petroleum and petrochemical industries and downstream industries.

February

• PTTGC and IRPC signed a memorandum of cooperation on "In-house Polyethylene Catalyst Development" in developing the PE catalyst business for PTT Group. Besides promoting product among the group, this move lowered imports.

• PTTGC won a carbon footprint label from the Thailand Greenhouse Gas Management Organization (Public Organization) for its HPDE, more commonly known as InnoPlus.

• IRPC improved its gasoline products to the EURO IV standard and launched a new application for iPhone and iPad (named "POLIMAXX on App Store") to grow its sales channels and provide information to POLIMAXX customers.

April

• Bangchak Petroleum Plc. (BCP) inaugurated the first "Bangchak Green Station" service station in Thailand, located on Vibhavadi Rangsit Road. The company leveraged its leadership in alternative energy hand in hand with energy conservation to raise its market shares.

May

• PTTGC acquired 50% shares in NatureWorks LLC and 51% shares in Vencorex (formerly known as Perstorp) to grow its investment in bioplastics and produce PU (polyurethane), a high-value specialty product.

• PTTGC signed an HOA with Petronas and Itochu to jointly investigate future investment opportunities, part of the RAPID (Refinery & Petrochemical Integrated Development) plan in Malaysia.

• IRPC joined Oxford University under the "High-Performance Project" to conduct R&D of high-quality petrochemicals and polymers, an extension of future innovations and supplement value to products and specialty products.

• IRPC acquired 25% of the shares in Ube Chemicals (Asia), an international market leader of caprolactam and nylon-6.

June

• The ethylene oxide and ethylene glycol plant (the 85,000-ton/year extension) of TOC Glycol, an affiliate of PTTGC, was released from the temporary injunction of the Administrative Court, which had barred 76 projects accused in December 2009 of having severe environmental impacts.

• BCP along with Big C Supercenter Plc launched a "Mini Big C" convenience store in the first Bangchak service station in a move to grow its investment in the retail business.

• Star Petroleum Refining Plc. was approved by the shareholders to privatise to the public company under the Public Company Limited Act of 1992. The registration as the public company was on June 7, 2012.

July

• Phase 1 of the solar farm project, with a 44-MW capacity, operated by BCP, resumed its commercial operation after overcoming problems resulting from the Great Floods of late 2011.

August

• PTT Group extended a land development project in Asia Industrial Estate, Rayong, which was in the process of development of 1,500 rai into an eco-industrial zone (EIZ) to accommodate PTT Group's investment in green businesses ranging from production processes, transport, waste treatment, to final products. The purpose was to enable the development of industrial, community, and environmental areas to proceed in perfect harmony with PTT Group's desire for a low-carbon society.

September

• Thaioil Plc (TOP), through its affiliate Thai Paraxylene Co., Ltd. (TPX), grew its paraxylene capacity by 35,000 tons/year.

• PTT Polymer Marketing Co., Ltd. (PTTPM), and Thai KK Industry Co., Ltd. commercially developed a plastic-laminated paper known as PBS, which is 100% biodegradable to further improve PTT Group's production of bioplastics.

• IRPC grew its capacities for TDAE and the 150-BS lubricants by 28 KTA and 25 KTA respectively in a move to focus on development of specialty lubricants and launch POLIMAXX BANBAX, a polymer product resistant to bacteria over a long, continuous period.

• PTTGC in conjunction with six institutes developed medical apparatus from bioplastics that is safe and complies with the ISO 13485 standard, the first integrated international public-private cooperation to develop a complete line of medical apparatus from bioplastics. Development efforts included absorbable bioplastics, which would give Thailand access to much cheaper apparatus while trimming imports of such apparatus.

October

• PTTPM opened its fifth office in Indonesia to add distribution channels for PTT Group's assorted polymers to accommodate the upcoming AEC in 2015.

• IRPC's propylene capacity rose to 100 KTA, thanks to the propylene booster project.

December

• PTTPM adopted a new format of trade payment called Bank Payment Obligation (BPO), a financial innovation of international standard, with a foreign business partner for the first time in Thailand and ASEAN. The deal through Siam Commercial Bank speeded up transactions, raised business process efficiency, and was part of the fulfillment of the goal to become an international polymer trader with a turnover exceeding 100 billion baht in 2015.

• PTT Maintenance and Engineering Co., Ltd., was the first ASEAN company to win the ISO 10006: Project Management System certification.

International investment business

Constantly growing its investment in the coal business, PTTI this year raised its shares in Sakari Resources Limited (SAR). In addition, it entered into a joint venture in a hydropower plant in Laos. This year's international investments are highlighted below:

• Coal business

PTTI, through its subsidiary PTT Asia Pacific Mining (PTTAPM), acquired the remaining 66.5% in Red Island Minerals (RIM) in March, making the company the 100% owner of RIM, which runs a joint-venture project in Madagascar. The exploration and assessment of JORC reserves was completed, and additional consideration of joint-venture approaches was underway, as well as preparation of project loan borrowing and filing for a production license application.

PTTI, through PTTML, offered to buy all common shares of SAR on the Singapore Exchange successfully raising its shareholding in SAR (through direct and indirect means) from 45.3% to 93.68% (exclusive of concert parties) at the year-end. It bought additional shares from retail shareholders under Singaporean laws, which will continue until February 6, 2013.

Incidentally, SAR secured approval for delisting from the Singapore Exchange on January 11, 2013, a process that should be wrapped up by mid-February 2013.

- **Natural gas and liquefied natural gas (NG/LNG)**

Along with PTTEP, continued investigating ways to develop the FLNG project by preparing a pre-FEED study in conjunction with SBM Linde. In progress are the estimation of expenses and investment capital, and another round of plan review.

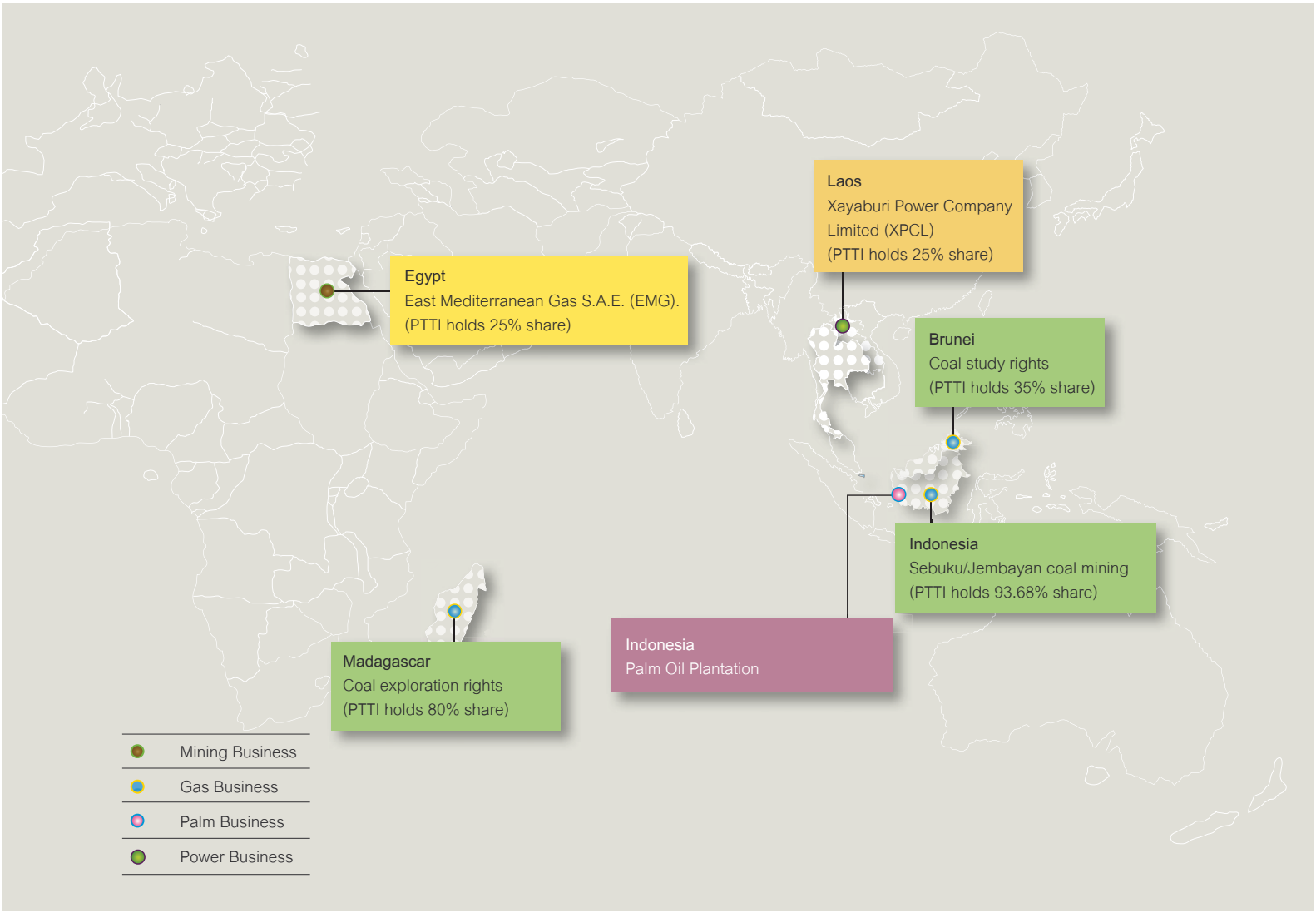
- **Power business**

PTTI signed a joint-venture agreement in the Nam Lik-1 Project, a 64.7-MW hydropower plant in Laos, due for commercial operation in late 2016. PTTI's share is 40% The project is currently securing loans, in which joint venturing and securing of loans will be completed in the first quarter of 2013.

- **Palm oil plantation and development**

This year PTT Green Energy Co., Ltd. (PTTGE), held a net ownership of 1.2 million rai of land used for palm oil plantations. To date, it has completed work on 148,900 rai (net to PTTGE). The investment decision was based on the fact that Indonesia boasted the most suitable geography and climate for palm oil plantations, and that the world's largest palm oil plantations were in Indonesia. The total output of Indonesian palm oil (fresh fruit bunch, FFB) is 206,140 tons.

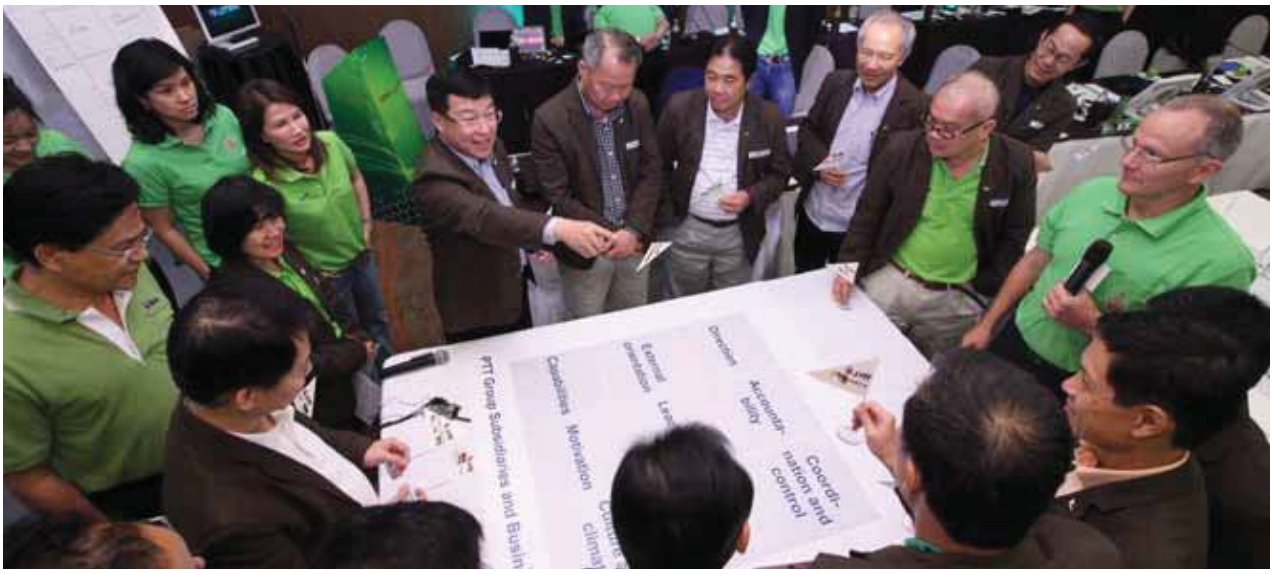
Current PTTI and PTTGE Investment



PTTGE has also begun crude palm oil (CPO) planting at Pontianak on West Kalimantan and Palembang on Sumatra Island with a capacity of 45 tons/hour and 30 tons/hour respectively. To date, about 35,600 tons has been produced.

Regarding international investments, PTT's strategy is to focus on continuous efficiency improvement and production growth for existing projects, and on consistently seeking value-adding business development opportunities with optimal application of existing resources.

In addition to improving the performance of its business units, PTT and the PTT Group of companies took the following actions in running their businesses, with highlights captured below:



Strategic planning management

PTT's strategic planning process was ongoing all year, beginning with the Top Executive Thinking Session (TTS) to jointly review and define strategic directions for PTT Group over the next 5 - 10 years in line with changing business and non-business circumstances to ensure that PTT Group's businesses will fulfill its vision and goals in three aspects: 1) Ranked among the 100 major companies worldwide in Fortune's ranking in 2020. 2) Ranked among the Dow Jones Sustainability Index (DJSI). 3) Post a top-quartile performance in 2020. Once TTS had concurred with the strategic directions over the next 5 - 10 years, the business units and supporting units developed their respective strategic directions and sought concurrence from an Executive Vice President and upward meeting of PTT Group (the so-called Strategic Thinking Session, STS). And once STS concurred with such directions, the ideas were tabled for the concurrence of the Board of Directors of PTT. This year, PTT Group has defined a strategic direction called "TAGNOC", which consists of the following elements:

- **TA (Technologically Advanced)** means business on the basis of knowledge application or development of PTT's own technology instead of mere consumption of natural resources.
- **G (Green)** means environmentally friendly investment in energy and petrochemical businesses.
- **NOC (National Oil Company)** means establishment of energy security and prosperity for the nation.

In addition, in its strategic plan formulation this year, PTT Group relied on the "End-Way-Mean" approach to more efficiently promote the enforcement of these strategies:

- **End:** strategic objectives
- **Way:** strategic initiatives to fulfill "End"
- **Mean:** critical success factors that push strategies toward practical implementation.

PTT Group's financial management

With a market capitalization of over 948 billion baht, or about 8% of total market capitalization at the year-end, PTT is the largest company on SET. If all listed companies under PTT Group are included, the market capitalization would exceed 2,199 billion baht, or about 18.6% of SET's total market capitalization. PTT Group continues to grow steadily. To ensure a strong financial status and discipline with credit ratings compatible with industry peers, financial management must therefore be efficient and well-disciplined, and disclosure of information to all investors must be equitable and transparent. To this end, PTT has applied its treasury and credit policy as a guideline in managing the finances of PTT and PTT Group.

This year, PTT managed its financial portfolio, including cash liquidity, risk management on exchange rates and interest rates to reduce costs, and/or add value to the corporation by taking the following actions:

- Issued financial derivatives to lower risks arising from long-term loans, which resulted in a reduction of the loan cost by about 181 million baht.
- Managed its foreign-exchange risks in its commercial transactions in the import, export, international sale, and procurement of crude oil to the refineries under PTT Group, valued at 37.45 billion US$, and added value to the Group of about 1.84 billion baht.

Performance management and improvement of management efficiency

PTT pays full attention to the development of organizational capability toward becoming a high-performance organization through continuous improvement of its organizational efficiency and business processes to achieve the benchmark of world-class management under the criteria of the Thailand Quality Award (TQA). A goal has been set to win the Thailand Quality Class (TQC) across the organization by 2015 and a TQA in 2018. This year, the focus was on fact-based performance monitoring for greater efficiency in comparison with the plans and goals or competitors (benchmarking), after which an approach for solution and improvement will be defined to build on it into innovations. PTT also focused on promoting itself as innovator. To this end, it appointed a PTT innovation promotion committee and a taskforce on innovations, and created an ambience favoring innovation like the "PTT We Can Corner" display of innovative products and the presentation of Innovation Awards.

This year marked the second one in which the Gas, Oil, and International Trading Business Units won the TQC, presented by the Office of the Thailand Quality Award. PTT also won the 2012 Outstanding State Enterprise Award, hosted by the Ministry of Finance, which covered two awards. First, "Best of the Best" for the fourth straight year, and second, an "Outstanding Innovation Award" for the third straight year, this year for "PTT Electromagnetic Induction for Wax Mitigation", the world's first innovation that overcomes the collection of crude oil sediments in tank cars (in train transport).

Product innovations

This year PTT came up with a lubricant product called "4T Outboard: SAE 1-W-40" and another for gasoline engines ("Fuel Economy 0W-20 Gasoline Engine Oil"), apart from lubricant products for sale in China to encompass all automotive applications and become a leader in lubricant product development under new standards. PTT experimented with hydrogenated diesel (BHD) production in a real plant, poised to go on commercial sale. It also developed the PTT DDF ECU for diesel engines running on natural gas for commercial sale, with adapted properties suitable for use with Thailand's natural gas to replace over 60% of diesel.

In the petrochemical sector, PTT reached an innovative milestone with PLA, a bioplastic material coated on paper, serving as drink containers, which is 100% degradable.

Strategies and business directions of PTT Group

PTT Group has defined a vision that focuses on consistent, sustainable growth in order to become a Thai Premier Multinational Energy Company under strategic sustainable growth in three aspects: continuous organizational performance management toward an organizational excellence (High-Performance Organization: HPO), corporate governance (CG), and responsibility to society, community, and the environment (Corporate Social Responsibility: CSR).

This year, PTT Group defined its "TAGNOC (Technologically Advanced and Green National Oil Company)" business directions and strategies, which consist of a set of these nominated by each business unit and supporting unit, complemented by another set of these nominated by a taskforce among PTT Group, as the group strived for sustainable energy businesses. These include a technology roadmap, a green roadmap, and strategic security energy roadmap. Below are the goals of these roadmaps:

- **Technology Roadmap:** PTT Group's goal is to become a company with sustainable growth, thanks to modern technological application as a key tool to add renewable resources and pursue new natural resources to supplement business value.
- **Green Roadmap:** A pivotal component to help PTT achieve long-term business growth is an integrated green business. To achieve this, PTT has defined a "PTT Green Way", which focuses on three aspects: development of green products and services ("product"), process management to raise energy consumption efficiency ("process"), and promotion of awareness of environmental love ("public awareness").
- **Strategic Energy Security Roadmap as a National Oil Company**: PTT Group focuses on seeking new energy sources as well as promote Thailand to become a Knowledge-based Economy via strategic directions such as the fully-integrated on indigenous gas procurement, the preparation towards AEC through strategic investment in Myanmar, and the organization development in all dimensions.

Power for Sustainable Future

To jointly research, pass on knowledge and develop innovations for lifelong learning as well as contributing the conciousness in conserving natural resources for sustainable future of our nation and the world.

PTT's key goal in managing PTT Group to both do business and establish sustainability for the Thai society in a balanced manner under the approach of the Dow Jones Sustainability Indexes (DJSI) by 2013 was achieved ahead of time, since the group found its way to the DJSI, in the oil and gas producers' group, as early as 2011 and 2012.

All along, the group's main missions have been to establish national energy security while developing alternative energy to accommodate all sectoral demand, generate income and strengthen the national economy, and participate in strengthening communities and society in a sustainable manner. To this end, PTT relied on six approaches: education and youth development, community development, biodiversity management, town environmental development, network establishment for Thailand's reputation, and establishment of volunteer spirit among employees. The key prerequisite for joint forging of a strong force for society and communities is a joint search for knowledge to be conveyed, while remaining ready to create dynamic learning innovations along with awareness of one's duties for jointly safeguarding the earth's resources. These represent PTT's ways to give our nation and our planet a sustainable future.

HM the Queen's 80th birthday … a royal fountain of knowledge

Because one's learning and development dates to one's birth, with one's mother serving as the original teacher, PTT Group aspires for all to be aware of mothers' benevolence. To this end, it staged a grand exhibition at the annual Red Cross Fair under the **"HM the Queen's: Imparter of Knowledge Leading to Wisdom for National Development"** theme in the year when the nation celebrated Her Majesty's 80th birthday. Special techniques were employed in a special exhibition entitled "Educational Museum in Honor of HM the Queen", inspired by HRH Princess Maha Chakri Sirindhorn's composition ("My Mother and Education"), for the public to join in the learning. At the same time, PTT invited the public to join a volunteer activity to give educational opportunities to the underprivileged by recording their voices for subsequent presentation to the School for the Blind. Incidentally, PTT Group's exhibition won first prize for education and learning at the fair.

PTT Group also launched a project called "**Million Hearts for the Queen**" to honor HM the Queen and pledge our allegiance. Specifically, we invited all to share their maternal teachings through the www.millionheartsforqueen.com website. PTT staged a special activity to repay mothers' benevolence by preparing digital postcards designed to give to mothers on the National Mothers' Day. "Million Hearts for the Queen" concert was designed to promote the warmth of families; at the event, polo shirts bearing the concert's logo were put on sale. PTT donated all the shirts and the proceeds worth 800,000 baht to the Foundation for HM the Queen Sirikit Hospital, Royal Thai Navy, under the Royal Patronage of HM the Queen. In addition, PTT donated polo shirts and donation worth 250,000 baht to the Ban Bang Lamung Boys' Home.

Creating knowledge innovations for society's sustainable future

PTT Group recognizes that the promotion of learning and capability represents the nation's cornerstone, since these lead to everyday knowledge, greater skills, and opportunities for cultivation of ideas to keep up with the world today, not to mention the cultivation of awareness of participation in creating a green society for our future.

Armed with such concept, PTT Group remained committed to furthering HM the King's initiative on Sufficiency Economy, the theme of its Forest Conservation and Human Development in 84 Tambon on a Sufficient Path Project, launched in 2007 and duly accomplishing its goals. The knowledge gained by the participating communities was humbly presented to HM the King on his 84th birthday in 2011. This year the group extended its success to establish "Knowledge Center of Sufficiency Ways" in 24 targeted tambon (subdistricts) and evolved the "Community Energy Learning Spots Prototypes" in 16 subdistricts nationwide. To this end, the group developed learning media and technologies that varied with raw-material sources to serve as prototypes for learning on sufficiency ways by community residents as well as other interested communities, so that these people may learn from the communities' wise men on self-reliance, for instance, wind-turbine, water pumps, solar-powered incubator and biogas fermentation pools. That way, more Sufficiency Economy-based communities may come into existence.

Million Hearts for Queen Project

Knowledge Center of Sufficiency Ways

The presentation of 24th and 25th school buildings

The presentation of 30th and 31st school libraries

Scholarships given to schools surrounding PTT operation sites

Scholarships for youths in the southernmost provinces

Education

Throughout the year, PTT Group supported education and development of innovations to open up a world of boundless learning, which would be a firm foundation for the development of lives of all society members as well as sustainable national development. To achieve this goal, our project work by level is summarized below:

Youth

- **Thai Power Schools:** Under this project, the 24th and 25th PTT Plc. School Buildings were erected at Wat Sak Luk Ya School, Rayong, and Ban Tha Muang School, Nakhon Si Thammarat. The 30th and 31st "**Thai energy for Thais Libraries**" were completed at Wat Sadet School, Lampang, and Chum Chon Wat Bang Khu School, Nakhon Si Thammarat; the libraries were equipped with educational media in perfect support of youth education. Besides, the group organized a curriculum for teachers' seminars among the 24 network schools nationwide to develop their academic and technological capability.

- **PTT Scholarship Awards 2012:** These 2,000 scholarships, worth 6.5 million baht, were awarded to students at every level in schools around PTT's facilities nationwide. The criterion is that recipients must be needy and well-behaved, with good academic records.

- **Scholarships for Rayong youth development:** These 45 scholarships and 18 school project support funds went to youths and schools in Map Ta Phut Municipality, Tambon Ban Chang Municipality, and Tambon Map Kha Municipality.

- **Scholarships for youths of the three southernmost provinces:** These 197 scholarships, worth 500,000 baht, were conferred on children of members of the Economic Reporters' Association and youths from these provinces.

Ensuring that youths possessed a true understanding of energy, PTT Group supported innovations for the future of the country through these projects:

- **PTT Group Energy Plus, New Generation's Futuristic Stride:** Our mobile exhibition in its second year, together with 10 schools in Rayong, gave youths opportunities for thinking and presenting youths' creativity in the energy field.

- **Save World School Tour:** The activities cultivated among elementary students in 11 Bangkok Metropolitan schools a proper understanding of energy and various practical ways to save energy to promote conscious ways to help the earth.

- **4th PTT Youth Camp ("Return the Happiness"):** The camp promoted awareness of conscientious consumption of energy and opened up opportunities for youths to apply the knowledge to their inventions that could protect communities, handle natural disasters, and restore society and the country to be strength and sustainability. A contest was held for inventions vying for HRH Princess Maha Chakri Sirindhorn's trophies for secondary school, high school, and vocational students' entries. Thanks to the cooperation of the National Electronics and Computer Technology Center, the winning project at the high school level (biogas production from refuse fermentation tank for communities, by San Sai Withayakhom School) entered the International Sustainable World Engineering and Environment Project Olympiad (ISWEEP). The winner at the secondary level was "Make-Shift Toilet" by Sawan Anant Withaya School, and that at the vocational student level was "Mechanical Coffee Lid Separator" by Buri Ram Technical College.

- **PTT Comic Contest (2nd Year), Plastic Story:** Together with A Day magazine, PTT launched a contest for the biggest cartoon-drawing contest in Thailand to promote creativity-filled youths and public, while campaigning for youths and the public to appreciate the significance of plastics to everyday life, as well as their proper application and disposal. Innovations and current technology have resulted in environmentally friendly bioplastics production.

Save World School Tour

PTT Youth Camp 2012: Return the Happiness

PTT Comic Contest: Plastic Story

LIFE inaugurated by
HRH Princess Maha Chakri Sirindhorn

CG We Can

Young Financial Star Competition 2012

Through assorted projects, PTT Group this year also joined the cultivation of ethics and volunteering spirit among youths to encourage them to be good examples in future Thai society, including:

- **Promotion of ethics cultivation under corporate governance principles ("CG We Can"):** The aim was to cultivate ethical business practices under CG principles, while remaining socially responsible under the "Smart and Conscientious" concept so that youths may become quality members of society.

- **Young Financial Star Competition 2012:** With the Stock Exchange of Thailand (SET), Kasikorn Bank, and Muang Thai Life Assurance, PTT educated university students on investment and finance, while cultivating the awareness of social responsibility among new-generation finance professionals through **PTT CSR Star Team** activities, which enabled contestants to learn and acquire sufficiency ways of life hands-on with exemplary communities under PTT's Forest Conservation and Human Development in 84 Tambon under the Sufficiency Economy Initiative Project. Project participants were required to present CSR projects as well.

Community

- **Founded the Learning Institute for Everyone (LIFE)** at Amphoe Bang Khonthi in Samut Songkhram under the Community Enterprise Promotion Institute Foundation, which had been set up with the cooperation of PTT Plc., Bank for Agriculture and Agricultural Cooperatives, National Science and Technology Development Agency, and the Village Foundation. The institute was designed to develop grassroots economy, bolster community strength to promote learning and management of life, resources, and communities for sustainable development. The learning format is a "life university", which was extended to LIFE, inaugurated by HRH Princess Maha Chakri Sirindhorn on June 15 this year as an alternative university for communities, with undergraduate teaching in three disciplines, namely a multidisciplinary program for local development, a community health management program, and a sustainable agricultural management program, together with graduate teaching in two disciplines, namely a multidisciplinary

program for local development and a community health management program. Some 4,000 students are currently enrolling in 39 centers in 35 provinces.

- **Presented dissertation fellowships to students** at the master's degree and doctoral degree level that were conducting research on the Sufficiency Economy philosophy and development of local communities. A total of 13 students qualified for fellowship support, totaling 280,000 baht. The intention is for Thai society to become aware of in-depth implications of the philosophy and truly establish a contented society.

- **Supported community research work under 84 Tambon on a Sufficient Path Project** in 65 tambon, totaling 84 research topics in a move to promote community resident researchers. Communities were asked to apply real-life data to problem-solving, thus leading to an information society and a learning society.

National

- Supported **the Kanchanaphisek Project** by signing a memorandum of academic cooperation with the Thailand Research Fund in supporting doctoral degree research work to link knowledge from universities and colleges to the industrial sector to turn the latter into knowledge-intensive industries. Research work that aligns with the country's needs and can create common good will receive support, which implies opportunities for technological and academic creativity that fits PTT Group's policy.

- Supported **a project to buy durable goods for petroleum and petrochemical** excellence and at the same time award scholarships to students of the Faculty of Engineering, Chulalongkorn University. To this end, PTT Polymer Marketing awarded 10 million baht for energy studies, a milestone move for national energy security.

The dissertation fellowships to students

The Kanchanapisek Project

Durable goods for excellence

Biodiversity

All elements of the social sector should jointly restore, conserve, and take care of natural resources so that they may retain their fertility and biodiversity. To this end, PTT Group launched and built on assorted projects with participation from communities and society to sustainably restore and take care of national resources.

Environmental

- Extended the success of the Reforestation in Honor of HM the King Project on the 50th Anniversary of the Accession to the Throne to continually add green space and green hearts through the **PTT Youths Conserve Forest, the Forest Wildfire Volunteer Training, and the People Volunteer for Forest Protection Training Projects**. In addition, PTT planted more trees in an area of 5,000 rai under the "People Volunteer Reforestation of 800 million seedings in Honor of HM the Queen's 80th Birthday Anniversary Project" in Nan province. Another reforestation effort took place in 1,000 rai of a degraded forest of Ban Buak Ya, also in Nan, under the initiative of HRH Princess Maha Chakri Sirindhorn. PTT also supported various agencies undertaking environmental projects with the same goals, like a project to humbly present water sources and forests to HM the King and Queen, the PTT and 100.5 Reforestation to Slow Water Flow, and the Zero Carbon Rally: activity to restore forests.

Volunteer for forest protection training

Green Globe Award

- **The Green Globe Awards**, in its 14th year, encourages and admires people and organizations that serve as role models for the promotion of natural, environmental, soil, water, forest, and ecological resources. This year there were 671 entries to the contest, out of which 61 pieces of outstanding work were named winners in the community, individual, youth, and media categories.

Vetiver Application Project

Promotion of soil and water conservation

- PTT Group built on the "**Development and Campaign for Vetiver Application in Line with HM the King's Initiative Project**" in conjunction with Chaipattana Foundation, Office of the Royal Development Projects

Board, and Department of Land Development. This year the activities consisted of:

- **Application of vetiver through mechanical methods and other plants** to prevent soil avalanches: This project pursues preventive and remedial approaches to soil avalanches by choosing 14 pilot areas nationwide for the research and learning before summarizing the findings for knowledge distribution.

- **The 7th Contest on the Development and Campaign for Vetiver Application** in Line with HM the King's Initiative Project (2012) under the "Vetiver Holds Water and Embraces Soil" theme, designed to promote vetiver application for sustainable soil and water consumption. The year saw 252 entries to the contest, with 44 winning prizes for vetiver planting, promotion of vetiver planting, and vetiver leaf products.

In addition, PTT introduced HM the King's environmental development initiatives - including vetiver planting and the installation of the Chaipattana Low-Speed Surface Aerator - to its service station at Ban Nong Taeng, Vientiane, Lao People's Democratic Republic, in a move to improve water quality.

Promotion of learning

- **Learning Center at the Sirinath Rajini Center for Mangrove Forest Studies, Prachuap Khiri Khan**: This fertile mangrove ecology source of learning has been named the province's ecotourism attraction. This year, some 42,514 people visited the center.

- **Development of Phu Nong Pling as a community learning source in Tambon Huai Khayeng, Amphoe Thong Pha Phum, Kanchanaburi**: PTT signed a memorandum of understanding with the National Science and Technology Development Agency, Forest Industry Organization, and Mahidol University on the construction of a permanent natural trail, support of the development of a curriculum, and staging of activities in the area over three years (2012-2014). The format is to be an integrated participatory management so that Phu Nong Pling may serve as a learning spot for biodiversity of tropical forests for communities, youths, and the public.

The Contest on Vetiver Application

Sirinath Rajini Center for Mangrove Forest Studies

MOU on the development of Phu Nong Pling

The Princess's support on spirulina research

Research

Constantly, PTT Group has supported research for national benefit, including:

- **Cooperative research on global warming mitigation, dedicated to HM the King, with spirulina**: PTT humbly presented to HRH Princess Maha Chakri Sirindhorn its donation in support of the research and development (R&D) of spirulina application to carbon dioxide sequestration and production of biogas from the resulting biomass.

- **R&D of renewable energy and the environment** between PTT and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH to jointly investigate climatic and environmental conditions, leading to development of project planning and technology transfer.

Development of town environment

Improvement of lives

- **Road safety**: Besides donating 32,000 fluorescent rubber traffic cones to the Royal Thai Police and various agencies to minimize traffic problems, PTT stressed safe roads during festivals, like a campaign on "**Seven days, 77 provinces, safe Songkran**" together with the Thai Health Promotion Foundation, under which PTT service stations served as rest areas; the "**PTT Engine Tune-up 2012 Project**" provided free engine inspection at 55 PTT service stations and ProCheck service centers nationwide during the New Year break; and the "**Safe Driving, Traffic Discipline Project**", which campaigned for traffic law obedience among three batches of new motorists in Bangkok and its perimeter and in Rayong.

Road Safety Campaign by Thai PM

Friend of Rayong Project

- **Livable communities**: PTT Group focused on looking after target communities around more than 30 facilities nationwide, specifically their quality of life, safety, and hygiene, in response to the needs and coordination of help to community development, including a project to inspect LPG tanks and a mobile clinic.

- **Friend of Rayong Communities**: PTT Group and related local agencies carried out various community, social, and environmental development activities in the

area, including 4 PTT Group Community Sharing venues, providing free primary medical care.

Growing green areas

- **Development of a prototype eco-industrial zone in Asia Industrial Estate:** PTT signed an agreement with the Industrial Estate Authority of Thailand, extending cooperation on such development under the requirements of standard characteristics and indicators of an eco-industrial town in these aspects: physical, economic, environmental, social, and management. About 1,500 rai of land in the estate, located in Amphoe Ban Chang, Rayong, will be developed into such a prototype. To elaborate, public utilities, an environmental management system, allocation of land for joint exploitation between industries and communities, establishment of a green area as a protection strip as required, and-together with communities-plant an Eco Forest with 60 species, numbering over 600 trees, as a learning spot for youths, so that industries and communities may co-exist in harmony in a sustainable way.

Development of social networks

- Continually, PTT Group participated in and supported various activities to promote Thailand's image and credibility on the world forum in sports, art, or culture, nationally and internationally.

Sports

- Sponsored various sports associations to improve their standards and Thai athletes' caliber, while supporting development of Thai sports through assorted competitions, including the PTT Thailand Open tennis tournament, PTT Golf Junior Open Championship, and PTT Blue Innovation Golf A-Class Championship 2012. This year PTT also supported to a Thai chess national competition to popularize Thai sports and games.

- Supported Thai athletes that made a name for Thailand at the Olympic Games and Paralympic Games by presenting to them gasoline cards worth 4.3 million baht as a token of moral support for national team players to remain committed to improving their talents.

Green Eco-Industrial Zone Prototype

PTT Thailand Open

Thai Chess National Competition

Paralympic Games Support

Art and culture

• 27th PTT Art Contest: The theme of this year's contest is "Green Living: Saving the Earth", designed to give youths, students, and the public an opportunity to exercise their imagination of a livable world with decent surroundings. There were 997 entries nationwide. Besides, provincial contests were held, including a PTT Art Contest for provincial youths, featuring live drawing, held in the North, the Northeast, and the South.

• PTT Youth Camp to conserve the Poo-cha drumbeating and an instructor training workshop: Supported by PTT for 11 straight years, this camp passes on a beautiful tradition to future generations. Besides a contest on drumbeating, a training workshop was arranged for instructors to preserve the knowledge of proper beating methods and enable them to master judging criteria. A total of 140 youths and 26 instructors from 13 districts were selected for the activities.

27th PTT Art Contest "Green Living: Saving the Earth"

Poo-cha Drumbeating and an Instructor Training Workshop

Energy Saving Leader Network

Creating awareness of social development

To focus on promoting the awareness of social and community development volunteering efforts, PTT supported the Thailand Business Council for Sustainable Development (TBCSD) on "Energy Saving Leader Network", which is a project to campaign for energy-saving in buildings under a voluntary agreement, which in turn illustrates PTT's commitment to participation in easing national energy problems.

Meanwhile, through the "**People-Public Sector Unite to Combat Drought Project**" this year, PTT supported efforts to ease the hardship of people nationwide who constantly faced drought by donating a budget and fuels altogether worth 3.6 million baht. To jointly upgrade lives for disabled children, PTT donated 200,000 baht to the Universal Foundation for Persons with Disabilities in support of disabled children on the eight "**Day of United Love for the Disabled**". PTT used the 20 baht donation by each toilet user under the "**Restroom 20 Project**" at the Sara Buri and the Laem Chabang service stations to launch a "**Toilet for Children with PTT Project**", in which a new toilet building was dedicated to the Ban Khao Chi, Amphoe Si Racha, Chon Buri, infant development center along with learning tools altogether worth 340,000 baht.

PTT Group promoted all employees' volunteer spirit at least once a year, including their application to the "**Power of Thai Volunteers**" club to constantly volunteer for various public service activities, including extending relief during natural catastrophes, joint tree planting to create green areas, and construction of check dams. These activities indeed transform PTT Group employees' spirit and unite them with communities.

Indeed, PTT Group's commitment to repaying society is visible to all. This year, PTT won an award in recognition of its outstanding work for society and the environment in the eyes of the Ministry of Finance during its deliberation of the 2012 **Outstanding State Enterprise Awards**. PTT also landed an **SET Award 2012** for outstanding social responsibility.

Thanks to communities' and society's confidence, trust, and cooperation with PTT Group, our covenant is to remain a sustainable power that delivers innovations and knowledge for better lives in the years to come.

Supporting People-Public Sector Unite to Combat Drought Project

Supporting disabled children on the 8th "Day of United Love for the Disabled"

Toilet for Children with PTT Project

Power of Thai Volunteers Club's Activities

SSHE toward Corporate Excellence

PTT defined the clear processes for supervising SSHE undertakings to ensure alignment of practices by all business units and PTT Group companies with corporate policies, strategies, and management standards.

PTT's businesses' risk prevention mechanism "Security, Safety, Health and Environment (SSHE)" is essential for the march toward a sustainable organization of excellence, hand in hand with the Technologically Advanced and Green National Oil Company (TAGNOC) strategy.

The PTT Group SSHE Management Framework bolsters and steers PTT Group's integrated operations toward greater clarity. PTT's intention and commitment are evident in PTT Group's QSHE Policy, with the **PTT Group Security, Safety, Health and Environmental Management Standard (PTT Group SSHE MS)** serving as the fundamental requirements for SSHE risk management for all business units and affiliates to apply to suit their nature and risks. In 2012, PTT focused on systematically designing operating processes and mechanisms to be decentralized and redirected to business units and PTT Group companies while still valuing significant SSHE risk issues, as detailed in notable performance outcomes below:

Technologically Advanced and Green National Oil Company (TAGNOC) is the strategic direction applying environmentally friendly innovation for securing energy and transforms PTT from a resource–based company into a knowledge–based company operating with **Green Roadmap** to reduce greenhouse gas emission in its process and provide clean energy to the country.

Development of SSHE governance processes:

PTT defined the clear processes for supervising SSHE undertakings to ensure alignment of practices by all business units and PTT Group companies with corporate policies, strategies, and management standards. A PTT Group SSHE Governance standard was established together with constantly tracking mechanisms for progress and outcomes. To this end, the PTT Group QSHE Policy Committee (through its quarterly meetings) reviews the overall management efficiency and effectiveness.

Structural definition of Safety, Health, and Environment (SHE) goals for PTT Group:

To clearly demonstrate the Eco-Efficiency of overall SHE management, PTT defined a structure for SHE operating goals, consisting of socio (toward top-quartile safety performance), eco (toward reducing the ecological footprint), and efficient indicators (toward congruence with Thailand's energy goals). All three indicators contain short-term (annual), intermediate, and long-term (2020) goals.

Contractor SSHE Management

Development of processes and central operating procedures:

To ensure the unison and efficiency of PTT Group SSHE MS application among business units and PTT Group companies to manage key corporate SSHE risk issues in a systematic and sustainable way. This year PTT has developed various business processes and tested them in pilot areas through the following projects:

Contractor SSHE Management Upgrading:

This project systematically upgraded contractor SSHE by incorporating with material procurement processes, which implied improvement or addition of key procedures, including the requirement for supervisors to undertake SSHE risk assessment before hiring; the implementation of SSHE screening, the requirement for contractors to present clear and detailed plans, measures, and resources used for controlling SSHE risks; and the incorporation of SSHE criteria with selection criteria.

Investigation and Establishment of Energy Management Roadmap and System:

This project involved the development of PTT Group's energy management system, consisting of its energy goals; goal definition by each company and business line; energy management strategies; planning and ranking of importance to the implementation in conserving energy and improving energy consumption; and knowledge management, experts, and technology required in PTT Group's energy management.

PTT Group's Greenhouse Gas Inventory Report Improvement:

This project upgraded the standard for reporting greenhouse gas (GHG) inventories that was increasingly precise and compatible with international standards. It also required the establishment of a process and training of internal assessors to drive the review, recording, and reporting of GHG inventories at the corporate/facility level. In addition, the project joined hands with the Energy Economics Department and the Corporate Relations Department in defining GHG intensity indicators for each operation type.

Environmental Site Assessment:

This project established a central standard for the procedures and conditions of assessing soil and groundwater in assets to be acquired or abandoned, including standard values that defined minimum acceptance for treatment or rehabilitation of soil and groundwater for PTT Group.

Energy Management Roadmap and System

Establishment of Standards and Logistics Zero Accident for Corporate Vehicles and Product Tank Truck

Preventive Occupational Health Program

Establishment of Standards and Logistics Zero Accident for Corporate Vehicles and Product Tank Trucks:

This project focused on establishing standards and guidelines for operating product tank trucks commissioned by PTT and for identifying tools that prevent and lower motor accidents, including selection of In Vehicle Monitoring System (IVMS), basic defensive driving training, and heightening of motoring safety awareness among PTT Group's executives and employees, as well as product tank truck drivers.

Preventive Occupational Health Program:

This program established processes for monitoring and caring for workers to be physically and mentally fit throughout their duties; be ready and fit for safe operation; and prevent work-related sickness, injuries, and accidents. These goals are to be achieved through proactive occupational health practices, including Health Risk Assessment (HRA) and Fit for Work assessment.

Establishment of Security Management Standard of PTT Group:

This project framed and provided requirements for security management for PTT's and PTT Group's sites and facilities to implement as minimum standards. In addition, it established a guideline for PTT Group security risk assessment by requiring all sites to undergo relevant risk assessment and update it periodically to fit risked circumstances, while posting risk levels at the entrance of each site. Security personnel (particularly employees, heads of security guards, and the guards themselves) were trained on proper procedures for inspection and safeguarding sites without violating human rights. The project, known as "Khun_Khem_Khaeng", was rolled out in 2010.

Product Carbon Footprint Assessment:

The project expanded on the outcomes of core products of the Oil Business Unit.

Besides these projects, PTT has established additional standards and guidelines for central units to assist business units and PTT Group companies in aiding practices; including incident management, contractor SSHE management, Change management which potentially affecting SSHE, corporate SSHE audit, security system breach investigation manual, and a VOCs emission inventory.

For more details on SSHE performance, please refer to the Corporate Sustainability Report 2012.

Establishment of Security Management Standard for PTT Group

Financial Status and Performance

PTT and its subsidiaries' performance

Unit: Million Baht

	2011	2012	Increase (Decrease)
Sales and services income	2,428,126	2,793,833	15.1%
Earnings before finance costs, income tax, depreciation and amortization including other non-operating income and expense (EBITDA)	211,373	227,842	7.8%
Share of net income from investment in associates	29,463	27,091	(8.1%)
Gain (loss) on foreign exchange	1,099	7,615	n.m.
Earning before interest and tax (EBIT)	156,058	162,605	4.2%
Income taxes	43,226	46,516	7.6%
Net income	**106,260**	**104,666**	**(1.5%)**

In 2012, sales revenue of PTT and its subsidiaries was 2,793,833 million baht, increasing by 15.1% from 2011 mainly due to the increase in the sale prices and sales volume. The average Dubai crude oil price increased from 106.2 US$ per barrel in 2011 to 109.1 US$ per barrel in 2012 (2.7% increase), resulting in increased EBITDA by 16,469 million baht, or 7.8%. This increase was mainly generated by the better performance of PTTEP and Oil business. However, share of net income from investments in associates in 2012 amounting to 27,091 million baht, decreased 8.1% from 2011 owing to lower performance of refining associates as a result of a stock loss. The reason was that during 2012, although average oil prices increased 2.7% from previous year, a high volatility from the continuous debt crisis in Eurozone and the economic slowdown led to a soften increasing trend of crude oil price compare to last year, while the crude oil price trend in 2011 was continuously increased in a steep manner from the earthquake and Tsunami incidents in Japan, together with tightening supply due to the turmoil in Middle East countries, resulting in a stock gain in 2011. The performance of petrochemical business was better from the higher sales volume of olefins due to PTT's gas separation plant #6 had increased feedstock supplies to the olefin plants in 2012, while there was a gas leakage incident and the great flood in 2H/2011 which led to a decrease in utilization rate of gas separation plants resulting in less feedstock to petrochemical producers. The product spreads of aromatics, especially Paraxylene, decreased because of the lower in demand of PTA plants, the downstream business producers, as many PTA plants experiencing losses led to lower production rate.

In 2012, PTT and its subsidiaries had the gain on foreign exchange rate amounting to 7,615 million baht from the Baht appreciation towards year end, resulting in an unrealized gain from foreign debt translate into Baht currency while the gain on foreign exchange rate in 2011 was 1,099 million baht. The income taxes of PTT and its subsidiaries in 2012 was 46,516 million baht, increased by 3,290 million baht or 7.6%. Nevertheless, PTTEP recognized impairment loss on assets in Montara amounting to 6,366 million baht and PTTI recognized impairment losses of its investment in EMG amounting to 3,972 million baht. Consequently, the net income of PTT and its subsidiaries in 2012 decreased by 1,594 million baht or 1.5% from 106,260 million baht in 2011 (or 37.24

baht per share) to 104,666 million baht in 2012 (or 36.64 baht per share) of which 43% was generated from PTT itself, while 57% was contributed from the affiliates according to the shares of investment percentage.

PTT and its subsidiaries' financial performance comparison by business group

Unit: Million Baht

	2011	2012	Increase (Decrease)
Dubai crude price (US$/bbl)	106.2	109.1	2.7%
Sales & services Income	2,428,126	2,793,833	15.1%
• Exploration & Production	169,646	212,537	25.3%
• Natural gas[1/]	412,801	510,684	23.7%
• Oil[2/]	558,524	607,741	8.8%
• International Trading[3/]	1,427,552	1,635,520	14.6%
• Petrochemical[4/]	75,171	83,825	11.5%
• Coal[5/]	30,812	28,739	(6.7%)
• Others[6/]	2,909	4,348	49.5%
• Elimination	(249,289)	(289,561)	(16.2%)
EBITDA	211,373	227,842	7.8%
• Exploration & Production	118,535	152,098	28.3%
• Natural gas	62,195	52,266	(16.0%)
• Oil	13,224	15,443	16.8%
• International Trading	3,290	(3,846)	n.m.
• Petrochemical	3,777	2,973	(21.3%)
• Coal	9,368	7,703	(17.8%)
• Others	656	1,163	77.4%
• Elimination	328	42	(87.2%)
EBIT	156,058	162,605	4.2%
• Exploration & Production	85,003	109,406	28.7%
• Natural gas	46,992	38,678	(17.7%)
• Oil	10,781	13,101	21.5%
• International Trading			
- Excluding Effect of FX	3,277	(3,861)	n.m.
- Including Effect of FX	6,776	3,811	(43.7%)
• Petrochemical	2,894	1,949	(32.7%)
• Coal	7,299	3,598	(50.7%)
• Others	(518)	(310)	40.2%
• Elimination	330	44	86.7%
Depreciation and amortization	55,315	65,237	17.9%
Finance costs	18,035	19,763	9.6%
Gain (loss) on foreign exchange	1,099	7,615	n.m.
Income taxes	43,226	46,516	7.6%
Net income	106,260	104,666	(1.5%)
Earnings per share (Baht/share)[7/]	37.24	36.64	(1.6%)

Notes: *1/ Including the natural gas business, the consolidation of PTT Natural Gas Distribution Co., Ltd. (PTTNGD), PTT LNG Co., Ltd. (PTTLNG), Combined Heat and Power Producing Company Limited (CHPP) and the proportionate consolidation of Trans Thai-Malaysia (Thailand) Co.,Ltd. (TTM (T)), Trans Thai-Malaysia (Malaysia) Sdn. Bhd. (TTM (M)) and District Cooling System and Power Plant Co., Ltd. (DCAP).*

2/ Including the oil marketing business, the consolidation of PTT (Cambodia) Co., Ltd. (PTTCL), Subic Bay Energy Co., Ltd. (SBECL), and PTT Retail Business Co., Ltd. (PTTRB) and the consolidated Thai Lube Blending Company Limited (TLBC) due to the 100% TLBC's shareholding acquisition by PTTRB and PTT.

3/ Including the international trading business and the consolidation of PTT International Trading Pte. Ltd. (PTTT).

4/ Including the consolidation of PTT Polymer Marketing Co., Ltd. (PTTPM), PTT Polymer Logistics Co., Ltd. (PTTPL) and PTT Tank Terminal Co., Ltd. (PTT TANK), PTT Asahi Chemical Co., Ltd. (PTTAC), HMC Polymers Co., Ltd. (HMC) and PTT MCC BioChem Co.,Ltd. (PTT MCC).

5/ Including PTT Asia Pacific Mining Pty Ltd. (PTTAPM) which PTT Mining Limited (PTTML), a subsidiary of PTTI, holds 100% shareholding on International Coal Holdings Limited (ICH) which has 100% shareholding in PTTAPM.

6/ Including the consolidation of Energy Complex Co., Ltd. (EnCo), Business Services Alliance Co., Ltd. (BSA), PTT Green Energy Pte. Ltd. (PTTGE) and PTT International Company Limited (PTTI).

7/ Basic earnings per share is calculated by dividing net income attributable to ordinary shareholders by the weighted average number of ordinary shares which are held by third parties during the periods.

Upstream Business

• Petroleum Exploration and Production Business : PTT Exploration and Production Public Co., Ltd. (PTTEP)

In 2012, sales revenue of PTTEP was 212,537 million baht, increasing by 42,891 million baht or 25.3% from 2011, mainly due to

1. The average selling price rose by 16.9% from 55.5 US$ per BOE in 2011 to 64.9 US$ per BOE in 2012 in relation to the higher global oil price.

2. The sales volume also rose from 265,047 BOED in 2011 to 275,923 BOED in 2012 mainly due to the Bongkot project as the Bongkot South started production in June 2012, according to the sales and purchase agreement. Moreover, the sales volume of crude oil increased principally because of the higher crude production from new wells of the Vietnam 16-1 and the S1 projects and the new Beam Pump technique of the S1 project. However, the gas and condensate sales volume of the Arthit North and the Arthit projects decreased because the Arthit North project has ceased its production since November 2011 and the volume of the Arthit project decreased in line with contract volume.

EBITDA in 2012 was 152,098 million baht, increasing by 33,562 million baht or 28.3% from 2011 due to the increase in the selling price and sales volume as aforementioned, although petroleum royalties and remuneration expenses increased by 4,814 million baht in relation to the higher sales. In addition, administrative expenses rose primarily due to donations, financial consulting fees, and consulting fees for share acquisition of Cove Energy Ltd.

EBIT in 2012 was 109,406 million baht, increasing by 24,403 million baht or 28.7% from 2011 mainly due to the increase in EBITDA as aforementioned, although the depreciation and amortization expense escalated mainly due to the increase in completed assets of the Bongkot and the S1 project, also and from the higher production of the Vietnam 16-1 project which operate for a whole year in 2012 and had additional completed assets.

• Natural Gas Business Unit

Sales revenue of Natural Gas Business was 510,684 million baht in 2012 which increased by 97,883 million baht or 23.7% from 2011 due to the followings:

Natural Gas supply sales

- The average sales volume increased in all customer groups except Small Power Plant (SPP). Moreover, the average natural gas selling price increased in all customer groups.

GSPs' product sales volume

- Sales volume of the gas separation plants rose in all products due to the gas leakage incident and the great flood in 2H/2011. Furthermore, the average selling price of products from the gas separation plants increased in relation to the selling price of petrochemical products reference in global market.

The details of reference product prices for calculation of gas separation plants' product sale prices are as follows:

Unit: US$/Ton

	2011	2012	Increase (Decrease)
LPG[1/]	846	916	8.3%
Ethylene[2/]	1,184	1,229	3.8%
Propylene[2/]	1,381	1,266	(8.3%)
High Density Polyethylene[2/]	1,372	1,380	0.5%
Polypropylene[2/]	1,585	1,445	(8.9%)
Naphtha[3/]	853	863	1.2%

Notes: *1/ Contract price (CP)*
2/ South East Asia Spot Price
3/ MOP Singapore (MOP'S)

EBITDA of Natural Gas Business in 2012 was 52,266 million baht, decreasing from 2011 by 9,929 million baht or 16.0%. The main reason was the lower margin of products from the gas separation plants as feed costs increased 23% in relation to higher fuel oil reference prices, while the product selling price slightly increased in line with petrochemical market reference prices. Margin from selling natural gas to industrial customers was lower due to higher costs. Moreover, losses from selling NGV were higher because of continuous higher sales volume. Although the government gradually raised the NGV retail price since January 16, 2012, the government also adjusted the NGV subsidy down at the same rate. As of December 31, 2012, the retail price of NGV was 10.50 baht per kilogram and the government stopped paying the subsidy (except NGV for the public transportation still receiving 2 baht per kilogram discount from PTT). As of December 31, 2012, the government had obligation for paying the subsidy to PTT for 5,400 million baht. EBIT in 2012 was 38,684 million baht, decreasing by 8,308 million baht in relation to the decreased EBITDA as aforementioned.

Downstream Business

• Oil Business Unit

Sales revenue in 2012 was 607,741 million baht, rising by 49,217 million baht or 8.8% due to the increase in both sales volume and average selling price in relation to the global market price (the average selling price of Dubai crude oil increased from 106.2 US$ per barrel in 2011 to 109.1 US$ per barrel in 2012).

EBITDA in 2012 was 15,443 million baht, rising by 2,219 million baht from 2011, mainly from the increase in diesel and aviation fuel margins, whereas profit margin of fuel oil dropped and operating expenses increased. EBIT in this period was 13,101 million baht which increased by 2,320 million baht which was in line with the increase in EBITDA.

• International Trading Business Unit

Sales revenue in 2012 was 1,635,520 million baht, increasing by 207,968 million baht or 14.6% mainly due to the increase in sales volume of crude oil and refined products from the out-out trading.

EBITDA in 2012 was 3,846 million baht loss, while EBIT, which recognized effect of foreign exchange, was 3,811 million baht, decreasing by 2,965 million baht mainly due to the drop of condensate margin in relation to price structure. Profit margin of PTTT from selling products also decreased.

• Petrochemical and Refining Business Unit

Sales revenue of petrochemical subsidiaries in 2012 was 83,825 million baht, increasing from 2011 by 8,654 million baht or 11.5%, mainly due to the rise in average sales volume of PTTPM. However, the average selling price slightly decreased when compared with 2011.

EBITDA and EBIT in 2012 were 2,973 million baht and 1,949 million baht, respectively. EBITDA decreased by 804 million baht or 21.3%, while EBIT dropped by 945 million baht or 32.7%, compared with 2011.

International Investment Business

• Coal Business

In 2012, sales revenue of coal business was 28,739 million baht, decreasing from 2011 by 2,073 million baht or 6.7% due to the decrease in the average selling price by 6.6% from 92.9 US$ per ton in 2011 to 86.8 US$ per ton in 2012 in relation to the decrease in selling market prices due to world economic slowdown. However, sales volume has risen due to the production start up of Northern Lease in Sebuku since June 2012.

EBITDA in this quarter decreased by 1,665 million baht or 17.8% from 9,368 million baht in 2011 to 7,703 million baht in 2012, as a result of the decrease in sales revenue as aforementioned. EBIT in 2012 was 3,598 million baht which decreased from 2011 by 3,701 million baht or 50.7% due to the rise in depreciation and amortization expenses by 2,037 million baht from production of Northern Lease in Sebuku.

Net income was 104,666 million baht in 2012, decreased by 1,594 million baht or 1.5% from 2011.

Net income of PTT and its subsidiaries in 2012 was 104,666 million baht, which decreased from 2011 by 1,594 million baht or 1.5%, while net income of PTTEP increased mainly due to the rise in product selling prices and sales volumes. Apart from operating results of each business unit of PTT, subsidiaries and jointly controlled entities as mentioned, the following reasons led to decrease in net income:

• In 2012, PTTEP recognized an impairment loss on Montara assets amounting to 6,366 million baht. Moreover, PTTI recognized an impairment loss of its investment in EMG amounting to 3,972 million baht in 2012.

• In 2012, the share of net income from investments in associates dropped by 2,372 million baht or 8.1% from 29,463 million baht in 2011 to 27,091 million baht in 2012, mainly due to:

- The performance of refining associates decreased as PTT Group refineries' GRM (including stock gain/loss and hedging gain/loss, excluding PTTGC's refining unit) decreased from 6.07 US$ per barrel in 2011 to 4.43 US$ per barrel in 2012, mainly due to a stock loss. Although the average selling price of Dubai crude oil increased by 2.7% from 106.2 US$ per barrel to 109.1 US$ per barrel, the selling price in 2012 still fluctuated due to the prolong Eurozone debt crisis and the US economic slowdown. Consequently, the crude oil price increased at a slower pace compare with previous period.

- The performance of petrochemical business was better from the higher sales volume of olefins due to PTT's gas separation plant#6 had increased feedstock supplies to the olefin plants in 2012, while there was a gas leakage incident and the great flood in 2H/2011 which led to a decrease in utilization rate of gas separation plants resulting in less feedstock to petrochemical producers. The product spreads of aromatics, especially Paraxylene, decreased because of the decline in demand of PTA plants, the downstream business producers, as many PTA plants experiencing losses led to lower production rate.

• In 2012, PTT and its subsidiaries had the gain on foreign exchange of 7,615 million baht, increasing by 6,516 million baht in 2011.

• In 2012, PTT and its subsidiaries' finance costs increased by 1,728 million baht or 9.6% from 18,035 million baht in 2011 to 19,763 million baht in 2012. This was due to the increase in PTTEP's debt from the bond issuance and loans amounting to 500 million US$ and 475 million C$, respectively, including additional loan amounting to £ 950 million in order to acquiring Cove Energy Plc. of PTTEP.

• The corporate income taxes in 2012 was 46,516 million baht, increasing by 3,290 million baht or 7.6% from 2011 due to the increase in petroleum taxes and foreign corporate income taxes of PTTEP.

Details of net income from investments in associates are as follows;

Unit: Million Baht

	2011	2012	Increase (Decrease)
Refining associates	13,445	8,864	(34.1%)
Petrochemical associates	15,794	17,118	8.4%
Oil associates	507	544	7.3%
Gas associates	(302)	435	244.0%
Other associates	19	130	584.2%
Total	**29,463**	**27,091**	**(8.1%)**

The analysis of PTT and its subsidiaries' consolidated financial status as of December 31, 2012, compared with December 31, 2011.

Unit: Million Baht

	31 Dec. 2011	31 Dec. 2012	Increase (Decrease)
Assets			
Current Assets	381,124	472,145	23.9%
Available-for-sale investments, Investment in associates and other long-term investments	241,284	250,023	3.6%
Property, Plant and Equipments - net	601,337	653,139	8.6%
Non-current Assets	178,101	256,013	43.7%
Total Assets	**1,401,846**	**1,631,320**	**16.4%**
Liabilities			
Current Liabilities	280,543	341,063	21.6%
Long-term loan (including current portions)	392,303	437,382	11.5%
Non-current Liabilities	85,287	121,211	42.1%
Total Liabilities	**758,133**	**899,656**	**18.7%**
Equity			
Total equtiy attributable to equity holders of the company	555,763	605,784	9.0%
Non-controlling interests	87,950	125,880	43.1%
Total Equity	**643,713**	**731,664**	**13.7%**
Total Liabilites and Equity	**1,401,846**	**1,631,320**	**16.4%**

Assets

As of December 31, 2012, PTT and its subsidiaries' total assets were 1,631,320 million baht, increasing by 229,474 million baht or 16.4% from the year ended of 2011 mainly due to the following reasons:

- Current assets increased by 91,021 million baht or 23.9% resulting mainly from the increase in trade accounts receivable by 71,939 million baht, cash and cash equivalents by 20,785 million baht, respectively.
- Available-for-sale investments, investments in associates and other long-term investments increased by 8,739 million baht or 3.6% mainly resulting from the share of net income from investments in associates amounting to 27,091 million baht, result in the dividends from associates amounting to 14,634 million baht despite an impairment losses on investment in EMG (an associate of PTTI) amounting to 3,972 million baht.
- Property, plant and equipment increased by 51,802 million baht or 8.6% primarily from the increase in net assets for petroleum exploration and production by 41,301 million baht from the PTTEP Australasia, Bongkot, Arthit, and Myanmar Zawtika projects. Also, the investment on the fourth transmission pipeline project and Offshore Compressor project of PTT amounting to 7,185 million baht and 3,443 million baht, respectively.
- Other non-current assets rose by 77,912 million baht or 43.7%, mainly due to the increase in intangible assets and goodwill amounting to 64,256 million baht and 18,069 million baht, respectively, which primarily due to the acquisition of Cove Energy Plc. of PTTEP which resulted in 64,214 million baht of exploration and evaluation assets and 17,981 million baht of goodwill.

Liabilities

As of December 31, 2012, PTT and its subsidiaries' total liabilities were 899,656 million baht, rose by 141,523 million baht or 18.7% from the year ended of 2011. This resulted from the increase in current liabilities amounting to 60,520 million baht or 21.6%, mainly from trade accounts payable and income tax payable by 58,860 million baht and 2,995 million baht, respectively.

Long-term loans (including the current portion within 1 year) were 437,382 million baht, increasing by 45,079 million baht or 11.5%, mainly due to the issuance of Thai Baht debentures of PTT amounting to 45,000 million baht, and US$ debenture amounting to 1,100 million US$, while there were redemption of debentures and loan repayment in both short-term and long-term amounting to 30,094 million baht. In addition, PTTEP issued its debentures amounting to 500 million US$ and entered into additional loan agreements with a financial institution of 475 million C$, totaling 27,640 million baht. However, there were the redemption of debentures amounting to 24,221 million baht and short-term loan repayment to financial institutions amounting to 10,000 million baht. The maturities of loans are as follows:

Unit: Million Baht

Maturity (since December 31, 2012)	PTT	PTTEP	PTTI	TTM (T)	PTTAC	HMC	EnCo	PTTPL	DCAP	TTM (M)	PTTNGD	Total
Within 1 year (December 31, 2013)	29,049.90	5,009.71	2,680.27	692.49	655.38	554.79	450.00	225.00	130.81	55.17	100.80	39,604.32
Over 1 year - 2 years	26,642.57	11,695.62	2,588.37	692.49	655.38	554.69	450.00	300.00	130.81	55.18	100.80	43,865.91
Over 2 year - 5 years	91,406.79	51,739.29	2,828.77	1,851.41	1,966.13	2,085.49	1,350.00	525.00	392.44	78.15	75.60	154,299.07
Over 5 years	141,071.31	47,127.24	-	4,815.56	1,959.36	1,670.28	1,850.00	-	287.13	157.84	-	198,938.72
Total	**288,170.57**	**115,571.86**	**8,097.41**	**8,051.95**	**5,236.25**	**4,865.25**	**4,100.00**	**1,050.00**	**941.19**	**346.34**	**277.20**	**436,708.02**

Note: *Excluding liabilities under finance leases of 674.30 million baht*

As of December 31, 2012, the outstanding loans (including loans, debentures and bonds due within one year and later than one year) consisted of loans in Baht currency and foreign currencies. Details of which are as follows:

Unit: Million Baht

Long-term loans	PTT	PTTEP	PTTI	TTM (T)	PTTAC	HMC	EnCo	PTTPL	DCAP	TTM (M)	PTTNGD	Total
Baht Currency	188,101.61	24,201.02	-	-	-	2,529.95	4,100.00	1,050.00	941.19	-	277.20	221,200.97
Foreign currencies	100,068.96	91,370.84	8,097.41	8,051.95	5,236.25	2,335.30	-	-	-	346.34	-	215,507.05
Total	**288,170.57**	**115,571.86**	**8,097.41**	**8,051.95**	**5,236.25**	**4,865.25**	**4,100.00**	**1,050.00**	**941.19**	**346.34**	**277.20**	**436,708.02**
Portion of long-term foreign currency loans to total long-term loans (%)	34.73%	79.06%	100.00%	100.00%	100.00%	48.00%	-	-	-	100.00%	-	49.35%

As of December 31, 2012, the loans amounting to 7,000 million baht were guaranteed by the Ministry of Finance.

Other non-current liabilities increased by 35,924 million baht or 42.1% mainly due to the increase in the deferred tax liabilities by 17,084 million baht due to the acquisition of Cove Energy Plc. of PTTEP and the increase in the long-term provision for decommissioning costs by 10,498 million baht led by an increase in provision for decommissioning costs of PTTEP mainly from Bongkot, Arthit and Contract 4 projects.

Equity

As of December 31, 2012, total equity of PTT and its subsidiaries were 731,664 million baht, increased from the year ended of 2011 by 87,951 million baht or 13.7%. This resulted from an increase in retained earnings by 70,364 million baht, mainly due to the increase in PTT and its subsidiaries' net income for 2012 by 104,666 million baht. However, there were dividends paid by 34,261 million baht and non-controlling interests increased by 37,930 million baht.

Liquidity

For the year ended December 31, 2012, PTT and its subsidiaries had net increase in cash and cash equivalents amounting to 20,786 million baht, while cash and cash equivalents at the beginning of the period carried from 2011 was 116,132 million baht. As a result, cash and cash equivalents at the end of the period was 136,918 million baht. Details of cash flow by activities are as follows:

Unit: Million Baht

	Amount
Net cash provided by operating activities	177,401
Net cash used in investing activities	(180,576)
Net cash provided by financing activities	27,711
Effects of exchange rates on cash and cash equivalents	(1,354)
Currency translation differences	(2,396)
Net cash and cash equivalents during the period	20,786
Cash and cash equivalents at the beginning of the period	116,132
Cash and cash equivalents at the end of the period	**136,918**

In summary, PTT and its subsidiaries' financial status are strong, evidenced through liquidities, debt to equity ratios, and returns on equity.

PTT and Its Affiliates

E&P Business Group		Percentage
PTT Exploration and Production Plc.	PTTEP	65.29

Gas Business Group		Percentage
Trans Thai-Malaysia (Thailand) Co., Ltd.	TTM (T)	50.00
Trans Thai-Malaysia (Malaysia) Sdn.Bhd.	TTM (M)	50.00
PTT Natural Gas Distribution Co., Ltd.	PTTNGD	58.00
PTT Utility Co., Ltd.	PTTUT	40.00
District Cooling System and Power Plant Co., Ltd.	DCAP	35.00
Thaioil Power Co., Ltd.	TP	26.00
Independent Power (Thailand) Co., Ltd.	IPT	20.00
Ratchaburi Power Co., Ltd.	RPCL	15.00
PTT LNG Co., Ltd.	PTTLNG	100.00
Combined Heat and Power Producing Co., Ltd.	CHPP	100.00
B. Grimm Power Ltd.	B.Grimm BIP	23.00
Nava Nakorn Electricity Generating Co., Ltd.	NNEG	30.00
Bangpa-in Cogeneration Co., Ltd.	BIC	25.00

Oil Business Group		Percentage
PTT (Cambodia) Limited	PTTCL	100.00
Subic Bay Energy Co., Ltd.	SBECL	100.00
PTT Retail Business Co., Ltd.	PTTRB	100.00
Vietnam LPG Co., Ltd.	VLPG	45.00
Thai Lube Blending Co., Ltd.	TLBC	48.95
KELOIL-PTT LPG Sdn.Bhd.	KPL	40.00
Petro Asia (Thailand) Co., Ltd.	PA (Thailand)	35.00
Petro Asia (Huizhou) Co., Ltd.	PA (Huizhou)	25.00
Petro Asia (Maoming) Co., Ltd.	PA (Maoming)	20.00
Petro Asia (Sanshui) Co., Ltd.	PA (Sanshui)	25.00
Thai Petroleum Pipeline Co., Ltd.	THAPPLINE	33.19
Intoplane Services Co., Ltd.	IPS	16.67
Bangkok Aviation Fuel Service Plc.	BAFS	7.06
Fuel Pipeline Transportation Co., Ltd.	FPT	0.00016

International Investment Business Group		Percentage
PTT International Co., Ltd.	PTTI	100.00
PTT Green Energy Pte. Ltd.	PTTGE	100.00

International Trading Business Group		Percentage
PTT International Trading Pte. Ltd.	PTTT	100.00

Petrochemical Business Group		Percentage
PTT Global Chemical Plc.	PTTGC	48.89
PTT Phenol Co., Ltd.	PPCL	40.00
PTT Polymer Marketing Co., Ltd.	PTTPM	50.00
PTT Asahi Chemical Co., Ltd.	PTTAC	48.50
HMC Polymers Co., Ltd.	HMC	41.44
PTT Polymer Logistics Co., Ltd.	PTTPL	100.00
PTT Maintenance and Engineering Co., Ltd.	PTTME	40.00
PTT Tank Terminal Co., Ltd.	PTT TANK	100.00
PTT MCC Biochem Co., Ltd.	PTTMCC	50.00

Refining Business Group		Percentage
Thai Oil Plc.	TOP	49.10
IRPC Plc.	IRPC	38.51
Star Petroleum Refining Plc.	SPRC	36.00
Bangchak Petroleum Plc.	BCP	27.22

Other Business Group		Percentage
Business Services Alliance Co., Ltd.	BSA	25.00
Energy Complex Co., Ltd.	EnCo	50.00
PTT ICT Solutions Co., Ltd.	PTTICT	20.00
Dhipaya Insurance Plc.	TIP	13.33
PTT Energy Solutions Co., Ltd.	PTTES	40.00

Revenue Structure of PTT and Subsidiaries by Product Line

Product/ Service	Operated by	% Shareholding of the company	2010 (Revised)		2011 (Revised)		2012 (Audited)	
			Million Baht	%	Million Baht	%	Million Baht	%
1. Natural Gas Products	PTT Plc. (Gas Business Unit)		328,457.44	16.96	379,772.34	15.34	473,042.64	16.62
	PTT Plc. (Oil Business Unit and International Trading Business Unit)		68,409.13	3.53	60,085.70	2.43	91,229.81	3.21
	PTT Exploration and Production Plc. (PTTEP)	1/	72,138.38	3.73	74,865.50	3.02	94,781.65	3.33
	PTT Natural Gas Distribution Co., Ltd. (PTTNGD)	58.00	5,739.38	0.30	7,422.83	0.30	8,690.18	0.31
	Combined Heat and Power Producing Co., Ltd. (CHPP)	100.00	149.58	0.01	157.49	0.01	174.86	0.01
	Less PTTEP's gas revenue paid by PTT Plc.		(71,950.15)	(3.71)	(72,778.30)	(2.94)	(89,693.85)	(3.15)
Total Revenue from Natural Gas Products			**402,943.77**	**20.82**	**449,525.56**	**18.16**	**578,225.29**	**20.33**
2. Oil Products	PTT Plc. (Oil Business Unit and International Trading Business Unit)		1,212,017.53	62.58	1,574,696.71	63.62	1,769,343.68	62.18
	PTT Exploration and Production Plc. (PTTEP)	1/	65,010.06	3.36	91,000.14	3.68	113,069.79	3.97
	Less PTTEP's crude revenue paid by PTT Plc.		(50,034.25)	(2.58)	(66,586.62)	(2.69)	(74,056.06)	(2.60)
	PTT International Trading Pte. Ltd. (PTTT)	100.00	77,084.47	3.98	124,965.17	5.05	148,385.84	5.21
	PTT (Cambodia) Limited (PTTCL)	100.00	4,246.83	0.22	6,770.38	0.27	7,977.18	0.28
	Subic Bay Energy Co., Ltd. (SBECL)	100.00	22,853.01	1.17	19,531.81	0.79	22,172.38	0.78
	PTT Retail Business Co., Ltd. (PTTRB)	100.00	32,418.84	1.67	36,527.72	1.47	38,772.21	1.36
Total Revenue from Oil Products			**1,363,596.49**	**70.40**	**1,786,905.31**	**72.19**	**2,025,665.02**	**71.18**
3. Petrochemical Products	PTT Plc. (Oil Business Unit and International Trading Business Unit)		48,674.18	2.51	71,752.67	2.90	59,374.79	2.09
	PTT Polymer Marketing Co., Ltd. (PTTPM)	50.00	39,295.41	2.03	63,458.11	2.56	70,916.80	2.49
	HMC Polymers Co., Ltd. (HMC)	41.44	6,760.58	0.35	10,417.14	0.42	10,721.30	0.38
	PTT Asahi Chemical Co., Ltd. (PTTAC)	48.50	-	-	-	-	620.39	0.02
Total Revenue from Petrochemical Products			**94,730.17**	**4.89**	**145,627.92**	**5.88**	**141,633.28**	**4.98**
4. Mining Products	**PTT International Co., Ltd. (PTTI)**	**100.00**	**24,652.15**	**1.27**	**30,811.91**	**1.24**	**28,738.50**	**1.01**
5. Other Products	PTT Green Energy Pte. Ltd. (PTTGE)	100.00	151.28	0.01	356.84	0.01	1,246.14	0.04
	Business Service Alliance Co., Ltd. (BSA)	25.00	-	-	-	-	4.59	-
Total Revenue from Other Products			**151.28**	**0.01**	**356.84**	**0.01**	**1,250.73**	**0.04**

Product/ Service	Operated by	% Shareholding of the company	2010 (Revised) Million Baht	%	2011 (Revised) Million Baht	%	2012 (Audited) Million Baht	%
6. Utilities Products	District Cooling System and Power Plant Co., Ltd. (DCAP)	35.00	586.68	0.03	584.19	0.02	926.45	0.03
	Energy Complex Co., Ltd. (EnCo)	50.00	27.35	-	40.47	0.01	44.54	-
Total Revenue from Utilities Products			**614.03**	**0.03**	**624.66**	**0.03**	**970.99**	**0.03**
7. Revenue from Non-Core Business	PTT Plc. (Oil Business Unit and International Trading Business Unit)		1,490.78	0.08	1,903.30	0.08	3,207.89	0.11
	PTT Retail Business Co., Ltd. (PTTRB)	100.00	4,125.87	0.21	4,099.25	0.17	4,564.07	0.16
	PTT (Cambodia) Limited (PTTCL)	100.00	-	-	-	-	1.15	-
Total Revenue from Non-Core Business			**5,616.65**	**0.29**	**6,002.55**	**0.25**	**7,773.11**	**0.27**
8. Revenue from Services	PTT Exploration and Production Plc. (PTTEP)	1/	3,507.29	0.18	3,780.18	0.15	4,685.26	0.17
	Trans Thai-Malaysia (Thailand) Co., Ltd. (TTM (T))	50.00	1,449.67	0.07	1,638.39	0.07	1,716.42	0.06
	Trans Thai-Malaysia (Malaysia) Sdn.Bhd. (TTM (M))	50.00	86.16	-	147.65	0.01	145.96	0.01
	PTT Polymer Logistics Co., Ltd. (PTTPL)	100.00	399.55	0.02	926.36	0.04	1,123.84	0.04
	Energy Complex Co., Ltd. (EnCo)	50.00	352.58	0.02	518.42	0.02	553.69	0.02
	Business Service Alliance Co., Ltd. (BSA)	25.00	347.17	0.02	685.86	0.03	685.81	0.02
	PTT Retail Business Co., Ltd. (PTTRB)	100.00	235.21	0.01	213.80	0.01	305.71	0.01
	PTT Tank Terminal Co., Ltd. (PTT TANK)	100.00	-	-	360.68	0.01	359.45	0.01
Total Revenue from Services			**6,377.63**	**0.32**	**8,271.34**	**0.34**	**9,576.14**	**0.34**
Total Revenue from Products and Services			**1,898,682.17**	**98.03**	**2,428,126.09**	**98.10**	**2,793,833.06**	**98.18**
9. Others								
9.1 Other Revenue			13,025.89	0.67	16,575.26	0.67	17,178.95	0.60
9.2 Gain/loss from Foreign Exchange			6,361.93	0.33	1,099.42	0.04	7,614.72	0.27
Total Other Revenue			**19,387.82**	**1.00**	**17,674.68**	**0.71**	**24,793.67**	**0.87**
10. Share of net income/loss from investment under equity method			**18,815.96**	**0.97**	**29,463.28**	**1.19**	**27,091.05**	**0.95**
Grand Total			**1,936,885.95**	**100.00**	**2,475,264.05**	**100.00**	**2,845,717.78**	**100.00**

Notes: *1/ PTT owned 65.43% equity interest in PTTEP in 2010, and 65.29% in 2011 and 2012.*

2/ Starting January 1, 2012, PTT International Co., Ltd. (PTT subsidiary) used USD currency in its operation, replacing Thai baht. As it is an accounting policy change, balance sheet of 2011 was revised.

Connected Transactions

PTT's connected transactions resulted from the following contractual agreements

1. Transactions between PTT and state enterprises

- Transaction

The Cabinet resolution dated November 26, 2002, required government agencies and state enterprises buying 10,000 liters of fuel and more must do so from either PTT Plc. or Bangchak Petroleum Plc. only. PTT sold fuels to the following state enterprises: Electricity Generating Authority of Thailand (EGAT), Bangkok Mass Transit Authority (BMTA), and State Railway of Thailand (SRT). Should a state enterprise owe PTT outstanding payments, PTT is entitled to levy interests.

2. Transactions between PTT and subsidiary PTTEP

- Transaction

PTTEP and its subsidiaries produce and sell crude oil, natural gas, condensate, LPG, and bitumen. This year PTT was the major buyer (84% by volume) of these. As for natural gas, PTT and PTTEP reached a long-term deal of 25 to 30 years, stipulating annual minimum contractual quantities. Both companies were engaged in crude oil and condensate agreements, whereas PTT sold jet fuels and high-speed diesel to PTTEP under world market prices. These prices were identical to those sold to PTT by PTTEP's joint-venture partners or were standard reference, competitive prices under sensible conditions.

3. Transactions between PTT and refining subsidiaries

- Transaction

PTT signed crude oil and petroleum product supply agreements with its refining subsidiaries at supply rates corresponding to its own equity interests, summarized below:

Agreement with Thaioil Plc. (TOP)

PTT secures crude oil and buys refined products equivalent to 49.99% of TOP's refining capacity at market prices. Through a written notice sent at least 12 months in advance, either party may revoke this agreement from the 13th year from the date of completion of its refinancing or from April 20, 2000. Alternatively, either party may revoke the agreement if it considers the agreement to have been violated. Under the contract, PTT may buy more than 49.99% at market prices.

PTT secured natural gas for TOP's use in its refinery as required by the agreement between them at regular market prices under an eight-year contract (2006 to 2013) and a 15-year contract (2007 to 2021) under regular market prices.

Agreement with Star Petroleum Refining Plc. (SPRC)

SPRC's shareholders are required to secure crude oil supply, at least 36% of SPRC's refining capacity at market price and take delivery of refined products from SPRC at no less than 70% of its 126,000-bbl/d (or 88,200-bbl/d) capacity at domestic market prices. For any surplus volume, PTT and Chevron (Thai) Co., Ltd. - as shareholders - have the first right of refusal to buy them at domestic market prices before any sale to a third party.

Agreement with Bangchak Petroleum Plc. (BCP)

PTT secures crude oil supply for BCP under a feedstock supply agreement and a product offtake agreement to take at least 30% of the latter's capacity output (excluding jet fuels and fuel oil) at market prices, both agreements effective May 16, 2006, for 12 years from the commercial operation date of the Product Quality Improvement project on December 7, 2009.

PTT secured natural gas for BCP's use in its refinery under a ten-year agreement, with effect from August 3, 2009. The price is as stated in the agreement under regular business conditions.

PTT entered into an agreement with BCP to buy electricity and stream on February 25, 2008. PTT built a cogeneration plant with a steam generation capacity of 90 tons per hour and a power generation capacity of 19.7 megawatts (MW) for sale to BCP, with a commercial operation date in June 2010 and sales prices as stated in the agreement and conforming to regular business conditions.

PTT signed a 15-year petroleum and gas terminal (depot) service agreements with BCP, effective January 1, 2009 to December 31, 2023. Service fees are as stated in the agreement.

Agreement with IRPC Plc. (IRPC)

PTT secures crude oil supply at market prices for IRPC under a one-year feedstock supply agreement (term and spot). The contract is to be made year by year.

PTT has a contract for petroleum products with IRPC under market prices, effective January 1, 2013, with possible annual extensions.

PTT also made another agreement for the service of IRPC's Chumphon Depot for loading, storage, and distribution of oil, effective January 1, 2013, with possible annual extensions.

PTT has a gas sales agreement with IRPC for the consumption of gas in combined-cycle gas turbine engines, effective June 9, 2009, for 10 years at market prices.

4. Transactions between PTT and affiliates in the petrochemical business group

Transactions and agreement with
PTT Global Chemical Plc. (PTTGC)

PTTGC was founded on October 19, 2011, through the amalgamation of PTT Chemical Plc. (PTTCH) and PTT Aromatics and Refining Plc. (PTTAR) under the Public Company Act B.E. 2535. The new company inherited all the assets, properties, and liabilities of the two companies on October 31, 2011, and continues the operation of the two companies as summarized below.

Refining business

PTT secures feedstock supply for PTTCH's production processes, namely natural gas, ethane, propane, and LPG under a 15-year agreement, effective from 1995 and extendable for five years.

In 1991, Aromatics (Thailand) Plc. (ATC) transferred to PTT its privileges and obligations under a 15-year light naphtha and raffinate supply agreement with PTTCH. PTT later made another feedstock supply agreement and a gas sales agreement with PTTCH, effective from 1999, for 12 years (extendable for five years) for the feedstock, and for 20 years (extendable for four years) for the gas.

In 1995, PTT signed an NGL supply agreement with PTTCH, effective for 15 years from the plant's start-up. In 2004, PTT amended the agreement to increase the supply volume to 380,000-470,000 tons/year. Due to expire on May 31, 2021, the agreement is extendable for five years.

In 1999, PTT signed a 15-year ethane supply agreement with PTTCH, effective from August 1, 2005 (extendable for five years).

In 2004, PTT amended the NGL supply agreement with PTTCH to raise the supply volume to 380,000-470,000 tons/year. Due to expire on May 31, 2021, the agreement is extendable for five years.

In 2004, PTT signed an LPG supply agreement with PTTCH, under which PTT would supply an additional 13,000 tons/month of LPG as feedstock for the olefins capacity expansion project managed by PTTCH, which completed the upgrading in 2007.

In 2006, PTT entered into a 15-year ethane feedstock supply agreement with PTT Polyethylene Co., Ltd., a subsidiary of PTTCH, under which the price of ethane varies with that of film-grade HDPE in Southeast Asian markets. The agreement took effect from the plant's start-up in 2010.

In 2008, PTT amended its agreement for supplying ethane, propane, and LPG to PTTCH, with effect from August 1, 2008, and an unchanged contractual period. Under the agreement, the price structure of the ethane feedstock varies with that of film-grade HDPE in Southeast Asian markets-reflecting the entire petrochemical chain and the HDPE market produced by PTTCH since 2004. Similarly, the price structures of propane and LPG vary with that of film-grade PP.

In 2010, PTT extended its LPG supply agreement with PTTCH for 20,000 tons/month, with effect from June 1, 2010, for one year. PTT also made an LPG supply agreement with PTTCH for 28,000 tons/month, with effect from November 25, 2010, for one year (extendable for one year).

In 2012, amendment was made on the prices of ethane, propane, and LPG. The agreement with PTTGC was extended to 2020 and the agreements with terms beyond 2020 remained unchanged. Price amendment was also made for PTTPE's ethane supply, with effect from August 1, 2012. Under this master amendment, the price structure under the contract remains intact, that is, the price structure of ethane feedstock varies with that of film-grade HDPE in Southeast Asian markets, and that of propane and LPG vary with that of film-grade PP. The assumption, however, was amended to reflect current circumstances, resulting in higher product value as well as a higher contribution to the Oil Fund by the petrochemical sector, which uses propane, butane, and LPG as feedstock at 1 baht per kilogram since January 13, 2012, which PTTGC remit to this fund as required by the public sector.

PTT signed a gas sales agreement with PTTAR for the consumption of gas in fueling the latter's aromatics processes. The 10-year agreement to supply natural gas to AR2 is due to expire in June 2015; the agreement to supply the gas to AR3, in April 2018.

PTT signed long-term supply agreements for all the main products of PTTAR, which directly supplies such products to customers. These agreements are take-or-pay, whereby PTT guarantees minimum sale volumes for the products and obtains marketing fees from PTTAR. Note that these agreements specify the offtake volumes guaranteed by PTT without guaranteeing distribution for the surplus volumes beyond take-or-pay. PTT has another product distribution agreement with PTTAR, namely that for condensate residue, light naphtha, and LPG, under which PTTAR would directly supply these to PTT's customers. For the first two products, the agreement covered 15 years, and for LPG, 10 years, effective from 1997 under an Evergreen Basis after 2007, that is, the agreement would be regarded as automatically extended unless otherwise notified in advance.

PTT supplies condensate for PTTAR's production processes under a 20-year agreement, effective from 1997, whereby the annual volume is 4.6 - 6.1million tons/year.

Refining and Petroleum Product Supply Business Group

PTT secures crude oil supply for PTTAR under an 18-year feedstock supply agreement with effect from February 1, 2009. Under the agreement, PTT is to secure crude oil and all other feedstock for PTTAR at market prices under the grades and volumes needed by PTTAR.

PTT buys refined products from PTTAR at no less than 70% of the latter's refined products at domestic market prices under an 18-year agreement from February 9, 2006, beyond which the contract is assumed to remain valid unless otherwise notified in advance.

PTT signed a 18-year New Complex Product Offtake Agreement with PTTAR, effective from February 9, 2006, beyond which the agreement is assumed to remain valid unless otherwise notified in advance. Under the contract, PTT is to buy from PTTAR all products derived from the Upgrading Complex. At least a half of these products are to be based on domestic market prices.

PTT signed a gas sales agreement with PTTAR for the consumption of gas in product refining and another one for use in power generation, which is due to expire in 2018.

Transactions and agreement with HMC Polymers Co., Ltd. (HMC)

PTT signed a feedstock supply agreement with HMC in 2006. A long-term propane feedstock supply agreement spans 15 years from the plant's start-up in 2010, with five-year extension at a time, under which the price of propane varies with that of PP (film grade) in Southeast Asian markets. The price structure is under review to suit current situations.

Transactions and agreement with PTT Asahi Co., Ltd. (PTTAC)

PTT signed a 15-year propane supply agreement in 2008 with PTTAC for its feedstock. The agreement will take effect from the plant's start-up with five-year extension each time. The price structure varies with that of film-grade PP in Southeast Asian markets.

Policy on future connected transactions

PTT's future connected transactions will be conducted as part of its normal course of business, without special favors or transfer of benefits between PTT, its subsidiaries, associated companies, related companies, or shareholders. Pricing will continue to be on an arm's length basis, and the prices of products supplied by PTT's subsidiaries will be market-based. Disclosure of connected transactions will conform to the announcement of the Securities and Exchange Commission (SEC) and the Stock Exchange of Thailand (SET), and the accounting standard on disclosure of information on related parties or businesses, announced by the Federation of Accounting Professions.

Review of Business Assets

As of December 31, 2012, the core assets used by PTT and its subsidiaries in conducting their businesses had a net value (after accounting for accumulated depreciation and allowance for impairment) of 653,139 million, baht with 116,870 million baht in net intangible assets and 35,233 million baht in net mining properties. For details, please see the notes to the financial statements for PTT and its subsidiaries ended December 31, 2012: item 16 (property, plant, and equipment - net), item 17 (intangible assets - net), and item 18 (mining properties - net).

Risk Factors

Due to its continued risk management effort, PTT managed its risk factors reasonably well in the past year. Emerging risk factors have been identified and managed under the current year's risk management plan. Therefore, PTT continues to refine the risk factor to reflect risks apparent to investors. The key risk factors appear below.

1. Strategic Risks

1.1 Risks from business strategy implementation

For continuous and sustainable business growth, PTT has set a goal of becoming a Thai premier multinational energy company, along with its international venture goals. To this end, strategic plans have been defined by each business unit with a focus on preserving its competitiveness, investment expansion to supplement business value, internationalization of business through investment in properties, mergers and acquisitions of competitive entities which are facing with problems during crises, and investment in new related businesses.

Fierce competition, global and domestic economic recovery still fraught with uncertainty, oil price volatility, investors' expectations, and the diverse needs of its stakeholders. These factors could prevent PTT from achieving these goals and business strategies, including energy demand uncertainty, petroleum and petrochemical product price fluctuation, investment risks resulting from overseas investment and in new businesses, and risks associated with overseas investment. These could impact PTT's overall performance and return on investment.

In order to have plans for future changes and uncertainty, PTT has initiated, a Top Executive Thinking Session (TTS) and a Strategic Thinking Session (STS) among senior PTT executives to define and review the vision, directions, and business strategies under prevailing economic and energy circumstances, and a business plan in the form of scenario planning, in which assumptions are made for different economic growth figures and oil prices variation. In addition, monthly performance monitoring is in place, and at least every quarter, senior PTT Group executives have a meeting to monitor group performance and share their visions on the adjustment of business plans and short-term strategies to ensure confidence in reaching such goals.

1.2 Risks from improvement of organizational capability to accommodate business operation under economic uncertainty and business growth opportunities

Similarly to a chain, PTT's business diversity, international investment expansion, and investment in new ventures produce considerable complexity for the management of PTT Group. Compounded by volatile economic circumstances, resulting in uncertainty of the markets demand and prices. This could disrupt its business unless its personnel are well prepared to cope with the situations stated and business base expansion.

To prevent such personnel risks, PTT has relied on two career management mechanisms. First, for the management group, the PTT Group's managing format is applied under the care of an executive and management development committee; this committee accommodates the needs of senior executives in both quantity and quality. Second, for employees, it takes the form of line management with a similar approach to the first, which is supervised by a career advisory panel. At PTT, a career management consultation committee ensures that, for each career path, a manpower requirement plan is prepared, in which key positions are stated, and individual development plans are both prepared and implemented. These procedures ensure that PTT will consistently command an adequate supply of quality executives and employees.

2. Business Risks

2.1 Risks from gas supply sourcing

This year PTT kept up its sourcing negotiation efforts for additional gas supplies from domestic deposits (onshore and in the Gulf of Thailand) and supplies of LNG (liquefied natural gas) from sellers in various regions to meet the projected gas demand. These contracts were made in advance and incorporate the called for demand by future economic circumstances.

Each gas sales agreement (GSA) specifies a minimum annual contractual quantity to be bought by PTT; otherwise, in a given year, PTT must pay in advance for the volume not taken that year, under the "take-or-pay" condition. However, PTT may take this pre-paid gas in later years (known as make-up gas) if it has already paid the minimum contracted amount for the year in question. Such take-or-pay sums were paid by PTT under the terms of the Yadana and Yetagun GSAs of Myanmar. PTT has taken delivery of all Yetagun make-up gas, with only that from Yadana still outstanding.

In addition, for Spot Cargo LNG and short-term purchase agreements, if PTT could not take delivery as stated in the agreement, the seller can sell it to others.

Under this scenario, PTT will have the risk of having to pay the discrepancy in price to the seller if the sales prices proves lower than that specified in the agreement.

The current global and domestic economic recovery, oil and LNG price volatility, and a variety of factors, including future gas demand, may differ from projections. Also, risks arise from uncertain completion dates of gas transmission pipelines or those of new gas-fired power plants, declining domestic gas reserves, regional gas supply negotiations, an LNG market that does not favor desired supply sourcing (in volume or quality), the inability to take pre-paid gas or to secure enough gas supply to accommodate rising demand, and the volatility of the oil price (which in turn affects gas prices). These risks could affect PTT's financial status and performance.

To accommodate these risks, PTT monitors gas supply and demand movement while closely coordinating with the sellers and the buyers, preparation of efficient long term gas supply plans, and regularly reviews them as well as negotiating with the sellers and customers to identify solutions to possible crises. Moreover, gas demand has always exceeded minimum contract quantities, thus enable PTT to accrue volumes for using in lowering the minimum offtake volumes under the annual agreements ("carry forward" gas) specified in certain GSAs.

2.2 Risks from PTT's feedstock and product price volatility

Product costs and sale prices of natural gas, condensate, crude oil, petroleum products, and petrochemicals (domestic and international) of PTT and PTT Group are referenced to posted prices for each period and subject to volatility of the world market. Therefore, PTT Group's performance is inevitably affected.

To lower these risks, PTT Group management has appointed an oil price risk management team tasked with analyzing world oil price movement and optimizing risk management of feedstock and product prices jointly within the group. Nowadays, to manage price risks, the group is engaged in hedging through short-term and long-term derivative contracts with its business partners. Each transaction involving derivatives abides by PTT's policy on price risk management hand in hand with price, volume, and time targets for suitable risk management in line with PTT Group's business plans to alleviate the impacts of price volatility on PTT Group's performance. Also, PTT places a structure and process for supervising risk management and checks and balances on par with international standards.

2.3 Risks from government actions creating potential impacts on PTT's business

PTT has retained its state enterprise status, with the Ministry of Finance serving as its major shareholder and the Ministry of Energy as its supervisor. PTT is also engaged in the energy business under the supervision of the National Energy Policy Council (NEPC) under the National Energy Policy Council Act, B.E. 2535 (1992). Therefore, the public sector can still substantially supervise PTT to ensure alignment with national energy, economic, and social policies. Due to the above-mentioned act, NEPC can make policy and national energy administration plan recommendations to the cabinet, apart from deciding criteria and conditions for energy pricing in line with such policies and plans. Under an act designed to resolve and prevent fuel shortages of 1973, the prime minister is authorized to issue orders containing measures for the sale of all fuels to resolve and prevent fuel shortages. In short, such policy formulation and energy-related measures of the state may directly impact PTT's business, including the price control of LPG and NGV.

2.4 Risks from PTT's performance being partly subject to PTT Group's performance

PTT has achieved steady business growth as a result of its investment in assorted companies while focusing on forging link-ups of integrated businesses (from upstream petroleum to downstream), as

well as investment in new related businesses, both domestic and overseas. Also, in the past, PTT Group companies have undergone mergers and acquisitions, joint investment, capacity expansion, and process improvement to generate products' value added. Such business expansion has inevitably subjected PTT's performance to those of PTT Group companies. However, Group companies are facing risks arising from the nature of business, including volatile product and feedstock prices, success in petroleum exploration and production, oil and natural gas spills, the down cycles of petrochemical and refining businesses, competitors from the Middle East with lower production costs, and risks from changes in laws and regulations. These could affect PTT's financial status and performance. To lower these risks, PTT has focused on a Group management approach with good corporate governance on which to base its sustainable business growth and its maximization of value for PTT Group through value addition by the Supply Chain Management Project. PTT has also investigated mergers of similar businesses in search of greater value, lower costs, and greater competitiveness in the global market.

2.5 Risks from overseas investment

PTT's foreign energy investment plan is implemented through PTT Group companies, building on current businesses and enhancing long-term growth prospects. PTT intends to expand its businesses internationally through existing and new ventures. Risks from overseas investment could arise from several factors, including the economic circumstances of target countries and their trade partners, change in government, investment promotion policies, other laws and regulations on taxes, investment, foreign exchange volatility, product price volatility, the capability of companies to engage the new ventures, and greenfield project investments, which usually require long lead time and massive supporting capital.

To mitigate these risks, PTT has investigated and analyzed details of laws, public policies, and taxes, as well as the above-mentioned risk factors, to assess potential impacts on business. The findings of such assessment are then incorporated with the feasibility of investment. PTT has put in place a system and an internal unit to track its performance and risk factors of invested projects, as well as constantly accelerating organizational competency development and personnel potential to accommodate its overseas businesses and investment.

3. Operational Risks

3.1 Risks from operations

As a result of PTT Group's business format, various hazards are inherent to the exploration for, production, transport, and storage of natural gas, crude oil, petrochemical products, and petroleum products. As such, PTT is naturally exposed to assorted threats, including natural catastrophes, fires, explosions, contamination or dissipation of hydrocarbons, threats of political instability, together with terrorist activities and other unexpected hazards. These could prove detrimental to PTT's personnel, assets, environment, business operation, reputation, financial status, and business opportunities.

To lower the likelihood and impacts of such threats, PTT has instituted assessment of risks concerning security, safety, health, and the environment, which encompasses operation in normal times and crises. It has also defined control and preventive measures, managed, monitored, and systematically improved under the PTT Group Security, Safety, Health and Environment Management Standard (PTT Group SSHE MS). This standard was based on TIS/OHSAS 18001 and ISO 14001, with modified guidelines to suit PTT Group's nature of business and culture. Meanwhile, the group has encouraged all operating lines and sites to undergo assessment and certification by MASCI (Management System Certification Institute (Thailand)) and has applied the Business Continuity Management (BCM), derived from the BS 25999 and TIS 22301 standards. BCM is a common criterion for business units, supporting units, and affiliates to develop and link up with the system to protect value-adding activities throughout PTT's business chain from disruption. Incidentally, BCM for PTT Head Office was the first to achieve TIS 22301-2553

certification in Thailand. Additional, like other companies in the petroleum and petrochemical industries, PTT has taken out insurance policies to safeguard its major operating assets against risks and business interruptions.

3.2 Risks from environmental and safety regulations

PTT's business operations must conform to relevant legislations and regulations about impacts on the environment and safety, which tend to be more difficult. If such new laws are promulgated or if changes are made to the enforcement policy, they may shackle PTT's operation or sharply raise operating costs. In addition, risks could arise in the time required and conditions for the approval of environmental impact assessment (EIA) or environmental and health impact assessments (EHIAs), including the participation process and community acceptance, including acceptance of PTT's business at all its sites which could cause project delays and affect its future businesses and income generation.

To address these risks, PTT monitors and analyzes the impacts of changes in environmental and safety laws and regulations on its operation. It also closely coordinates with government agencies, applies available information to develop work plans and response measures, and ensures ongoing community relations activities in operating areas with a constant focus on community participation.

3.3 Risks from project operation

Key factors supporting PTT's successful business expansion include a continued rise in gas consumption and the ability to expand its gas transmission system, PTT's management of gas delivery to meet customers' desired quality, and creation of value to sustain rising gas demand. In addition, PTT's business expansion is limited by the reach of its gas transmission system to customers, the maintenance of gas transmission systems for the longest service life, its gas separation capacity, and the success in building PTT Group's petrochemical plants. Development of projects could fall behind schedules for various reasons, including delays in identifying contractors, procurement of equipment with long lead time and transport time, communities' and landlords' cooperation, filing for approvals from relevant government agencies, and securing of EIA approvals. Thus, if projects are delayed, PTT's financial and performance outcomes are at stake.

PTT takes the administration of critical-path matters seriously, including the acceleration of construction contractor hiring, close monitoring of construction equipment purchases, preparation of mitigating measures for environmental impacts, constant monitoring of new legislation and regulations, monitoring and analysis of impacts on project execution, development of people participation plans, and preparation of contingency plans and measures to ease potential implications of delayed project completion.

4. Financial Risks

4.1 Risks from volatility of Thai Baht

Changes in the exchange rate between Thai Baht and US dollar directly and indirectly affect the majority of PTT's revenue and impact PTT's net accounting profits/losses, since PTT and its subsidiaries are exposed through outstanding foreign loans. Therefore, the fluctuation of Thai Baht and the government's economic, monetary, and treasury policies could affect PTT's overall financial status and performance.

To alleviate these risks, PTT has balanced its foreign-currency loans with its foreign-currency revenue (that is, taking a natural hedge), while managing its foreign-currency deposits, leveraging financial derivates to convert such loans (the participating swap) and purchasing forward foreign currencies to match the quantity of foreign currencies required for repayment and for commercial transactions. PTT has also developed a treasury and credit policy as an effective, uniform guideline for PTT Group, which includes terms of reference for instituting assorted risk management practices.

4.2 Risks from financial support to affiliated companies

To promote constant growth, PTT invests in new projects, expands its businesses, or adjusts its operation. Sometimes such investment may be undertaken through new companies or link-ups with strategic partners or through PTT Group companies. Some of these companies may probably still starting projects or may not yet be financially strong, Thus shareholders or PTT will still need to extend cost overrun support to allow these companies to operate under strategies and business policies of PTT Group as a whole. Some of these companies may need cash deficiency support during commercial operation, which may be a force majeure; thus, calling for financial help from the shareholders is essential. PTT will consider extending loans or commercial credit, or both, to individual affiliates in the belief that such a policy and action would foster sustainable strength for PTT Group.

In extending such financial support to these affiliates, whether through subordinated loans, commercial credit, or loans from the shareholders, PTT cannot guarantee that these companies can repay such loans or credit, that they will not face financial woes again, or that they will not need financial support from PTT again. Reasons mentioned above could affect PTT's performance and financial status. Moreover, if PTT or any member of PTT Group becomes a default party under any agreement on shareholder support, some creditors may accelerate debt repayment. Therefore, PTT cannot guarantee that PTT will not raise its shareholding, raise its shareholding to more than half, or take over such a company if such action is considered more beneficial. If this should happen, the Thai accounting standards require that PTT consolidate the financial statements of the company in question with those of PTT Group, effective from the date of such control. In short, such consolidation puts PTT's overall financial standing at stake.

4.3. Risks from acquisition of funds for plan execution

The businesses of PTT - in particular, petroleum exploration and production, natural gas transmission systems, gas separation plants, and the petrochemical businesses - require massive capital investments that are paid in advance. Although PTT closely monitors and manages business risks, the actual investment capital required may deviate from project plans due to factors beyond its control, which could potentially affect the success and project capital costs.

Since PTT's business focuses on fostering long-term growth and good corporate governance, it has continuously grown. PTT plans to invest in prudent business expansion, with due consideration for sources of capital, particularly capital structuring that will enable it to maintain essential financial ratios at suitable levels comparable to companies in the same industry. Continuous monitoring of factors concerning the sourcing of investment capital has assured PTT that it can secure sufficient and suitable funds for future business expansion.

Capital Structure

PTT's Securities

Common shares

As of December 31, 2012, PTT's registered capital stood at 28,572,457,250 baht, which was made up of 2,857,245,725 common shares at 10 baht per share. These consisted of 28,562,996,250 baht in paid-up capital and 2,856,299,625 common shares.

Bonds and Debentures

As of December 31, 2012, PTT had secured domestic loans of 7,000 million baht in the form of PTT bonds, guaranteed by the Ministry of Finance, together with bonds and debentures not guaranteed by the ministry, worth 164,304 million baht, for a total of 171,304 million baht. Foreign loans were in the form of PTT debentures of US dollar and yen denominations, not guaranteed by the ministry, equivalent to 80,914 million baht. These bonds and debentures are summarized below.

Bonds and Debentures	Amount (Million Baht)	Redemption Date	Guarantee
PTT bonds guaranteed by the Ministry of Finance			
• Domestic bonds	7,000	2013 - 2020	None
PTT bonds not guaranteed by the Ministry of Finance			
• Domestic debentures[1/ 4/]	164,304	2013 - 2110	None
• Foreign debentures[2/ 3/ 4/]	80,914	2014, 2017, 2022, 2035, 2042	None
Total	245,218		
Grand total	**252,218**		

1/ Fitch Rating's national rating of long-term PTT debentures at 'AAA (tha)' with a stable outlook

2/ Moody's international rating of foreign PTT debentures at 'Baa1' with a stable outlook

3/ S&P's international rating of foreign PTT debentures at 'BBB+' with a stable outlook

4/ Details of domestic and foreign PTT debentures

Domestic, unsecured, unsubordinated debentures (Unit: Million Baht)

Debentures	Amount (Million Baht)	Annual Coupon Rate (%) (Payment Frequency)	Maturity Period (Years) / Redemption Schedule
PTTC13NA	11,700	(Year 1 - 5) 4.50, (Year 6 - 10) 5.75 (every six months)	10 / 2013
PTTC13OA	7,450	(Year 1 - 3) 5.00, (Year 4 - 5) 5.50 (every six months)	5 / 2013
PTTC13OB	5,400	(Year 1 - 3) 5.00, (Year 4 - 5) 5.50 (every six months)	5 / 2013
PTTC14DA	2,946	(Year 1 - 3) 5.00, (Year 4 -7) 5.95 (every six months)	7 / 2014
PTTC14DB	3,000	3.20 (every six months)	4 / 2014
PTTC15OA	2,550	(Year 1 - 3) 5.00, (Year 4 - 5) 5.50, (Year 6 - 7) 6.00 (every six months)	7 / 2015
PTTC15OB	2,600	(Year 1 - 3) 5.00, (Year 4 - 5) 5.50, (Year 6 - 7) 6.00 (every six months)	7 / 2015
PTTC153A	6,000	4.86 (every six months)	8 / 2015
PTTC156A	4,040	4.75 (every six months)	10 / 2015
PTTC15NA	5,000	7.40 (every six months)	10 / 2015
PTTC150C	1,951	3.80 (every six months)	3 years, 8 months and 20 days / 2015
PTTC165A	3,000	(Year 1 - 6) 5.00, (Year 7 - 12) 5.95 (every six months)	12 / 2016
PTTC165B	2,970	6.17 (every six months)	10 / 2016
PTTC167A	17,100	(Year 1 - 5) 4.25, (Year 6 - 7) 5.25 (every six months)	7 / 2016
PTTC16OA	8,000	5.79 (every six months)	10 / 2016
PTTC17DA	1,500	5.87 (every six months)	10 / 2017
PTTC17DB	1,000	(Year 1 - 4) 3.20, (Year 5 - 6) 4.20, (Year 7) 5.00 (every six months)	7 years and 15 days / 2017
PTTC18DA	500	5.91 (every six months)	11 / 2018
PTTC18NA	18,049	(Year 1 - 4) 4.00, (Year 5 - 6) 4.40, (Year 7) 5.50 (every six months)	6 years, 9 months, and 19 days / 2018
PTTC195A	1,000	5.90 (every six months)	15 / 2019
PTTC195B	15,000	(Year 1 - 4) 4.10, (Year 5 - 6) 5.10 (every six months)	6 years, 11 months and 24 days / 2019

Debentures	Amount (Million Baht)	Annual Coupon Rate (%) (Payment Frequency)	Maturity Period (Years) / Redemption Schedule
PTTC195C	10,000	(Year 1 - 4) 4.10 (Year 5 - 6) 5.10 (every six months)	6 years, 9 months and 15 days / 2019
PTTC208A	4,118	5.95 (every six months)	15 / 2020
PTTC215A	1,030	6.53 (every six months)	15 / 2021
PTTC243A	15,000	(Year 1 - 5) 5.00, (Year 6 - 8) 6.20, (Year 9 - 15) 6.80 (every six months)	15 / 2024 (redeemable after Year 8)
PTTC247A	9,400	(Year 1 - 5) 4.25, (Year 6 - 10) 5.50, (Year 11 - 15) 5.75 (every six months)	15 / 2024 (redeemable after Year 10)
PTTC10DA	4,000	5.90 (every six months)	100 years / 2110 (redeemable after Year 50 and Year 75, and as defined in the terms on rights and duties of the issuers and the holders)

Foreign, unsecured, unsubordinated debentures (Unit: Million Baht)

Debentures	Amount (Million Baht)	Annual Coupon Rate (%) (Payment Frequency)	Maturity Period (Years) / Redemption Schedule
USD bond, 2004	12,311.00	5.75 (every six months)	10 / 2014
USD bond, 2005	10,772.13	5.875 (every six months)	30 / 2035
Samurai bond, 2007	8,941.17[1/]	2.71 (every six months)	10 / 2017
USD bond, 2012	15,388.75	3.375 (every six months)	10 / 2022
USD bond, 2012	18,466.50	4.50 (every six months)	30 / 2042
PTTC14DA swapped to USD	2,769.98[2/]	4.74 on average (every six months)	7 / 2014
PTTC14DB swapped to USD	3,041.00[3/]	1.375 on average (every six months)	4 / 2014
PTTC172A swapped to USD	2,445.13[4/]	LIBOR plus 1.04% (every six months)	7 / 2017
PTTC17DB swapped to USD	3,067.52[5/]	1.375 on average (every six months)	7 / 2017
PTTC222A swapped to USD	3,710.37[6/]	LIBOR plus 1.05% (every six months)	12 / 2022

1/ PTT entered into a cross-currency swap from yen-denominated debentures worth 36,000 million Yen to dollar-denominated ones worth 290.51 million US$ and used financial derivatives to conduct a switchable swap and a cross-currency swap linked to LIBOR as follows: 96.84 million US$ at a fixed rate of 4.975% per year, convertible by a derivative into a floating rate at LIBOR + 0.65% per year; another 96.84 million US$ at a floating rate of LIBOR + 0.20% per year if LIBOR exceeds 4.25% per year, or 5.5% per year if LIBOR is up to 4.25% per year; and another 96.84 million US$ at a fixed rate of 5.37% per year, convertible by a derivative to LIBOR + 0.20% per year.

2/ PTT entered into a cross-currency swap from baht-denominated debentures worth 3,054 million baht to dollar-denominated ones worth 90 million US$ at a fixed interest rate averaging 4.74% per year, thus leaving 2,946 million baht in baht-denominated loans.

3/ PTT entered into a cross-currency swap from baht-denominated debentures worth 3,000 million to dollar-denominated ones worth 98.81 million US$ at a fixed interest rate averaging 1.375% per year.

4/ PTT entered into a cross-currency swap from baht-denominated debentures worth 2,636 million baht to dollar-denominated ones worth 79.45 million US$ at a floating interest rate of 6mLIBOR + 1.04%.

5/ PTT entered into a cross-currency swap from baht-denominated debentures worth 3,000 million baht to dollar-denominated ones worth 99.67 million US$ at a fixed interest rate averaging 1.375% per year.

6/ PTT entered into a cross-currency swap from baht-denominated debentures worth 4,000 million baht to dollar-denominated ones worth 120.55 million US$ at a floating interest rate of 6mLIBOR + 1.05%.

PTT Warrants

1. On April 12, 2005, the 2005 Annual General Meeting of Shareholders (AGM) acknowledged the issuance and offer of 60,000,000 warrants to the President, the management, PTT employees, and employees of PTT Group companies seconded to PTT. The warrants consisted of two batches:

- PTT-W1, numbering 40,000,000 units, offered in 2005
- PTT-W2, numbering 20,000,000 units, offered in 2006

The AGM approved the issuance and offer of all PTT-W1 units covering the purchase of 40,000,000 common shares. Each warrant contained four portions, each exercisable on the last operating day of a three-month period throughout the life of the warrant. Detailed summary of the allocation is as follows:

Portion	Units	Life (Years)	Value (Baht/ Share)	Ratio of Warrants Exercised (Unit: Common Shares)	Exercisable Period Details
1.	10,000,000	5	183	1 : 1	• First exercisable date was August 31, 2006, then every last operating date of every three months from the above-mentioned date throughout the life of the warrants. The last exercise date is August 31, 2010.
2.	10,000,000	5	183	1 : 1	• First exercisable date was August 31, 2007, then every last operating date of every three months from the above-mentioned date throughout the life of the warrants. The last exercise date is August 31, 2010.
3.	10,000,000	5	183	1 : 1	• First exercisable date was August 31, 2008, then every last operating date of every three months from the above-mentioned date throughout the life of the warrants. The last exercise date is August 31, 2010.
4.	10,000,000	5	183	1 : 1	• First exercisable date was August 31, 2009, then every last operating date of every three months from the above-mentioned date throughout the life of the warrants. The last exercise date is August 31, 2010.

From the issuance date to the last exercise date of PTT-W1 on August 31, 2010, warrant exercise for PTT-W1 covering 39,407,300 units was recorded.

Notes: • *The issued warrants, bearing holders' names, were non-transferable except when transferred to a legitimate heir or representative.*
• *Eligible under this scheme were the President, the management, all PTT employees, and employees of PTT Group companies seconded to PTT. No other directors of the Board received these warrants.*

2. On April 11, 2006, the 2006 AGM approved the issuance and offer of all PTT-W2 units covering the purchase of 20,000,000 common shares for the President, the management, PTT employees, and employees of PTT Group companies seconded to PTT. Each warrant contained four portions, each exercisable on the last operating day of a three-month period throughout the life of the warrant. A detailed summary of the allocation is as follows:

Portion	Units	Life (Years)	Value (Baht/ Share)	Ratio of Warrants Exercised (Unit: Common Shares)	Exercisable Period Details
1.	5,000,000	5	234	1 : 1	• First exercisable date was September 28, 2007, then every last operating date of every three months from the above-mentioned date throughout the life of the warrants. The last exercise date is September 28, 2011.
2.	5,000,000	5	234	1 : 1	• First exercisable date was September 28, 2008, then every last operating date of every three months from the above-mentioned date throughout the life of the warrants. The last exercise date is September 28, 2011.
3.	5,000,000	5	234	1 : 1	• First exercisable date was September 28, 2009, then every last operating date of every three months from the above-mentioned date throughout the life of the warrants. The last exercise date is September 28, 2011.
4.	5,000,000	5	234	1 : 1	• First exercisable date was September 28, 2010, then every last operating date of every three months from the above-mentioned date throughout the life of the warrants. The last exercise date is September 28, 2011.

From the issuance date to the last exercise date of September 28, 2011, warrant exercise for PTT-W2 covering 19,646,600 units was recorded.

Notes: • *The issued warrants, bearing holders' names, were non-transferable except when transferred to a legitimate heir or representative.*
• *Eligible under this scheme were the President, the management, all PTT employees, and employees of PTT Group companies seconded to PTT. No other directors of the Board received these warrants.*

Shareholders

PTT's shareholder structure as of September 10, 2012, the book closing date for 2012 interim dividend payment, was as follows:

Item	Shares (in million)	Value (Million Baht)	%
Registered Capital	2,857.2	28,572	-
Paid-Up Capital as of September 10, 2012	2,856.3	28,563	99.967
• Ministry of Finance	1,459.9	14,599	51.111
• Vayupak Fund 1 by MFC Asset Management Plc.	217.9	2,179	7.629
• Vayupak Fund 1 by Krung Thai Asset Management Plc.	217.9	2,179	7.629
• Institutional and Public Investors	960.7	9,607	33.631
Unpaid Capital	1	9.5	0.023

PTT's top 13 shareholders as of September 10, 2012, were as follows:

No.	Name	Shares	%
1.	Ministry of Finance	1,459,885,575	51.111
2.	Vayupak Fund 1 by MFC Asset Management Plc.	217,900,000	7.629
3.	Vayupak Fund 1 by Krung Thai Asset Management Plc.	217,900,000	7.629
4.	Thai NVDR Co., Ltd.	104,844,600	3.671
5.	Chase Nominees Limited 42	72,852,101	2.551
6.	HSBC (Singapore) Nominees Pte. Ltd.	63,928,176	2.238
7.	State Street Bank and Trust Company	34,240,032	1.199
8.	Nortrust Nominees Ltd. - NT0 SEC Lending Thailand	25,924,443	0.908
9.	State Street Bank Europe Limited	24,886,102	0.871
10.	Social Security Office (2 cases)	24,019,200	0.841
11.	Government of Singapore Investment Corporation C	17,812,200	0.624
12.	The Bank of New York Mellon-CGT Taxable	15,813,217	0.554
13.	The Bank of New York (Nominees) Limited	14,980,134	0.524
	Total	2,294,985,780	80.350

Notes: 1. Numbers 5, 6, 8 and 13 were nominee accounts. PTT's investigation at Thailand Securities Depository Co., Ltd. (TSD), found that the ultimate shareholders' names could not be disclosed. However, the Ministry of Finance remained the single majority shareholder on behalf of the state, which in part dictated PTT's management policy. The ministry nominated directors to the Board for approval by shareholders. Other substantial shareholders, including the four above-mentioned ones, did not exercise any influence over PTT's management policy formulation, for example, nominating directors.

2. Shareholders of Thai NVDR Co., Ltd., who held non-voting depositary receipts in item 4, were ineligible for voting at shareholders' meetings except when exercising their voting rights on delisting the shares from SET.

Dividend Policy

PTT's dividend policy

PTT's policy is to pay out dividends at no less than 25% of its net income after deducting all provisional reserves required by law and by PTT. The net income is based on the consolidated financial statements. Dividend payment, however, is subject to future investment plans, necessity, and suitability. Once the Board has decided on the annual dividend payment, it requires approval from a shareholders' meeting. An exception is for interim dividend payment, in which case the Board is authorized to approve such payment and report to the next meeting of the shareholders.

Subsidiaries' dividend policy

As for the dividend policy for subsidiaries, it depends on each subsidiary to decide dividend payment by taking into account its remaining cash flow in relation to the investment capital. If the cash flow is substantial enough after legal provisions, the subsidiary may proceed with the payment on a case-by-case basis.

PTTEP's dividend policy

Barring other necessity, the Board's policy is to propose to the meeting of the shareholders dividend payments at no less than 30% of PTTEP's net income after deducting its annual income tax each year, with occasional interim dividend payment. PTTEP's policy allows no subsidiary to pay dividends.

Management Structure and Corporate Governance

What gives the shareholders trust and confidence in their investment with PTT is its policy and operations that preserve the basic, lawful rights of the shareholders.

In conducting its businesses, PTT constantly recognizes that all shareholders own this company. What gives the shareholders trust and confidence in their investment with PTT is its policy and operations that preserve the basic, lawful rights of the shareholders, or more, in addition to suitable, efficient, and most effective management that is consistently acceptable to investors and relevant parties.

Ever since the privatization into PTT Plc and distribution of its shares on the Stock Exchange of Thailand (SET) in late 2001, it has valued corporate governance (CG) as its guiding principles. PTT regulations state: "The Company must have and implement a policy on its business ethics, including the ethics of its Board of Directors, senior executives, the management, and employees in compliance with good corporate governance practices as its code of conduct for the proper conduct of the organization with a high standard." PTT subsequently issued its rules on good corporate governance in 2001 and first published PTT Principles of Good Corporate Governance in 2003 for directors, executives and employees to sign, acknowledge, and comply with. The handbook was revised in 2005 and 2009 under the direction of the Board to align with the Stock Exchange of Thailand (SET)'s the Principle of Good Corporate Governance for Listed Companies 2006 as well as the Organisation for Economic Co-Operation and Development (OECD) Principles of Corporate Governance in five sections, namely the rights of shareholders, equitable treatment of shareholders, roles of stakeholders, information disclosure and transparency, and the responsibilities

of the Board. New topics-respect for human rights, for consumers' rights, and for intellectual property-were added to suit business circumstances and laws. Such handbooks were regarded as a code of ethics under the Thai Constitution of B.E. 2550 (2007). The revised 2009 Handbook and the Code of Conduct were disseminated on PTT's intranet and website. Below are the essences of PTT's CG practices:

1. Rights of Shareholders

As the owners, the shareholders are entitled to dictate PTT's direction or decide on matters of significant impacts. Shareholders' meetings therefore serve as their key forums for the expression of views, asking of questions, and voting, apart from election of directors to supervise PTT's operation on behalf of the shareholders. Shareholders are entitled to attend shareholders' meetings, take adequate deliberation time, and acknowledge meeting minutes.

1.1 Shareholders' Meetings

As a rule, PTT schedules an annual general meeting of shareholders (AGM) within four months of the annual closing date of its accounting books. For urgent matters that affect or involve the shareholders' interests or involve conditions, regulations, and laws that require the shareholders' approval, it calls an extraordinary meeting of the shareholders.

In 2012, the AGM fell on April 10 with the venue being Queen Sirikit National Convention Center (Plenary Halls 1 - 3) in Bangkok. No extraordinary meeting was held this year.

1.2 Delivering Meeting Notices

For the 2012 AGM, the Board at the meeting No. 2/2555 on February 17, 2012, decided to call a shareholders' meeting on April 10, 2012. Its decision, meeting date, and meeting agenda was disclosed in details ahead of time by announcing on SET's website to alert the shareholders before sending meeting notices.

PTT assigned Thailand Securities Depository Co., Ltd. (TSD), its securities registrar, to mail meeting notices together with details of the agenda and accompanying documents, supplementary and supporting information for decision-making, opinions of the Board, complete minutes of the past meeting, the annual report, meeting documents, proxy forms with complete instruction, to the shareholders more than 14 days ahead of the meeting date. The meeting notices were sent on March 19 - 20, 2012 and three days ahead of the meeting, and the invitation was announced through one Thai and one English newspaper, each for three days (April 4 - 6, 2012), to allow the shareholders enough time to prepare themselves for the meeting.

The AGM meeting notice and supporting documents were made available at PTT's website (www.pttplc.com) 30 days ahead of the meeting date (starting March 9, 2012).

1.3 On the Meeting Date

Before each meeting, the chairman of the meeting introduces the directors, management team members, the external auditor and the legal adviser who acts as a moderator. After explaining PTT's rules on voting and vote counting for individual agenda items, the chairman must clearly address how to vote on each agenda item. Once information has been provided for each item, the chairman gives the floor to all attendants to express opinions or recommendations and ask questions, giving adequate time for debate. The chairman and the management are to address and answer all questions clearly and precisely, treating all questions with due respect. For the election of directors, individual votes are required.

The chairman ensures that the meeting proceeds according to the order of the agenda and does not add an item without notifying shareholders in advance. If the meeting should decide to change the order of the agenda, it would need at least two-thirds of the vote of the shareholders in attendance. Alternatively, the shareholders with at least one-third of all the sold shares may ask the meeting to consider other matters not mentioned in the meeting notice. At the 2012 AGM, the order of the agenda was not changed, and there was no request to consider any other matter.

The minutes of the meeting must be completely and accurately recorded. Voting completes each applicable agenda item. As a rule, shareholders' meetings last 3 - 4 hours. The 2012 AGM began at 9.30 a.m., with registration beginning at 7.30 a.m. At the meeting's opening, a total of 4,357 shareholders registered, of whom 1,747 were shareholders and 2,610 were proxy holders, holding a total of 2,004,521,214 shares, accounting for 70.18% of the total shares sold, which exceeded one-third of all the sold shares of 2,856,299,625 with the following attendees:

Board of Directors

1.	Dr. Norkun Sitthiphong	Chairman
2.	Mr. Chulasingh Vasantasingh	Independent director/ Chairman, Audit Committee
3.	Mr. Surapon Nitikraipot	Independent director/ Chairman, Corporate Governance Committee
4.	Mr. Krairit Nilkuha	Director/ Member, Remuneration Committee/ Nominating Committee
5.	Mr. Krairit Euchukanonchai	Independent director/ Member, Audit Committee
6.	Ms. Benja Louichareon	Director/ Member, Remuneration Committee
7.	Mr. Sihasak Phuangketkeow	Independent director
8.	Gen. Warawat Indradat	Independent director
9.	Gen. Prin Suvanadat	Independent director
10.	Mr. Waroonthep Watcharaporn	Independent director
11.	Dr. Chitrapongse Kwangsukstith	Director
12.	Dr. Pailin Chuchottaworn	Director & Secretary to the Board/ Member, Nominating Committee/ President & CEO
Directors absent from the meeting to attend the collection of the royal relics and ashes of HRH Princess Bejaratana (The schedule of the ceremony was announced after the AGM date was fixed)		
13.	Mr. Arkhom Termpittayapaisith	Independent director/ Chairman, Remuneration Committee/ Member, Audit Committee
14.	Mr. Watcharakiti Watcharothai	Independent director/ Chairman, Nominating Committee/ Member, Corporate Governance Committee
15.	Mr. Montri Sotangkur	Independent director

Executives

1.	Mr. Tevin Vongvanich	CFO
2.	Mr. Wichai Pornkeratiwat	COO, Uptream Petroleum and Gas Business Group
3.	Mr. Nuttachat Charuchinda	COO, Downstream Petroleum Business Group

Also in attendance were several senior executive vice presidents and executive vice presidents of business units to address queries.

External Auditors

1.	Ms. Kretnatee Sasikarn	Office of the Auditor-General
2.	Ms. Mayuree Chanthamat	Office of the Auditor-General
3.	Ms. Methavee Suasom	Office of the Auditor-General

Legal advisers (to proctor balloting in case of disputes during the meeting)

1.	Ms. Pheangphanaw Boonklam	Weerawong, Shinawatra & Pheangphanaw Co., Ltd.
2.	Ms. Sawitta Pitiwan	Weerawong, Shinawatra & Pheangphanaw Co., Ltd.
3.	Mr. Akraphol Phichetwanitchoke	Allen & Overy (Thailand) Co., Ltd.
4.	Ms. Mananya Thitinanthawan	Allen & Overy (Thailand) Co., Ltd.

Number of Shareholders (at meeting's end at 12:34 hrs)

8,301 shareholders registered, of whom 3,649 were shareholders and 4,652 were proxy holders, holding a total of 2,469,376,937 shares, accounting for 86.45% of the total shares sold.

1.4 Practical Guidelines for Reporting Conflicts of Interest

As specified by the CG Handbook, all directors, management team members, and employees must prepare reports on conflicts of interest, consisting of annual reporting forms and a new annual format in case of changes during the year. At a given meeting, people with vested interests or conflicts of interest with PTT must inform the meeting to excuse themselves and abstain from voting on each connected matter.

Similarly, at shareholders' meetings, directors are supposed to behave likewise in case they are connected with any agenda item.

1.5 Disclosure of Shareholders' Meeting Outcomes

For the 2012 AGM, PTT duly submitted the summary of resolutions made to SET and the SET Board within the afternoon of the date of the meeting (April 10, 2012). It also duly submitted the report of the shareholders' meeting with minutes, voting records, and every question raised by shareholders to SET and the SET Board within 14 days after the meeting. Meeting information, videotapes, and audiotapes are accessible through PTT's website.

2. Equitable Treatment of Shareholders

PTT treats all shareholders fairly despite different shareholding proportions and thus different voting proportions. The fundamental rights of the shareholders are conserved regardless of their gender, age, origin, nationality, religious belief, physical impairment, or political inclinations. At the AGM, seats at the most convenient spots were reserved for the elderly, disabled, and pregnant women with officers to attend to their needs. All shareholders have equal rights to take part in PTT's activities.

2.1 Proposing Additional Meeting Agenda Items and Nominating Directors

To enable minor shareholders to earnestly take part in business operations and auditing, PTT has defined the criteria and consideration process for entitling them to propose meeting agenda items and/or nominate directors in advance to deliberate agenda items that could be useful to PTT, including the selection of qualified directors to perform their duties efficiently in the best interests of PTT and all stakeholders alike. In practice, shareholders with a combined holding of at least 100,000 shares could propose agenda items or nominate qualified directors before the AGM during the last quarter of the previous year.

For the 2012 AGM, PTT posted such criteria on its website and posted an announcement on the website of SET from October 1, 2011, to December 30, 2011, so that the shareholders could propose meeting agenda items and/or nominate directors in advance. For the 2013 AGM, PTT posted such criteria on its website and posted an announcement on the website of SET from October 1, 2012, to December 31, 2012. However, it attracted no recommendation of such agenda items and no nomination of directors, and the Corporate Secretary had duly informed the Board meeting on the matter.

2.2 Facilitating Shareholders at the Meeting

For the 2012 shareholders' meetings, PTT facilitated all shareholders by manning officers to welcome and take care of them, and provided a dequate convenience. The meeting venue was well chosen to facilitate the elderly and those on wheelchairs. Back-up meeting rooms were in place, as was a signal relay system between meeting rooms. Security precautions and emergency contingency plans were in hand. Examination of registration

credentials one day ahead of the meeting was possible. Officers provided photocopying services and verified documents. On the meeting day, registration opened two hours ahead of the meeting and extended until the period before the last meeting agenda. A barcode system quickened registration. Finally, the shareholders had access to a reception.

Since most of the shareholders attending the AGM were Thais, each meeting was conducted in Thai. However, for the benefit of foreign shareholders, PTT commissioned the translation of shareholders' meetings, supplementary documents, and other relevant documents in English. Its website is also bilingual. It also provided officers skilled in English on hand at meetings to facilitate foreign shareholders. If shareholders cannot communicate in Thai but want to pose queries or discuss in the meetings, PTT does arrange for suitable communication and provide translation into Thai for both the queries and the answers for other shareholders to preserve their interests and ease communication needs for foreign shareholders.

2.3 Appointing Proxies

To maintain the rights of shareholders who cannot attend the 2013 AGM in person, they can appoint proxies or delegate their votes to any PTT's independent director in attendance. To this end, PTT has specified these independent directors' names in proxy forms defined by the Ministry of Commerce for voting on behalf of shareholders without conditions. PTT treats proxies as if they were shareholders. Thirty days ahead of each meeting, PTT discloses the proxy form, which is attached along with details and procedures on its website. Shareholders may make further inquiries about this by phone or other channels such as PTT's website and e-mail.

3. Roles toward Stakeholders

As the national energy company, PTT accounts for all stakeholders' rights and interests by establishing guidelines for addressing the needs of each group in and outside PTT, as well as its own responsibility to society and the environment. The following spells out PTT Group's missions for each of the six following groups:

To the country: Ensuring long-term energy security by providing adequate high-quality energy supply at fair prices to support economic growth.

For community and society: Maintaining a good standing corporate status in society by exercising environment stewardship of internationally accepted standards and helping to improve the quality of life for the community and society.

To shareholders: Operating profitable businesses that lead to sustainable growth while generating optimum returns.

To customers: Ensuring customers' satisfaction and loyalty by delivering world-class quality products and services at fair prices.

To business partners: Conduct fair practice with all partners while promoting trust, relationship, and cooperation to extend business capability and increase efficiency in long-term business partnerships.

To employees: Promoting capability building professionally and ensuring that employees' well-being is on a par with other leading companies in order to strengthen organization/employee engagement.

3.1 Treatment of Six Main Stakeholder Groups

3.1.1 Thailand

As a state enterprise serving as the national energy company, PTT secures natural resources to address the needs of the country while accommodating public policy on research, development, production, and distribution of alternative energy and clean energy to lower import dependence. Also, PTT generates income for the public sector (its major shareholder) for national development and is the leader in alternative energy.

PTT's businesses consist of procurement and supply, transport, distribution, gas processing, and investment in NGV stations, in addition to businesses that exploit and add value to natural gas through PTT Group companies. To achieve this, it secures gas supply from indigenous sources, imports from neighboring countries, and imports Liquefied Natural Gas or LNG in the future to satisfy demand. PTT secures more natural gas from indigenous sources to sustain the demand posed by the power, industrial, and transport sectors. The efficiency of gas separation plants (GSPs) has been improved to raise the total capacity for gas processing into assorted products for value addition and for downstream applications.

PTT distributes its petroleum products (fuels, LPG, lubricating oil, and other products) through three main channels. First, retail marketing, conducted through PTT service stations, now developed into sophisticated and integrated 'Life Stations'. Second, commercial marketing, conducted through government agencies, state enterprises, industries, airliners, cargo ships, fishing boats, gas bottling plants, LPG outlets, and exports. And third, distribution of products through fuel traders under the Fuel Trade Act. PTT also constantly promotes biofuels-namely gasohol to replace gasoline, and biodiesel to replace diesel.

In addition, to enhance energy security, PTT invests in the exploration and production business, the oil refinery business, and the petrochemical business through its affiliates. It is also a way to maximize the benefit of natural resources, a vital element of national economic development. Details appear under "Nature of Business and Business Performance".

3.1.2 Society and Communities

PTT values the well-being of society, communities, and the environment of the areas where it operates and gets involved in solving social problems through the project management process and CSR activities in various forms that are beneficial to social, community, and environmental development. PTT's Corporate Communications and Social Responsibility Department was appointed to take charge from the preparation of enterprise policy, annual strategy planning, and implementing projects in conjunction with related business sectors, including follow-ups of the projects. Progress of the projects and activities are reported to the President/CEO and the Corporate Governance Committee.

PTT remains committed to continually proceeding with social, community, and environmental development work. For details of 2012 activities, please refer to the "Power for Sustainable Future" section.

3.1.3 Shareholders

The Sustainable Growth Strategy finds application in PTT management to achieve a High-Performance Organization (HPO) that is based on Corperate Governance (CG) in tandem with CSR (Corporate Social Responsibility) to ensure investors that PTT provides sound investment returns and is sustainable, apart from being a part of Thai society in years to come.

Activities for shareholders

Since 2006, PTT has continually arranged trips for minor shareholders to visit our operation, update information, and meet the management as well as participating in PTT's CSR activities in Rayong. This year the trip was planned for November 20 - 22, 2012 for a visit to Rayong GSP in Map Ta Phut Industrial Estate (a tour around the compound by bus with officers from the Rayong GSP providing information and answering questions from the visitors) and a CSR field trip to the HRH Princess Maha Chakri Sirindhorn Herbal Garden in Rayong for 480 shareholders in three groups.

• On the arrangement of the visits, PTT mailed invitations and reply letters to the shareholders whose names appeared on the roster at the registration book closing for the interim dividend of 2012 on September 10, 2012. With an overwhelming response from more than 2,400 investors, Visitors' names were drawn and witnessed by the management and the Corporate Governance Committee. The names were announced on PTT's website. In addition, PTT officers phoned the winners to confirm their interest. A survey of the visitors showed that 94.31% of them found the visit satisfactory to very satisfactory.

Those interested in visiting PTT's operation sites can follow project updates and details on PTT's website. PTT reserves the rights to invite only those that have never taken part in this activity.

Activities for debenture holders

After the overwhelming response and success of our relations activities "Variety Concert" with debenture holders from the "Infinite Miracle Concert" in 2010 and "The Everlasting Concert" in 2011, PTT held the third concert, called "The Impression Concert", in 2012 for about 25,000 debenture holders and their companions. The star singers, both solo and bands, included Nantida Kaewbuasai, Christina Aguilar, Oad Kiriboon, and Nuvo, while the actors and actresses included the adored couples Nadech and Yaya, and special appearence by comedian Koh Ti, as well as other CSR activities and fun booths held at the concert.

Other activities were also held to create and maintain good relationship with our debenture holders who invested in our debentures included activities on health and family relations, and a seminar on "Find Prosperity During Uncertain Situation and Analysis on the Future of the Country 2012" for debenture holders in and around Bangkok Metropolis and major provincial areas.

Activities for Institutional Investors

In 2012, besides investor meetings to inform institutional investors and securities analysts on its quarterly performance, PTT organized regular Company visits and meetings with its executives in January and organized a visit to Rayong GSP Unit 6. There such visitors learned about PTT's business direction from executives first-hand and had an opportunity to be involved in PTT's CSR activities.

3.1.4 Customers

PTT takes customers' satisfaction seriously, since they buy our products and services. It offers fair prices, quality, and accountability to customers and is committed to consistently developing its products and provides safe, integrated, prompt, and quality services in response to their needs.

PTT has implemented Quality, Security, Safety, Occupational Health, and Environmental Management Systems (QSHE) in its operations to focus on quality management through efficient work processes to deliver products and services that satisfy customers. At the heart of its operations is the continual implementation of assorted systems, including ISO 9001, TIS 18001, and ISO 14001.

PTT manages customers and marketing in compliance with its vision and mission to cater to consumers' diverse needs and expectations. It thus divides its market into three units: 1) Gas - with two groups of customers: natural gas customers and products customers, 2) Oil - with three groups of customers: retail customers, commercial customers, and supply sales, and 3) International Trading - with three groups of customers, namely products, product transportation, and risk management. Customers' life cycles are divided into four groups: potential, current, growing, and ex-customers.

PTT has three processes in taking in views, comments, and complaints from customers: 1) Direct contact through the likes of visits, meetings, training, seminars, 2) Contact through information media with channels such as phone, fax, website, social network, and call center, 3) Through surveys by a third party covering all groups of customers and their life cycles. Frequencies of the processes vary with each channel. Information received from customers will be used as data on their needs so that PTT can design new products or innovations to match the needs, such as PTT Blue Innovation products of novel formulas, PTT Performa Synthetic lubricating oil, PTT Life Station, Café Amazon coffee shops, and Amazon Embrace outside service stations. The data are also used in the Customer Relationship Management plan (CRM Plan) to develop business consultant programs designed for area sale managers to provide business consultancy to sale agents, in holding sales promotion with other products/services, and in PTT Motor Sport for race cars, motorcycles, and jet skis using PTT lubricating oil. A total of 24 activities were held in 2012.

PTT applied the QSHE Management System to maintain its operation standards. Users' Guide and Operating Manual and service standards for every process are in place to ensure that all personnel and process throughout the chain could keep up with the same high standards in response to customers' needs.

PTT has instituted a complaint management process should the customers become dissatisfied with its products or services. It provides diverse channels of taking in views, comments, and complaints from customers and consumers through the three processes mentioned above. All complaints will be handled within the day and the customers will be informed on the method and time in handling problems from time to time until the matter is resolved and the customers acknowledge that the case is closed. Complaints are efficiently handled to keep the customers' confidence and trust in PTT.

PTT has set up processes to assess customers' satisfaction, dissatisfaction, and loyalty. Data on customers' needs help improve products/services, work processes, strategic plans, marketing plans, and CRM plans to enable PTT to respond to customers' needs beyond their expectation.

3.1.5 Business Partners

Since business partners are the key to business success through mutual support, PTT takes them seriously and treats them fairly on the basis of fair competition and mutual respect, and in good cooperation. PTT strictly complies with contracts and values procurement processes, as they are vital to the determination of expenses and the quality of PTT products and services. For transparency, a clear procedure is therefore essential for openness to scrutiny and maximum benefit.

PTT requires price bidders to strictly conform to the rules about work safety and handling of tools, as well as other regulations, particularly in the type of work affecting safety, health and environment. PTT visits business partners' operation sites to assess their capabilities, particularly those on the QSHE side. In addition, business partners' employees must undergo the practice and operation training in PTT's operating areas in addition to conforming to the requirements for entering sites to work, as described for each site.

PTT is committed to operating businesses that lead to sustainable growth and adheres to corporate governance for social, community, and environmental development. To efficiently achieve its goals, PTT stresses the importance of supply chain management and development through monitoring our business partners. In 2012, PTT's **"Supplier's Sustainable Code of Conduct"** was defined with the contents and scope of the code in line with related rules, regulations, and laws. The Code consists of four major practices:

1. Business Ethics
2. Human Rights
3. Occupational Health and Safety
4. Environmental Management

The Code came into effect on April 1, 2012, and will be enforced on PTT's contracted suppliers with contract value over 2 million baht and/or on work with operations with potential impacts on safety and the environment.

PTT also implemented Total Cost of Ownership (TCO), a method to calculate the costs of delivering materials and communication convenience, as a criterion in selecting business partners, to enable those with production bases and offices in Thailand to compete better. This represents our support of locally produced materials, resulting in a higher number of domestic business partners for certain materials where they have no procurement limitation.

Efficient and competent operation of suppliers is important to PTT, which targets sustainable growth for itself as well as its suppliers. Approaches for the management and development of suppliers were set up to:

• Exchange information and knowledge between PTT and suppliers and develop suppliers' potential to support PTT's performance and success in its operations, business continuity, and social responsibility. This year, PTT held three "Suppliers Relationship Management (SRM)" seminars.

• **The 1st Suppliers Relationship Management Seminar** was held on July 31 to communicate with all units' major suppliers. The suppliers learned the following from the seminar:

- PTT's business direction
- Understanding of Suppliers Relationship Management (SRM)
- Sustainable Supply Chain Management
- Acts on counter-corruption related to procurement.

The 2nd and the 3rd Suppliers Relationship Management Seminars were workshop with joint activities and exchange of views between procurement staffs and suppliers to create sustainable partnership.

• **The 2nd Suppliers Relationship Management Seminar** was held on August 21, 2012 to communicate with major suppliers of Rayong GSP. The suppliers learned the following from the seminar:

- Sustainable Supply Chain Management
- Acts on counter-corruption related to procurement.

• **The 3rd Suppliers Relationship Management Seminar** was held on December 13, 2012 to communicate with major suppliers of service stations. The suppliers learned the following about PTT's present and future operating direction for service station business in the following fields:

- Design and engineering
- Service station maintenance
- Procurement and material management.

3.1.6 Employees

Our employees are pivotal to our business success. All employees - wherever they work - must be treated without prejudice. Unity, trust, impartiality, polite manners, and respect for human dignity are stressed. A good and safe work environment, with suitable compensation, welfare, and innovation, is essential. Sexual harassment is not tolerated. Besides, PTT promotes the exercising of wage earners' rights under laws governing labor unions and state enterprise relations.

Convinced that the quality of its people is key to its high performance, PTT is committed to the development of human resource management systems compatible with technological advancement and international standards. It not only promotes both conscientious merit and business competence for its employees, but also encourages them to actively take part in public service activities. It is indeed through employees that PTT focuses on its development toward a high-performance organization to increase competitiveness and respond to changes in the organization.

Headcount of Personnel and Compensation

As of December 31, 2012, the PTT employee headcount (including those seconded to PTT's affiliates) stood at 4,227. PTT has continued to set its manpower plan in line with its operations under uncertain economic conditions, with a focus on allocating resources where significant value supplementation is likely or where continuing investment is needed. PTT formulates human resource plans and earnestly develops the potential of all its employees, as well as streamlining its business procedures to enhance work efficiency.

Labor Disputes

No report of PTT's labor disputes was made during the past three years.

The headcounts for the business groups from 2009 to 2012 are as follows:

Business Unit Unit: Persons	2009		2010		2011		2012 (Jan.1 - Dec. 31)	
	PTT	PTT Group	PTT	PTT Group	PTT	PTT Group	PTT	PTT Group
1. Natural Gas	1,196	-	1,206	-	1,270	-	1,367	-
2. Oil	1,199	-	1,182	-	1,387	-	1,296	-
3. Petrochemicals and Refining	72	-	61	-	68	-	103	-
4. Support staff/secondees to PTT affiliates	938[1/]	276[2/]	1,077[1/]	274[2/]	1,045[1/]	276[2/]	1,197[1/]	265[2/]
5. Subsidiaries and jointly-controlled entities	-	7,676	-	8,743	-	17,964	-	20,551
Total	**3,405**	**7,952**	**3,526**	**9,015**	**3,770**	**18,240**	**3,963**	**20,816**

Notes: *1/ Excludes PTT secondees*

2/ PTT secondees

Compensation for Personnel (excluding the President & CEO and Senior Management)

Unit: Baht

Compensation	2009	2010	2011	2012 (Jan.1 - Dec. 31)
Total Salary	2,900,872,989	2,976,806,620	3,044,018,5892	3,311,831,273
Total Bonus	1,336,855,751	1,482,437,324	1,465,345,881	1,653,647,970
Provident fund contribution	280,726,154	284,638,508	293,871,121	318,714,613
Others (if applicable)	1,346,214,160	1,592,691,853	2,076,671,038	2,331,060,076
Grand Total	**5,864,669,055**	**6,336,574,305**	**6,879,906,629**	**7,615,253,932**

Other Compensation

PTT has instituted employee welfare and other compensation apart from salary, bonus, and provident fund contribution for management and all employees in keeping with economic conditions, cost of living, and other standards for peer companies, such as housing allowance, upcountry allowance, and overtime payment. In 2005 and 2006, PTT approved two tranches of 60 million units of warrants for the President, the management, employees, and employees from affiliated companies serving PTT in a move to boost motivation and at the same time reward the management and employees for their total, consistent dedication. This incentive was designed to create a sense of ownership and encourage participation in the management and development of PTT, benefiting its performance and business operations. Details were reported under "PTT's Warrants".

Human Resource System Development and Improvement

To become a high-performance organization, PTT had since 2010 improved the process and mechanism for human resource management to ensure higher efficiency and realize the full potential of its employees. PTT employees are able to fully demonstrate their competence, advance in their careers, and continue to grow with PTT.

PTT has focused on participation across the board in designing business plans to suit its direction and targets, since this will efficiently align all components of the Company. To this end, it has instituted a process in which the senior management of PTT and its affiliates along with support staff jointly define a vision and direction before propagating the agreed items for other units to use in defining business strategies and business plans and come up with budget plans in broad alignment. All PTT employees defined individual objectives and KPIs cascaded through the ranks from the corporate, department, to the individual level. Such objectives and indicators defined by employees then serve as a framework for performance and performance assessment standards.

PTT applies Career Management to prepare and promote the management and all employees with skills and knowledge to fit the PTT-designed model in coping with the missions and creating values for the organization. PTT has applied this model in developing its employees for greater efficiency by dividing employees into two professional groups with clear and efficient interconnected (senior management and staff) with a system on recruitment, assessment, and individual development plan in place.

• Senior management (equivalent to vice presidents upward) are subject to staff development called Group Leader Development, which sustains the needs of high-level executives in both quantity and quality. Management of this group is supervised by a panel of CEO's in PTT Group called the PTT Group Management Committee (PTTGMC) with responsibility for defining directions and the policy on development plan for senior management, and a PTT career-counseling team called PTT Group Executive Counseling Team (ECT) with the responsibility for supporting the designing of development plans for senior management.

• Staff (Division Manager or equivalent downward): This internal management is specific to PTT or a PTT Group company in developing employees to suit operation needs. The Corporate Human Resources Committee is appointed to promote and monitor the development plan of each staff member. A Career Counseling Teams (CCT) for 14 professional groups takes charge of defining and developing individuals, and of providing counseling and guidance to them. The development plan is a tool for employees to set their goals and development of their career paths and put value in their work in line with PTT's direction and goals. Such staff development can be undertaken through proper training via competency and success profiles or via job rotation in line with their career paths, which will enable them to develop skills in their new positions, as do suitable appointments and promotions for their responsibilities and potential. Finally, development of staff to suit their competencies and needs of both staff and the organization would in time lead PTT to its goals.

This year, PTT improved its Career and Competency Management. The success profile of each position was set up and reviewed, competency assessment system improved, Individual Development Plan (IDP) under COACH system prepared, and an operation handbook revised to develop each staff member for his or her position and in line with PTT's business.

PTT also implemented the Lifetime Learning Organization Mechanism. It also evolved its knowledge management system for essential, relevant information while encouraging the management and all to do the same and update this regularly. It made this system available for all to facilitate learning and efficient problem-solving, while actively promoting employees' own

development of their potential, since this is a cornerstone to a high-performance organization, that is "To become a Learning Organization, we rely on human intelligence. Learning is an ongoing, lifelong process". PTT provided training and development programs to its management and employees from their recruitment to retirement to enhance their competence toward corporate directions and needs, resulting them to be **personals with performance excellence and ethics of the organization and society**.

Besides a human resource management system focusing on making employees both smart and responsive to its expectations, PTT encourages its people to participate in CSR activities while observing CG principles. PTT is convinced that achievement of competence and righteousness will foster steady and sustainable growth for itself.

Fostering Positive Relations between the Management and Staff in Search of the Same Goal

Communication between the management and staff at PTT comes in various forms. Needing to be aware of corporate business, obstacles, and potential repercussions, all employees should be allowed to share their views and take part in business efficiency improvement. This year, besides the monthly labor relations committee meetings, PTT held joint consultation committee (JCC) meetings between its management team and staff of regional offices nationwide. In addition, the President & CEO not only continually held regular meetings with employees and attended meetings among the management and staff (both in and outside PTT), but also surveyed employees' satisfaction for views and suggestions for improvement. PTT is convinced that proper communication and information exchange among all will induce smooth relationship cooperation, thus moving the organization forward to its goals. Moreover, PTT surveyed basic human resource needs of the management and staff through the operation of numerous committees, such as the Human Resource Management Committee, PTT Labor Relations Committee, and Career Path Management Committee. A survey of staff opinions was undertaken once by an external human resource management adviser. There was also cooperation with PTT Group to jointly develop a database of the management as well as development plans of senior management.

PTT Group Core Values

PTT's management and employees believe that the PTT Group Core Values, known as SPIRIT, will help PTT Group, the executives, and staff create a common work path, direction, and belief that align with the vision of PTT Group to become a sustainable high-performance organization. These core values serve as guidelines in formulating ideas and beliefs which influence work practice and behavior. Thus, SPIRIT is a key element to strengthen PTT cultures, decision-making, and sense of belonging, while inspiring

employees to be both smart and conscientious. SPIRIT consists of:

S = Synergy
P = Performance excellence
I = Innovation
R = Responsibility for society
I = Integrity & ethics
T = Trust & respect.

Succession Planning

Because PTT is a state enterprise, the nomination and appointment of the President & CEO must follow the Standard Qualifications of Directors and State Enterprise Officer Act. Directors must have the qualifications as specified in Section 8 ter and the nominating procedures as specified in Section 8 quarter. The Board is to appoint a Nominating Committee, with five members duly qualified, which nominates persons with appropriate knowledge, capability, and experience to fill the positions of PTT management. Candidates must be legitimately qualified and cannot be PTT directors, except for management team members who are directors by title. They must not be older than 58 years old when submitting the application form. When the Nominating Committee selects appropriate candidates, it submits the results to the authority. The appointment must be completed within one year from the day the incumbent vacated the position. Each employment contract lasts up to four years for each term. If the Board wishes to hire a previous management team member after the completion of his term as specified in the hiring contract, it does not have to go through the nominating process, but it cannot hire the person for more than two consecutive terms.

In 2011, the Board recruited a new President & CEO to replace Mr. Prasert Bunsumpun, who completed his term under his employment contract on September 9, 2011. The New President & CEO Selection Committee was appointed under the Standard Qualifications of Directors and State Enterprise Act. A total of four candidates, three from PTT executives and one non-PTT person applied for the position. The selection process was conducted transparently under the guidelines on senior executive position selection under article 8, paragraph 3 of the Standard Qualifications of Directors and State Enterprise Act (No. 6) B.E. 2550 (2007).

This committee proposed Dr. Pailin Chuchottaworn to the Board for consideration. The Board, on May 27, 2011, approved Dr. Chuchottaworn as the new President & CEO, replacing Mr. Bunsumpun, with effect from September 10, 2011, for a four-year term.

PTT has taken steps to nominate the next President & CEO and to prepare for the retirement of senior management team members in 2012 - 2017 under succession planning under PTT Group's policy/ guidelines. A management pool has been developed, consisting of 312 management executives, and another potential pool for key areas.

In 2009 and 2010, PTT improved the Group Leader Development Project (GLDP) to lay down a succession plan for personnel when the time comes for assuming higher positions that become vacant, namely:

- President
- Senior Executive Vice President (SEVP) or equivalent
- Executive Vice President (EVP) or equivalent
- Vice President (VP) or equivalent.

Core responsible management parties and units are as follows:

- PTT Group Management Committee (PTTGMC)
- PTT Group Executive Counseling Team (ECT)
- Corporate Human Resources Committee (HRC)
- SEVP, Corporate Management or equivalent in PTT Group
- EVP, Corporate Human Resources
- Human Resource Strategy and Policy Department
- Executive and Personnel Capability Management Department

- Human Resource Management Department of each business unit
- Learning and Development Department.

Systems and policies have been defined for guidance, including these aspects:

- Principles and rationales
- Performance assessment
- Approaches
- Roles and duties of involved parties
- System processes

Key Procedures:

1. Defining for each position the business driver and success profiles
2. Selection of pool members
3. Individual assessment of potential against the profiles of promoted positions, resulting in aspects needing development
4. Individual development planning and implementation, with a mentoring system designed to enable the plans to achieve targets.

Performance in 2012

- Selection of SEVP pool members from EVPs
  - 75 pool members (as of December 31, 2012)
  - 13 pool members already promoted (2008 - 2012)
- Selection of EVP pool members from VPs
  - 135 pool members (as of December 31, 2012)
  - 20 pool members already promoted (2008 - 2012)
- Selection of VP pool members from PTT division managers
  - 164 pool members (as of December 31, 2012)
  - 53 pool members already promoted (2009 - 2012).

3.2 Respect for International Human Rights Principles

PTT requires that all its directors, the management, and employees observe laws, customs, and culture which differ in each country that PTT invests in and strictly respect international human rights principles under the Universal Declaration of Human Rights; it does not condone its violation.

PTT encourages its group of companies to apply human rights principles to their CSR framework. As a member of the United Nations Global Compact (UNGC) since March 1, 2012, PTT indicated its intention to observe principles on human rights, labor rights, environmental conservation, and anti-corruption as its guidelines for doing business, which will resolve fundamental problems faced by the business sector and communities, as a responsible corporate citizen should do. PTT Group of companies, including PTTGC, PTTEP, IRPC, Bangchak Petroleum, and Thaioil, joined the UNGC. Relevent performance was detailed in the Corporate Sustainability Report 2012.

3.3 Significant Disputes with Stakeholders

Details appear under “Legal Dispute”.

4. Disclosure of Information and Transparency

Disclosure of information is a key index of transparency, an important factor to create confidence among investors and stakeholders. PTT values correct, accurate disclosure of information and creates numerous channels of disclosure of information so that all stakeholders can gain easy access to information. PTT promotes awareness among directors, the management, and employees of the importance of good corporate governance and transparency to their work, and creates appropriate mechanisms to receive complaints and fair treatment both for those who file complaints and those who have been complained against.

4.1 Financial and Non-financial Reports

PTT prepared the Sustainability Report 2012 to communicate its policy, management approach, and outcomes of its economic, social, and environmental performance by relying on the Sustainability Reporting Guidelines and Oil and Gas Sector Supplement (OGSS), Version 3.1, of the Global Reporting Initiative (GRI) approach, to ensure that the information disclosure was suitable to and more specific for the business, with completeness assessed at the A+ level. PTT has commissioned an external party for the certification of the report's accuracy, transparency, and accountability for the second consecutive years and years to come. This report together with the annual report was delivered to the shareholders and is accessible to those interested via www.pttplc.com.

4.2 Investor Relations

Ever since PTT's privatization and share trading on SET in October 2001, the Investor Relations Department has been established as a clearing house for disclosing essential information to investors and financial reporting, which includes performance reports, financial statements, and information reported to SET, together with quarterly management discussion and analysis (MD&A) reports with updated performance and corporate directions. These are disclosed to domestic and international shareholders fairly, regularly, and thoroughly. A quarterly investors' magazine under the "happiness" title has been prepared to communicate business information and data, as well as PTT's performance, aimed at debenture holders and the quarterly newsletter "PTT Bizway" with the same purpose, aimed at common shareholders. The two publications are in Thai and English to communicate PTT's vision, mission, quarterly performance, CG, management toward sustainability, and other current major activities. Investors may contact the department directly or through the PTT website, which is regularly updated, for information in Thai and English, which includes:

- Annual report/Form 56-1
- Major investment project information
- Procurement and hiring
- Policy statements by the management
- Implementation of government policies
- Key plans
- Corporate governance policies and promotional activities
- Financial performance
- Non-financial performances
- Highlights of social responsibility activities.

Through the years, PTT has valued the disclosure of information that is accurate, complete, transparent, and comprehensive, as well as direct and indirect presentation of performance and keeping investors, shareholders, and relevant parties informed of its information. A summary of our activities appears below:

- **Direct**: PTT regularly presents information to analysts, investors, and employees at analysts' meetings, roadshows, conference calls, and conferences. PTT also holds joint activities with SET to meet minor investors. Analysts, investors, and interested parties also join company visits to meet our management and always inquire about our updates.

In 2012, these key activities took place:

Activities	2011 (times)	2012 (times)
International roadshows	11	14
Domestic roadshows	4	6
Analyst meetings	4	4
Credit rating reviews	3	5
Company visits/ conference calls	148	163
E-mail/ phone calls	8 - 10 times daily	8 - 10 times daily
Joint activities with SET and other agencies to meet investors	2	3
Trips for institutional investors to visit and meet management team members	2	4
Trips for minor investors to visit and meet management team members	The planned visit (three batches) in November 2011 was moved to February 2012 because of the Great Floods	The visit (three batches) was planned in November 2012
Relations activities with debenture holders	15	18

- **Indirect**: Information about PTT, its performance, financial statements, and reports filed with SET are found at www.set.or.th, PTT's website, and the "happiness" magazine for debenture holders as well as the quarterly newsletter "PTT Bizway" for common shareholders.
- Investors and interested parties can also make inquiries to Investor Relations at Tel. 0-2537-3518-9, through e-mail at ir@pttplc.com, or through PTT website at www.pttplc.com.
- In addition, PTT has constantly publicized news, business activities, and project updates, apart from addressing questions and facilitating contacts for the media and the public. The activities this year appear as follow:

Activities	2011 (Units)	2012 (Units)
E-mails	216	350
News/ photo releases	216	350
Press conferences	55	65
Media visits to operations (domestic and international)	8 per year	15
Welcoming and information provision to visiting agencies for assorted purposes	49 groups = 2,181 persons	78 groups = 3,932 persons

4.3 Complaint-Filing and Access to Information

All stakeholders have equal access to PTT's public information, including reporting of news and leads, whether inside the Company through the intranet webboard or outside the Company through its website, by phone, letter, or e-mail. Please contact Investor Relations, Office of the President and Corporate Secretary, Corporate Communications, or the Ordering & Customer Relations Center through these channels:

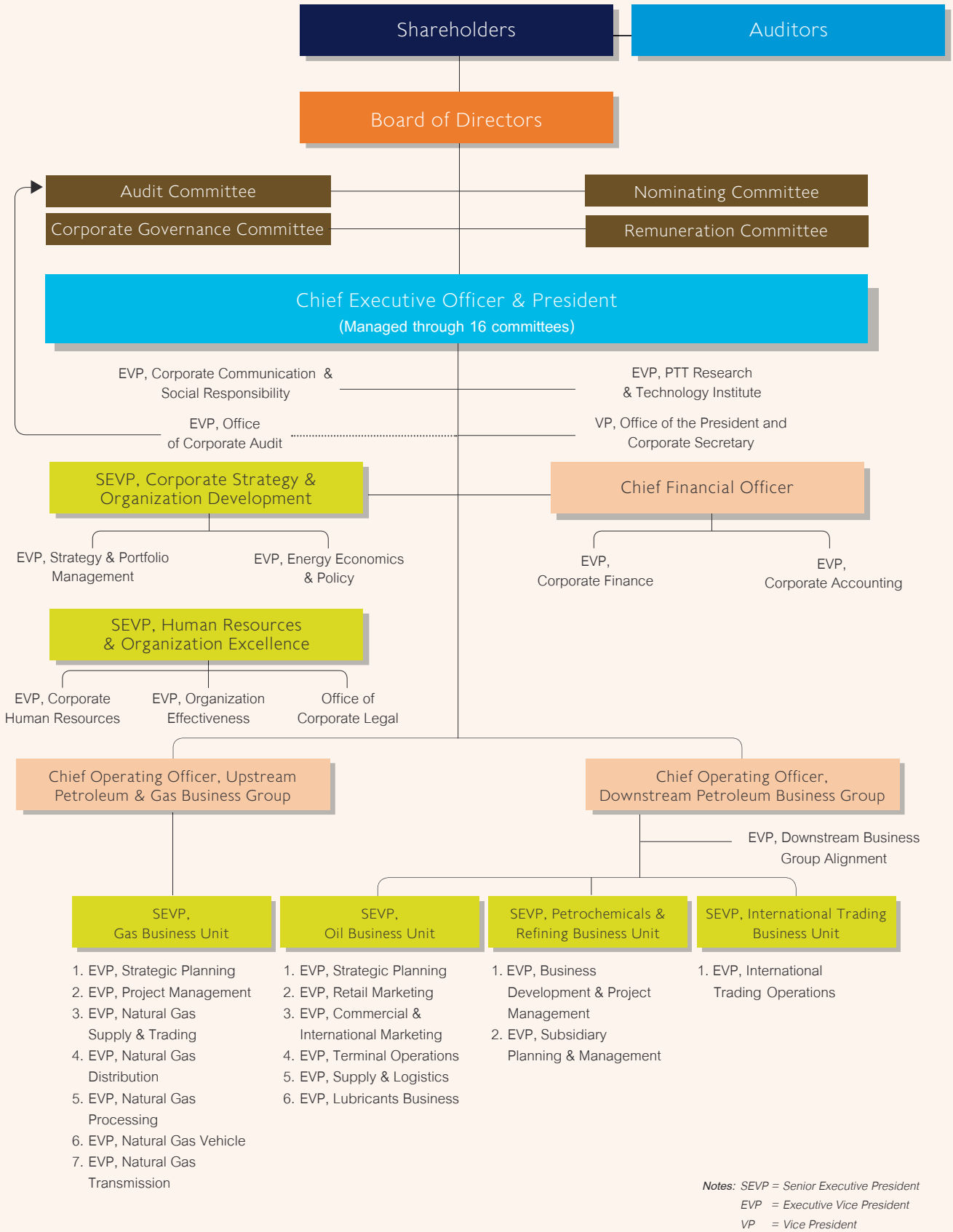
- Telephone: Call Center 1365, 0-2537-2000
- Website: www.pttplc.com
  - Investor Relations: ir@pttplc.com
  - Office of the President and Corporate Secretary: corporatesecretary@pttplc.com
  - Corporate Communication Department: corporate@pttplc.com
  - Ordering & Customer Relations Center: orc@pttplc.com.

The queries, comments and recommendations will be forwarded to relevant units to take actions through complaints management system. Follow-up on the action is done through e-mail every three days. If the action is not completed, a notification will be sent to another level of supervisors for action. When completed, responsible units will notify the contact person(s), with another follow-up to find out about their satisfaction with the services of the call center officers, which will help improving information system management. The management tracks all information every month to detect trends and apply them as an approach for refinement of processes, products, and services to respond to all stakeholders. This year, the queries, comments, and recommendations received totaled 72,091, mostly on energy credit cards, product orders, and PTT's projects.

PTT offers opportunities for the public to file complaints on improper behavior of directors, the management, and staffs or their violation of PTT's business ethics. They are to be directed to the Office of Corporate Audit, Office of the President and the Corporate Secretary, and Human Resources Department. PTT treats all complaints on the basis of equality, transparency, and fairness to all concerned. An appropriate timeframe to consider the complaints is set and the secrecy and the protection of those who file the complaints will be observed. No complaint on ethics was made in 2012.

5. Responsibility of the Board of Directors

The organization structure of PTT Plc as of December 31, 2012:



Notes: *SEVP = Senior Executive President*
EVP = Executive Vice President
VP = Vice President

5.1 Composition of the Board of Directors

According to PTT's regulations, the Board consists of:

- At least five and no more than 15 persons
- A minimum of three independent directors
  (PTT's CG requires that independent directors account for no less than half of the Board.)
- At least one director must be knowledgeable in accounting and finance.

Today the Board of PTT Plc, according to the certification of the Ministry of Commerce, dated February 28, 2013, consists of 15 directors:

- 14 non-executive directors (ten of whom are independent directors, which exceeded half of the Board)
- One management director.

The Board of Directors consisted of:

No.	Name	Position	Appointed date
	Dr. Norkun Sitthiphong (resigned on February 1, 2013)	Chairman (from January 18, 2008, to December 24, 2010, and from April 29, 2011 - February 1, 2013)	April 10, 2009
1.	Mr. Vichet Kasemthongsri	Independent Director/ Chairman (since February 22, 2013)	January 18, 2013
2.	Mr. Watcharakiti Watcharothai	Independent Director	April 10, 2009
3.	Mr. Chulasingh Vasantasingh	Independent Director	April 20, 2011
4.	Mr. Krairit Nilkuha	Director	April 9, 2010
5.	Mrs. Benja Louichareon	Director	April 9, 2010
6.	Mr. Arkhom Termpittayapaisith	Independent Director	October 11, 2011
7.	Mr. Waroonthep Watcharaporn	Independent Director	October 11, 2011
8.	Dr. Chitrapongse Kwangsukstith	Director	October 25, 2011
9.	Mr. Montri Sotangkur	Independent Director	November 4, 2011
10.	Gen. Warawat Indradat	Independent Director	November 4, 2011
11.	Mr. Sihasak Phuangketkeow	Independent Director	December 23, 2011
12.	Mr. Insorn Buakeow	Independent Director	April 10, 2012
13.	Mr. Boonsom Lerdhirunwong	Independent Director	April 21, 2012
14.	Mr. Suthep Liumsirijarern	Director	February 23, 2013
15.	Dr. Pailin Chuchottaworn	Director and Secretary to the board (President & CEO)	September 10, 2011

Note: For 2012, the Board appointed new directors to replace those that either completed their terms or resignedas follows:

No. 11, Mr. Insorn Buakeow, replaced Mr. Surapon Nitikraipot, who completed his term on April 10, 2012.

No. 12, Mr. Boonsom Lerdhirunwong, replaced Mr. Krairit Euchukanonchai, who resigned on April 20, 2012.

No. 13, Mr. Vichet Kasemthongsri, replaced Gen. Prin Suvanadat, who resigned on October 22, 2012.

No. 14, Mr. Suthep Liumsirijarern, replaced Dr. Norkun Sitthiphong, who resigned on February 1, 2013.

5.2 Authority and Responsibilities of the Board

Authority of the Board

- The Board is authorized to supervise and manage PTT under applicable laws, objectives, regulations, and resolutions of shareholders' meetings.
- The Board is to elect one director to serve as Chairman. If suitable, one Vice Chairman or more may be elected.
- The Board is to elect one director to serve as President and Secretary to the Board, if suitable.

Duties and Responsibilities of the Board

The Board is to:

- Carry out its duties under PTT's regulations, including ensuring management of the Company under applicable laws, objectives, regulations and resolutions of shareholders' meetings.
- Define the Company's vision, directions, and strategies.
- Endorse the Company's major strategies and policies, including objectives, financial targets and operating plans, budget, as well as monitor and ensure plan implementation and budgeting.
- Institute systems for corporate accounting, financial reporting, and financial auditing; institute efficient and effective internal control and internal audit systems.
- Supervise and remedy problems arising from conflicts of interest and connected transactions.
- Define comprehensive risk management guidelines and ensure an efficient risk management system or process.
- Ensure a suitable compensation system or mechanism for senior management to induce short-term and long-term motivation.
- Assess the performance of the President and decide suitable compensation.
- Ensure suitable communicating channels with each group of shareholders and stakeholders.
- Ensure accurate, clear, transparent, reliable, and high-quality disclosure of information.
- Show leadership and lead by example.

5.3 Directors Authorized to Sign and Bind for the Company

According to PTT's regulations, as of February 8, 2013, the Directors whose signatures are recognized as binding PTT consist of either (1) Dr. Pailin Chuchottaworn, President & CEO, authorized to sign and affix the Company's seal, or (2) Mr. Krairit Nilkuha, Dr. Chitrapongse Kwangsukstith, and Mr. Watcharakiti Watcharothai. Two of these three are authorized to jointly sign and affix the Company's seal.

**Note: Dr. Norkun Sitthiphong resigned from Director and Chairman of the Board on February 1, 2013.*

5.4 Appointment and Dismissal of Directors

1. The Board consists of at least five, and no more than 15 persons, elected at shareholders' meetings. It consists of a minimum of three independent directors, and at least half of the directors are to reside in the Kingdom, and at least one must be qualified in accounting and finance. All directors must be qualified by law and the Company's regulations. Since 2004, the Board decided that independent directors are to make up at least half of the Board, a requirement which remains in effect today. As of February 28, 2012, it had 10 independent directors, all of whom resided in Thailand. Six directors are experts in accounting and finance: Mrs. Benja Louichareon, Mr. Arkhom Termpittayapaisith, Mr. Montri Sotangkur, Mr. Chulasingh Vasantasingh, Mr. Boonsom Lerdhirunwong, and Dr. Pailin Chuchottaworn.

2. The shareholders' meetings are to elect qualified directors who have previously been nominated by the Nominating Committee under the following criteria:

(1) Each shareholder has one vote per share held.

(2) Each shareholder exercises all votes applicable under (1) in electing one or more persons as directors, but cannot allocate only part of the votes to any candidate.

(3) Candidates with the most votes are to be appointed directors up to the number open at a given meeting.

(4) If more candidates receive equal votes than the number of directors required, the chairman of the meeting must cast a deciding vote.

3. At every AGM, one-third of the directors, or if this number is not a multiple of three, then the number nearest to one-third, must retire. The names of the directors to retire during the first and second year after PTT was listed are to be drawn by lots. For subsequent years, those with the longest terms must retire.

4. If a post is vacated because of reasons other than term completion, the Board may elect a qualified person according to PTT's regulations to fill the post at the next Board meeting, except when the vacated director position has less than two months left. A new director must get at least three-quarters of the votes by the remaining directors and must remain in office for only as long as the remaining term.

5. Any director wishing to resign may submit a resignation letter to PTT. The resignation is to be effective on the date when PTT receives the letter.

6. In voting for the dismissal of directors from office before the expiry of their terms, a three-quarter vote of eligible shareholders present at the meeting is required, provided that the number of shares represented by the three-quarter votes is at least half of the total number of shares represented by the total number of eligible shareholders present at the meeting.

5.5 Qualifications of Directors

All directors are qualified and have no disqualifying characteristics under the Public Company Limited Act and the Standard Qualifications for Directors and State Enterprise Officers Act (No. 6) of 2007, as well as relevant Cabinet resolutions, including:

- Aged up to 65
- Maximum of three state-enterprise directorships, including appointments due to their positions and those due to acting assignments.
- Independent directors must be qualified under the SET's announcement governing the characteristics and scope of operation of audit committees.
- Have never received a jail sentence, except for violations of the law by negligence or petty crimes.
- Do not hold a political position, except for a director position required by law.
- Do not belong to a political party or work for one
- Have never been expelled, dismissed, or made to leave a position because of malfeasance.
- Do not hold shares of the state enterprise in question or a shareholder of a juristic person where the state enterprise in question holds shares. Exceptions apply to directors of state enterprises who are not government officials, government employees, or wage earners with positions or position salaries for centralized governments, provincial governments, local governments or other government units. Also, such state-enterprise directors hold no more than 0.5% of the paid-up capital of the state enterprise in which they serve as directors or juristic persons where the state enterprise in question holds shares.
- Are not position holders in the juristic person where the state enterprise in question holds shares. Exceptions apply when the board of directors of that state enterprise appoints them as directors or other positions in the juristic person.
- Are not directors, management team members or authorized managers or hold vested interests in a juristic person that serves as a concessionaire, a joint venture, or ones with vested interests in the affairs of the state enterprise in question. Exceptions apply for the board chairman, director, or manager assigned by that state enterprise.

5.6 Qualifications of Independent Directors

At its, meeting No. 1/2556 of January 17, 2013, the Board endorsed a proposal of the Corporate Governance Committee to redefine PTT independent directors in a way that is more stringent than the criteria of SEC and SET and to define their roles and responsibility in a manual, signed by the Chairman on January 21, 2013, as follows:

(1) Hold up to 0.5% of the voting shares of PTT, its subsidiaries, associates, or related companies (including the shares held by connected parties under Section 258 of Securities and Exchange laws)

(2) Have not been involved in the management or employees, wage earners – including audit advisors, legal or other advisors – on the payroll of PTT, or have

control over PTT, its subsidiaries, associates or juristic persons that could pose conflicts of interest for the past two years

(3) Have no blood relationship or relationship through registration as parents, spouses, siblings, and children. This definition also applies to children's spouses, executives, major shareholder, controllers, or people due to be nominated as an executive or controller of PTT or its subsidiaries.

(4) Business relationship with PTT

a. Types of relationship

- Professional service rendering
  - Types of relationship: Auditor and other professional service provider, including legaladviser, financial adviser, property valuator
  - "Non-independent" criteria:
    - Total prohibition for auditors
    - Other professional services: when the total value exceeds 2 million baht per year
- Commercial/business relationship (similar to SET's requirements for connected transactions)
  - Types of relationship: Full coverage of business transactions, that is, normal transactions, real-estate leasing, asset/ service transactions, and financial assistance transactions
  - "Non-independent" criteria: Transaction value from 20 million baht or 3% of PTT's NTA upward (**whichever is lower**); the total value must include items occurring within six months before this transaction.

b. Should the relationship under (a) apply to a juristic person, the parties regarded as "non-independent" consist of the major shareholder, directors that are not independent ones or not a member of the audit committee, and executives (or partners) of that juristic person

c. The forbidden periods for (a) and (b): Two years before the appointment

d. Exceptions: **If necessary and suitable (exceptional cases)**, independent directors/ audit committee members may have more relationship than the non-independent criteria **while holding directorship**, provided that a prior unanimous approval has been given by the Board. Besides, PTT must disclose such relationship in Form 56-1 and its annual report (Form 56-2). And should PTT should decide to extend the term of that independent director, it must disclose details about such relationship in the meeting notice for the next shareholders' meeting (in the directors' election agenda item).

(5) Are not appointed to represent PTT's directors, its major shareholder, or shareholders that are related to PTT's major shareholder.

(6) Have no qualifications that compromise the expression of free views.

(7) Independent directors with qualifications (1) through (6) above may be assigned by the Board to decide on business matters of PTT, its subsidiaries, associated companies, sister companies, or juristic persons that could pose conflicts of interest; such decisions will be collective decisions.

Incidentally, if independent directors serve in this position in PTT, its subsidiaries, associated companies, or sister companies, PTT must also disclose information about such service and the total compensation of such directors in Form 56-1 and Form 56-2.

Roles and responsibility of PTT's independent directors

(1) Recommend essential and beneficial matters to PTT and all its shareholders to the Board and/or the President & CEO.

(2) Advocate roles and responsibility of the Board and provide views commonly expected of independent directors for the benefit of PTT and all its shareholders.

(3) Review matters to ensure PTT's compliance with the law dealing with independent directors, and revise the definition of independent directors for suitability and legal completeness.

(4) Take other Board-assigned actions provided that these actions do not compromise their independence.

(5) An independent director's term begins once he or she fulfills all the requirements under the definition for PTT's corporate governance; it ends when he or she lacks qualifications or completes the PTT term.

(6) The independent directors must hold their own meeting at least once a year.

5.7 Segregation of the Chairman and the President & CEO Positions

To segregate policy-making duties from those of day-to-day management and to enable directors to oversee, look after, and assess performance effectively, PTT has required that the Chairman and the President & CEO are always two distinct persons. This is because the Chairman needs to oversee the management's performance, guide, and assist, but not to take part in or interfere with day-to-day management, which is the duty of the President & CEO under the authority delegated by the Board.

In addition, the Chairman must exercise leadership and ensure that directors do not fall under the influence of the management, partly by chairing Board meetings and shareholders' meetings fairly and efficiently, while encouraging participants to exercise their voting rights and strictly comply with good CG principles.

5.8 Independence of the Chairman

PTT highly values the independence of the Board; however, since it is a listed company on SET while remaining a state enterprise under the Ministry of Energy, with the Ministry of Finance serving as the major shareholder, most of the elected Chairmen to date have come from the management of either ministry. Yet, they have consistently displayed strong independence.

5.9 Corporate Secretary

To comply with the good CG principles of listed companies under the category of directors' responsibility and the terms of the Securities and Exchange Act, PTT has appointed Ms. Sumon Rungkasiri as Corporate Secretary. She has a master's degree in public administration, National Institute of Development Administration (NIDA), and has taken a course in company secretary, the Company Reporting Program, the Board Reporting Program, and the Effective Minutes-Taking course of IOD. The Corporate Secretary provides the Board with legal advice and reminds them of assorted regulations that they need to know and comply with; holds meetings; supervises assorted Board activities to enable them to perform efficiently and effectively for the maximum benefit to PTT; prepares and maintains critical documents, including directors' registration, Board meeting notices and minutes, annual reports; issues shareholders' meeting notices and minutes, and keeps reports on connected transactions reported by directors or the management.

5.10 Committees

The Board values CG by initially appointing the Audit Committee, the Nominating Committee, and the Remuneration Committee. For a period, the Audit Committee also looked after corporate governance and risk management for the Board.

In 2004, the Board set up the Corporate Governance Committee, charged with promotion and screening of CG and promotion of excellence in such areas. PTT today therefore has four committees investigating critical matters under the CG principles to create maximum benefit for shareholders, taking into account stakeholders' concerns and interests, business ethics, transparency, and accountability. Each of these committees consists of qualified, non-management directors as required by SET, with clearly written roles and responsibilities in a charter.

Since 2009, the duties of the Corporate Governance Committee have been expanded to cover additional policy, implementation, and monitoring of the operation on the responsibilities toward society, community, and the environment, so that the committee may be responsible for the stakeholders in a more comprehensive and efficient way.

5.10.1 The Audit Committee

Each quarter, together with Accounting and the Office of the Auditor-General, the Audit Committee reviews PTT's financial reports and presents its findings to the Board. The Board is accountable for PTT Group's consolidated financial statements, as well as other financial information ('Report on the Board's Responsibility to Financial Reports') presented in the annual report. The financial statements are prepared under generally accepted accounting principles and are audited and certified by the Office of the Auditor-General. Essential information, financial and otherwise, is completely and consistently disclosed.

The Board approved the appointment of the Audit Committee on October 1, 2001, which consisted of directors with the qualifications specified by securities and exchange laws and SET. The committee must consist of at least three members. As of December 31, 2012, it consisted of three independent directors as follows:

Name	Position	Remarks
1. Mr. Chulasingh Vasantasingh	Chairman	Independent Director
2. Mr. Boonsom Lerdhirunwong	Member	Independent Director
3. Mr. Waroonthep Watcharaporn	Member	Independent Director

Note: *Mr. Chulasingh Vasantasingh, Mr. Boonsom Lerdhirunwong, and Mr. Waroonthep Watcharaporn meet the qualifications required to review the accountability of financial statements. The Executive Vice President, Office of Corporate Audit, served as secretary.*

Duties and Responsibilities

- Ensure the suitability and effectiveness of the internal control system and internal audit procedures and consider the adequacy of the budget and personnel, as well as the independence of the Office of Corporate Audit.
- Review PTT's financial reporting process to ensure accuracy and adequacy.
- Consider connected transactions or transactions of potential conflicts of interest and ensure compliance with SET's laws and regulations.
- Review compliance with securities and exchange laws, SET regulations, policies, regulations, rules, stipulations, cabinet resolutions, and laws relevant to PTT's business.
- Review the roles of business ethics and the code of conduct by ensuring that the management have a mechanism to receive complaints and supervise the system of complaints.
- Select, nominate, and recommend fees for the external auditor.
- Examine accurate and complete disclosure of PTT's information for connected transactions or potential conflicts of interest.
- Regularly review PTT's risk management system and recommend improvements.
- Ensure accuracy and effectiveness of Information Technology concerning reports on financial and internal controls.
- Promote development of the system of financial reporting on par with international standards.
- Review evidence if in doubt about the action that may seriously affect PTT's operations or conflicts of interest that may affect PTT's operation.
- Prepare a performance report as set by the criteria.
- When it is necessary to provide its opinions on PTT's assorted operations, seek independent opinions from or hire advisers or specialists, at the expense of PTT, provided that reasonable fees are paid.

- The chairman or members of the Audit Committee must attend the meetings of shareholders.
- Attend meetings with the external auditor in the absence of the management at least once a year.
- Hold a formal meeting with the management at least once a year.
- Review the Audit Committee's charter every year.
- Perform other Board-assigned tasks within the committee's duties and responsibilities.

This year the committee held 16 meetings and duly reported its findings to the Board. In addition, it participated in quarterly financial audits along with the external auditor and Accounting.

5.10.2 The Nominating Committee

The Board approved the appointment of the Nominating Committee on October 1, 2001, made up of three of its directors. As of December 31, 2012, it consisted of:

Name	Position	Remarks
1. Mr. Watcharakiti Watcharothai	Chairman	Independent Director
2. Mr. Krairit Nilkuha	Member	Director
3. Dr. Pailin Chuchottaworn	Member	Independent Director & Secretary

Duties and Responsibilities

- Select qualified candidates for directors or the President.
- Define the recruitment procedures and criteria for directors or the President to ensure transparency.

The recruitment procedures for directors are as follows:

1. The committee defines the qualifications needed for the replacement to ensure that the new directors meet the criteria and qualifications as required by related laws and regulations, in line with PTT's business operation, and defines the procedures for nominating qualified candidates.

2. The committee summarizes its recruitment results and presents to the Board a shortlist of qualified candidates along with supporting rationale.

3. The Board appoints the qualified candidates from the list prepared by the committee and submits their names to the shareholders' meeting for approval.

This year the committee held two meetings.

5.10.3 The Remuneration Committee

The Board approved the appointment of the Remuneration Committee on October 1, 2001, by appointing three directors. As of December 31, 2012, it consisted of:

Name	Position	Remarks
1. Mr. Arkhom Termpittayapaisith	Chairman	Independent Director
2. Mr. Krairit Nilkuha	Member	Director
3. Mrs. Benja Louichareon	Member	Director

Duties and Responsibilities

- Define compensation guidelines for directors and the President.
- Define procedures and criteria for fair and sensible compensation paid to directors and the President for approval at the Board's or shareholders' meetings.

This year the committee held two meetings.

5.10.4 The Corporate Governance Committee

The Board approved the appointment of the Corporate Governance Committee on June 24, 2004, consisting of three directors. As of December 31, 2012, the names of these directors were as follows:

Name	Position	Remarks
1. Mr. Watcharakiti Watcharothai	Chairman	Independent Director
2. Mr. Sihasak Phuangketkeow	Member	Independent Director
3. Gen. Warawat Indradat	Member	Independent Director

The Vice President, Office of the President and Corporate Secretary, served as secretary.

Duties and responsibilities

- Propose CG guidelines to the Board.
- Advise the Board on CG matters.
- Ensure that the duties and responsibilities of directors and the management conform to CG principles.
- Revise guidelines for PTT's CG against those of international organizations and present its recommendations to the Board.
- Delegate corporate governance policies to the Corporate Governance Task Force.
- Delegate policy and guidelines to implement CSR
- Monitor the implementation of CSR and report its findings to the Board.

This year the committee held four meetings.

5.11 Board Meetings

Board meetings are planned for the entire year-this year, the fourth Friday of each month-with additional meetings called to discuss special items as necessary. Seven days ahead of the meeting, the Office of the President and Corporate Secretary issues a meeting notice along with the meeting agenda and relevant supplementary documents contained in a CD to each director. Currently, Board meetings have been made electronic (paperless) for speed and convenience in information access and management, while considerably reducing accompanying documents. Moreover, PTT is in the process of developing and testing application software in meetings to reduce process and provide speed in the delivery of the agenda.

At the meetings in 2012, directors openly and freely expressed their views. Particularly if they might be involved in a connected transaction or a potential conflict of interest with PTT, they abstained or refrained from voting or attending that portion of the meeting. The minutes of each meeting were properly documented and, after the adoption from the Board was given, were filed for auditing purposes and reference by directors and related persons. By and large, each Board meeting lasted three hours. Details about directors' meetings were summarized as follow:

Summary of PTT Board of Meeting Attendance (2012)

	1/2012	Special 1/2012	2/2012	3/2012	4/2012	5/2012	6/2012	7/2012	Special 2/2012	8/2012	9/2012	10/2012	Special 3/2012	11/2012	12/2012
1. Dr. Norkun Sitthiphong	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
2. Mr. Surapon Nitikraipot	/	/	/	/	Term expired Apr. 10, 2012										
3. Mr. Insorn Buakeow	Appointed Apr. 10, 2012				/	/	/	/	/	/	/	/	/	/	/
4. Mr. Watcharakiti Watcharothai	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
5. Mr. Chulasingh Vasantasingh	/	/	/	/	X	/	/	/	/	/	/	/	/	/	/
6. Mr. Krairit Nilkuha	/	/	/	/	/	X	/	/	/	X	/	/	/	/	/
7. Mrs. Benja Louichareon	/	/	X	/	/	/	/	/	/	/	/	/	/	X	/
8. Mr. Arkhom Termpittayapaisith	/	X	X	/	/	/	/	/	X	/	X	/	/	/	X
9. Mr. Waroonthep Watcharaporn	X	/	/	/	/	/	/	/	/	/	X	/	/	/	/
10. Mr. Krairit Euchukanonchai	/	/	/	X	Resigned Apr. 20, 2012										
11. Mr. Boonsom Lerdhirunwong	Appointed Apr. 21, 2012				/	/	/	X	/	/	/	/	/	/	/
12. Dr. Chitrapongse Kwangsukstith	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
13. Mr. Montri Sotangkur	/	/	/	/	X	X	/	/	/	/	X	/	X	/	X
14. Gen. Warawat Indradat	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
15. Gen. Prin Suvanadat	/	/	/	/	/	/	/	/	X	/	/	Resigned Oct. 22, 2012			
16. Mr. Sihasak Phuangketkeow	/	/	/	X	X	/	/	X	X	X	X	/	/	/	/
17. Dr. Pailin Chuchottaworn	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Total attendance	14	14	13	13	12	13	15	13	12	13	11	14	13	13	12
Total directors	15	15	15	15	15	15	15	15	15	15	15	14	14	14	14

Attendance Record of the Board and the Committee Meetings (2012)

Name	Meeting Attendance in 2012					Appointment during the Year
	Board of Directors (Total 15)	Audit Committee (Total 16)	Corporate Governance Committee (Total 4)	Nominating Committee (Total 2)	Remuneration Committee (Total 2)	
1. Dr. Norkun Sitthiphong	15/15	–	–	–	–	–
2. Mr. Watcharakiti Watcharothai	15/15	–	4/4	2/2	–	–
3. Mr. Chulasingh Vasantasingh	14/15	15/16	–	–	–	–
4. Mr. Krairit Nilkuha	13/15	–	–	2/2	2/2	–
5. Mrs. Benja Louicharoen	13/15	–	–	–	2/2	–
6. Mr. Arkhom Termpittayapaisith	10/15	1/4	–	–	2/2	–
7. Mr. Waroonthep Watcharaporn	13/15	12/12	1/1	–	–	–
8. Dr. Chitrapongse Kwangsukstith	15/15	–	–	–	–	–
9. Mr. Montri Sotangkur	10/15	–	–	–	–	–
10. Gen. Warawat Indradat	15/15	–	3/3	–	–	–
11. Mr. Sihasak Phuangketkeow	9/15	–	3/3	–	–	–
12. Mr. Insorn Buakeow	11/11	–	–	–		Appointed Apr. 10 (replacing Mr. Surapon Nitikraipot)
13. Mr. Boonsom Lerdhirunwong	10/11	12/12	–	–		Appointed Apr. 21 (replacing Mr. Krairit Euchukanonchai)
14. Dr. Pailin Chuchottaworn	15/15	–	–	2/2	–	–

Three Directors who completed their terms or resigned (2012)

Name	Meeting Attendance in 2012					Appointment during the Year
	Board of Directors (Total 15)	Audit Committee (Total 16)	Corporate Governance Committee (Total 4)	Nominating Committee (Total 2)	Remuneration Committee (Total 2)	
1. Gen. Prin Suvanadat	10/11	–	–	–	–	–
2. Mr. Surapon Nitikraipot	4/4	–	1/1	–	–	–
3. Mr. Krairit Euchukanonchai	3/4	4/4	–	–	–	–

Note: *A total of 15 Board meetings took place during the year: 12 regular meetings and 3 extraordinary meetings, as well as one meeting among independent directors in the absence of the management.*

5.12 Self-assessment of the Board

By the resolution of Board meeting No. 9/2012 of September 28, 2012, the Board approved the self-assessment forms used last year for this year. This year, the Board also approved additional self-assessment of the Committees, that is, the Nominating Committee, the Remuneration Committee, and the Corporate Governance Committee. The forms aligned with PTT's good CG principles. It was to be a vital tool for improving Board performance, provide reference data for the corporate governance rating, cover the assessment of all committees, as well as serving as information for the monitoring/assessment from external auditors. Four types of self-assessments were applied, whereby the percentages corresponded to the following levels of performance achieved in each of the areas detailed below. These are the assessment criteria for the entire Board, individual self-assessment, cross-assessment, and the entire Committees:

Over	85%	=	Excellent
Over	75%	=	Very good
Over	65%	=	Good
Over	50%	=	Fair
Below	50%	=	Need improvement

The findings from the self-assessments were as follows:

1. **Self-assessment of the Board** consisted of four categories: Board Policy, Board Composition Board Practices and Board Meeting.

The results indicated excellent/most suitable overall performance, with an average score of 94.78%.

2. **Self-assessment of Individual Directors** consisted of six categories: accountability for decisions and actions; responsibility for performing the job with full ability and efficiency; equitable treatment of all stakeholders; transparency in job performance and information disclosure; vision to create long-term value; and business ethics.

Overall results were excellent for most directors, with an average score at 96.63%.

3. **Individual Assessment of Other Directors** (Cross-assessments) consisted of six identical categories as listed above for direct comparison.

Cross-assessment results in these six categories indicated excellent conformance by most directors, with an average score of 97.33%.

4. **Self-assessment of the Committees** (the entire committees) consisted of four identical categories as self-assessment of the Board for direct comparison.

The results indicated excellent/most suitable overall performance for the committees as follows:

4.1 The Nominating Committee with an average score of 98.75%

4.2 The Remuneration Committee with an average score of 97.08%

4.3 The Corporate Governance Committee with an average score of 97.92%.

5. **Assessment of the Audit Committee's Performance**

Under PTT Plc's Audit Committee charter 2012 on performance assessment, the Audit Committee Manual for State Enterprises under the Ministry of Finance, and SET's Good Governance handbook for internal auditors and the audit committee section 1.1: responsibility of the Audit Committee, the Audit Committee must assess its performance by undertaking self-assessment at least once a year. The individual self-assessment or the entire Committee's assessment is presented yearly to the Board, specifying problems leading to unfulfilled objectives. The Audit Committee's meeting no. 11/2012 of November 13, 2012, passed a resolution to use the same assessment forms as the previous year, since they conformed to the good governance stipulated by State Enterprise Policy Office (SEPO) and SET, with a waive of cross-assessments because there were only three Audit Committee members. The Audit Committee's meeting No. 14/2012 of December 6, 2012, passed a resolution to approve the assessment of the Audit Committee's performance 2012 with the following details:

• Self-assessment consisted of business knowledge/ specific expertise/ duties and authorities/ independence and fairness/ understanding of duties and responsibilities of the members/ commitment to work and meetings.

The assessment criteria were 4 = Excellent, 3 = Very good, 2 = Good, 1 = Need improvement

The result of the Audit Committee's self-assessment indicated very good to excellent overall performance, with a score of 3.7 - 4.0.

• Assessment of the entire committee consisted of the structure and composition/ role and responsibilities/ relationship with the Office of Corporate Audit and the external auditor/ relationship with the management/ reporting/ quality consistency.

The assessment criteria were 4 = regularly implemented, 3 = mostly implemented, 2 = sometimes implemented, 1 = never implemented

The result of the assessment of the entire Audit Committee was at the regularly implemented level, with a score of 3.9 - 4.0.

5.13 Corporate Management

5.13.1 Duties and Responsibilities of the President & CEO (President)

Under PTT's regulations, the President & CEO has the authority and responsibility to manage PTT's business as assigned by the Board. The business is to be managed strictly, prudently, and with integrity under the plans or budget approved by the Board, and must be in the best interests of PTT and its shareholders. The President & CEO's authority and responsibility include the following duties:

• Operate and/or manage day-to-day business.

• Hire, appoint, remove, transfer, promote, demote, reduce the salary or wages of, and take disciplinary action against employees and contractors, as well as dismissing employees or contractors under the Board's regulations.

• Ensure the preparation and submission of business policies, including operating plans and budget estimates, to the Board for approval, and report performance against them to the Board every three months.

• Ensure the implementation of the policies, plans, and budget approved by the Board.

The Board authorizes the President & CEO to manage PTT's business under the following scope of authority:

• Manage business under all objectives, regulations, policies, rules, specifications, directives, and resolutions of the Board or shareholders' meetings, or both.

• Order, contact, command, implement, and sign juristic acts, agreement, orders, announcements, or any correspondence with government agencies, state enterprises, or other parties, and engage in any necessary and suitable action to facilitate this duty.

• Command all employees and contractors, including hiring, appointing, removing, promoting, demoting, cutting the salary or wages of, taking disciplinary action, and dismissing any employee or contractor under the rules, regulations, and directives of the Board. For employees or contractors serving as advisers, senior executive vice presidents or equivalent upward, prior approval of the Board is required. The President & CEO is also authorized to specify employment conditions for employees and contractors, and issue rules governing PTT's operations, provided that they do not conflict with the rules, regulations, and directives of the Board.

• Assign the power of attorney and/or delegate specific tasks to other persons, provided that the action complies with the document concerning the power of attorney or rules, regulations, or directives of the Board and/or PTT.

The authority and duties of the President & CEO are invalid in case of conflicts of interest with PTT in any form resulting from the President & CEO's exercise of the authority. This year no such cases have arisen.

5.13.2 The Management Committee

The Management Committee was appointed on October 1, 2001, with the mandate of operating PTT's business. As of year-end 2012, it consisted of 10 members as follows:

	Name	Position
1.	President & CEO	Chairman
2.	Chief Financial Officer	Member
3.	Chief Operating Officer, Upstream Petroleum & Gas Business Group	Member
4.	Chief Operating Officer, Downstream Petroleum Business Group	Member
5.	Senior Executive Vice President, Corporate Management	Member
6.	Senior Executive Vice President, Gas Business Unit	Member
7.	Senior Executive Vice President, Oil Business Unit	Member
8.	Senior Executive Vice President, Petrochemicals and Refining Business Unit	Member
9.	Senior Executive Vice President, International Trading Business Unit	Member
10.	Senior Executive Vice President, Corporate Strategy and Organization Development	Member and Secretary

The Vice President, Office of the President & Corporate Secretary, served as Assistant Secretary.

The Management Committee meets at least once a month. This year there were altogether 40 meetings.

Duties and Responsibilities

- Provide advice and recommendations to the President & CEO on significant issues on corporate strategy and business directions, investment plans, budgets, allocation of resources to PTT and its affiliates, and ensure that the operation of PTT affiliates is uniform.
- Rank decisions made by the Board to ensure effective implementation.
- Screen meeting agendas before presenting to the Board.
- Rank significant matters about the allocation of human and financial resources of PTT and its affiliates.
- Jointly resolve significant issues about PTT affiliates before the meeting of the Board of each affiliated company.
- Establish standards for the systems of business administration, human resources and information, as well as the organizational structure of PTT and its affiliates.
- Establish a policy on human resource management.

In addition, PTT appointed 15 committees to oversee specific internal areas of work for accurate, suitable, efficient, and effective implementation as follows:

1. Enterprise Plan Committee
2. Corporate Finance and Accounting Committee
3. PTT Plc Credit Committee
4. Risk Management & Internal Control Committee
5. Corporate Human Resource Committee
6. Quality, Security, Safety, Health, and Environment Committee
7. Corporate Social Responsibility Committee
8. Petroleum Procurement Committee
9. Upstream Petroleum and Gas Business Group Synergy Management Committee
10. Downstream Petroleum Business Group Synergy Management Committee
11. Oil Business Strategic Plan Committee
12. Gas Business Strategic Plan Committee
13. Petrochemicals and Refining Strategic Plan Committee
14. International Trading Business Unit Risk Management Committee
15. Innovation Promotion Committee.

5.13.3 Current Management Team Members

Name	Position
1. Dr. Pailin Chuchottaworn	President & CEO
2. Mr. Surong Bulakul[1/]	Chief Financial Officer
3. Mr. Wichai Pornkeratiwat	Chief Operating Officer, Upstream Petroleum & Gas Business Group
4. Mr. Nuttachat Charuchinda	Chief Operating Officer, Downstream Petroleum Business Group
5. Mr. Pitipan Tepartimargorn	Senior Executive Vice President, Corporate Management
6. Mr. Supattanapong Punmeechaow	Senior Executive Vice President, Corporate Strategy
7. Mr. Charcrie Buranakanonda[2/]	Senior Executive Vice President, Gas Business Unit
8. Mr. Sarun Rungkasiri	Senior Executive Vice President, Oil Business Unit
9. Mr. Sukrit Surabotsopon	Senior Executive Vice President, Petrochemicals & Refining Business Unit
10. Mr. Sarakorn Kulatham	Senior Executive Vice President, International Trading Business Unit
11. Mr. Tevin Vongvanich[3/]	Senior Executive Vice President, seconded to President & CEO, PTT Exploration and Production Plc
12. Mr. Anon Sirisaengtaksin[4/]	Senior Executive Vice President, seconded to CEO, PTT Global Chemical Plc
13. Mr. Veerasak Kositpaisal[5/]	Senior Executive Vice President, seconded to CEO, Thaioil Plc
14. Mr. Bowon Vongsinudom	Senior Executive Vice President, seconded to President, PTT Global Chemical Plc
15. Mr. Atikom Terbsiri	Senior Executive Vice President, seconded to President, IRPC Plc
16. Mr. Wirat Uanarumit	Executive Vice President, Corporate Finance
17. Ms. Prisana Prahankhasuek	Executive Vice President, Corporate Accounting

Notes: 1/ Appointed on May 1 this year, replacing Mr. Tevin Vongvanich, who was seconded to PTTEP.

2/ Appointed on October 1 this year, replacing Mr. Peerapong Achariyacheevin, who retired.

3/ Appointed on May 1 this year, replacing Mr. Anon Sirisaengtaksin, who was seconded to PTTGC.

4/ Appointed on May 1 this year, replacing Mr. Veerasak Kositpaisal, who was seconded to Thaioil Plc.

5/ Appointed on May 1 this year, replacing Mr. Surong Bulakul, who was appointed to resume work at PTT.

5.14 Compensation Paid to Directors and the Management

With the oversight of the Remuneration Committee, PTT fairly and sensibly specifies the compensation paid to directors, taking into account each director's responsibility, its financial performance, and compatibility with industry peers. Compensation consists of meeting allowances and bonuses. Directors appointed to specific committees receive additional allowances for additional responsibilities. Directors' compensation rates have been approved by shareholders as follows:

5.14. Directors' Compensation

• **Board of Directors' compensation**

The following compensation structure for the Board was approved at the AGM of April 10, 2012:

1. Meeting Allowances

1.1 Board Meeting compensation remained the same as in 2011, and consisted of:

- Retainer allowance of 30,000 baht per month
- Meeting allowance of 20,000 baht for each meeting (for those in attendance only)

1.2 Compensation for meetings of Committees consisted of:

1.2.1 Audit Committee

- Monthly allowance of 15,000 baht each
- Meeting allowance of 15,000 baht for each meeting (for those in attendance only), and the Secretary received a monthly allowance of 7,500 baht.

1.2.2 Compensation for the Nominating, Remuneration, and Corporate Governance Committees consisted of:

- Meeting allowance of 24,000 baht for each meeting (for those in attendance only).

1.3 Compensation for the Chairman of each committee was 25% higher than for others.

• **Directors' Bonuses in 2012** (no change from 2011):

Bonus payouts to each director, at 0.05% of the net income for 2012, corresponded to PTT's performance and net income and up to 2,000,000 baht per person were completed. The bonus was prorated to each director's term, with the Chairman receiving 25% more than individual directors.

Compensation Paid to Individual Directors (2012)

Unit: Baht

No.	Name	Days of Service	Bonus	Board Meeting Allowance	Committee Meeting Allowance	Total Allowance	Total Compensation
1.	Dr. Norkun Sitthiphong	366	2,500,000.00	825,000.00	-	825,000.00	3,325,000.00
2.	Mr. Watcharakiti Watcharothai	366	2,000,000.00	660,000.00	174,000.00	8 34,000.00	2,834,000.00
3.	Mr. Chulasingh Vasantasingh	366	2,000,000.00	865,000.00	281,250.00	1,146,250.00	3,146,250.00
4.	Mr. Krairit Nilkuha	366	2,000,000.00	620,000.00	96,000.00	716,000.00	2,716,000.00
5.	Mrs. Benja Louichareon	366	2,000,000.00	620,000.00	48,000.00	668,000.00	2,668,000.00
6.	Mr. Arkhom Termpittayapaisith	366	2,000,000.00	620,000.00	75,000.00	695,000.00	2,695,000.00
7.	Mr. Waroonthep Watcharaporn	366	2,000,000.00	740,000.00	204,000.00	944,000.00	2,944,000.00

Unit: Baht

No.	Name	Days of Service	Bonus	Board Meeting Allowance	Committee Meeting Allowance	Total Allowance	Total Compensation
8.	Dr. Chitrapongse Kwangsukstith	366	2,000,000.00	660,000.00	-	660,000.00	2,660,000.00
9.	Mr. Montri Sotangkur	366	2,000,000.00	560,000.00	-	560,000.00	2,560,000.00
10.	Gen. Warawat Indradat	366	2,000,00.00	660,000.00	72,000.00	732000.00	2,732,00.00
11.	Mr. Sihasak Phuangketkeow	366	2,00,000.00	540,000.00	72,000.00	612,000.00	2,612,000.00
12.	Mr. Insorn Buakeow	266	1,453,551.91	481,000.00	-	481,000.00	1,934,551.91
13.	Mr. Boonsom Lerdhirunwong	255	1,393,442.62	570,000.00	180,000.00	750,000.00	2,143,442.62
14.	Dr. Pailin Chuchottaworn	366	2,000,000.00	660,000.00	48,000.00	708,000.00	2,708,000.00
	Total		**27,346,994.53**	**9,081,000.00**	**1,250,250.00**	**10,331,250.00**	**37,678,244.53**

Note: *No. 12: Appointed on April 10, 2012.*

No. 13: Appointed on April 21, 2012.

Retired and Resigned Directors (2012)

Unit: Baht

No.	Name	Days of Service	Bonus	Board Meeting Allowance	Committee Meeting Allowance	Total Allowance	Total Compensation
1.	Gen. Prin Suvanadat	296	1,617,486.34	490,322.58	-	490,322.58	2,107,808.92
2.	Mr. Krairit Euchukanonchai	111	606,557.38	225,000.00	60,000.00	285,000.00	891,557.38
3.	Mr. Surapon Nitikraipot	101	551,912.57	180,000.00	30,000.00	210,000.00	761,912.57
	Total		**2,775,956.29**	**895,322.58**	**90,000.00**	**985,322.58**	**3,761,278.87**

Note: *No. 1: Appointed on November 25 and resigned on October 22, 2012.*

No. 2: Ended his term on April 10, 2012.

No. 3: Resigned on April 20, 2012.

Directors' Compensation Profile of 2009 - 2012

Unit: Baht

Compensation	2009		2010		2011		2012	
	Persons	Baht	Persons	Baht	Persons	Baht	Persons	Baht
Meeting Allowance	15	10,863,879.03	15	11,398,213.71	15	11,355,399.76	14	11,316,572.58
Total Bonus	15	29,173,972.62	15	29,657,534.24	15	28,802,739.73	14	30,122,950.82
Total		**40,037,851.65**		**41,055,747.95**		**40,158,139.49**		**41,439,523.40**

Compensation to Independent Directors Serving as an Independent Director in Subsidiaries

This year, the Board has three independent directors on the board of PTTEP, a PTT subsidiary. They received compensation for their service to that company for this year as follows:

Unit: Baht

Name	Compensation		Committee meeting allowance	Total compensation
	Bonus	Meeting and monthly allowances		
1. Mr. Krairit Euchukanonchai	790,478.33	240,000.00	40,000.00	1,070,478.33

Total Compensation paid to the Management

Unit: Baht

Compensation	2009		2010		2011		2012	
	Persons	Baht	Persons	Baht	Persons	Baht	Persons	Baht
Salary	8	52,677,119.00	7	50,470,620.00	10	62,091,720.00	9	62,769,000.00
Bonus	8	24,143,679.00	7	22,183,379.00	6	24,581,820.00	9	23,993,379.77
Total		76,820,798.00		72,653,999.00		86,673,540.90		86,762,379.77

Provident Fund Contribution to the Management

Unit: Baht

Compensation	2009		2010		2011		2012	
	Persons	Baht	Persons	Baht	Persons	Baht	Persons	Baht
Provident Fund	7	3,384,852.00	7	2,925,340.00	7	3,980,468.00	8	6,276,900.00

Additional Information on the Board and the Management as follows:

Records have shown no violation of the law within the past 10 years regarding:

1) Being sentenced for criminal charges, except for violations of traffic law, minor charges, or similar charges.

2) Being sentenced to bankruptcy or having assets controlled.

3) Serving as an executive or a person with authority in a company or partnership sentenced to bankruptcy or whose assets are controlled.

5.15 Policy on Serving as Directors of Other Companies

PTT has 49 affiliated companies, six of which are SET-listed in which it has invested and held shares. About 60% of its current net income is derived from these companies. Thus, PTT has adopted the PTT Group management structure for synergy and alignment of policies. To achieve this, it appoints directors or management team members to serve as directors in these companies to supervise policies and business management which align with PTT's policies for the benefit and value addition for all stakeholders. The objectives for such appointments are as follows:

1) To ensure that the management of a given company aligns with the policy of PTT Group companies; to monitor its overall business performance to align with PTT's policy and institute comparable standards.

2) To establish synergy for the business of PTT Group companies and add value to all related parties, including Thailand as a whole.

3) To apply specific expertise in support of business, including financial know-how to improve accounting and financial processes to enable a given company to grow robustly. This includes assistance to companies outside PTT Group. The resulting application of the knowledge and expertise gained from serving in such leading companies will enhance the benefit to PTT and foster cordial relations and business alliances for PTT.

4) This is part and parcel of the responsibility of directors and the management of PTT.

PTT ensures its consideration of executives or outsiders from the Ministry of Finance's Director's Pool for appointment within PTT Group, which are regarded as state enterprises, based on an act on standard qualifications of directors and state enterprise officials. Chosen directors from the pool must make up no less than one-third of other directors of a given state enterprise. At present, PTT has 6 members who are on the list of the Director's Pool. It also ensures that PTT executives and such outsiders who serve as directors in PTT affiliates serve on no more than three PTT affiliates or other state enterprise affiliates. This is designed to lower risks of conflicts of interest and ensure conformance to applicable laws, as well as conformance to a Cabinet resolution of January 24, 2011, on fraud prevention measures at state enterprises, entitled "The appointment of senior government officials or persons as directors on multiple state enterprises", as proposed by the National Anti-Corruption Commission.

5.16 Directors' Development

The Board and the management value regular participation in development training relevant to their performance, as seen in each of their profiles. Most directors have undergone training with IOD. PTT supports and encourages their training with IOD as well as other institutions in all relevant courses throughout the year. In addition, it stages study trips to other agencies and organizations to promote helpful initiatives for application to PTT's business. This year, the following directors underwent training and seminars.

Name	Course
1. Mr. Chulasingh Vasantasingh	- Financial Institutions Governance Program (FGP 4/2012)
2. Mr. Insorn Buakeow	- Director Certification Program (DCP 162/2012) - Financial Statements for Directors (FSD 17/2012) - Seminar "The Responsibilities of Company Directors in Fighting Corruption" organized by IOD
3. Mr. Waroonthep Watcharaporn	- Director Certification Program (DCP 157/2012) - Financial Statements for Directors (FSD 17/2012) - Audit Committee Program (ACP 40/2012) - Monitoring the Internal Audit Function (MIA 13/2012) - Monitoring the system of Internal Control and Risk Management (MIR 13/2012)
4. Mr. Boonsom Lerdhirunwong	- Audit Committee Program (ACP 41/2012) - Monitoring Fraud Risk Management (MFM 8/2012) - Monitoring the Internal Audit Function (MIA 13/2012) - Monitoring the System of Internal Control and Risk Management (MIR 13/2012) - Financial Statements for Directors (FSD17/2012) - Director Certification Program (DCP 162/2012) - Monitoring the Quality of Financial Reporting (MFR 16/2012) - Seminar "The Responsibilities of Company Directors in Fighting Corruption" organized by IOD
5. Gen. Warawat Indradat	- Director Certification Program (DCP 162/2012) - High-level Executive Program on Energy batch 2 organized by Thailand Energy Academy - Seminar "The Responsibilities of Company Directors in Fighting Corruption" organized by IOD - Seminar "Moving Corporate Governance Forward: Challenge for Thai Directors" on ASEAN CG Scorecard organized by IOD
6. Mr. Watcharakiti Watcharothai	- Seminar "Moving Corporate Governance Forward: Challenge for Thai Directors" on ASEAN CG Scorecard organized by IOD
7. Dr. Pailin Chuchottaworn	- Anti-Corruption Training Program for Corporate Directors and Executives (ACEP 4/2012)

PTT's policy is to organize periodic visits and study trips to work sites, both domestic and overseas, for the directors to foster their understanding of the business and apply their expertise and experience to their consideration of matters related to energy concerning PTT and Thailand. To this end, this year PTT organized the following overseas trips:

1. A study visit to TOTAL's headquarters in France. TOTAL, a multinational company operating the energy business, was ranked 11th in Fortune 500 Magazine in 2012 and has been PTT's close and long-standing partner in petroleum exploration and production, natural gas, and oil matters. The visiting directors exchanged views on energy management with TOTAL's senior management. The information, knowledge, and experience obtained will help identify directions, policies, and strategies of PTT's and national energy business management.

2. A study visit to oil sands facilities, PTTEP's energy investment, in Canada. It is considered the world's largest crude oil reserves, next to the Middle East. The visiting directors were exposed to the knowledge and understanding of the business of this new energy resource. They also recognized PTT's potential for securing energy to the country through overseas investment.

The policy is to promote directors' education about various countries' energy usage and directions so that the Board may compare practices with Thailand's energy policy formulation, while enabling directors to monitor data and progress in the energy business and directly share views with experts in world-class energy companies. This broadens their views on PTT Group's overseas investment expansion, which is in line with future Group business directions. The data, knowledge, and first-hand experience derived will certainly contribute to knowledge and understanding of the global energy business and help in the deliberation of suitable businesses for PTT and Thailand.

5.17 Directors' Orientation

For new directors, PTT arranges an orientation program to inform them of its business policies, capital structure, shareholding structure, business performance, information systems, as well as related laws and regulations. Moreover, each director receives a Director's Handbook, which includes the following topics:

Director's Handbook

1. The Public Company Act
2. Securities and Exchange Act
3. Standard Qualifications of Directors and State Enterprise Officer Act
4. Company Registration Certificate
5. Company Certificate
6. Company Objectives
7. Company Regulations
8. Company Rules (14 Rules)
9. PTT Corporate Governance Handbook
10. Guidelines for Directors of Listed Companies

Information kit for directors

1. Overview business presentation of PTT by the President & CEO
2. List of directors, subcommittees, and management structure
3. Director Fiduciary Duty Check List
4. Good corporate governance principles for listed companies
5. Connected transactions of listed companies
6. Guidance on providing information for listed company management
7. PTT Plc Company Profile (short version)
8. Annual Report
9. Financial Report
10. Annual Sustainability Report
11. Governance book
12. "PTT The S-Curve Story" book
13. Debenture book journal
14. PTT Spirit journal

In his briefing to new directors, the President & CEO presents information about PTT, its policies, and relevant information for their overview of the business operation and performance. At the same time, the above-mentioned documents and handbook for new directors are handed over on two occasions.

5.18 Succession Planning

Because PTT is a state enterprise, the nomination and appointment of the President & CEO must follow the Standard Qualifications of Directors and State Enterprise Officer Act. The directors must have the qualifications as specified in Article 8 ter and the nominating procedures as specified in Article 8 quarter. The Board is to appoint a Nominating Committee with five members legitimately qualified to nominate persons with appropriate knowledge, capability, and experience to fill the positions of PTT management. They must be legitimately qualified and cannot be PTT directors, except for the management who are directors by title. They must not be older than 58 years old when submitting the application form. When the Nominating Committee selects appropriate candidates, it submits the results to the authority's consideration. The appointment must be completed within one year from the day the incumbent vacated the position. The hiring contract lasts up to four years for each term. If the Board wishes to hire the previous management team member after the completion of his term as specified in the hiring contract, it does not have to go through the nominating process, but it cannot hire that person for more than two consecutive terms.

5.19 Internal Control System

PTT consistently values internal controls, particularly a system that is comprehensive in scope of activities and dimensions, as well as adequate and suitable for its businesses. Adding efficiency and effectiveness to business, resource utilization, and stewardship of properties, this system consists of an accurate and reliable accounting system and financial reporting. In addition, it calls for strict conformance to laws and regulations related to PTT's business.

The President & CEO has authorized the Risk Management Committee to define work procedures under PTT's internal control standards, together with assessing the outcomes and reporting the overview of PTT's internal control.

PTT has conducted an internal control assessment by the rule of the Office of the Auditor-General governing the formulation of internal control standards, B.E. 2544, article 6, under which the head of a government agency or state enterprise must report to the Office of the Auditor-General, the Monitoring Agency, and the Audit Committee on internal control at least once a year. The Board has assigned the Audit Committee to review the findings of such an internal control assessment, annually conducted by the management and the Office of Corporate Audit, as highlighted below.

5.19.1 Control Environment

PTT commands a sound overall control environment that is adequate for business efficiency and effectiveness. Its executives have promoted an organizational culture focusing on the code of conduct as a role model with the following implementations:

- PTT Group has defined a policy and procedures in writing on integrity and a code of conduct. The Corporate Governance Committee defines a CG policy in line with international standards. Disclosures are made about conflicts of interest to ward off activities of such conflicts, illegal, and improper activities. The policy and the handbook are revised each year. Each director, management team member, and employee sign to acknowledge and conform to such policy and handbook as part of their work, illustrating the commitment to apply the good CG policy and code of conduct to bring practical results.
- PTT has instituted an organizational structure that decentralizes power for business flexibility and alignment with prevailing circumstances, as well as clear and suitable lines of command. Duties and responsibilities are defined in writing, with definitions of key performance indicators (KPIs) early in the year as guidelines for employee performance, and performance is regularly monitored against goals and measured at the year-end. Goals are revised each year. All employees are aware of their roles, authority, duties, and responsibility.
- Integrate CG in the organization's vision, mission, and core values by setting the goal for PTT as a company with sustainable growth strategy, a high-performance organization with CSR, and provide proper benefit to the stakeholders on the basis of CG, as detailed below.

Corporate Governance Policy

PTT duly reviewed its CG policy and handbook to suit prevailing economic and social circumstances and requires all directors, the management, and employees to acknowledge in writing and observe all policies at work to illustrate the commitment to practical application of such policy and business code of conduct to their jobs. The Board's policy on CG is as follows:

1. The Board, management, and all employees are committed to the elements of CG: Accountability, Responsibility, Equitable Treatment, Transparency, Vision to Create Long-Term Value, and Ethics. An organization structure fairly balances the roles of the Board, the management, and the shareholders.

2. Directors must perform their duties independently with full commitment, responsibility, and independence. There is a clear division of responsibilities between the Chairman and the President & CEO.

3. Playing a key role in the formulation of the corporate vision, strategies, policies, and key plans with due regard for risk factors and suitable risk management, the Board must also ensure the credibility of the accounting system, financial statements, and accounting audits.

4. Leading the rest of PTT on ethics and CG, the Board must supervise the management and solution to any conflict of interest or connected transactions.

5. The Board may appoint committees to help it screen and scrutinize critical issues.

6. The Board must undergo annual self-assessment to obtain a framework for its performance assessment.

7. The Board must establish a code of conduct for itself, the management, employees and all contract employees to observe in addition to PTT's rules and regulations.

8. Disclosure of financial and non-financial information must be carried out adequately, credibly, promptly, and fairly for all shareholders and stakeholders. To investors and the general public, Investor Relations is responsible for such disclosure.

9. For fair treatment, PTT shareholders can access information through suitable communication channels with PTT.

10. A proper selection procedure must be in place for the appointment of key management personnel under a fair and transparent nomination process.

Code of Conduct

PTT's written policy and a code of conduct are in place for integrity and ethics. In the handbook, the Corporate Governance Committee has defined the code of conduct based on international standards. Violators of the code are subject to disciplinary action.

The essential aspects of the code are included below:

1. Respect the law and the Universal Declaration of Human Rights principles

2. Stay politically neutral

3. Stay free of vested interests and conflicts of interest

4. Maintain confidentiality and refrain from using inside information for self-gains

5. Respond to customers' needs and show responsibility to consumers

6. Compete freely and fairly

7. Use a transparent procurement system and treat business partners fairly

8. Show responsibility to communities and society

9. Support employees' rights and establish employee engagement

10. Have an efficient internal control system and an internal audit system

11. Have a guideline for accepting and giving gifts, assets, or other benefits

12. Maintain safety, promote health, and preserve the environment

13. Respect intellectual property and properly apply information technology.

Conflicts of Interest

PTT requires information disclosure to prevent conflicts of interest and illegal, improper activities. Under the Board's policy, business decisions made by the management and employees must be solely for PTT's best interests. All staff must not only avoid engaging in financial and other relationships with external parties that would lead to financial losses for PTT or a conflict in loyalty or interest, but also must not compromise the efficiency of business operation. Those staffs with interests or related businesses which may require PTT's review and decisions must report their relationships and connection with a possible conflict of interest. PTT is to disallow such connected persons from exercising their authority for and involvement in such transactions.

Reporting Connected Transactions with PTT

PTT has required the directors, management, and all employees to disclose potential conflicts of

interest through a specific disclosure form. In addition, any approval of such items must not contain special conditions or specifications that are out of the ordinary, which forms a part of PTT's internal controls. PTT's Office of Corporate Audit and the Audit Committee have been entrusted with the monitoring and resolution of issues related to conflicts of interest. This year, however, no such cases of significance have arisen.

Reporting Vested Interests of Directors, the Management, and Related Parties

In the first quarter of each year, PTT requires reporting of the vested interests of directors, the management, and related parties as basic information to manage vested interests for directors and the senior management. The directors and the management are to report such matters every year and with every change. The Corporate Secretary is to compile and submit the copy to the Chairman of the Board and the Chairman of the Audit Committee to check and manage the conflicts of interest. This year no such cases have arisen.

Reporting Changes in Share Ownerships (Portfolios)

As part of the oversight of inside-information measures, all PTT directors and management, including their spouses and children not yet of legal age, must report any changes in their PTT share ownership to the SEC under Article 59 of the Securities and Exchange Act B.E. 2535 within three days from the date of sale, purchase, disposal, or receipt of such shares. PTT defines the policy of disclosing or reporting the sale, purchase, disposal, or receipt of such shares, changes of share ownerships of the directors and the management to the monthly Board meeting, contained in advance as a regular agenda item.

Moreover, one week before the closing of the quarterly and yearly financial statements, the Office of the President and Corporate Secretary issues a letter forbidding directors, the management, or internal units with inside information to disclose such information to external parties or unrelated parties, and to buy or sell PTT shares within 45 days of the last effective date of the financial statements to the notification date of the financial statements to SET, ahead of the public dissemination of the statements so as to prevent abuse of such inside information. During the year, all directors and management have strictly observed this policy. The notifications of forbidding the sale, purchase, disposal, or receipt of PTT's shares were sent to the directors and the management four times: (1) between January 1 - February 29, 2012 (2) between April 1 - May 15, 2012 (3) between July 1 - August 14, 2012 and (4) between October 1 - November 14, 2012.

Report on Directors' Securities Portfolios (as of December 31, 2012)

No.	Name	Shares		Change during the Year	Remark
		Dec. 31, 2011	Dec. 31, 2012		
1.	Dr. Norkun Sitthiphong	-	-	-	
2.	Mr. Watcharakiti Watcharothai	-	-	-	
3.	Mr. Chulasingh Vasantasingh	-	-	-	
4.	Mr. Krairit Nilkuha	-	-	-	
5.	Mrs. Benja Louichareon	-	-	-	
6.	Mr. Arkhom Termpittayapaisith	-	-	-	
7.	Mr. Waroonthep Watcharaporn	-	-	-	
8.	Dr. Chitrapongse Kwangsukstith & spouse	258,690	258,690	-	
9.	Mr. Montri Sotangkur	-	-	-	
10.	Gen. Warawat Indradat	-	-	-	
11.	Mr. Sihasak Phuangketkeow	-	-	-	
12.	Mr. Insorn Buakeow	N/A	-	-	Appointed Apr. 10, 2012
13.	Mr. Boonsom Lerdhirunwong	N/A	-	-	Appointed Apr. 21, 2012
14.	Dr. Pailin Chuchottaworn	-	-	-	A report appears in "Management"

Securities Portfolio for Directors Who Completed Their Terms and Resigned during theyear (as of year-end 2012)

No.	Name	Shares		Change during the Year	Remark
		Dec. 31, 2011	Dec. 31, 2012		
1.	Gen. Prin Suvanadat	-	-	-	Appointed on Nov. 25, 2011 and resigned on October 21, 2012
2.	Mr. Surapon Nitikraipot	-	-	-	Completed his term on Apr. 10, 2012
3.	Mr. Krairit Euchukanonchai	80,000	N/A	N/A	Resigned on Apr. 20, 2012

Management's Ownership of Shares (as of December 31, 2012)

No.	Name	Shares			Warrant # 1		Warrant # 2		Remarks
		Dec. 31, 2010	Dec. 31, 2011	Increment	Allocated in 2005	Remaining	Allocated in 2006	Remaining	
1.	Dr. Pailin Chuchottaworn & spouse	62,000	62,000	-	52,600	-	27,600	-	
2.	Mr. Surong Bulakul[1/]	118,183	118,183	-	63,300	-	33,000	-	Resumed work at PTT on May 1, 2012
3.	Mr. Wichai Pornkeratiwat	55,559	55,559	-	46,900	-	25,200	-	
4.	Mr. Nuttachat Charuchinda	17,563	19,563	2,000	60,800	-	31,800	-	
5.	Mr. Pitipan Tepartimargorn	8,334	8,334	-	38,500	-	20,400	-	
6.	Mr. Supattanapong Punmeechaow	-	-	-	-	-	-	-	
7.	Mr. Charcrie Buranakanonda[2/]	N/A	55,408	-	N/A	-	N/A	-	Appointed on Oct. 1, 2012
8.	Mr. Sarun Rungkasiri & spouse	43,579	43,579	-	56,900	-	30,000	-	
9.	Mr. Sukrit Surabotsopon	2,000	2,000	-	-	-	-	-	
10.	Mr. Sarakorn Kulatham & spouse	63,900	56,900	(7,000)	54,200	-	28,300	-	
11.	Mr. Atikom Terbsiri	-	-	-	-	-	-	-	
12.	Mr. Bowon Vongsinudom	12,100	12,100	-	-	-	12,100	-	
13.	Mr. Wirat Uanarumit	25,500	25,500	-	-	-	-	-	
14.	Ms. Prisana Prahankhasuek	82,863	47,363	(35,500)	35,100	-	18,400	-	

Notes: *1/ The Board resolution No. 3/2012 of March 23, 2012, approved the appointment of PTT executives to be seconded to PTT affiliates and resume work at PTT, effective May 1, 2012.*

2/ Mr. Charcrie Buranakanonda replaced Mr. Peerapong Achariyacheevin, who retired on October 1, 2012.

Securities Portfolios of Executives Transferred/Resigned, and Retired (2012)

No.	Name	Shares			Warrant # 1		Warrant # 2		Remarks
		Dec. 31, 2010	Dec. 31, 2011	Increment	Allocated in 2005	Remaining	Allocated in 2006	Remaining	
1.	Mr. Tevin Vongvanich**	56,000	56,000	-	40,300	-	21,000	-	Seconded to PTTEP on May 1, 2012
2.	Mr. Anon Sirisaengtaksin**	141,700	141,700	-	79,800	-	41,900	-	Seconded to PTTGC on May 1, 2012
3.	Mr. Veerasak Kositpaisal **	31,400	31,400	-	-	-	26,400	-	Seconded to Thaioil Plc. on May 1, 2012
4.	Mr. Suwanunt Chatiudompunth	22,900	8,000	(14,100)	60,300	-	31,600	-	Retired on September 30, 2012
5.	Mr. Peerapong Achariyacheevin	107,363	107,363	-	40,300	-	21,200	-	Retired on September 30, 2012

*Note: ** The Board resolution No. 3/2012 of March 23, 2012, approved the appointment of executives to work in PTT affiliates, effective May 1, 2012.*

- **Reporting List of Assets and Debts to the Office of the National Anti-Corruption Commission (NACC)**

Under Article 39 of the Anti-Corruption Act B.E. 2542, PTT's directors and senior management, including directors and senior management in the companies where PTT holds more than 50% of shares, are required to submit a list of their own assets and debts, including those of their spouses and children not yet of legal age, to the NACC Board every time they take up a position, every three years during their terms, and when they no longer hold their positions. To achieve this, PTT will issue a reminder to each of the directors and senior management as required.

• **Declaring Vested Interests at Meetings**

At every Board meeting, the Chairman reminds the directors to conform to the policy on conflicts of interest on all agenda items, which requires those with vested interests must declare such interests to the meeting to abstain from voting or giving any views. This year, a total of 17 notices were made to the Chairman out of 15 Board meetings.

• **Review of Connected Transactions**

The Audit Committee presents these transactions to the Board along with items of conflicts of interest, which have been examined for conformance to SET's criteria. Such transactions are strictly disclosed in the reports and disclosed in every quarter of the year.

• **Corporate Governance Promotional Activities**

The Corporate Governance Committee is assigned to promote and screen CG matters so that PTT may actively campaign for compliance with CG principles. A working group on CG, headed by an executive vice president, has implemented assorted matters under the policy and conducted campaigns to cultivate awareness in the directors, management, employees, and related parties as described below:

- PTT constantly reviews and amends its values and corporate culture to suit and align with its vision and business context. Senior leaders show their commitment to the values and communicate with all staff across PTT through assorted channels. They also define promotional plans and activities for such values and culture, together with indicators for monitoring and assessment to lend effectiveness to internal communication, personnel skill sharing, and innovation in the workplace.

- PTT has defined its policy and management procedures for human resources in writing, including selection, training, promotion, and compensation procedures. A policy is in place to constantly develop competencies so that employees' capability matches business needs and accommodates work expansion.

- PTT has set up a complaint management center, with Corporate Communications as the main responsible unit, charged with the management of external complaints and responses to queries, together with internal complaints. Suitable periods have been defined for these purposes. Issues are compiled, managed, and regularly submitted to the management for comprehensive improvement and development of PTT.

- This year, the Corporate Governance Committee held 4 meetings, during the second of which it endorsed the approach to amend and revise the CG handbook and code of business conduct. Key topics included a policy to educate and train employees on environmental matters; an additional policy on disclosure of securities trading, transfer, or portfolio changes for directors and executives to the Board, to be reported each quarter or with every change; a policy requiring a limit on company directorships at three; stating directors' terms; amendment to disclosure forms for reporting conflicts of interest via a code of conduct; addition of a policy and/or guidelines for security; addition of sustainable guidelines for PTT's business partners; and addition of a charter to cover all sub-committees. PTT followed SET's CG principles for listed companies (2012 edition), which had been modified to align with the ASEAN CG Scorecard.

- A channel for directly communicating CG with all stakeholders that are shareholders is a quarterly newsletter called "PTT Bizway" in Thai and English, mailed to shareholders. It contains key information, including the vision, mission, message from the President & CEO, performance outcomes, CG, and management for PTT's sustainability. PTT enclosed an attitude survey form for shareholders and received cooperation from the readers. For the topic on satisfaction with PTT on CG, it received assessment at "very satisfied" to "most satisfied" of about 90%.

- In late 2012, the CG taskforce engaged in a survey through internal communication channels to assess PTT employees' mastery of CG matters. Its

conclusion was that nearly 90% of them commanded a good understanding of CG and the code of business conduct. It also developed CG E-learning on the intranet as a learning media for CG and the code of business conduct for all employees; this is due for completion in 2013. The plan is to assess employees' understanding to promote the cultivation of awareness and campaign for it in their performance under the code of business conduct.

- Besides promoting CG knowledge within the organization, PTT shared this knowledge with external parties by agreeing to requests for visits by assorted organizations/institutions. PTT's top management were also invited to give talks or join seminars on the subject.

- Periodic promotional campaigns were conducted through various media within PTT, including exhibitions, a CG website packed with information, two-way communication channels, internal news broadcasts, video shows, a CG column in the "PTT Spirit" magazine, and a CG-Digest via email-newsletters, are among the publicity and awareness tools, with positive responses from all. In addition, the Corporate Governance Committee distributed the Thai and English versions of the Good Corporate Governance Handbook (2nd Revision) to investors, international interested parties, and stakeholders for their reference. This will also be posted on PTT's website.

- In addition, PTT focused on CG among PTT Group to align with PTT's CG management standards. To this end, they agreed to jointly study and develop CG guidelines based on international best practices to establish a standard suitable for PTT Group as a step toward future ranking. Implementation plans and proactive promotional strategies for CG were also established as follows:

R-E-A-C-T

R = Responsibility
E = Equitable Treatment
A = Accountability
C = Creation of Long Term Value
T = Transparency

- Below is a description of PTT's activities promoting CG among PTT Group companies:
  - Appointment of a PTT Group CG Steering Committee
  - Staging a PTT Group CG Day, a key annual activity designed to campaign, promote, and publicize CG practices among PTT Group companies, namely PTT, PTTEP, PTTGC, TOP, BCP, and IRPC. The event this year was held on October 3 under the name "PTT Group CG Day 2012: Surfing the Global Wave" at the PTTGC Office in Rayong. The event featured CG practices under the group and promoted the awareness among exectives and employees of CG application to their work. The all-day event consisted of exhibitions and recreational games that also educated visitors, in addition to a top-management seminar on how to get ahead with CG on international forums and an employee show called "CG Synergy" among six PTT Group companies, featuring employees from all. Guest visitors also paid a visit, including representatives of SET, Thai Listed Companies Association, and PTT Group executives. Knowledge and impression were evident in the spirit shown by senior executives and employees that participated in growing good awareness of the significance of CG to management and work.

- Anti-corruption

- PTT enlisted itself in the 2010 declaration of the Private Sector Collective Action Coalition against Corruption (CAC), a national-agenda project supported by the government and the National Anti-Corruption Commission (NACC), as one of the first 27 companies to do so.

- Regularly, PTT joined activities of the CAC. On October 17 this year, PTT participated in a seminar on the procedures under the process to certify coalition membership, hosted by IOD, which is the secretariat to CAC, designed to elaborate the certification procedure and development of self-assessment for prospective companies. In addition, the directors, executives, and employees joined seminars hosted by IOD, namely

"The Responsibilities of Company Directors in Fighting Corruption" and "Anti-Corruption Training Program for Corporate Directors and Executives (ACEP 4/2012)".

- Currently, PTT, as a signatory of the above-mentioned declaration, is under the certification process for further certification by CAC.

5.19.2 Risk Assessment

PTT recognizes the significance of risk management under changes that impact its businesses because of internal and external factors. Viewing risk management as a key component of every business process which must be linked with one another, PTT therefore defined a policy of corporate risk management that all must conform to and undertake at the operating level. As for corporate risks, this management is systematically undertaken by PTT's management committees. Operation risks fall under the oversight of respective operations. A risk management and an internal control committee manages overall risks for maximum efficiency. It is the responsibility of all units to manage and control at manageable levels, as is clearly stated in the functional job descriptions of all units.

5.19.3 Control Activities

The Management Committee is authorized to review reports, financial and otherwise, of all business groups and corporate overviews, and regularly review all reports to ensure conformance to regulations and job manuals. PTT has defined policies and procedures in writing, including those for performance assessment of all employees, which relies on KPIs to enable control of management activities to be suitable, adequate, and accountable. Portions of businesses have been identified for key risks, and mechanisms defined to control and minimize errors. Regular performance reviews by the management are in place, including financial, procurement, and general administrative transactions. Systematic delegation of duties to personnel groups ensures checks and balances. Authority is duly and totally segregated for approval, information processing, transaction recording, receipt and disbursement of cash, reviews and inspection, and stewardship of properties. In place is an internal control system for finance and accounting, dealing with cash collection, cash retention, receipt and disbursement, bank deposits, and cash advances. These follow the rules, with complete, accurate, and regular recording. Systematic storage of accounting documents, both documents and information, is in place to comply with the law.

In procurement and hiring, PTT follows rules and requirements on material and supply matters, which clearly define responsible parties, including the authority, approval limits, supply need assessment, inspection, control and storage of supplies, and property counting. As for human resource management, PTT has instituted a human resource management system, complete with adequate monitoring and assessment, covering recruitment, determination of compensation, duties, personnel development, performance, and communication so that employees may be competent and that PTT's human resource management may be both suitable and efficient.

If PTT enters into transactions with major shareholders, directors, the management ,or related persons, PTT applies strict measures to ensure that each such transaction goes through the required approval procedures every time and for every item. The stakeholders will not take part in the approval of such an item. PTT also closely monitors any subsequent actions.

SSHE (Safety, Security, Health, and Environment) is regarded as one of the key safeguarding mechanisms for PTT's business on its march toward an entity with sustainable growth and operational excellence in tandem with the strategy of TAGNOC (Technologically Advanced and Green National Oil Company).

The Board looks after, monitors, and provides policies and recommendations on QSHE standards applied as part of the control activities through the Management Committee, headed by the President & CEO, together with the PTT Group QSHE Policy Committee and PTT's own QSHE Committee.

The responsible corporate units are the QSHE and Corporate Quality Management departments.

PTT has defined a PTT Group SSHE Management Framework to bolster the strength of and define a clearer, integrated operation direction for PTT Group. Under this framework, PTT explicitly expresses its intention and commitment under the **PTT Group SSHE Management Standard (PTTG SSHE MS)**, designed to serve as a tenet or basic requirement for SSHE risk management for all business units and companies to apply, given each business's nature and risks. In 2013, PTT focuses on establishing processes and mechanisms from the corporate level to business units and PTT Group companies, while still valuing significant SSHE risks. The highlights are as follows:

- **Development of SSHE supervision processes:**

PTT has defined clear processes for the supervision of SSHE matters to ensure that all business units and companies align their businesses with relevant policies, strategies, and management standards. To this end, it has established the PTT Group SSHE Governance along with mechanisms for continually tracking the progress and performance outcomes, with the PTT Group QSHE Policy Committee (which meets every quarter) reviewing the efficiency and effectiveness of management as a whole.

- **Definition of a goal structure of safety, health, and environment for PTT Group:**

To illustrate the eco-efficiency of SHE management as a whole for the group, PTT has defined a goal structure for SHE, consisting of Socio (top-quartile safety performance), Eco (reduction of ecological footprint), and Efficient (alignment with Thailand's energy goals). All three indicators will feature short-term goals (annual) and long-term ones (2020).

- **Development of centralized processes and procedures:**

To ensure that the application of PTT Group SSHE MS in business units and companies is uniform, efficient, and can manage key SSHE risks in a systematic and sustainable way, this year PTT developed assorted processes and tested their implementation at pilot sites through several projects. These projects included contractor SSHE management, investigation and development of an energy management roadmap and system, improvement of PTT Group's inventory of greenhouse gases, environmental site assessment, logistics Zero Accident, preventive occupational health program, PTT Group security management standard, and product carbon footprint assessment projects.

In addition, centralized operating standards and approaches have been developed as a framework for assorted matters for the business units and companies to observe, including incident management, SSHE management for contractors, change management with potential SSHE impacts, corporate SSHE audit, a manual for investigating security breach, VOCs emission inventory, and engineering standards. For details about SSHE performance, please refer to the Sustainability Report 2012.

5.19.4 Information & Communication

Due to the vision of the Board, PTT and group companies have jointly established PTT ICT Solutions Co., Ltd. (PTTICT), to centralize IT services for the group, a cost-saving idea that reduces infrastructural spending and IT redundancies for each company, while adding bargaining power for the group. Until now, PTTICT has performed its role consistently well and has become PTT Group's flagship in IT operations.

Through the Audit Committee and the Internal Control Committee, the Board gave priority to IT system security and the safety of electronic information storage. The management information systems and internal controls were constantly reviewed. This year, in the wake of the Great Floods, PTT reviewed critical computer

systems and sought scope expansion for ISO/IEC 27001 (Information Security Management System, ISMS) to cover all key systems. PTT was successfully certified in November this year. It also sought certification under TIS 22301-2553 in preparing for business continuity management (BCM).

In addition, the Board supported PTT's upgrading of its enterprise resource planning (ERP) to establish the capability of its IT and communication on par with technologically advanced organizations. PTT, jointly with PTTICT, developed its key business systems by applying SAP ECC 6.0 to the compilation and processing of comprehensive business data, and reduced data redundancy in legacy system application, which is abundant in PTT, and link data from PTT Group companies for quick summaries for the management. Moreover, innovations have been devised in support of cash receipt and disbursement for greater efficiency by developing a payment gateway, leveraging the "Direct Approve" system in effectively shortening financial transaction time for PTT, customers, and banks.

As for performance measurement and comparison of performance against goals, PTT has improved its information system to accommodate future policies and organization structures–including the COACH, Balanced Scorecard, and KPIs to promote progress toward becoming a leading business organization with the Thailand Quality Award (TQA). Incidentally, PTT's work on ICT has been named a winner at the ICT Excellence Award, hosted by the Thailand Management Association, ever since 2009.

5.19.5 Monitoring & Evaluating Internal Audit System

- Internal Control System

The Office of Corporate Audit is an independent unit which directly reports to the Audit Committee. It fosters assurance and provides consultation to ensure that business processes are properly equipped with CG, risk management, and sound internal controls in support of PTT's objectives.

The office audits annual operating plans and three-year advanced audit plans in line with business strategic directions and the risk-based approach (key corporate risks), encompassing PTT Group's businesses, both domestic and international. It reports findings to the Audit Committee for consideration and reports to the Board for acknowledgment every quarter. Regular monitoring is undertaken for actions in response to the office's recommendations. In its work, the office freely expresses its opinions. No conflicts have arisen between audited units and the office that cannot be resolved.

- Control Self-Assessment (CSA)

In addition, PTT monitors internal controls and assesses them at least annually by defining this task as a part of the routine procedures of executives, supervisors, and relevant parties. It also instituted Control Self-Assessment (CSA) within PTT in a blended mode:

- Specific questionnaires on internal controls at corporate and departmental levels
- Facilitated Workshops to assess internal controls at the activity level, with a focus on process control, assessment outcomes, and plans to improve internal controls, which must have the buy-in of work process owners and monitoring by superiors.

The Risk Management Department compiles data and summarizes the analyses of those data in reports of self-assessment covering the entire PTT for the committee to screen, comment, and issues approaches for responsible units to proceed with corrective actions every year. In addition, the Office of Corporate Audit conducts reviews to ensure that the existing internal controls are adequate for handling risk management and are consistently conformed observed. The Audit Committee reviews the findings of the internal audit annually. If any areas needing improvement are found, PTT has instituted procedures to ensure that such areas receive due attention and

immediate corrective actions. As for the internal control assessment of accounting and finance, the audit and review is usually undertaken by the Office of the Auditor-General (the auditor), with the findings submitted to the Audit Committee for consideration quarterly and annually.

In monitoring and assessing internal controls, PTT conforms to the guidelines for report preparation issued by the Auditing Commission Regulation (Clause 6). It was concluded that the latest assessment was at a "good" level. All business groups also report their performance every month and have it regularly measured against KPIs.

The regular review of the assessment outcomes conducted by executives and the Office of Corporate Audit and the Audit Committee for this year indicated no significant problems or defects, a view shared by the external auditor. In summary, PTT's internal control system is adequate and effective from a business standpoint.

PTT Board of Directors

1 **Dr. Norkun Sitthiphong**
Former Chairman

2 **Mr. Vichet Kasemthongsri**
Chairman

3 **Mr. Chulasingh Vasantasingh**
Independent Director,
Chairman of the Audit Committee

4 **Mrs. Benja Louichareon**
Director,
Member of the Remuneration Committee

5 **Mr. Sihasak Phuangketkeow**
Independent Director,
Member of the Corporate Governance Committee

6 **Mr. Arkhom Termpittayapaisith**
Independent Director,
Chairman of the Remuneration Committee

7 **Mr. Krairit Nilkuha**
Director,
Member of the Remuneration Committee,
Member of the Nominating Committee

8 **Mr. Watcharakiti Watcharothai**
Independent Director,
Chairman of the Nominating Committee,
Chairman of the Corporate Governance Committee

9 **Mr. Boonsom Lerdhirunwong**
Independent Director,
Member of the Audit Committee

10 **Dr. Chitrapongse Kwangsukstith**
Director

11 **Mr. Montri Sotangkur**
Independent Director

12 **Gen. Warawat Indradat**
Independent Director,
Member of the Corporate Governance Committee

13 **Mr. Waroonthep Watcharaporn**
Independent Director,
Member of the Audit Committee

14 **Mr. Insorn Buakeow**
Independent Director

15 **Mr. Suthep Liumsirijarern**
Director

16 **Dr. Pailin Chuchottaworn**
Director, Secretary to the Board,
Member of the Nominating Committee

Dr. Norkun Sitthiphong
Former Chairman

Mr. Vichet Kasemthongsri
Chairman

Mr. Chulasingh Vasantasingh
Independent Director,
Chairman of the Audit Committee

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Independent Director,
Chairman of the Remuneration Committee

Mr. Krairit Nilkuha
Director,
Member of the Remuneration Committee,
Member of the Nominating Committee

Mr. Watcharakiti Watcharothai
Independent Director,
Chairman of the Nominating Committee,
Chairman of the Corporate Governance Committee

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Member of the Audit Committee

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Director

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Independent Director

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Member of the Corporate Governance Committee

Mr. Waroonthep Watcharaporn
Independent Director,
Member of the Audit Committee

Mr. Insorn Buakeow
Independent Director

Mr. Suthep Liumsirijarern
Director

Dr. Pailin Chuchottaworn
Director, Secretary to the Board,
Member of the Nominating Committee

1. Dr. Norkun Sitthiphong — Age 59
Former Chairman

(%) Share Possession — None

Educations
- B.Eng. (Mechanical Engineering), Chulalongkorn University, Thailand
- M.Sc. (Mechanical Engineering), Oregon State University, USA
- Ph.D. (Mechanical Engineering), Oregon State University, USA

Certifications
- The National Defence Course, National Defence College, (Class of 47th), Thailand
- Capital Market Academy Leadership Program, (Class of 4th), Thailand
- Thai Institute of Directors Association (IOD), RCP 21/2009

Work Experiences

1998 - 2000	:	Vice President, Research and Assets Affairs, Chiang Mai University
2001 - 2003	:	Vice President, Academic Affairs, Chiang Mai University
2003 - 2010	:	Deputy Permanent Secretary, Ministry of Energy
2008 - Present	:	Director, Nuclear Power Program Development Office
2010 - Present	:	Permanent Secretary, Ministry of Energy

Relevant Important Positions
- Chairman, PTT Exploration and Production Public Company Limited (PTTEP)
- Chairman, Thaioil Public Company Limited (TOP)

2. Mr. Vichet Kasemthongsri — Age 51
Chairman

(%) Share Possession — None

Educations
- Bachelor of Business Administration, Institute of Technology and Vocational Education, Thailand
- Master of Public Administration, National Institute of Development Administration (NIDA), Thailand

Certifications
- None

Work Experiences

1998	:	Assistant Secretary to the Minister of Commerce
1999 - 2000	:	Secretary to the Foreign Affairs Committee Member of the Opposition Parties Whip
2001 - 2002	:	Member of House of Representatives (Party List), Assistant Secretary to the Prime Minister, Deputy Chairman of Industrial Committee, Acting Chairman of Industrial Committee, Member of the Coalition Parties Whip
2003 - 2004	:	Deputy Minister of Transport
2005	:	Member of House of Representatives (Party List) Deputy Chairman of the Coalition Parties Whip
2006 - 2007	:	Acting Secretary of Thai Rak Thai Party

Relevant Important Positions

- None

3. Mr. Chulasingh Vasantasingh — Age 62

Independent Director,
Chairman of the Audit Committee

(%) Share Possession — **None**

Educations

- Bachelor of Laws (LLB.) (Hons.), Chulalongkorn University, Thailand
- Barrister at Law, The Institution of Legal Education, Thailand
- Master of Comparative Law (MCL), University of Illinois, USA
- Honorary Doctorate Degree in Laws, Ramkhamhaeng University, Thailand
- Honorary Doctorate Degree in Laws, Chulalongkorn University, Thailand
- Honorary Doctorate Degree in Laws, Yonok University, Thailand

Certifications

- The National Defence Course, National Defence College, (Class of 388th), Thailand
- Politics and Governance in Democratic Systems for Executives Course, Thailand
- Capital Market Academy Leadership Program (Class of 5th), Thailand
- Thai Institute of Directors Association (IOD), DCP 35/2003, FND 7/2003, UFS 1/2006, ACP 17/2007, Refresher Course DCP 1/2008, FGP 4/2012
- Certificate in Top Executives in the Energy Education Program, Thailand Energy Academy (Class of 1st)

Work Experiences

2005 - 2009	:	Deputy Attorney General, The Office of the Attorney General
2009 - Present	:	Attorney General, The Office of the Attorney General

Relevant Important Positions

- None

4. Mrs. Benja Louichareon — Age 59

Director,
Member of the Remuneration Committee

(%) Share Possession — **None**

Educations

- B.A. (Accounting), Thammasat University, Thailand
- LL.B., Thammasat University, Thailand
- M.P.A., Chulalongkorn University, Thailand

Certifications

- Middle Management Professional Development, Revenue Canada
- EDI Taxation Technology for Middle Management Revenue Department (Australia and New Zealand)
- Strategic Thinking and Executive Action, Kellogg School of Management, USA
- The Joint State-Private Sector Course, National Defense College, (Class of 4616th), Thailand
- Certificate of Public Director Certification Program, Public Director Institute (PDI), Thailand
- Capital Market Academy Leadership Program, (Class of 8th), Thailand
- Thai Institute of Directors Association (IOD), DCP 75/2006, ACP 27/2009, SFE 7/2010 and RCP 23/2010

Work Experiences

2003 - 2004	:	Deputy Director-General, Revenue Department
2004 - 2005	:	Principal Advisor on Tax Base Management, Revenue Department
2005 - 2008	:	Inspector General, Office of Permanent Secretary for Finance
2008 - 2011	:	Deputy Permanent Secretary of Ministry of Finance
2011 - Sept. 2012	:	Director General, Excise Department, Ministry of Finance
Oct. 2012 - Present	:	Director General, Customs Department, Ministry of Finance

Relevant Important Positions

- None

5. Mr. Sihasak Phuangketkeow — Age 55

Independent Director,
Member of the Corporate Governance Committee

(%) Share Possession — None

Educations
- Bachelor of Political Science (International Relations), Chulalongkorn University, Thailand
- Master of Arts in International Public Policy, Johns Hopkins University, USA

Certifications
- None

Work Experiences

2002	:	Director General, Department of Information and Spokesman of the Ministry of Foreign Affairs
2006	:	Deputy Permanent Secretary, Ministry of Foreign Affairs
2007	:	Ambassador, Permanent Representative of Thailand to the United Nations Office and Other International Organizations in Geneva
2011 - Present	:	Permanent Secretary, Ministry of Foreign Affairs

Relevant Important Positions
- None

6. Mr. Arkhom Termpittayapaisith — Age 56

Independent Director,
Chairman of the Remuneration Committee

(%) Share Possession — None

Educations
- B.A. (Economics), Thammasat University, Thailand
- M.A. (Development Economics), Williams College, USA
- Honorary Degree, Doctor of Liberal Arts, Sisaket Rajabhat University, Thailand

Certifications
- Senior Executive, Civil Servant Commission (Class of 35th), Thailand
- The National Defence Course, National Defence College (Class of 46th), Thailand
- Thai Institute of Directors Association (IOD), DAP 51/2006, DCP 92/2007, ACP 22/2008
- Capital Market Academy, Top Executive Program (Class of 1st), Thailand

Work Experiences

2000 - 2003	:	Assistant Secretary-General, Office of National Economic and Social Development Board (NESDB)
2003 - 2004	:	Senior Adviser in Policy and Plan, NESDB
2004 - 2010	:	Deputy Secretary-General, NESDB
2010 - Present	:	Secretary-General, NESDB

Relevant Important Positions
- None

7. Mr. Krairit Nilkuha — Age 61

Director,
Member of the Remuneration Committee,
Member of the Nominating Committee

(%) Share Possession — None

Educations
- B.Sc. (Mechanics Engineering), Kasetsart University, Thailand
- M.Sc. (Petroleum Engineering), New Mexico Institute of Mining and Technology, USA

Certifications
- The National Defence Course, National Defence College, (Class of 48th), Thailand
- Capital Market Academy Leadership Program, (Class of 8th), Thailand
- Thai Institute of Directors Association (IOD), UFS 6/2006, DAP 53/2006, ACP 24/2008 and R-SS 1/2009

Work Experiences

2003 - 2005	:	Deputy Director - General, Department of Mineral Fuels
2005 - 2008	:	Director - General, Department of Mineral Fuels
2008 - 2009	:	Deputy Permanent Secretary, Ministry of Energy
2009 - Sept. 2012	:	Director General Department of Alternative Energy Development and Efficiency, Ministry of Energy
Oct. 2012 - Present	:	Chairman of the Board, Technical Petroleum Training Institute

Relevant Important Positions
- Director, Chairman of the Enterprisewide Risk Management Committee, Bangchak Petroleum Public Company Limited (BCP)

8. Mr. Watcharakiti Watcharothai — Age 52

Independent Director,
Chairman of the Nominating Committee,
Chairman of the Corporate Governance Committee

(%) Share Possession — None

Educations
- Bachelor of Arts (Political Science), Kasetsart University, Thailand
- M.P.A. (Master of Public Administration), Roosevelt University, USA
- Honorary Degree of Doctor of Philosophy, Department of Administration, Ramkhamhaeng University, Thailand

Certifications
- The State-Private & Political Sector Course, National Defence College, (Class of 4th), Thailand
- Capital Market Academy Leadership Program, (Class of 9th), Thailand
- Public Director Certification Program, Public Director Institute (PDI), (Class of 5th), Thailand
- Senior Executives on Justice Administration Batch, National Justice Academy (Class of 15th), Thailand
- Thai Institute of Directors Association (IOD), DCP 121/2009, Moving Corporate Governance Forward: Challenge for Thai Director 2012
- Certificate in Top Executive Program in Commerce and Trade (TEPCoT), Commerce Academy (Class of 5th)
- Certificate in Top Executives in the Energy Education Program, Thailand Energy Academy (Class of 1st)

Work Experiences

2001 - 2007	:	Assistant Lord Chamberlain
2007 - Present	:	Grand Chamberlain

Relevant Important Position
- Director, IRPC Public Company Limited (IRPC)

9. Mr. Boonsom Lerdhirunwong — Age 59

Independent Director,
Member of the Audit Committee

(%) Share Possession — None

Educations
- B.Eng. (Civil Engineering), Chulalongkorn University, Thailand
- M.Eng. (Civil Engineering), Chulalongkorn University, Thailand
- Dr.Ing. (Civil Engineering), INSA Toulouse, France

Certifications
- The National Defence Course, National Defence College (Class of 49th), Thailand
- Thai Institute of Directors Association (IOD) DCP 162, FSD 17, ACP 41, AACP (MFM 8, MIA 13, MIR 13, MFR 16)

Work Experiences

2004 - 2008	:	Vice President for Property Management Affairs, Chulalongkorn University
2007 - 2008	:	Member of Financial Policy Committee, Chulalongkorn University
2008 - 2010	:	Member of Chulalongkorn University Council
2010 - Present	:	Member of Thai Red Cross Society Board
2008 - Present	:	Dean, Faculty of Engineering, Chulalongkorn University, Thailand

Relevant Important Positions
- None

10. Dr. Chitrapongse Kwangsukstith — Age 63

Director

(%) Share Possession — 0.009054

Educations
- B.Eng. (Mechanical Engineering), Chulalongkorn University, Thailand
- M.Eng. (Industrial Engineering), Lamar University, USA
- Doctor of Industrial Engineering, Lamar University, USA

Certifications
- Stanford Executive Program, Stanford University, USA
- The National Defence Course, National Defence College, (Class of 4212), Thailand
- Thai Institute of Directors Association (IOD), DCP 42/2004, FND 9/2004, RCC 10/2010, NCGC

Work Experiences

2000 - 2003	:	Senior Executive Vice President, PTT, Working as President, PTT Exploration & Production Public Company Limited
2003 - 2007	:	Senior Executive Vice President, Gas Business Unit, PTT
2008 - 2009	:	Chief Operating Officer, Upstream Petroleum and Gas Business Group, PTT
Present	:	Chairman of the Board, PTT International Company Limited

Relevant Important Positions
- None

11. Mr. Montri Sotangkur — Age 50

Independent Director

(%) Share Possession — None

Educations
- B.A. (Faculty of Commerce and Accountancy), Chulalongkorn University, Thailand
- M.B.A., Northrop University, USA

Certifications
- Capital Market Academy Leadership Program, (Class of 9th), Thailand

Work Experiences

2008 - 2009	:	Executive Director, Geo - Informatics and Space Technology Development Agency, GISTDA (Public Organization)
2008 - 2010	:	Director, National Innovation Agency
2008 - 2011	:	Director, Provincial Waterworks Authority
2008 - 2011	:	Executive Director, National Housing Authority, Ministry of Social Development and Human Security
1992 - Present	:	Managing Director, Prestige Direct Marketing Co., Ltd.

Relevant Important Positions
- None

12. Gen. Warawat Indradat

Age 63

Independent Director,
Member of the Corporate Governance Committee

(%) Share Possession **None**

Educations
- Bachelor of Science (Army), Chulachomklao Royal Military Academy (Class of 21st), Thailand
- Command and General Staff College (Class of 62th), Thailand
- M.B.A., The Civil Military MBA Program, Kasetsart University in Cooperation with the National Defence Studies Institute, Thailand (Class of 6th)

Certifications
- Command and General Staff Officer Course, Ft.Leavenworth, Kansas, USA
- Defense Resources Management Course, Naval Postgraduate School (Monterey, California, USA)
- Certificate in Advanced Security Management Program, National Defence College, Thailand
- Thai Institute of Directors Association (IOD), DCP 162/2012, PDI 2012

Work Experiences

2002	:	Staff Officer to the Ministry of Defense
2004	:	Deputy Commanding General Chulachomklao Royal Military Academy
2005	:	Assistant Chief of the General Staff, Ministry of Defence
2008	:	Senior Expert, Royal Thai Army
2008	:	Secretary to the Ministry of Defence
Present	:	Advisor to the Secretary of the Minister of Defence

Relevant Important Positions
- None

13. Mr. Waroonthep Watcharaporn

Age 44

Independent Director,
Member of the Audit Committee

(%) Share Possession **None**

Educations
- Bachelor Degree in Business Administration, Major in Marketing, The University Thai Chamber of Commerce, Thailand
- Master of Science in Information System (MIS), Engineering School, George Washington University, USA

Certifications
- TLCA Executive Development Program (EDP) Class 5, Thai Listed Companies Association
- Game for Global Growth Class 2 (April 2010 - March 2011), Singtel
- Thai Institute of Directors, DCP 157/2012, FSD 17/2012, ACP 40/2012, AACP 2012, MIA 13/2012, MIR 13/2012

Work Experiences

2006 - 2007	:	Assistant Vice President, Marketing One-2-Call, Advance Info Service Plc.
2007 - 2008	:	Managing Director, Advance mPAY Company Limited
2008 - 2010	:	Assistant Vice President, Corporate Business, Advance Info Service Plc.
2010 - 2011	:	Vice President, Corporate Sales, Advance Info Service Plc.
2011 - Present	:	Vice President, Vice Chairman of the Board Executive Office, Advance Info Service Plc.

Relevant Important Positions
- None

14. Mr. Insorn Buakeow

Age 62

Independent Director

(%) Share Possession **None**

Educations
- Bachelor of Education, Burapha University (Bangsaen Educational College), Thailand
- Master of Public Administration, National Institute of Development Administration (NIDA), Thailand
- Doctorate of Public Administration, Century University, USA

Certifications
- Thai Institute of Directors Association (IOD), FSD 17/2012, DCP 162/2012

Work Experiences

1976 - 1980	:	Coordinator, the United Nations High Commissioner for Refugees (UNHCR)
1984 - 2009	:	Executive of Surathip Co., Ltd. and Thai Beverage Public Co., Ltd.
1990 - 1995	:	Advisor, Lao Shinawatra Telecom Co., Ltd.

1992 - 2002	:	Advisor, Sanpatong Agricultural Cooperative, Chiangmai
2010 - Present	:	Executive Advisor, Thai Beverage Public Co., Ltd. and T.C.C. Group

Relevant Important Positions

- None

15. Mr. Suthep Liumsirijarern

Age 58

Director

(%) Share Possession **None**

Educations

- B.Sc. in Civil Engineering, Chiang Mai University
- Post-Graduate Diploma, Hydraulic Engineering, International Institute of Hydraulic Engineering, Delft, the Netherlands (Dutch Government Scholarship Program via the Department of Technical and Economic Cooperation)

Certifications

- National Defence Studies Institute, Supreme Command Headquarters, Joint Staff Program (Class of 43rd)
- Energy Executive Program (Class of 1st), Ministry of Energy
- Civil Service Training Institute (CSTI), Office of the Civil Service Commission (OCSC), Civil Service Executive Program 1 (Class of 44th)
- National Defence Studies Institute, National Defence College, The National Defence Course (Class of 51st), Thailand
- Thai Institute of Directors Association (IOD), DAP 96/2012 and ACP 39/2012

Work Experiences

1998	:	Director, Operation and Maintenance Division 1, Bureau of Operation and Maintenance, Department of Energy Development and Promotion (DEDP), Ministry of Science, Technology and Energy
2003	:	Director, Bureau of Technology Transfer and Dissemination, Department of Alternative Energy Development and Efficiency (DEDE), Ministry of Energy
2007	:	Director, Bureau of Alternative Energy Development, Alternative Energy Development and Efficiency (DEDE), Ministry of Energy
2009	:	Deputy Director General, DEDE, Ministry of Energy
2011 - Present	:	Director General, Energy Policy and Planning Office (EPPO), Ministry of Energy

Relevant Important Positions

- Independent Director, Director to the Risk Management Committee, PTT Global Chemical Public Company Limited

16. Dr. Pailin Chuchottaworn

Age 56

Director, Secretary to the Board,
Member of the Nominating Committee

(%) Share Possession **0.002170**

Educations

- B.Eng (Chemical Engineering) (Hons.), Chulalongkorn University, Thailand
- Master of Engineering in Chemical Engineering, Tokyo Institute of Technology, Japan
- Doctor of Engineering in Chemical Engineering, Tokyo Institute of Technology, Japan
- Honorary Doctorate Degree in Sustainable Energy and Environment Technology and Management, Rajamangala University of Technology Rattanakosin, Thailand

Certifications

- PTT Executive Leadership Program 2008, GE Crotonville, USA
- NIDA Executive Leadership Program 2007, Wharton University of Pennsylvania, USA
- Industrial Liaison Program (ILP) 2005, Massachusetts Institute of Technology, USA
- Diploma, The Joint State-Private Sector Course National Defence College (Class of 22th), Thailand
- Thai Institute of Directors Association (IOD), DAP 24/2004, DCP 51/2004, FND 14/2004, ACEP 4/2012
- Certificate in Top Executives in the Energy Education Program, Thailand Energy Academy (Class of 1st)
- Corporate Governance Program for Directors and Executives of State Enterprises and Public Organizations (Class of 7th), King Prajadhipok's Institute
- Top Executives Program, Capital Market Academy (Class of 8th), Thailand
- Top Executive Program in Commerce and Trade (TEPCoT), (Class of 1st), University of the Thai Chamber of Commerce

Work Experiences

2006 - 2008	:	Executive Vice President, Petrochemicals & Refining Business Unit, PTT, working as President of PTT Asahi Chemical Company Limited
2008 - Dec. 2009	:	Senior Executive Vice President, Petrochemicals & Refining Business Unit, PTT, working as President of PTT Polymer Marketing Company Limited and PTT Asahi Chemical Company Limited
Jan. 2009 - June 2011	:	Senior Executive Vice President, PTT, working as President, IRPC Public Company Limited
June - Sept. 2011	:	Chief Operating Officer, Upstream Petroleum and Gas Business Group, PTT
Sept. 2011 - Present	:	President & Chief Executive Officer, PTT

Relevant Important Positions

- Director, IRPC Public Company Limited
- Director, PTT Exploration and Production Public Company Limited

PTT Executives

1. **Dr. Pailin Chuchottaworn**
President & Chief Executive Officer

2. **Mr. Surong Bulakul**
Chief Financial Officer

3. **Mr. Wichai Pornkeratiwat**
Chief Operating Officer,
Upstream Petroleum and
Gas Business Group

4. **Mr. Nuttachat Charuchinda**
Chief Operations Officer,
Downstream Petroleum Business Group

5. **Mr. Pitipan Tepartimargorn**
Senior Executive Vice President,
Human Resources & Organization Excellence

6. **Mr. Supattanapong Punmeechaow**
Senior Executive Vice President,
Corporate Strategy

7. **Mr. Charcrie Buranakanonda**
Senior Executive Vice President,
Gas Business Unit

8. **Mr. Sarun Rungkasiri**
Senior Executive Vice President,
Oil Business Unit

9. **Mr. Sukrit Surabotsopon**
Senior Executive Vice President,
Petrochemicals & Refining Business Unit

10. **Mr. Sarakorn Kulatham**
Senior Executive Vice President,
International Trading Business Unit

11. **Mr. Tevin Vongvanich**
President and Chief Executive Officer,
PTT Exploration and Production
Public Company Limited

12. **Mr. Anon Sirisaengtaksin**
Chief Executive Officer,
PTT Global Chemical Public Company Limited

13. **Mr. Veerasak Kositpaisal**
Chief Executive Officer,
Thaioil Public Company Limited

14. **Mr. Bowon Vongsinudom**
President,
PTT Global Chemical Public
Company Limited

15. **Mr. Atikom Terbsiri**
President,
IRPC Public Company Limited

Dr. Pailin Chuchottaworn
President & Chief Executive Officer

Mr. Surong Bulakul
Chief Financial Officer

Mr. Wichai Pornkeratiwat
Chief Operating Officer,
Upstream Petroleum and Gas Business Group

Mr. Nuttachat Charuchinda
Chief Operations Officer,
Downstream Petroleum Business Group

Mr. Pitipan Tepartimargorn
Senior Executive Vice President,
Human Resources & Organization Excellence

Mr. Supattanapong Punmeechaow
Senior Executive Vice President,
Corporate Strategy

Mr. Charcrie Buranakanonda
Senior Executive Vice President,
Gas Business Unit

Mr. Sarun Rungkasiri
Senior Executive Vice President,
Oil Business Unit

Mr. Sukrit Surabotsopon
Senior Executive Vice President,
Petrochemicals & Refining Business Unit

Mr. Sarakorn Kulatham
Senior Executive Vice President,
International Trading Business Unit

Mr. Tevin Vongvanich
President and Chief Executive Officer,
PTT Exploration and Production Public Company Limited

Mr. Anon Sirisaengtaksin
Chief Executive Officer,
PTT Global Chemical Public Company Limited

Mr. Veerasak Kositpaisal
Chief Executive Officer,
Thaioil Public Company Limited

Mr. Bowon Vongsinudom
President,
PTT Global Chemical Public Company Limited

Mr. Atikom Terbsiri
President,
IRPC Public Company Limited

1. Dr. Pailin Chuchottaworn — Age 56

President & Chief Executive Officer

(%) Share Possession 0.002170

Educations

- B.Eng (Chemical Engineering) (Hons.), Chulalongkorn University, Thailand
- Master of Engineering in Chemical Engineering, Tokyo Institute of Technology, Japan
- Doctor of Engineering in Chemical Engineering, Tokyo Institute of Technology, Japan
- Honorary Doctorate Degree in Sustainable Energy and Environment Technology and Management, Rajamangala University of Technology Rattanakosin, Thailand

Certifications

- PTT Executive Leadership Program 2008, GE Crotonville, USA
- NIDA Executive Leadership Program 2007, Wharton University of Pennsylvania, USA
- Industrial Liaison Program (ILP) 2005, Massachusetts Institute of Technology, USA
- Diploma, The Joint State-Private Sector Course National Defence College (Class of 22nd), Thailand
- Thai Institute of Directors Association (IOD), DAP 24/2004, DCP 51/2004, FND 14/2004, ACEP 4/2012
- Certificate in Top Executives in the Energy Education Program, Thailand Energy Academy (Class of 1st)
- Corporate Governance Program for Directors and Executives of State Enterprises and Public Organizations (Class of 7th), King Prajadhipok's Institute
- Top Executives Program, Capital Market Academy (Class of 8th), Thailand
- Top Executive Program in Commerce and Trade (TEPCoT), (Class of 1st), University of the Thai Chamber of Commerce

Work Experiences

2006 - 2008	:	Executive Vice President, Petrochemicals & Refining Business Unit, PTT, working as President of PTT Asahi Chemical Company Limited
2008 - Dec. 2009	:	Senior Executive Vice President, Petrochemicals & Refining Business Unit, PTT, working as President of PTT Polymer Marketing Company Limited and PTT Asahi Chemical Company Limited

Jan. 2009 - June 2011	:	Senior Executive Vice President, PTT, working as President, IRPC Public Company Limited
June - Sept. 2011	:	Chief Operating Officer, Upstream Petroleum and Gas Business Group, PTT
Sept. 2011 - Present	:	President & Chief Executive Officer, PTT

Relevant Important Positions

- Director, IRPC Public Company Limited
- Director, PTT Exploration and Production Public Company Limited

2. Mr. Surong Bulakul

Age 57

Chief Financial Officer

(%) Share Possession **0.004136**

Educations

- Bachelor of Science in Industrial Engineering and Operations Research, Syracuse University, New York, USA
- Master of Engineering in Operations Research, Cornell University, New York, USA
- Master of Business Administration, Cornell University, New York, USA

Certifications

- PMD, Harvard University, Boston, USA
- Democratic Politics and Governance for High-Level Administrators Program, King Prajadhipok's Institute, Thailand (Class of 8th)
- The Joint State-Private Sector Course, National Defense College, Thailand (Class of 4919th)
- Capital Market Academy Leadership Program, Thailand (Class of 10th)
- The Program for Senior Executives on Criminal Justice Administration, National Justice Academy, Thailand (Class of 15th)
- Thai Institute of Directors Association (IOD), DCP 121/2009, R-SS 1/2011
- Thai Intelligent Investors Program, Thai Investors Academy (Class of 1st)

Work Experiences

2005 - 2008	:	Executive Vice President, International Trading, PTT
2008 - 2009	:	Senior Executive Vice President, International Trading, PTT
2009 - 2012	:	Senior Executive Vice President, PTT working as Chief Executive Officer, Thaioil Public Company Limited
2012 - Present	:	Chief Financial Officer, PTT

Relevant Important Positions

- Director, Thai Lube Base Public Company Limited

3. Mr. Wichai Pornkeratiwat

Age 59

Chief Operating Officer,
Upstream Petroleum and Gas Business Group

(%) Share Possession **0.001944**

Educations

- B.Eng. (Electronic Engineering), Khon Kaen University, Thailand
- Master of Public Administration, National Institute Development Administration (NIDA), Thailand

Certifications

- Asia Executive Program (AEP), GE Management Development Institute
- Senior Executive Program (SEP), Sasin Graduate Institute of Business Administration, Chulalongkorn University, Thailand
- NIDA-Wharton Executive Leadership Program, The Wharton School, University of Pennsylvania, USA
- Thai Institute of Directors Association (IOD), DCP 111/2008

Work Experiences

2002 - 2008	:	Executive Vice President, Project Management, Exploration, Production and Gas Business Group, PTT
2008 - 2009	:	Executive Vice President, PTT, working as President, PTT LNG Company Limited
2009 - 2010	:	Executive Vice President, Natural Gas Vehicle, PTT
2010 - 2011	:	Senior Executive Vice President, Gas Business Unit, PTT
2011 - Present	:	Chief Operating Officer, Upstream Petroleum and Gas Business Group, PTT

Relevant Important Positions

- Chairman, PTT Green Energy Pte. Ltd.
- Director, Executive Director, Member of Nomination and Remuneration Committee, Member of Corporate Governance Committee, IRPC Public Company Limited
- Director, PTT Exploration and Production Public Company Limited

4. Mr. Nuttachat Charuchinda — Age 57

Chief Operations Officer,
Downstream Petroleum Business Group

(%) Share Possession 0.000685

Educations

- B.Eng. (Civil Engineering), Chiang Mai University, Thailand
- M.B.A., Thammasat University, Thailand

Certifications

- Program for Global Leadership (PGL), Harvard Business School, USA
- Oxford Energy Seminar, UK
- Break Through Program for Senior Executives (BPSE), IMD Institute, Switzerland
- The Joint State-Private Sector Cource, National Defence College (Class of 20th), Thailand
- Thai Institute of Directors Association (IOD), DCP 129/2010
- Top Executive Program, Capital Market Academy (Class of 15th)

Work Experiences

2004 - 2005	:	Executive Vice President, Supply and Logistics, PTT
2005 - 2009	:	Executive Vice President, Natural Gas Vehicle, PTT
2009 - 2010	:	Executive Vice President, International Trading Business Unit, PTT
2010 - 2011	:	Senior Executive Vice President, Corporate Strategy, PTT
2011 - Present	:	Chief Operations Officer, Downstream Petroleum Business Group, PTT

Relevant Important Positions

- Director, Bangchak Petroleum Public Company Limited
- Director, PTT Global Chemical Company Limited
- Director, Thaioil Public Company Limited

5. Mr. Pitipan Tepartimargorn — Age 56

Senior Executive Vice President,
Human Resources & Organization Excellence

(%) Share Possession 0.000292

Educations

- B.Eng., King Mongkut's Institute of Technology Ladkrabang, Thailand
- Master of Political Science (Public Administration), Thammasat University, Thailand

Certifications

- Strategic Human Resource Management, Harvard University, USA
- NIDA-Wharton Executive Leadership Program, The Wharton School, University of Pennsylvania, USA
- Senior Executive Program (SEP) Sasin Graduate Institution of Business Administration of Chulalongkorn University, Thailand
- Thai Institute of Directors Association (IOD), DCP 138/2010, ACEP 4/2012

Work Experiences

2001 - 2003	:	Vice President, Corporate Development, PTT
2003 - 2004	:	Vice President, Human Resources Policy, PTT
2004 - 2010	:	Executive Vice President, Human Resources, PTT
2010 - Present	:	Senior Executive Vice President, Human Resources & Organization Excellence, PTT

Relevant Important Positions

- Chairman, PTT Polymer Logistics Company Limited
- Chairman, PTT ICT Solutions Company Limited
- Director, PTT Polymer Marketing Company Limited

6. Mr. Supattanapong Punmeechaow — Age 53

Senior Executive Vice President, Corporate Strategy

(%) Share Possession None

Educations

- Bachelor Degree, Chemical Engineer, Chulalongkorn University, Thailand
- Master Degree, Business Administrative, Chulalongkorn University, Thailand

Certifications

- Advance Management Program, INSEAD University, France
- The Joint State-Private Sector Course, National Defense College, (Class of 5020th), Thailand
- Thai Institute of Directors Association (IOD), DCP 131/2010

Work Experiences

1998 - 2005	:	Managing Director, SCB Securities Co., Ltd.
2006 - 2008	:	Managing Director, SCB Securities Co., Ltd.
2009 - 2011	:	Executive Vice President Business Development, PTT International Company Limited and Executive Vice President Corporate Strategy, PTT
2011- Present	:	Senior Executive Vice President, Corporate Strategy, PTT

Relevant Important Positions

- Vice Chairman, PTT International Company Limited (PTTI)

7. Mr. Charcrie Buranakanonda — Age 58

Senior Executive Vice President, Gas Business Unit

(%) Share Possession **0.001939**

Educations

- B.Eng. (Mechanical Engineering), Kasetsart University, Thailand

Certifications

- King Prajadhipok's Institute, Advanced Certificate Course in Public Administration and Law for Executives 2010
- Thai Institute of Directors (IOD), DCP 138/2012
- PTT - GE Executive Program, GE Crotonville, USA 2012

Work Experiences

2008 - 2009	:	Vice President, Rayong Gas Plant, Gas Business Unit, PTT
2009 - 2011	:	Executive Vice President, Natural Gas Transmission, Gas Business Unit, PTT
2011 - 2012	:	Executive Vice President, Natural Gas Processing, Gas Business Unit, PTT
2012 - Present	:	Senior Executive Vice President, Gas Business Unit , PTT

Relevant Important Positions

- Director, East Mediterranean Gas (S.A.E.), Arab Republic of Egypt

8. Mr. Sarun Rungkasiri — Age 55

Senior Executive Vice President, Oil Business Unit

(%) Share Possession **0.001525**

Educations

- B.Eng. (Industrial Engineering), Chulalongkorn University, Thailand
- M.S. Management, Polytechnic Institute of New York, USA

Certifications

- Thirty Fourth Oxford Energy Seminar, St.Catherine's College, Oxford University, UK
- NIDA-Wharton Executive Leadership Program 2009, The Wharton School of the University of Pennsylvania, USA
- The Joint State - Private Sector Course, National Defense College, (Class of 23rd), Thailand
- Thai Institute of Directors Association (IOD), CSP 8/2004, DCP 61/2005, FND 19/2005

Work Experiences

2003 - 2005	:	Vice President, Office of President
2006 - 2007	:	Vice President, Corporate Public Relation
2008 - 2009	:	Executive Vice President, Corporate Communication & Social Responsibility
2009 - 2010	:	Executive Vice President, Commercial & International Marketing
2010 - 2011	:	Executive Vice President, Retail Marketing
2011 - Present	:	Senior Executive Vice President, Oil Business Unit

Relevant Important Positions

- Chairman, PTT Retail Business Company Limited (PTTRB)
- Chairman, PTT Retail Management Company Limited (PTTRM)
- Director, Thai Petroleum Pipeline Company Limited (Thappline)

9. Mr. Sukrit Surabotsopon — Age 54

Senior Executive Vice President, Petrochemicals & Refining Business Unit

(%) Share Possession **0.000070**

Educations

- B.Eng. (Chemical Engineering), Chulalongkorn University, Thailand

Certifications

- TLCA Executive Development Program (EDP), Thai Listed Companies Association, Thailand
- Thai Institute of Directors Association (IOD), DCP 132/2010, ACP 38/2012, MIR 12/2012

Work Experiences

2007 - 2008 : Assistant Managing Director - Business, Thaioil Public Company Limited (TOP)
2008 - 2009 : Assistant Managing Director - Strategic Planning & Business Development, TOP
2009 - 2010 : Executive Vice President, Subsidiary Planning & Management Petrochemicals & Refining Business Unit, PTT
2010 - Present : Senior Executive Vice President - Petrochemicals & Refining Business Unit, PTT

Relevant Important Positions

- Director, PTT Global Chemical Public Company Limited (PTTGC)
- Director, Star Petroleum Refining Company Limited (SPRC)
- Director, PTT International Company Limited (PTTI)

10. Mr. Sarakorn Kulatham

Age 58

Senior Executive Vice President,
International Trading Business Unit

(%) Share Possession **0.002096**

Educations

- B.Eng., Chulalongkorn University, Thailand
- M.S. (Science) Civil Engineering, University of Missouri, USA

Certifications

- Leadership Program, IMD Institute
- NIDA-Wharton Executive Leadership Program, The Wharton School, University of Pennsylvania, USA

Work Experiences

2005 - 2006 : Executive Vice President, PTT, Working as Supply and Planning Manager, Alliance Refining Company Limited
2006 - 2007 : Executive Vice President, PTT, Working as Deputy CEO-Supply Planning, Star Petroleum Refining Company Limited
2007 - 2008 : Executive Vice President, International Trading Business Unit, PTT
2008 - Present : Senior Executive Vice President, International Trading Business Unit, PTT

Relevant Important Positions

- Director, Bangchak Petroleum Public Company Limited
- Chairman, PTT International Trading Pte. Ltd.

11. Mr. Tevin Vongvanich

Age 54

President and Chief Executive Officer,
PTT Exploration and Production Public Company Limited

(%) Share Possession **0.000196**

Educations

- B.Eng. (Chemical Engineering) (Hons.), Chulalongkorn University, Thailand
- M.S. (Chemical Engineering), Rice University, USA
- M.S. (Petroleum Engineering), University of Houston, USA

Certifications

- Program for Global Leadership (PGL), Harvard Business School, USA
- Democratic Politics and Governance for High-Level Administrators Program, (Class of 10th), King Prajadhipok's Institute, Thailand
- Senior Executive Program (SEP), Sasin Graduate Institute of Business Administration, Chulalongkorn University, Thailand
- Capital Market Academy Leadership Program, (Class of 6th), Thailand
- The Joint State Private Sector Course, National Defense College, (Class of 22nd), Thailand
- The Programme for Senior Executives on Justice Administration, (Class of 16th), Thailand
- Thai Institute of Directors Association (IOD), DCP 21/2002, FSD 6/2009, RCC 13/2011

Work Experiences

2008 - 2009 : Senior Executive Vice President, Corporate Strategy & Development, PTT
2009 - 2010 : Chief Financial Officer and Senior Executive Vice President, Corporate Strategy, PTT
2010 - 2012 : Chief Financial Officer, PTT
2012 - Present : President and Chief Executive Officer, PTT Exploration and Production Public Company Limited

Relevant Important Positions

- Director, PTT Exploration and Production Public Company Limited (PTTEP)

12. Mr. Anon Sirisaengtaksin

Age 60

Chief Executive Officer,
PTT Global Chemical Public Company Limited

(%) Share Possession **0.004959**

Educations

- B.Sc. (Geology), Chulalongkorn University, Thailand
- M.B.A., Thammasart University, Thailand
- The Honorary Degree of Doctor in Public Administration, Bangkokthonburi University, Thailand

Certifications

- Project Investment Appraisal and Management and Global Leadership, Harvard University, USA
- Capital Market Academy Leadership Program (Class of 1st), Thailand
- Thai Institute of Directors Association (IOD), DAP 52/2006, LBP 1/2011, R-CAC 1/2011

Work Experiences

2002 - 2008	:	Senior Executive Vice President Corporate Strategy and Development, PTT
2008 - 2010	:	Senior Executive Vice President, PTT, working as Chief Executive Officer, PTT Exploration and Production Public Company Limited
2010 - 2012	:	Senior Executive Vice President, PTT, working as President & CEO, PTT Exploration and Production Public Company Limited
2012 - Present	:	Senior Executive Vice President, PTT, working as CEO, PTT Global Chemical Public Company Limited

Relevant Important Positions

- Director and Secretary to the Board of Directors, PTT Global Chemical Public Company Limited (PTTGC)
- Chairman, PTT Phenol Company Limited (PTCL)
- Chairman, PTT Polyethylene Company Limited (PTTPE)
- Chairman, PTT Chemical International Private Limited
- Chairman, PTT Chemical International (Asia Pacific ROH) Limited
- Chairman, Emery Oleochemicals (M) Sdn. Bhd.
- Vice Chairman, Vinythai Public Company Limited (VNT)
- Director, VENCOREX Holding France SAS
- Director, PTTGC International (Netherlands) B.V.

13. Mr. Veerasak Kositpaisal

Age 58

Chief Executive Officer,
Thaioil Public Company Limited

(%) Share Possession **0.001099**

Educations

- B.Eng. (Mechanical), Chulalongkorn University, Thailand
- M.S. (Mechanical Engineering), Texas A&I University, USA

Certifications

- Top Executive Program in Commerce and Trade (TEPCOT) 2/2009
- Capital Market Academy Leadership Program, (Class of 11th), Thailand
- Thai Institutes of Directors Association (IOD), DCP 82/2006, FND 30/2006
- Certificate in Leadership Development Program "Enhancing Competitiveness" by International Institute for Management Development (IMD) 11/2012

Work Experiences

2006 - 2008	:	Executive Vice President, PTT, working as Senior Executive Vice President, Trading Business, PTT Chemical Pubilc Company Limited (PTTCH) and Managing Director, Bangkok Polyethylene Public Company Limited
2008 - 2008	:	Executive Vice President, PTT, working as Senior Executive Vice President, Polymer Product Business Unit, PTTCH
2008 - 2009	:	Executive Vice President, PTT, working as President, PTTCH
2009 - 2011	:	Senior Executive Vice President, PTT, working as President, PTTCH
2011 - 2012	:	Senior Executive Vice President, PTT, working as Chief Executive Officer, PTT Global Chemical Public Company Limited (PTTGC)
2012 - Present	:	Senior Executive Vice President, PTT, working as Chief Executive Officer, Thaioil Public Company Limited (TOP)

Relevant Important Positions

- Director and Secretary of Board Directors, Thaioil Public Company Limited
- Chairman, Thai Lube Base Public Company Limited
- Chairman, Thaioil Power Company Limited
- Chairman, Independent Power (Thailand) Company Limited

14. Mr. Bowon Vongsinudom

Age 58

President,
PTT Global Chemical Public Company Limited

(%) Share Possession **0.000042**

Educations

- B.Eng. (Chemical Engineering), Chulalongkorn University, Thailand
- Master of Engineering in Chemical Engineering, Chulalongkorn University, Thailand
- Master of Business Administration (Management), Sasin Graduate Institute of Business Administration, Thailand

Certifications

- The Joint State - Private Sector Course, National Defence College, (Class 17), Thailand
- Thai Institute of Directors Association (IOD), DAP 76/2008

Work Experiences

2007 - 2009	:	President, Alliance Refining Company Limited (ARC)
2009 - 2010	:	Senior Executive Vice President, PTT Aromatics and Refining Public Company Limited (PTTAR)
2010 - 2011	:	Senior Executive Vice President, PTT, working as President & CEO, PTTAR
2011 - Present	:	Senior Executive Vice President, PTT, working as President, PTT Global Chemical Public Company Limited

Relevant Important Positions

- Director, PTT Global Chemical Public Company Limited
- Director, Thai Tank Terminal Company Limited
- Director, PTT Utility Company Limited
- Director/ President, PTT Polyethylene Company Limited
- Chairman, PTT Maintenance and Engineering Company Limited
- Chairman, NPC Safety and Environmental Service Company Limited

15. Mr. Atikom Terbsiri

Age 50

President, IRPC Public Company Limited

(%) Share Possession **None**

Educations

- B.B.A., Assumption University, Thailand
- M.B.A. (Finance & International Business), High Distinction, Armstrong University, USA

Certifications

- Doctoral Course in Human Resources Management and Managerial Economics, Golden Gate University, USA
- Executive Education Program, Harvard Business School, USA
- Diploma, The National Defence College, The State, Private Sector and Political Sectors Course (Class 5), Thailand
- Thai Institute of Directors Association (IOD), DCP 125/2009
- PTT Group EVP Leadership Development Program, co-hosted by PTT Public Company Limited and Development Dimensions International (DDI)
- Advanced Security Management Program (ASMP1), The National Defence College Association of Thailand

Work Experiences

2002 - 2007	:	Executive Vice President, Business & Finance, The Aromatics (Thailand) Public Company Limited
2007 - 2009	:	Executive Vice President, Corporate Strategy & Commercial, PTT Aromatics and Refining Public Company Limited (PTTAR)
2009 - 2011	:	Senior Executive Vice President, Corporate Strategy & Planning, Acting Senior Executive Vice President, Port & Asset Management Business Unit, IRPC Public Company Limited (IRPC)
2011 - Present	:	Senior Executive Vice President, PTT, working as President, IRPC Public Company Limited

Relevant Important Positions

- Director and Secretary of the Board, IRPC Public Company Limited
- Director, PTT Polymer Marketing Company Limited
- Director, Thai ABS Company Limited
- Director, IRPC POLYOL Company Limited
- Director, IRPC Oil Company Limited
- Chairman, IRPC A&L Company Limited
- Director, UBE Chemicals (Asia) Public Company Limited

Positions held by the Management and Authorized Controllers of PTT Plc., Subsidiaries, Associates, and Related Companies

As of December 31, 2012

			Company \ PTT Executive		1 Dr. Norkun Sitthiphong	2 Mr. Chulasingh Vasantasingh	3 Mr. Sihasak Phuangketkeow	4 Mr. Krairit Nilkuha	5 Mrs. Benja Louichareon	6 Mr. Watcharakiti Watcharothai	7 Dr. Chirapongse Kwangsuksiith	8 Mr. Arkhom Termpittayapaisith	9 Gen. Warawat Indradat	10 Mr. Waroonthep Watcharaporn	11 Mr. Montri Sotangkur	12 Mr. Boonsom Lerdhirunwong	13 Mr. Insom Buakeow	14 Dr. Pailin Chuchottaworn	15 Mr. Surong Bulakul	16 Mr. Supattanapong Punmeechaow	17 Mr. Pitipan Tepartimargorn	18 Mr. Nuttachat Charuchinda	19 Mr. Sarun Rungkasiri	20 Mr. Sukrit Surabotsopon	21 Mr. Sarakorn Kulathamrongchai	22 Mr. Wichai Pornkeratiwat	23 Mr. Charcrie Buranakanonda	24 Mr. Anon Sirisaengtaksin	25 Mr. Tevin Vongvanich	26 Mr. Veerasak Kositpaisal	27 Mr. Bowon Vongsinudom	28 Mr. Atikorn Terbsiri	29 Mr. Wirat Uanarumit	30 Mrs. Prisana Praharnkhasuk
			PTT Plc.	PTT	x	/	/	/	/	/	/	/	/	/	/	/	/	*/0/	//	//	//	//	//	//	//	//	//	//	//	//	//	//	//	//
Subsidiaries	E & P	1	PTT Exploration and Production Plc.	PTTEP	x													/									/		*0/					
	Gas	2	PTT Natural Gas Distribution Co., Ltd.	PTTNGD																														
		3	PTT LNG Co., Ltd.	PTTLNG																														
		4	Combined Heat and Power Producing Co., Ltd.	CHPP																														
		5	PTT Green Energy Pte., Ltd.	PTTGE																							x							
		6	PTT International Trading Pte. Ltd.	PTTI							x									/					/									
	Oil	7	PTT (Cambodia) Co., Ltd.	PTTCL																														
		8	PTT Retail Business Co., Ltd.	PTTRB																				x										
		9	Subic Bay Energy Co., Ltd.	SGECL																														
		10	Business Service Alliance Co., Ltd.	BSA																														
		11	Thai Lube Blending Co., Ltd.	TLBC																														
		12	PTT Tank Terminal Co., Ltd.	PTT TANK																														
	Petrochemical &Refining	13	PTT Polymer Marketing Co., Ltd.	PTTPM																		/										/		
		14	PTT Polymer Logistics Co., Ltd.	PTTPL																		x												
	Trading	15	PTT International Trading Pte. Ltd.	PTTT																						x								/
	Other	16	Energy Complex Co., Ltd.	EnCo																														
Associated and Related Companies	Gas	17	PTT Utility Co., Ltd.	PTTUT																												/		
		18	Thaioil Power Co., Ltd.	TP																										x				
		19	Independent Power (Thailand) Co., Ltd.	IPT																										x				
		20	Trans Thai Malaysia (Thailand) Co., Ltd.	TTM (T)																								x						
		21	Trans Thai Malaysia (Malaysia) Co., Ltd.	TTM (M)																								x						
		22	District Cooling System and Power Plant Co., Ltd.	DCAP																														
		23	Ratchaburi Power Co., Ltd.	RPCL																														
		24	B. Grimm BIP Power co., Ltd.	B.Grimm BIP																														
		25	Nava Nakorn Electricity Generating Co., Ltd.	NNEG																														
		26	Bangpa-in Cogeneration Co., Ltd.	BIC																														
	Oil	27	Thai Petroleum Pipeline Co., Ltd.	THAPPLINE																				/										
		28	Petro Asia (Thailand) Co., Ltd.	PA (Thailand)																														
		29	Bangkok Aviation Fuel Service Plc.	BAFS																														
		30	Intoplane Services Co., Ltd.	IPS																														
		31	Fuel Pipeline Transportation Co., Ltd.	FPT																														
		32	Vietnam LPG Co., Ltd	VLPG																														
		33	Keloil-PTT LPG Sdn.Bhd.	KPL																														
		34	Petro Asia (Huizhou) Co., Ltd.	PA (Huizhou)																														
		35	Petro Asia (Maoming) Co., Ltd.	PA (Maoming)																														
		36	Petro Asia (Sanshui) Co., Ltd.	PA (Sanshui)																														
	Petrochemical &Refining	37	PTT Global Chemical Plc.	PTTGC																			/		/			*/			0/			
		38	PTT Phenol Co., Ltd.	PPCL																								x					/	
		39	Star Petroleum Refining Plc.	SPRC																					/								/	
		40	Thaioil Plc.	TOP	x																		/							*/				
		41	Bangchak Petroleum Plc.	BCP				/															/			/								
		42	IRPC Plc.	IRPC						/								/									/					0/		
		43	HMC Polymers Co., Ltd.	HMC																														
		44	PTT Asahi Chemical Co., Ltd.	PTTAC																														
		45	PTT Maintenance and Engineering Co., Ltd.	PTTME																												/		
		46	PTT MCC Biochem Co., Ltd.	PTTMCC																														
		47	PTT Energy Solutions Co., Ltd.	PTTES																														
	Other	48	Dhippaya Insurance Plc.	TIP																														/
		49	PTT ICT Solutions Co., Ltd.	PTTICT																		x												

*Notes: Symbol x = Chairman, * = CEO, 0 = President, / = Director, // = Executive*

Awards of Success

Recognition for PTT in 2012

In 2012, PTT won 89 awards, prestigious rankings, and certificates from 44 institutions:
- National Level: from 32 entities for a total of 57 awards
- International Level: from 12 entities for a total of 32 awards.

Presented by
Management System Certification Institute (Thailand) (MASCI) & Department of Industrial Works

Award/ Ranking/ Criteria

Business Continuity Management (BCM)

- PTT was the first Thai company certified with BCM under the TIS 22301-2553 standard

Date

January 30, 2012

Notes (Reference/ Criteria)

- Based on efficient, systematic capability in organizational management and on maintaining uninterrupted operation of all its businesses under normal situations or crises.

Award/ Ranking/ Criteria

Energy Management System Certification (ISO 50001)

- Rayong GSP and Natural Gas Transmission

Date

May 2012

Notes (Reference/ Criteria)

- This award is recognized worldwide. Rayong GSP was the first among PTT Group to achieve such recognition, a testimony to its firm commitment to developing internal management systems and raising energy efficiency in pursuit of conscientious consumption of resources for optimal benefit while easing environmental impacts.

Award/ Ranking/ Criteria

Quality Management Sytem Certification (ISO 9001)

- Natural Gas Transmission

Date

June 2012

Notes (Reference/ Criteria)

- ISO 9001 is an international standard of excellence in quality and efficiency of organizational management.

Award/ Ranking/ Criteria

Environmental Management System Certification (ISO 14001)

- Natural Gas Transmission

Date

July 2012

Notes (Reference/ Criteria)

- ISO 14001, dealing with environmental management systems (EMS), calls for three fundamental principles: pollution prevention, compliance with the law, and continuous improvement of EMS.

Award/ Ranking/ Criteria

Assorted International Standard Certification

- Master NGV stations (ISO 9001, ISO 14001, TIS 18001, Integrated Management System (IMS))

Date

December 2012

Award/ Ranking/ Criteria

Occupational Health and Safety Management System for personnel (OHSAS 18001)

- Natural Gas Transmission

Date

December 2012

Notes (Reference/ Criteria)

- TIS 18001 (OHSAS 18001), dealing with occupational health and safety of personnel from top management to operators. Its focus is on management to lower risks of injuries and illnesses, as well as property losses.

Award/ Ranking/ Criteria

Energy Management System (ISO 50001)

- National Gas Transmission

Presented by
Securities Analysts Association (SAA)

Award/ Ranking/ Criteria

SAA Awards for Listed Companies 2011

- Best CEO Award in Resources

Date

January 30, 2012

Notes (Reference/ Criteria)

- Presented to Mr. Prasert Bunsumpun, ex-CEO, in recognition of his 2011 outstanding performance as a leader of a successful major listed company.

Presented by
Marketing Guru Program,
FM 100.5 News Network,
MCOT Plc.

Award/ Ranking/ Criteria

Marketing Guru Award 2011

- PTT was among the ten organizations awarded

Date

February 2, 2012

Notes (Reference/ Criteria)

- In recognition of outstanding marketing success in income, market shares, and corporate image.
- Past awards including TAQA (2 consecutive years), Reader's Digest Trusted Brand (11 consecutive years), Thailand's Most Admired Brand (8 consecutive years), and SET Awards 2011, which confirmed consumers' trust in PTT products and services, and PTT is the most recognized brand with the most service stations in Thailand.

Presented by
Chulalongkorn University Engineering Alumni Association &
Faculty of Engineering, Chulalongkorn University

Award/ Ranking/ Criteria

Outstanding CU Engineer 2011 Award

- Dr. Pailin Chuchottaworn, President & CEO

Date

February 13, 2012

Notes (Reference/ Criteria)

- Presented to CU engineering alumni with outstanding career performance and success in a socially responsible way which contributed to national development.

Presented by
Thai Institute of Directors (IOD), Stock Exchange of Thailand (SET), Thai Chamber of Commerce, Federation of Thai Industries, Thai Bankers' Association, Thai Listed Companies Association, and Federation of Thai Capital Market

Award/ Ranking/ Criteria

Board of the Year Awards 2010/2011 - Hall of Fame, under the Board of the Year 2010/2011 Acclaim Project

Date

February 21, 2012

Notes (Reference/ Criteria)

- Based on the Board's performance in compliance with corporate governance principles while increasing long-term benefit and value to the shareholders.
- A proof of PTT's commitment to operating business with integrity, transparency, and efficiency.
- This was the second "Board of the Year - Hall of Fame" Awards for PTT (2008/2009, 2010/2011).

Presented by
Office of Thailand Quality Award

Award/ Ranking/ Criteria

Thailand Quality Class (TQC) 2011

Awarded to three business units
- Gas BU
- Oil BU
- International Trading BU

Date
February 28, 2012
(Presented on July 25, 2012)

Notes (Reference/ Criteria)
- In recognition for outstanding organizational management of international standard.
- Natural Gas Transmission had won TQC for three consecutive years (2007 - 2009).

Presented by
BrandAge Magazine

Award/ Ranking/ Criteria

Thailand's Most Admired Brand & Why We Buy 2012 Award:

PTT topped the ballots in
- Service Stations
- Lubricant Products

Date
February 2012

Notes (Reference/ Criteria)
- Based on a survey among customers on products and services for 2012.
- PTT service stations was voted the 'Most Trusted Service Station' for nine consecutive years (2004 - 2012).
- PTT lubricants was voted the 'Most Outstanding Brand' for three consecutive years (2010 - 2012).

Marketeer

Presented by
Marketeer Magazine

Award/ Ranking/ Criteria

"No.1 Brand Thailand" Award

- Service Stations
- Lubricant Products

Date

February 2012

Notes (Reference/ Criteria)

- Based on a customer behavior research and survey conducted by Video Research Ltd. (VR).

กระทรวงพลังงาน
MINISTRY OF ENERGY

Presented by
Ministry of Energy

Award/ Ranking/ Criteria

Outstanding Energy Executive, at the Thailand Energy Awards 2011 event

- Dr. Pailin Chuchottaworn, President & CEO, as former President of IRPC Plc.

Date

March 30, 2012

Notes (Reference/ Criteria)

- In recognition for outstanding performance in energy conservation and alternative energy development.

Presented by
Red Cross Fair

Award/ Ranking/ Criteria

Best Exhibition Award, Education and Learning category, under the concept "HM The Queen, Mother & Educator of Intellectual and National Development"

Date

March 30 - April 7, 2012

Notes (Reference/ Criteria)

- PTT used special techniques to design a unique "Education Museum in Honor of HM The Queen" exhibition.

Presented by
Superbrands

Award/ Ranking/ Criteria

Superbrands Thailand 2011, at the Superbrands Tribute Event - Trophy Presentation Ceremony to Superbrands 2011

Date

April 25, 2012

Notes (Reference/ Criteria)

- Based on managerial capability, which earned consumers' confidence and trust.
- Hosted by Superbrands, the only independent agency with the highest standard for branding success through brand quality, brand affinity, and brand personality.

Presented by
Thailand Greenhouse Gas Management Organization (TGO) (Public Organization)

Award/ Ranking/ Criteria

Certificate for Carbon Footprint of Product for PTT lubricant: PTT Performa Super Synthetic API-SN 0W-30 (one-liter-size and four-liter-size)

Date

April 2012

Notes (Reference/ Criteria)

- PTT was the first ASEAN oil company to win the certificate for its Performa Super synthetic API-SN 0W-30, with 20% less carbon footprint than ordinary lubricants.
- A proof of PTT's commitment to conducting business with environmental awareness through reducing impacts of product application throughout the life cycle, and efficiently developing green products accepted by the world community.

XXX_2
คาร์บอนฟุตพริ้นท์ของผลิตภัณฑ์

Presented by
The Thai Bond Market Association (ThaiBMA)

Award/ Ranking/ Criteria

ThaiBMA Best Bond Award 2011

- Best Investor Relations Issuer

Date

May 10, 2012

Notes (Reference/ Criteria)

- Votes given by bond market stakeholders, including institutional investors, sellers, and bond issuers, with final decisions made by a panel of experts. The Best Investor Relations Issuer award recognizes bond issuers who provide accurate and transparent information disclosure and have close relationship with investor through continual activities-illustrating the quality of PTT Investor Relations.

Presented by
Reader's Digest

Award/ Ranking/ Criteria

Trusted Brands 2012 Awards

- Thailand's Top Brand - Platinum Award for Service Stations
- Thailand's Top Brand - Gold Award for Lubricant Products

Date

May 25, 2012

Notes (Reference/ Criteria)

- PTT was the only brand that had won Thailand's Top Brand (service stations) for 12 consecutive years, with Gold awards from 2001 to 2008 and Platinum awards from 2009 - 2012 (sole recipient).
- The second annual consumer survey on lubricant products was conducted in 2012, and PTT lubricants were voted the most trusted product with a Gold award for two consecutive years.
- The awards confirmed PTT's service station standard and product innovation development recognized by consumers.

Presented by
National Science, Technology and Innovation Policy Office

Award/ Ranking/ Criteria

STI Thailand Award 2012 on Green Innovation

- Category: National State Enterprise

Date

June 28, 2012

Notes (Reference/ Criteria)

- Conferred on organizations with outstanding innovation management and highly accepted research which can raise commercial value, and innovation products which can support green operations.
- Conferred on PTT for its research on "Bi-Fuel ECU". Through outstanding innovation management, PTT efficiently developed products based on this initiative, which not only promotes energy efficiently but also benefits society, communities, and the environment as a whole, as well as enhancing national competitiveness.

Presented by
Occupational Safety and Health Bureau, Department of Labour

Award/ Ranking/ Criteria

National Outstanding Business Operator in Safety, Occupational Health, and Work Environment Awards 2012

for 22 projects

- Surat Thani Petroleum Terminal (PT) (16 consecutive years - the longest in Thailand)
- Lampang PT (13 consecutive years)
- Phitsanulok Oil Terminal (OT) (12 consecutive years)
- Phra Khanong OT, Chiang Mai OT, Pak Phanang OT, Nakhon Sawan PT, Lum Luk Ka OT, Phuket OT, Operation Center Chonburi (11 consecutive years)
- Udon Thani OT, Region 4 and 5 Pipeline Operation Unit (10 consecutive years)
- Ubon Ratchathani OT and Khon Kaen PT (9 consecutive years)
- Khao Bo Ya LPG Terminal, Ban Rong Po LPG Terminal, Songkhla PT (8 consecutive years)
- Bangchak PT Region 3 Pipeline Operation Unit (7 consecutive years)
- Den Chai OT (6 consecutive years)
- Sara Buri OT and Phra Khanong Office Building (5 consecutive years)
- Region 2 Pipeline Operation Unit (4 consecutive years)
- Region 6 and 8 Pipeline Operation Unit (2 consecutive years)
- Region 7 Pipeline Operation Unit

Date

July 5, 2012

Notes (Reference/ Criteria)

- Awarded to workplaces with strong commitment to the management and operation of safety, occupational health, and work environment.
- PTT Group won 35 awards in total, including oil, petroleum, and LPG terminals, Pipeline Operation Center, and PTTGC's Olefins I-4 plant, among others.

Award/ Ranking/ Criteria

Thai Labour Standard Certification (TLS 8001), top level (initial step)

- Khanom GSP
- Natural Gas Transmission

Date

August 2012

Notes (Reference/ Criteria)

- Based on rules and practices of the use of labor (hiring conditions, work conditions) for labor's equitable protection, resulting in quality living, safety, good labor relations, and morale

Award/ Ranking/ Criteria

White Industrial Estate Certificate (Anti-Drug)

- Rayong GSP

Date

September 2012

Award/ Ranking/ Criteria

Zero Accident Campaign 2012 Awards

- Khanom GSP (bronze certificate)
- Region 8 Pipeline Operations Division (initial certification)

Date

September 2012

Notes (Reference/ Criteria)

- Based on facilities without lost work days under a project on zero work accident.

Presented by
Revenue Department, Ministry of Finance

Award/ Ranking/ Criteria

Rassadakon Phiphat Award 2011: Juristic Person Category

Date

August 29, 2012

Notes (Reference/ Criteria)

- Conferred on cooperative taxpayers who properly paid all taxes due, with full appreciation of tax systems and excellent records of tax payment. The criteria are tax payment records, tax assessment, accountability of booking systems, and the internal control of selected companies. PTT has dutifully paid taxes as a role-model social citizen should so as to benefit the country.

Presented by
Thailand Management Association (TMA) & Sasin Graduate Institute of Business Administration of Chulalongkorn University

Award/ Ranking/ Criteria

The awards bestowed by HRH Princess Maha Chakri Sirindhorn: Thailand Corporate Excellence Awards 2011

PTT won

- Leadership Excellence Award
- Financial Management Excellence Award

And three runners-up awards

- Innovation Excellence
- Human Resource Management Excellence
- Corporate Social Responsibility Excellence

Date

September 6, 2012

Notes (Reference/ Criteria)

- Based on a survey conducted annually among senior executives of 1,000 leading and top-grossing companies in Thailand and experts in business management, such as university professors and executives from relevant association/ organizations

Presented by
Office of Natural Resources and Environmental Policy and Planning, Ministry of Natural Resources and Environment

- This was the 11th survey conducted, and PTT had won it for 11 consecutive years, thus confirming the competency of PTT's leader in business management, which resulted in strong financial performance recognized by domestic and international investors, as well as financial institutions. PTT was also recognized for its innovation in conducting business, efficient and transparent human resource management, and balance among all stakeholders, all of which enabled PTT to be a leading transnational company to bolster domestic energy security and strengthen the national economy.

Award/ Ranking/ Criteria

EIA Monitoring Award 2011

- Best Award:
  - Jetty, Songkhla Petroleum Terminal Project
- Four Outstanding Awards:
  - Jetty, Phuket Oil Terminal Project
  - Jetty, Si Racha Petroleum Terminal Project (Khao Bo Ya LPG Terminal and Si Racha Oil Terminal)
  - Jetty, Surat Thani Petroleum Terminal Project
  - Jetty, Pak Phanang Oil Terminal Project

Date

September 26, 2012

Notes (Reference/ Criteria)

- Awarded to facilities that conformed to EIA and showed outstanding environmental management standards.
- PTT Group won awards for 16 projects, represented by 9 companies: PTT, PTTGC, IRPC, TOP, TLB, PTTTANK, TPX, IPT, and HMC.

Presented by
Ministry of Finance

Award/ Ranking/ Criteria
Best State Enterprise 2012

- Best State Enterprise (Best of the Best) (4 consecutive years)
- Best Innovation Award (3 consecutive years) this year for "PTT Electromagnetic Induction", designed to dissolve crude oil sludge

Date
October 5, 2012

Notes (Reference/ Criteria)
- Best State Enterprise is the most prestigious award, covering Best State Enterprise Board of Directors, Best Organizational Management, and Best Social and Environmental Operations
- Best Innovation Award was conferred on organizations supporting learning process and promoting internal innovations. (The product awarded was created by PTT's research team, Petroleum Geology and Engineering Research, PTT Research and Technology.)

Presented by
National Innovation Day 2012

Award/ Ranking/ Criteria
HM The King's Awards

- Best National innovation: Economic category, for PTT Electromagnetic Induction

Date
October 5, 2012

Notes (Reference/ Criteria)
- Conferred on products which signified continual development and success in innovation management. The technology can be used to the organization's utmost benefit and contributes to sustainable economic, social, and technological development of the country.
- The product awarded was created by PTT's research team, Petroleum Geology and Engineering Research, PTT Research and Technology Institute.

สมาคมส่งเสริมผู้ลงทุนไทย
THAI INVESTORS ASSOCIATION

Presented by
Thai Investors Association, under the
Shareholders' Rights Protection Volunteer Project

Award/ Ranking/ Criteria
Investors' Choice Award

Date
October 15, 2012

Notes (Reference/ Criteria)
- Conferred on listed companies that scored 100% in all criteria at their AGMs. PTT had won full scores for 2009 through 2012 and had consistently given the shareholders a top priority, during the pre-AGM, the AGM, or post- AGM periods.

Presented by
Foundation of Science and
Technology Council of Thailand

Award/ Ranking/ Criteria
"Businessman of the Year 2012", Energy and Public Utilities Business Sector

- Mr. Nuttachat Charuchinda,
  Chief Operating Officer,
  Downstream Business Group

Date
October 19, 2012

Notes (Reference/ Criteria)
- Conferred on role-model businessmen who applied science and technology to benefit their organization and society-a key trait of PTT personnel.

Presented by
Faculty of Commerce and Accountancy, Chulalongkorn University

Award/ Ranking/ Criteria
The Most Powerful Brand 2012

- Named the strongest and mightiest brand among service stations

Date
November 20, 2012

Notes (Reference/ Criteria)
- Based on a survey among consumers nationwide on "Product Brand Valuation and Ranking."
- Confirmed PTT's commitment to maintaining PTT service stations' standard to remain consumers' most preferred brand.

Presented by
SET and Money & Banking Magazine

Award/ Ranking/ Criteria
SET Awards 2012

- Best Corporate Social Responsibility Awards (2 consecutive years)

Date
November 22, 2012

Notes (Reference/ Criteria)
- Based on performance which benefits all stakeholders: employees, consumers, shareholders, society, communities, and the environment.
- The awards illustrated PTT's earnest, consistent commitment to CSR operations.

Presented by
Rattanakosin College of Sustainable Energy and Environment, Rajamangala University of Technology Rattanakosin

Award/ Ranking/ Criteria

Honorary Doctor of Philosophy Degree, Sustainable Energy and Environment Technology and Management

- Dr. Pailin Chuchottaworn, President & CEO

Date
November 28, 2012

Notes (Reference/ Criteria)
- In recognition for his outstanding sustainable management of energy and the environment

Presented by
Thailand Productivity Institute, Ministry of Industry, Inter-Media Consultant Co., Ltd., and Custom Asia Co., Ltd.

Award/ Ranking/ Criteria

Thailand Automotive Quality Awards 2012 (TAQA 2012)

- Fuel products (3 consecutive years)
- Service stations (3 consecutive years)
- Lubricant products (2 consecutive years)

Date
November 30, 2012

Notes (Reference/ Criteria)
- In recognition of PTT's continuing efforts and determination to improve service stations and products of international standards to address all consumers' lifestyles and gain their trust and satisfaction

Human Resources Institute
Thammasat University

Presented by
Human Resources Institute,
Thammasat University

Award/ Ranking/ Criteria

Thailand Top 100 HR

- Dr. Pailin Chuchottaworn, President & CEO

Date

December 20, 2012

Notes (Reference/ Criteria)

- In recognition of the role model for human resource management and education. The awards were presented to qualified personnel from the public sector, private sector, and state enterprises

Presented by
Department of Industrial Works (DIW)

Award/ Ranking/ Criteria

Green Industry Award (Level 3), Green System

- Rayong GSP
  (Environmental Governance Project Award)

Date

May 2012

Notes (Reference/ Criteria)

- Based on environmentally friendly operation, certified by the Rayong Industrial Office

Award/ Ranking/ Criteria

Certificate, Environmental Governance Project for Industrial Facilities and Green Industry Award (Level 3), Green System

- Khanom GSP

Date

August 2012

Notes (Reference/ Criteria)

- Based on environmentally friendly operation, certified by the Rayong Industrial Office.

Presented by
Office of Industrial Economics (OIE)

Award/ Ranking/ Criteria

Certificate for Participating Facilities, Project to Develop Industrial Productivity under the Sufficiency Economy Standard (Industrial Sector)

- Natural Gas Transmission

Date

August 2012

Notes (Reference/ Criteria)

- Based on leadership in application of Sufficiency Economy to the organization in pursuit of security and sustainability.

Presented by
Thai Industrial Standards Institute (TISI)

Award/ Ranking/ Criteria

International Standard Certification of Technical Competency Assessment of Laboratories (ISO/IEC 17025)

- Natural Gas Transmission

Date

December 2012

Notes (Reference/ Criteria)

- Based on an assessment of competency in all aspects of laboratory management, ranging from specimen preparation, skilled analysis and testing, recording, to reporting outcomes. While stressing several aspects of components, the standard goes beyond the laboratory's quality system, document control, remedy and prevention, settings, and instruments.

Presented by
Bureau Veritas (A neutral organization in charge of ISO assessment)

Award/ Ranking/ Criteria

International Standard Certification of Vital Information Security Management Systems (ISO/IEC 27001)

- Natural Gas Transmission

Date

December 2012

Notes (Reference/ Criteria)

- Based on the implementation success of the international standard.

INTERNATIONAL
12 entities
32 awards

Presented by
Dow Jones Sustainability Indexes (DJSI)

Award/ Ranking/ Criteria

Dow Jones Sustainability Indexes (DJSI)
• DJSI 2012

- PTT was among the top 15% in DJSI's Oil & Gas Producers categories, ranked 17th of 118 companies.

Date

January 2012

Notes (Reference/ Criteria)

- Based on business performance focusing on economic, social, and environmental responsibility in 2011.

Award/ Ranking/ Criteria

Dow Jones Sustainability Indexes (DJSI)
• DJSI 2012/13

- PTT was chosen by Sustainable Asset Management (SAM) as "DJSI Member 2012/13" and was among Oil & Gas Producers' top 15 of 125 companies worldwide.

Date

September 2012

Notes (Reference/ Criteria)

- In recognition of its role model in sustainable, balanced development – to be a high-performance organization while adhering to knowledge management, technological development, innovation for green energy, and social responsibility under corporate governance.
- PTT underwent assessment by SAM for the second times and was the sole Thai company among the top 15 leading companies worldwide in the Oil & Gas Producers category.

Presented by
Newsweek Magazine

Award/ Ranking/ Criteria

The Global Green Rankings List 2011

- Ranked 16th of 37 energy companies worldwide
- Ranked 384th of 500 companies worldwide (the sole Thai company in the ranking, which indicated PTT's environmental management caliber)

Date

March 2012

Notes (Reference/ Criteria)

- Newsweek is a US-based leading magazine that ranks the top 500 companies worldwide with the best overall environmental practices for 2011, based on environmental impacts (45%), environmental management (45%), and management transparency (10%).

Presented by
Corporate Governance Asia Magazine

Award/ Ranking/ Criteria

Asian Excellence Recognition Awards 2012 (Investor Relations, CSR, Business Ethics, Environmental Responsibility and Financial Performance)

Six awards won at the 2nd Asian Excellence Recognition Awards 2012
3 in Individual categories

- Asia's Best CEO (2 consecutive years)
  Dr. Pailin Chuchottaworn, President & CEO
- Asia's Best CFO (2 consecutive years)
  Mr. Tevin Vongvanich, Chief Financial Officer
- Best Investor Relations Professional: Thailand (2 consecutive years)
  Ms. Pannalin Mahawongtikul, Vice President Investor Relations

And 3 in Corporate categories

- Best Investor Relations Website/ Promotion (2 consecutive years)
- Best Investor Relations Companies: Thailand (2 consecutive years)
- Best Environment Responsibility (2 consecutive years)

Date

March 30, 2012

Notes (Reference/ Criteria)

- Based on scores and interviews among investors.
- In recognition of listed companies in each country with outstanding investor relations practices in all aspects and without ranking them. The awards reflected PTT's caliber for organizational management and investors' confidence.

Award/ Ranking/ Criteria

Corporate Governance Asia Recognition Awards 2012 (CG)

- Asian Corporate Director Recognition Awards 2012 (3 consecutive years)
  Dr. Pailin Chuchottaworn, President & CEO
- Corporate Governance Asia Recognition Awards 2012 (7 consecutive years)

Date

June 20, 2012

Notes (Reference/ Criteria)

- Asian Corporate Director Recognition Awards: in recognition of Thai's listed companies' leaders and directors with outstanding management performance and good governance promotion
- Corporate Governance Asia Recognition Awards: in recognition of companies with outstanding corporate governance (CG) in each Asian country, based on:
  1. Public recognition of CG performance
  2. CG promotional activities during the past year
  3. Substantial improvement of CG practices

Forbes

Presented by
Forbes Magazine

Award/ Ranking/ Criteria

Ranked 167th in the Forbes Global 2000 Ranking 2012

Date

March 2012

Notes (Reference/ Criteria)

- Among 2,000 out of 3,300 major companies, based on 2011 performance in sales revenue, profit, asset value, and market value
- Best among Thai companies
- This year, 17 Thai companies (as in 2011) were ranked, with PTTGC (ranked 665th) and TOP (1,288th) from PTT Group.
- Past rankings:
  - 171st/ 2011
  - 196th/2010
  - 244th/2009
  - 205th/2008
  - 354th/2007
  - 372nd/2006
  - 425th/2005
  - 461st/2004

THE ASIAN BANKER

Presented by
The Asian Banker Magazine

Award/ Ranking/ Criteria

The Asian Banker Annual Achievement Awards 2012

- The Leading Corporations in Thailand (jointly with Kasikornbank Plc.)
- The Leadership Achievement Award 2012 for the Asia Pacific Region: Dr. Pailin Chuchottaworn, President & CEO

Date

April 26, 2012

Notes (Reference/ Criteria)

- The Asian Banker is Asia's leading money and banking magazine.
- The Leading Corporations in Thailand Award was presented to PTT and Kasikornbank jointly as high-performance organizations and financial business partners that efficiently added value to the integrated business, from upstream to downstream.
- The Leadership Achievement Award for the Asia Pacific Region: in recognition of Dr. Pailin Chuchottaworn's leadership for leveraging the financial supply chain to add value for customers and business partners in a globalized, connected world

FinanceAsia

Presented by
FinanceAsia Magazine

Award/ Ranking/ Criteria

PTT topped Thai companies in seven categories

PTT topped Thai companies in 7 categories:
(out of 9 categories)

- Best CEO: Dr. Pailin Chuchottaworn
  (2 consecutive years)
- Best CFO: Mr. Surong Bulakul
  (4 consecutive years)
- Best Managed Company (5 consecutive years)
- Best Corporate Governance (4 consecutive years)
- Best Corporate Social Responsibility
  (2 consecutive years)
- Best Investor Relations (4 consecutive years)
  Most Committed to a Strong Dividend Policy
  (2 consecutive years)

Date

May 2012

Notes (Reference/ Criteria)

- Based on an annual survey among 265 investors and analysts on outstanding listed companies in Asia.
- Past rankings
  - 1st Best CEO / 2011
  - 1st Best CFO / 2006, 2008, 2011
  - 1st Best Managed Company / 2005, 2006, 2008, 2011
  - 1st Best CG / 2005, 2006, 2011
  - 1st Best CSR / 2011
  - 1st Best IR / 2006, 2008, 2011
  - 1st Most Committed to a Strong Dividend Policy / 2011

THE Asset

Presented by
The Asset Magazine

Award/ Ranking/ Criteria

The Asset's Platinum Award for All-Round Excellence (4 consecutive years)

Date

June 30, 2012

Notes (Reference/ Criteria)

- Based on a survey of leading worldwide institutional investors, analysts, and experts in Asian stock markets.
- Based on: Financial Performance, Corporate Governance, Social Responsibility, Environmental Responsibility, Investor Relations.
- PTT is the sole Thai recipient of the Platinum Award. (4 consecutive years)

Presented by
Fortune Magazine

Award/ Ranking/ Criteria

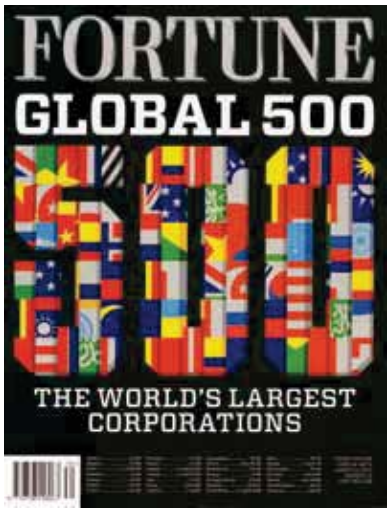
Ranked 95th among the world's largest companies in 2012

Date

July 2012

Notes (Reference/ Criteria)

- Based on revenue in 2011
- PTT remained the sole Thai company among the top 500.
- Past rankings:
  - 128th/2011
  - 155th/2010
  - 118th/2009
  - 135th/2008
  - 207th/2007
  - 265th/2006
  - 373rd/2005
  - 456th/2004



Presented by
Asian Network for Quality (ANQ)

Award/ Ranking/ Criteria

ANQ Recognition for Excellence in Quality Practice (ARE-QP) Award at the ANQ Congress 2012

Date

August 2, 2012

Notes (Reference/ Criteria)

- Conferred on Asian organizations with outstanding quality practice
- ANQ (Asian Network for Quality) is a non-profit Asian organization, with members from Thailand, Bangladesh, China, Taiwan, Dubai, Hong Kong, Kazakhstan, India, Indonesia, Japan, Korea, Pakistan, Russia, Singapore, Vietnam, and New Zealand

Presented by
The Alpha Southeast Asia Magazine

Award/ Ranking/ Criteria

The "6th Annual Best Financial Institution Awards 2012 & 2nd Annual Corporate Awards 2012 (Thailand)"

Awards in 5 categories

- Most Organised Investor Relations
- Best Senior Management IR Support
- Strongest Adherence to Corporate Governance
- Most Consistent Dividend Policy
- Best Strategic CSR

Date

September 18, 2012

Notes (Reference/ Criteria)

- Based on a survey among some 460 regional investors and analysts to select Southeast Asia's top companies.

Award/ Ranking/ Criteria

Dr. Pailin Chuchottaworn, President & CEO, was ranked among Southeast Asia's top 25 most powerful man

Date

November 2012

Notes (Reference/ Criteria)

- Over 60 leading ASEAN personalities were considered for their influence on the financial market in the next decade and their intention, actions, and business decisions, which will influence the market.
- 4 Thai corporate leaders were in the top 25, including Dr. Pailin Chuchottaworn, President & CEO of PTT, and Mr. Tevin Vongvanich, President & CEO of PTTEP.

Presented by
Platts

Award/ Ranking/ Criteria

Platts Top 250 Global Energy Company Ranked 6th in "Overall Performance in Asia Pacific 2012"

Date

October 23, 2012

Notes (Reference/ Criteria)

- Based on asset value, sales revenue, profit, and ROI of energy companies worldwide with over 2 billion US$ in assets.
- Indicated PTT's caliber as a leading transnational energy company in pursuit of corporate excellence and energy security to satisfy domestic needs with the ultimate goal of energy independence while readying itself for AEC and international competition.

Presented by
Japan Institute of Plant Maintenance

Award/ Ranking/ Criteria

TPM-JIPM Award

• Consistency Award

6 pilot terminals (Group 1): Lampang PT, Nakhon Sawan PT, Saraburi OT, Lam Luk Ka OT, Ban Rong Po LPG Terminal, and Phuket OT

• Excellence Award

1 terminal (Group 2): Khao Bo Ya LPG Terminal

Date

December 2012

Notes (Reference/ Criteria)

- Presented to prototype oil terminals with TPM standard application, with a focus on outcome, maximum efficiency, and lower losses.

Sculpture : Power for Sustainable Future
Technique : Sculpting, Metal Casting, and Gold Leaf Gilding
Material : Bronze and gold leaf
Dimension : Height 920 cm. Width 900 cm.
Establish : December 28, 2012
Sculptor : Nontiwat Chandhanaphalin (National Artist in Visual Arts 2006, Sculpting)